Medical Student Engagement with Organizational Aspects of Clinical Care through a Situated Learning Intervention

Dr. Anafa Gamliel, MDCM, CCFP
Department of Family Medicine, McGill University, Montreal
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Abstract

Introduction and Objective: Current methods of teaching social scientific concepts and skills to medical students have assumed an emphasis on cognitively-based constructs that overlook the contexts in which care is delivered. The pervasive emphasis on the decontextualized individual, that underlies research on social scientific interventions in medical education, ignores the significant influences of social and cultural factors on clinical care and learning. Situated learning theory suggests an opportunity to achieve a systemic understanding of contextual and organizational aspects of care through a situated learning activity. The purpose of this study, therefore, is to examine the extent to which or how a situated learning activity can facilitate medical student learning on the relationship between clinical work and organizational aspects of care.

Methods: To serve this overall purpose, survey methods with mixed-method components were engaged, as part of an exploratory study. The focus of the present study is an educational activity which involved a participant-observation exercise undertaken three times (9 hours in total). At the end of the activity, students were assessed via oral presentation and written assignment, where students were required to integrate lessons from social scientific literature, targeted policies and transcripts of interviews with physician social scientists on social and organizational context of care, and make recommendations for improved care. Data were collected among three cohorts of medical students at a Canadian medical school from 2015-2017. Quantitative data about medical students' perceived knowledge, skills and attitudes, were collected using a Likert-scale survey before and after the situated learning activity, and were compared to document perceived learning from this intervention using within-group and between-group MANOVAs, paired T-tests and independent T-tests. Perceptions of students about medicine and medical education were explored through open-ended free text questions on the survey after the situated learning activity, and analyzed using thematic analysis. Findings of the quantitative and qualitative components were then integrated conceptually.

Findings: Scores on "post" surveys were significantly higher than "pre" surveys, suggesting that students had increased their self-perceived knowledge, skills and attitudes, in relation to how

health care is organized and delivered, after participating in the situated learning activity. From the qualitative data, two main discourses were identified. First, a contextualized "systemic" discourse reflected the intervention as helping students learn to become well-rounded, holistic doctors. Second, a de-contextualized "biomedical" discourse, focused on practical tasks, individualism and a cognitive basis of learning, represented the exercise as contributing little, or even being an impediment, to learning medicine. The combination of quantitative and qualitative methods show that students' discourses, though distinct, were dynamic and fluid, demonstrating the reflexivity to evolve over time.

Conclusions: Situated learning theory helped make sense of the reflexive capacity of medical students: that is, the capacity to increasingly integrate social scientific theory with orientations to collaborative and system-based practice. Implications of this study include the opportunity to employ situated learning activities to facilitate a more systemic understanding of health care, including organizational aspects of health care delivery among medical students, to promote justice, equitable health care access, and increased quality and safety of health care delivery.

Résumé

Amélioration de l'engagement des étudiants en médecine envers les aspects organisationnels des soins cliniques par le biais d'une intervention d'apprentissage situé

Introduction et objectif : Les méthodes actuelles d'enseignement des concepts et des compétences en sciences sociales aux étudiants en médecine reposent sur des concepts cognitifs. Ces concepts cognitifs mettent surtout l'accent sur l'application des connaissances et d'attitudes acquises chez les individus. L'emphase sur l'individu sous-tend que la recherche sur les interventions en sciences sociales de l'enseignement médical ignore les influences des facteurs sociaux et culturels sur les soins cliniques et l'apprentissage. La théorie de l'apprentissage situé suggère qu'il est possible de parvenir à une compréhension systémique des aspects contextuels et organisationnels des soins par le biais d'activités d'apprentissage situé. L'objectif de cette étude est donc d'examiner comment les étudiants en médecine en viennent à comprendre la relation entre le travail clinique et les aspects organisationnels des soins après avoir suivi une intervention d'apprentissage situé.

Méthodes : Afin d'atteindre cet objectif, l'auteur a utilisé des méthodes d'enquête épidémiologique en les combinant à des composantes des méthodes mixtes. Le point central de l'étude était une activité pédagogique qui comprenait un exercice d'observation des participants effectué à trois reprises (9 heures au total), en plus d'une présentation orale évaluée et un travail écrit. Le travail écrit amenait les étudiants à utiliser les enseignements de la littérature en sciences sociales, à des politiques ciblées et des transcriptions d'entretiens avec des médecins spécialistes. Ces entretiens portaient sur les contextes sociaux et organisationnels des soins et des recommandations afin d'améliorer les soins. Les données ont été recueillies auprès de trois cohortes d'étudiants en médecine dans une faculté de médecine canadienne entre 2015 et 2017. Des données quantitatives sur les connaissances, les attitudes et les compétences perçues des étudiants en médecine ont été recueillies à l'aide d'une échelle de Likert avant l'activité d'apprentissage situé et après l'activité. L'auteur a comparé les données issues de ces deux temps de mesure dans le but de discerner les différences en matière d'apprentissage. Les perceptions des étudiants sur la médecine et l'éducation médicale ont été explorées à l'aide de questions ouvertes présentes dans le sondage après l'activité d'apprentissage situé. Les données ont été

analysées en utilisant des MANOVA intra- et inter-groupes, des tests T pour échantillons appariés et des tests T pour échantillons indépendants. Le contenu des champs texte a été analysé à l'aide d'une analyse thématique. Les résultats des composantes quantitatives et qualitatives ont ensuite été intégrés conceptuellement.

Résultats : Les scores des enquêtes a posteriori étaient significativement plus élevés que ceux des enquêtes a priori ce qui suggère que les étudiants perçoivent une amélioration de leurs connaissances et compétences, ainsi que de leurs attitudes, par rapport à la manière dont les soins de santé sont organisés et fournis, après l'activité d'apprentissage situé. D'après les données qualitatives, un discours "systémique" a montré que l'intervention aidait les étudiants à devenir des médecins possédant une perspective plus holistique et équilibrée. L'activité pédagogique est cependant limitée par le discours « biomédical », lui-même axé sur les tâches pratiques, l'individualisme et une base cognitive de l'apprentissage, qui lui accorde peu de valeur, au point d'être pratiquement un obstacle à l'apprentissage de la médecine. La combinaison de méthodes quantitatives et qualitatives montre que ces discours perdurent même s'ils peuvent aussi être dynamiques, fluides, et peuvent évoluer dans le temps.

Conclusions : La théorie de l'apprentissage situé a permis d'articuler la capacité réflexive des étudiants en médecine, c'est-à-dire la capacité d'intégrer de plus en plus la théorie des sciences sociales concernant les orientations de la pratique collaborative et systémique. Les implications de cette étude soulignent la pertinence d'utiliser des activités d'apprentissage situé afin de faciliter une compréhension plus systémique des soins de santé, y compris les aspects organisationnels de la prestation des soins de santé chez les étudiants en médecine, afin de promouvoir la justice, l'accès équitable aux soins de santé et l'amélioration de la qualité et de la sécurité de la prestation des soins de santé.

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Glossary of Terms

Accuracy: the act of being correct, precise or perfect

Attitude: a settled way of thinking or feeling about someone or something, typically one that is reflected in a person's behavior

Cognition: the mental process involved in knowing, learning and understanding concepts

Collaborative competency: a "competency" to work effectively with other health care professionals to provide safe, high-quality, patient-centered care

Communication skills: skills of imparting or exchanging of information

Competency: an observable and assessable ability to integrate multiple factors including knowledge, skills, values, and attitudes

Context (organizational): The range of influences of contextual elements (eg. objects, space, technology, language, staff relations, policies, financial incentives etc.) that can affect healthcare delivery, that are beyond the individual, and act on and are acted on by the individual, and that influence the decisions that clinicians make

Cultural humility: the "competency" to care for patients who represent a spectrum of difference along lines including, but not limited to cultural affiliation, or racial and ethnic identity

Culture: the customs, arts, social institutions and achievements that a particular social group have in common, and that are discernible in the way shared meanings are negotiated in interaction

Decision-making: making a decision about care from a range of optional actions, on the basis of available information

Discourse: a coherent ideology that is manifest from the analysis of talk or text, whether espoused intentionally or not

Emotion: affective feelings often subconsciously derived by individuals' circumstances, moods or interactions with others

Empathy: the act, ability or tendency to identify with the feelings or perceptions of others

Ethics: the study of moral principles and how they might apply in medical practice

Ethnography: a research strategy, originating in and germane to anthropology, focused on understanding a particular "culture", and typically distinguished by participant observation, among other methods

Experiential learning: the process of learning through practical experience, but not necessarily "situated" in the sense of facilitating an integration of theory and orientation to practice

Humanities: branches of knowledge that concern themselves with human beings and their cultures, generally focused on artistic domains (e.g. philosophy, visual art, literature etc., as opposed to the social sciences of psychology, sociology, anthropology etc.)

Kirkpatrick Evaluation Model: a method of evaluating the results of formal and informal training and learning programs against four levels of criteria; reaction, learning, behavior, and results

Knowledge: facts or information acquired by a person through experience, interaction or formal education

Leadership skills: capacity to guide a group of individuals towards a shared vision or goal

Non-biomedical: concerning contextual, organizational, cultural, institutional or otherwise systemic factors (e.g. objects, space, technology, language, staff relations, policies, financial incentives etc.) that can affect healthcare delivery, and that influence the decisions that clinicians make, rather than involving, relating to or concerned with biological or physical science (see also "contextual" and "organizational")

Objective structured clinical examination (OSCE): a circuit of short stations in which learners are examined on a one-to-one basis with examiner(s) and patients who are either real or simulated

Organization/al (context): broadly defined to encompass the range of contextual or structural factors (e.g. objects, space, technology, language, staff relations, policies, financial incentives etc.) that shape care, and that are beyond the individual, and act on and are acted on by the individual. "Organization", in this sense, is used not as a noun but as a verb (i.e. as a gerundial noun) — denoting 'the act of organizing'. This places the emphasis — not on the fixed structure of "the organization" — but on the work undertaken to *organize* patient care in a complex, inter-professional environment influenced by multiple inter-dependent human, material and immaterial factors (see also "contextual" and "organizational")

Professional identity: attitudes, values, knowledge, beliefs and skills shared with others within the medical profession, and that create a sense of belonging, or desire to belong, to that group

Professionalism: although deriving descriptively from elements that distinguish a self-regulating and autonomous group of workers from those who work under the supervision of others, more specifically defined here as a set of attitudes and behaviors that are believed to be ethically appropriate for doctors, and worthy of the trust society is believed to have in the medical profession

Situated learning activity: a learning activity that accounts for authentic, experiential learning where students are actively immersed in an activity within a social community, as well as the reflexive capacity to integrate theory with orientation to systemic practice (see also situated learning theory)

Situated learning theory: a theory that explains an individual's learning in an authentic, immersive activity, including their legitimate peripheral participation that leads to full membership in a community of practice

Skill: the level at which one has the ability to do something; expertise

Systems-based practice: a practice demonstrating an awareness of and responsiveness to the broader health care context in health care delivery

Work-based Assessment: assessment of a learner's professional skills and attitudes in the health care clinical context

Values: principles or standards of behavior; one's judgement of what is important

CHAPTER 1

INTRODUCTION

This research examines the engagement of medical students with social scientific education to promote decision-making that takes organizational contexts into account. As an exploratory study, this research draws on "situated learning theory" to consider the role of organizational context in the way medical decisions are made. The endeavor to learn about medical students' engagement with a social scientific educational intervention is realized through a study drawing on mixed methods, synthesizing both quantitative and qualitative data.

This research joins a tradition of social scientific research in medical education. Sociologists, for example, had taken a particular interest in medical education, given that it had been seen as a microcosm of larger processes of socialization, social control, and the professions. *The Student-Physician* (1957), by Merton and colleagues, and *Boys in White* (1961), by Becker and colleagues, stand as early exponents of empirical sociological exploration of the professional socialization in medicine. These two sources follow contrasting approaches: the former, presenting patterns of behavior more as fixed and homogenous ("structuralist"), and the latter placing more emphasis on the negotiated character of professional identity formation. Social scientific researchers have continued to debate the relationship between technical competence and "the patient as a person", and the role of social scientific research "in" versus "of" medicine (Brosnan & Turner, 2009).

Teaching organizational aspects of health care in medical education has been widely perceived to be important and relevant (Macleod, 2011, Krishnan et al, 2019). However, educators have found it challenging to embed the teaching of social scientific constructs that underpin social and organizational dimensions of health care delivery in medical education (Goodwin & Machin, 2015). This is because of a cultural preference for technical knowledge in an already crowded curriculum (AlMahmood et al., 2017; Cohn & Plack, 2017; Shamim et al., 2016; Goodwin & Machin, 2015). The literature review for this research shows that current methods of teaching medical students, including social scientific concepts and skills, rely on de-contextualized cognitively-based constructs that emphasize the knowledge and attitudes of the individual student, and the application of these constructs in medical practice. As shown in the literature review, approaches to education for contextual, organizational, cultural, institutional or

otherwise non-biomedical aspects of care in medical education can be organized into three categories: 1) an emphasis on ways in which students acquire knowledge and attitudes; 2) the application of such skills in one-on-one interactions in clinical settings; and 3) the application of social scientific knowledge in broader clinical contexts. Despite this application, by and large, the field of medical education research seems to have regarded medical student learning as mostly an individually constrained process. Such a perspective gives precedence to the individual's capacity to acquire, manipulate and apply knowledge, with less emphasis on the influence of contexts on individual decision-making. Essentially, the pervasive emphasis on the individual that underlies research on social scientific interventions in medical education sidelines the significant influences of social and cultural factors on clinical care, and on learning and transformation. As a foundation, therefore, an approach is sought to account for influences of factors external to the individual and in the interactive and complex clinical workplaces that medical students will inhabit, and that needs to be seen fundamentally as a learning environment in itself.

Accordingly, situated learning theory (SLT) frames this research. SLT conceptualizes learning as a transformative process that occurs through participation in a community, rather than through a process that relies on the individual (Lave & Wenger, 1991). Learning is, therefore, regarded as a fundamentally social process; a process embedded in everyday activity, contexts and culture (O'Brien & Battista, 2020). The challenge of integrating education on contextual, organizational, cultural, institutional or otherwise non-biomedical dimensions of care exists in spite of the longevity of SLT and aligned ideas. For example, undertaking clerkship is a contextualized experience. However, its learning is not necessarily "situated", whereby a learner potentially changes their behavior through reflection on practice. Situated learning theory suggests an opportunity to expand on the individualistic perspective of learning in medical education and achieve a systemic understanding of contextual aspects of care through a situated learning activity.

In response to the implied emphasis on the individual's cognitive prowess in medical education, and given the maturation of learning theory more broadly as being "situated", the objective of this study is to examine how medical students come to learn the relationship between clinical work and organizational aspects of care after having completed a situated learning intervention. Two research questions give effect to this objective: 1) In a learning

activity about organizational aspects of care in the setting of primary care, to what extent did medical students perceive they learned from a situated learning activity? 2) What is the relationship between medical students' perceptions of learning in the activity, and assumptions and expectations about learning and medicine in general? These questions were addressed through quantitative and qualitative methods. Findings of the quantitative and qualitative components were integrated conceptually, to serve the overall purpose of the study, the examination of how medical students come to learn, or not to learn, the relationship between clinical work and organizational aspects of care after having completed a situated learning intervention. Thus, for the purpose of the present research, the terms "contextual" and "organizational" will be used interchangeably to refer variously to contextual, organizational, cultural, institutional — or otherwise non-biomedical —dimensions of health care.

To serve the objective of the research, a study was conducted among three cohorts of medical students at a long-established medical school in Quebec. Data were collected from 2015-2017. The research centered on an activity in which the students mandatorily conducted observations over several hours in a primary care clinic, which they had to report on in writing and verbally, combining the analyses of their own transcripts of observation with lessons from one of two new significant health policy bills in the province of Quebec, transcripts of interviews with physician-social scientists, and empirical social scientific articles.

To achieve its goal, this study employed quantitative and qualitative components of a survey. In the first component of the study, quantitative data about medical students' perceived knowledge, skills and attitudes were collected using a Likert-scale survey before the situated learning activity ("pre") and after the activity ("post"). These sets of data were compared through statistical analysis with the goal of discerning perceived learning from this intervention. In the second component, perceptions of students were explored through open-ended free text items on the survey after the situated learning activity. In this manner, both quantitative and qualitative data were treated as two aspects of one study, collected and analyzed separately, but simultaneously, and analyzed to answer each of the two research questions. Findings of the quantitative and qualitative components were then integrated conceptually. Therefore, from a pre-designed strategy, two relatively independent bodies of data were generated, capable of answering independent questions, and their integration was indispensable to delivering the final analysis.

In essence, the quantitative component showed that scores on "post" surveys appeared to be significantly higher than "pre" surveys, suggesting that students had increased their self-perceived knowledge, skills or attitudes in the context of organizational aspects of care after a situated learning activity. In the qualitative component, free-text responses demonstrated two contrasting discourses of medical students who have completed a situated learning activity for the purposes of learning about organizational aspects of care. Students who felt that they learned reflected a view of medicine as being "systems-based", the thematic analysis permitting a characterization of such students as being on their way to becoming well-rounded, holistic doctors after this intervention. Students who felt they had learned little or nothing reflected a view of medicine as being bio-medically focused, perceiving the specific interventional activity not to have contributed to their development as doctors. Taken together, these discourses are shown to be dynamic and fluid, having the capacity to evolve over time. At the cohort level, the findings show that medical students are influenceable through situated learning activities in medical education. Implications of this include the opportunity to use situated learning activities to facilitate a more systemic understanding of organizational aspects about health care delivery contexts throughout medical education, and to influence medical student culture.

CHAPTER 2

LITERATURE REVIEW: TEACHING CONTEXTS OF CARE

The Literature Review Strategy

A literature search was completed with the guidance of a librarian at the Jewish General Hospital, affiliated with McGill University. The search was guided by the following question: *What has been the character of educational literature concerning the enhancement of medical students' understanding of, engagement with, or application of contextual aspects of clinical care and decision-making?* Keywords were selected to target articles that were specific to the exposure of medical students to contextual or organizational aspects of health in medical education, including the teaching of these aspects. Keywords were reviewed and refined by the researcher and a co-researcher (AG and PN), along with the librarian. The final search strategy is outlined in **appendix A**.

Initial searches were conducted in PsycInfo, Pubmed, Medline and ERIC (Education Resources Information Centre). After an in-depth discussion with the librarian and co-researcher, the decision was made to include a search from EMBASE. This decision was based on three main factors: 1) EMBASE contains data from PubMed and Medline; 2) there was a large amount of overlap between articles found on PsycInfo and EMBASE when entering these into a reference management application; and 3) there was a lack of discrimination of articles found on ERIC with the same keywords yielding 137 533 results.

A search on EMBASE with the search strategy summarized in **appendix A** yielded 456 articles which were reviewed. An initial filtering process excluded articles that were not in English or French, that were more than 15 years old, and those that did not include medical students. Articles more than 15 years of age were excluded because medical education research has evolved over the last decades, resulting in a surge of research from the last 15 years reflecting the changes to the medical curriculum to a competency-based curriculum (Snell, 2014). The focus was on medical students rather than those from other health occupational programs because doctors traditionally have a more prominent decision-making role in health care teams (Nugus et al., 2010). Therefore articles about allied health, nursing, pharmacy, or

dentistry that did not include medical students were excluded at this stage. This process delivered 88 articles. These articles were reviewed a second time, in depth, by two researchers independently, and were categorized according to the relevance to the exploration of engagement of medical students with contextual or organizational aspect of health care. This process was completed by each researcher (AG and PN) independently of each other, according to pre-set criteria which are outlined in **appendix B.** Subsequently, a reconciliation meeting took place where both researchers shared their ratings and came to an agreement on final categorization for each individual article.

The reconciliation meeting revealed that 74% of articles were categorized similarly by both researchers, without the need for further discussion. For the remaining percentage, the researchers discussed the articles in more depth and mutually agreed on whether to include or exclude a particular article. For any articles of disagreement, the researchers erred on the side of inclusion.

Lastly, the pre-set criteria of relevance outlined in **appendix B** were used to categorize articles for inclusion. At this stage, 35 articles were excluded for the following reasons: nine were non-empirical (e.g., commentary articles or letters to the editor); three focused on a validation or assessment of an educational tool (rather than the outcomes of the tool or its topic); four described educational interventions only (without evaluating them or disclosing research in relation to them); six described perceptions or attitudes of students, without linking these to education; seven focused on biomedical learning, or preparing for examinations on exclusively biomedical topics, rather than social, humanistic or organizational topics; and six outlined studies of health professional students in general, including medical students, but without distinguishing medical from other health professional students, limiting the opportunity to incorporate specific findings about medical student perspectives, identity or culture. Therefore, 53 articles remained to be examined in depth (see **appendix C**).

Perspectives on Teaching and Learning Contexts of Care

Reflecting the relatively inductive character of literature reviewing, this review section will proceed in the following three categories into which I retrospectively organized key findings from the literature review. First, I will address the existing research about medical trainees'

perceptions about some of these constructs, and their attitudes about existing educational programs. Second, I will take account of the current knowledge about the application of these constructs and development of specific contextual or organizational knowledge and skills in medical education. Finally, I will analyze literature addressing contexts and systems in relation to medical education, including undergraduate study and residency. I will then argue for the need for a conceptually-informed approach to the experiential, situated and contextual engagement of medical students with organizational aspects of healthcare and healthcare decision-making.

A de-contextualized focus on individuals' skills and attitudes

Medical humanities in medical education

The majority of included studies in this review reflect an approach to organizational topics from the point of view of a cognitive-knowledge acquisitive assumption that individuals acquire knowledge which they can then apply. Sometimes this is implied, rather than being overt. The view of knowledge acquisition reflects a cognitive and individualist view on how topics in medical education are learned, and therefore, how they are to be taught and assessed, even if many medical educators and medical education researchers would eschew it explicitly. As such, the journey that this review traces is through three different foci in the relevant literature: literature that perceives the individual in terms of their de-contextualized cognitively-acquired knowledge and attitudes; literature that focuses on the application of such knowledge and skills in one-on-one interactions; and literature that focuses on the application of such knowledge and skills in the complexity of clinical workplaces. Even in literature based on such contextualized environments, we find a lack of attention to the reflection and practically-oriented reflexivity to change practice environments.

An over-arching feature of the literature is that, although the engagement of organizational aspects of health care in medical education has been regarded as important and relevant, it has been less easy to fit it into a crowded curriculum with a high expectation of technical knowledge (AlMahmood et al., 2017; Cohn & Plack, 2017; Shamim et al., 2016; Goodwin & Machin, 2015). By way of orientation, studies have shown that according to medical students, there is a place for medical humanities in medical education (AlMahmood et al., 2017; Cruickshank et al., 2011; George et al., 2012; Hultman et al., 2013; Matthews & Van Wyk, 2018; Record et al., 2015; Sattar et al., 2016; Shevell et al., 2015; Tseng et al., 2016; Yu et al.,

2016; Zhang et al., 2014). Students have perceived the need for education in humanities, and have been shown to appreciate such a program in their curriculum (Basaviah et al., 2015; Cohn & Plack, 2017; Cruickshank et al., 2011; Dowdy et al., 2016; Gettig et al., 2016; Liu et al, 2016; Malau-Aduli et al., 2019; Record et al., 2015; Shamim et al., 2016; Shevell et al., 2015). For example, after the integration of a humanities module to the medical curriculum, students in one study conveyed that they found medical humanities to be an "important" topic, and found it to be "missing" in medical education (Ravi Shankar et al., 2012). Medical students have also been shown to appreciate diverse humanities topics, even rating highly topics apparently far-removed from bio-medical concepts (Tseng et al, 2016), suggesting at the very least an openness to learn about organizational topics.

Attitudes about organizational aspects of care

Medical students have been shown to develop positive attitudes towards medical humanities through educational interventions (Abrams et al., 2020; Basaviah et al., 2015; Colvin et al., 2018; Cruickshank et al., 2011; De Moura Villela et al., 2020; George et al., 2012; Liu et al, 2016; Yu et al., 2016). This suggests a potential preparedness on the part of medical students to engage with topics of a non-biomedical nature. Studies have shown this in relation to explicit teaching of concepts of "empathy", "professionalism", "ethics", "leadership", "communication", "cultural humility" and "emotion", for example. Empathy — the act, ability or tendency to identify with the feelings or perceptions of others — is an increasingly prominent educational topic. One study used an arts-based storytelling activity, showing an improvement in attitudes towards persons with dementia (George et al., 2012). A reflective writing activity about empathy in surgical students was also shown to have been well received, and had improved attitudes towards learning about empathy as a topic (Liu et al, 2016).

Similar findings have been reported in the realm of formal, classroom-based teaching, and the expectation of cognitive acquisition and understanding of ethics and professionalism (Shamim et al., 2016; Yu et al., 2016). The study of ethics in medicine can be considered as the study of moral principles and how they might apply in medical practice (Shamim et al., 2016). Professionalism, as another topic, has been described as a set of attitudes and behaviors that are ethically appropriate for doctors, and worthy of the trust society is believed to have in the medical profession (Cruickshank et al., 2011). After completing a course on "patient-centered

care", one study measuring attitudes towards ethics showed that third year students in a surgery clerkship developed positive attitudes towards learning about particular ethical issues relating to surgery, including whether "the intervention was benefitting the patient" (Yu et al., 2016). Similarly, medical students have been shown to develop positive attitudes towards learning about professionalism after having completed various mentorship programs (Abrams et al., 2020; Basaviah et al., 2011; Cruickshank et al., 2011; Keller et al., 2007).

Students have shown a preference for learning opportunities that are reflected in personal experience (Cohn & Plack, 2017; Keller et al., 2007; Shamim et al., 2016). For example, activities consisting of a portfolio workbook (Keller et al., 2007; Shamim et al., 2016) allowed students to reflect on their real-life experiences pertaining to professionalism, showing that students appreciated the connection with applied clinical work. Some students have explicitly expressed the preference to learn about professionalism and ethics solely in the clinical setting (Almahmoud et al., 2017). Contextualizing professionalism in "real life" clinical settings therefore seems to be appreciated by students.

Assessing de-contextualized knowledge of organizational aspects of care as applicable skills

Not only have medical education researchers valorized the de-contextualized acquisition of knowledge in regard to organizational aspects of care; researchers have investigated whether or not, or how, such knowledge and values might have translated to practice. This is especially the case for research on the concept of "professionalism", which is especially prominent in research on non-biomedical topics in medical education. As well as presenting evidence of medical students developing positive attitudes about learning about organizational aspects of care, studies have also highlighted medical students reflecting on contextual or organizational constructs, and expanding on their knowledge through educational interventions (Abrams et al., 2020; Cohn & Plack, 2017; Reimer et al., 2016; Reimer et al., 2019). For example, one study about narratives of professionalism addressed an aspect of medical culture related to medical education's cognitive focus – the desire for accuracy (or "perfection") in examinations. The educators in the study were able to reframe student ideas about professionalism by guiding an "alternative narrative to perfectionism focused on doing well and self-care" (Abrams et al., 2020). In another study on student perceptions about professionalism and education about professionalism, word clouds were used to stimulate discussion and reflection on the topic (Cohn

& Plack, 2017). Such an activity is intended to identify "what, when and how" medical students learn about professionalism, and what this construct is seen to entail. Another study examining a surgical preparation course given to fourth-year medical students focused on students' abilities to recognize what were perceived to be instances of a lack of professionalism or misconduct when discussing case scenarios (Hultman et al., 2012), demonstrating the de-contextualized cognitive attitudes and values medical students are assumed to have.

Professionalism as the increasing internalization of medical identity and culture

Students' perceptions and interpretations of professionalism have been shown to evolve through different levels of medical training, providing a window onto medical student culture. Differences in perceptions about professionalism are argued to be more apparent when comparing students in the preclinical stages (early training) compared to students in the clinical stages (late training) (Reimer et al., 2016; Reimer et al., 2019; Vrecko & Klemenc-Ketis, 2014). Such differences seem to be less apparent when comparing students within the preclinical stage, even after one year of medical training (Encisco et al., 2017). One study comparing perceptions of commencing medical students and students who had completed their first year of training showed no significant difference in their definition of professionalism (Encisco et al., 2017). Both groups cited "respect", were perceived to have excelled at recognizing professional responsibility, and scored lowest in recognizing what was perceived to be professional commitment, compared with recognition of other factors. Both groups were also more likely to recognize what has been called "unprofessionalism" in a health care setting, in comparison to other settings, such as academic settings (Encisco et al., 2017).

Two particular studies on perceptions about professionalism provide a window onto the way researchers have conceptualized its role in relation to medical culture and medical identity formation (Reimer et al., 2016; Reimer et al., 2019). In one study, the authors, as medical educators, regarded a more internalized and profession-specific account of the medical role as evidence of increased understanding of professionalism, despite the relatively outward looking, societal perspective espoused by both sets of students. This is powerful evidence of the influence of professional culture, even in medical school, before students enter the clinical workplace. In a comparison of perceptions about professionalism of first and second year medical students, first-year students characterized professionalism in terms of: self-management and patient

centeredness; ethics and professional reputation; dependability; self-awareness and self-improvement; image; proficiency; and lifelong learning and integrity. The concepts espoused by second-year students were mostly similar to those of first-year students, although they also mentioned being "a good doctor". The authors used the preoccupation with a more profession-specific view of the role of "a good doctor" as evidence of a positive evolution of the students' understanding of professionalism (Reimer et al., 2016; Reimer et al., 2019).

In a comparison of perceptions of first year medical students and fifth year medical students (Vrecko & Klemenc-Ketis, 2014), both groups of students recognized what their instructors considered to be appropriate dimensions of professionalism. The fifth-year students appeared to acquire a broader view of professionalism than the first year students, taking into account teamwork, partnership, role modeling and education. However, the understanding of fifth year students appeared to have transcended from an idealized and formalized view of professionalism, in the students' adoption of a more strategic outlook on what it means to be a doctor. The students questioned how to mitigate against becoming "too empathic" and worrying about balancing their professional and personal lives (Vrecko & Klemenc-Ketis, 2014). Such findings reinforce the evolving nature of contextual or organizational constructs, and reflect the opportunity to influence medical student culture and values.

Prioritizing professional interactions

Thus, the studies above suggest that the idea that there are definable notions of such concepts as professionalism, that originates in the individual, and can be taught and assessed, has been linked to efforts to impart a distinctive medical professional identity. The literature tends to regard professionalism not only as a cognitive entity, but also as an individual competency that can and must be developed and assessed (Cruickshank et al., 2011; Encisco et al., 2017; Hultman et al., 2012; Hultman et al., 2013; Park, 2011). As outlined above, studies have conveyed students' apparent appreciation for professionalism as a specific educational topic or construct, and increasingly positive attitudes and understanding of what professionalism is claimed and taught to be. Researchers have also attempted to go beyond the intra-personal understanding of professionalism, focusing also on the way such characteristics manifest in applied, interactive clinical contexts (Hultman et al, 2013; Pawlina et al., 2014; Record et al, 2015).

One such study explored a professionalism curriculum targeted towards medical students, nurses, doctors, and staff in a plastic surgery practice. Using the Kirkpatrick framework evaluation model – framing education evaluation in steps from one's reaction to training, to (cognitive) learning, to (applied) behavior, through to (evident) results – the study concluded that participants appreciated the activity, and showed evidence of learning on pre-post testing (Hultman et al, 2013). However, participants who were rated poorly by others on their ability to be "team-players", scored well on pre-post testing on this topic. This suggests that understanding professionalism may not be enough to influence the way students interact with others within the heath care context – thus showing the limitations of a de-contextualized focus on professional education.

Similarly, a study comparing British and American medical students in their second year of training revealed that both groups perceived professionalism to be less of an "identity", and more of a behavior in which they were being "funneled and molded into" – even, entailing a "loss of personal identity". Professional behaviors that students perceived to learn were compared to "flicking a switch to professional mode", bearing resemblance to putting on a costume (Pawlina et al., 2014). Such findings reinforce a distance between current concepts and interventions to address organizational aspects of care, and how these concepts manifest in student interactions with other individuals within health care contexts.

The linear trajectory from cognition to applied skills

Perceptions about learning non-biomedical skills

Even though the above-cited studies do not deny the cognitive dimension of organizational phenomena, studies of organizational phenomena in health care have increasingly focused on their application in clinical practice (De Moura Villela et al, 2020; Roberts et al., 2017; Welch & Harrison, 2016). Students have been shown to appreciate learning the application of contextual or organizational skills (Basaviah et al., 2011; Bearman, 2012; De Moura Villela et al, 2020; Roberts et al., 2017; Welch & Harrison, 2016). For example, in one study about an elective activity designed to help fourth year medical students hone critical and communicative skills, students were shown to have valued the activity. They felt it provided them with an opportunity to learn about different perspectives from their own; they perceived to have improved their ability to "think as physicians" and examine biases; and they perceived to have

improved their communication skills (Welch & Harrison, 2016). Similarly, in a study about learning how to break bad news, students appeared to value the opportunity to develop such patient-engaged skills. Furthermore, they perceived to have increased their skills after the training program. They believed they had acquired the confidence needed to deliver bad news in their future clinical practice, appreciating the link between the activity and their future interactions in applied health care contexts.

Medical student humility as a gateway for influence

Studies have also focused on the propensity of medical students to evolve personally in terms of their engagement with organizational aspects of care. Beyond merely being open to learning about such aspects, a degree of humility is evident in medical trainees' espoused lack of confidence in their own contextual or organizational skills, suggesting an acceptance of influence in their personal development through medical education (Halasz et al., 2016; Lu et al., 2020; Nowaskie et al, 2020; O'Shaughnessy, 2018).

One example is in the case of what has been called "cultural humility", which is assumed to be the "competency" to "care for patients who represent a spectrum of difference along lines such as gender orientation, socio-economic status, cultural affiliation, and racial and ethnic identity" (Lu et al., 2020). Despite the assumption of cognitivist and de-contextualized origins that can underlie the idea of a competency, cultural humility is believed to be essential in medical education, especially in regard to cultural heterogeneity and diversity of populations, given its perceived association with the delivery of sensitive and patient-focused care (Lu et al., 2020). In a study about cultural humility and the LGBT (lesbian, gay, bisexual and transgender) community, medical students' perceptions were compared with those of other health professional students. Medical students were found to have relatively increased basic knowledge about the LGBT community, as well as increased exposure to knowledge about this community, compared with dental, occupational therapy, pharmacy, physical therapy and physician assistant students. Despite these perceived advantages, medical students reported feeling comparably underprepared to care for members of the LGBT community (Nowaskie et al, 2020), reflecting a lack of confidence in cultural competency skills.

Similar findings were obtained in a study examining self-perceived "preparedness" for dealing with health disparities of diverse groups across different levels of training in medical

school (Lu et al., 2020). No significant differences were found between the perceptions of these groups of students about their preparedness, whether clinical or pre-clinical. Findings of such studies suggest that, despite increasing knowledge and exposure to various organizational constructs, medical students have shown a degree of humility in their propensity to learn about organizational aspects of care.

Similar amenability to influence and learning has been shown in studies of two particular organizational aspects of care, that have been packaged as competencies originally deriving from cognitive understanding – leadership and communication (Halasz et al., 2016; O'Shaughnessy, 2018). Leadership has been defined as the act and process of leading a group of individuals towards a shared vision or goal (Halasz et al., 2016). In the context of health care, this goal is often believed to be the achievement of a high quality health care system and patient centered-care (Al-Khalifa et al., 2020; Bearman, 2012; Halasz et al., 2016). In one study, participating students in an activity geared to improve leadership competency rated themselves and each other on acquired leadership skills following a peer teaching activity in anatomy. Findings demonstrated that 71% of the time, students rated themselves lower than their peers had rated them, suggesting a lack of confidence in their acquired skills, even when skills appear to have increased. In a study examining the development of communication skills through a peer teaching activity, anesthesia residents acknowledged a lack of confidence in this domain, and, therefore, expressed the appreciation of having near peers lead the activity, mainly for their relatability with the students' lack of experience (O'Shaughnessy, 2018). The lack of confidence claimed by medical trainees in skills required for individual professional interactions, suggests an opportunity to influence student learning, culture and relationships with other individuals in the health care delivery context through educational interventions.

Influencing through experiential learning

Thus, increasing research attention has been paid to the increased application of cognitively-derived knowledge and skills in relation to organizational aspects of care. Medical trainees have demonstrated particular appreciation for "experiential learning" when learning the application of contextual or organizational skills (Bearman, 2012; Drummond et al., 2016; Hagiwara et al., 2017; Roberts et al., 2017; Ruiz-Moral, et al., 2019). This is demonstrated through several studies about medical education through embedded skill-forming activities.

A feature of experiential learning that has been reported as appreciated by students is the resemblance of experiences to "real life" clinical contexts. In a study about a simulation activity designed to teach surgical students "non-technical skills" (professionalism, communication, collaboration, management and leadership), students appear to have appreciated the "realism" of the experience (Bearman, 2012). In a study about an OSCE (objective structured clinical examination) activity aimed at helping students to develop their communication skills, specifically on how to lead family meetings, students found the experiential aspect a "positive" experience (Hagiwara et al., 2017). The students in this study expressed having a lack of exposure and a lack of confidence in leading confrontational family meetings, and felt that the realism of the activity provided an opportunity to obtain immediate feedback on their skills, thereby allowing an opportunity to rapidly increase skills in preparation for future patient or family interactions. Students felt that despite the "acting" required by this activity, "any practice is a good stepping-off experience" (Hagiwara et al., 2017). Students, therefore, have been shown to appreciate the link between strengthening the application of organizational constructs through experiential learning activities and preparedness for their future clinical contexts, and appreciate "realistic" learning opportunities.

An additional benefit of embedded learning experiences is the perceived opportunity for medical students to apply their understanding of organizational constructs while taking account of contextual factors. One such example is in the case of overt emotion. Emotions are affective feelings often subconsciously derived by individuals' circumstances, moods or interactions with others, and have been shown to influence an individual's decision-making in the health care context (Drummond et al., 2016; Hagiwara et al., 2017; Ruiz-Moral, et al., 2019). In a study about teaching "non-technical skills" to final year medical students, "tactical decision games" were employed to help students improve their decision-making skills (Drummond et al., 2016). These games were designed with the intention to influence participants' decisions and behaviors through stressful or emotional situations, therefore forcing participants to take account of the particularities of their circumstances. After having completed the activity, students expressed appreciation for the experiential aspect for several reasons, including the opportunity to "observe and reflect" as events unfolded in real time, and the opportunity to learn in what appears to be an "ambiguous or uncertain" situation, recognizing the impacts of external factors, such as emotions, on their behaviors and decisions. The application of organizational constructs through

experiential learning activities, thereby, is presented as having several important benefits for students. These include appreciation by medical trainees of realistic situations, improving student confidence, and learning while taking account of various factors that may influence decision-making.

A characteristic benefit of learning activities based in applied settings is being immediately and directly involved in the activity, thereby facilitating the teaching and learning of organizational constructs. This is demonstrated in an ethnographic study about opportunities for medical student learning on an internal medicine ward (Haag-Martinell et al., 2017). In this study, third year medical students were observed during their internal medicine clerkship rotation in a Swedish teaching hospital, which they undertook for a period of one to five days. Thematic analysis from ethnographic field notes revealed two major themes: nervousness and curiosity, and being invited and involved. The researcher observed that students sometimes felt and acted anxiously when they could not answer questions, which seemed to disturb the learning process, as it interfered with their curiosity and involvement. However, a transition from nervousness to curiosity could be observed for students who spent a longer amount of time on the ward (one week), which seemed to benefit the learning process as the students became less anxious and took on more active roles in patient care. The researcher also perceived that when students were invited by the supervisor to take part in medical activities, they benefitted from additional learning opportunities. Scope and diversity of learning opportunities therefore heavily depended on the students' involvement in the "community of practice" (Haag-Martinell et al., 2017). Such a study exemplifies a body of research that takes students one step further along the pathway of applying their cognitively-derived knowledge into health care settings.

Application of organizational constructs through experiential learning

Research has also focused on the benefits for learning of how contextual or organizational constructs in medical education are applied in practice. Experiential learning activities – placing and engaging the student in everyday, or "authentic" clinical setting – have been perceived to facilitate the acquisition of applied skills, beyond one-on-one interactions, enhancing knowledge and skills relating to organizational aspects of care (Haag-Martinell et al., 2017; Huria et al., 2017; Kratzke & Bertolo, 2013; Newcomb et al, 2017). This section shows that a number of studies have explored the impacts on skill development of taking an active role

in experiential learning that takes account of learners' contexts, even if such studies have rarely focused on organizational and reflexive aspects of health care delivery that reach beyond the individual skill required for interactions with others.

Experiential learning for "cultural humility"

Two studies, in particular, have focused on engaged experiential learning for "cultural humility", which has also been called "cultural competency" (Huria et al., 2017; Kratzke & Bertolo, 2013). While both studies demonstrate the benefit of learning some contextual aspects of care through experiential learning, they tend to focus on individual interactions within these contexts.

One such study focuses on an indigenous health program designed to help medical students in New Zealand increase "cultural competency" (Huria et al., 2017). The course conveners were strongly committed to teaching students about health care delivery to indigenous people, due to health care practices that sustain health inequities in this population (in particular, racial bias, and lower rates of referral and preventative treatment). This activity took place during the clinical component of medical school (between years three and six) and consisted of a three-day and two-night "immersed" orientation to the indigenous health curriculum. The location of the activity was described as "an indigenous meeting place", and students were required to sleep in this location overnight, allowing them the opportunity to witness people's traditional daily routines. Both indigenous and non-indigenous educators developed and taught the program. During the orientation, students were taught two models, the Meihana model – a practice model that takes account of clinical and cultural factors to guide clinical assessment and interventions involving Maori patients, and the Hui process – the application of traditional principles of greeting, introducing, and maintaining a patient-doctor relationship with Maori, which they applied in simulated patient interviews and discussed in small groups. Students were then surveyed about their experiences using Likert-scale questions and free text boxes. Most students rated the program as being extremely or highly valuable, and most conveyed that the activity had increased their interest in Maori health. Inductive analysis of the free response items yielded five themes and sub-themes: situated learning (learning about context); teaching qualities (enthusiasm for Maori health and role modeling); curriculum context (re-presenting Maori history, exploring

beliefs and values, of health); and learning. The immersive character of the experience allowed students to take account of some organizational aspects of health care delivery to Maori patients.

Another example of an experiential exercise targeted to teach organizational aspects of health care delivery consists of a study about teaching "cultural humility" through a simulated cross-cultural experiential learning exercise (Kratzke & Bertolo, 2013). Although more introspective and reflective in nature than the previous study (Huria et al., 2017), and less skill-based, this research is similar in its focus on the individual knowledge and skills.

This study describes teaching "cultural humility" through a learning activity developed in the US to improve cultural awareness in the context of a growing Hispanic population and an influx of immigrants (Kratzke & Bertolo, 2013). The activity consisted of brief didactic teaching about cultural awareness and competence, a 60-minute cross cultural classroom simulation exercise, a debriefing period to explore feelings and perceptions about the simulation activity, and, finally, a reflective written assignment. During the activity, students were randomly assigned to culture "Alpha" and culture "Beta" and were separated into different classrooms according to their culture. They were then required to learn about their "new cultures" and practice these cultures with other members of their newly-assigned culture (e.g. use culture-specific greetings, and culture-specific language about which they had been informed). During the 60-minute simulation period, each student was sent to a classroom of the alternate culture, and was asked to interact and learn about this culture, from the perspective of a minority culture. In the reflective piece, students were asked to reflect on their experiences and relate these to the health care delivery context. Analysis of student written assignments revealed three themes: cultural knowledge and cultural awareness; observation and learning; and cross-cultural communication. The students reported to have valued the experience, that they would be better able to "relate" with those of other cultures, would be better listeners as doctors, and acknowledged the fragility of such cross-cultural communication, such as making errors. The authors argued that, on account of this simulation, the students had increased their "cultural competence" (Kratzke & Bertolo, 2013).

Experiential learning for "collaborative competency"

A further study promoting the benefits of students taking on active roles in experiential learning as a result of the teaching of organizational aspects of care, appeared to encourage

student reflection and introspection, even though the focus remained on individual skills and interactions (Olupeliyawa et al., 2014). The study was aimed at exploring "collaborative competency" (ability to work with others) through a "work-based assessment" that took place over a six-week period in the students' final clinical rotation. The activity consisted of: having students select an "assessor" who would complete an evaluation form about their teamwork performance during five key clinical encounters suggested to be "important"; consultations with medical staff; consultations with allied health professionals; preparation of discharge plans; patient care discussions; situations that required interns to ask for help; clinical handovers; and team meetings. Assessors were individuals of the students' choosing (e.g. specialist, registrar, resident, nursing, allied health team member). The evaluation process included a written component for the student to reflect on their collaboration performance, and to plan actions for improvement after discussing feedback with the assessor. Thematic analysis was undertaken of content from the written evaluations and reflections, interviews with assessors and focus groups. The features of student reflections consisted of an analysis of the event, while exploring contributing contextual factors, exploration of the individual's "own assumptions and emotions", and views about a possible solution. The students made concrete observations of what would have improved or could improve their own performance, such as presenting more identifying information about their patients when presenting cases to their team (Olupeliyawa et al., 2014). Even though there was no scope in the activity to facilitate systemic reflection on the role of context on care, the activity was shown to facilitate reflection on students' own performance.

Learners as observers and researchers

To minimize the focus on individual skills and interactions from non-biomedical, or contextual or organizational learning in medical education, one study featured the attempt to teach students about organizational aspects of care by having students act as observers, rather than have direct involvement in patient care (Nothelle et al, 2018). This was to allow students to obtain an "outsider" perspective of organizational aspects on how health care was coordinated. In this study, medical residents starting their internship completed a half-day nonmedical visit to a patient's home in their first six weeks of the program. Patients selected for the activity were chosen for their perceived "high risk for health care utilization". The home visit setting was perceived to facilitate a focus on the social context of the patient, therefore encouraging a more

"holistic" approach. The goal of the visit was to "better understand the patient's barriers and facilitators to care" and their life outside of the medical setting. Students were, therefore, discouraged from speaking about diagnoses and medical aspects of care. Students were asked to write about their experiences and reflections immediately after the visit, and again at the end of the academic year, approximately one year later. Identified themes of beginning-of-the-year-narratives were focused on impact of the home visit on future practice and role of the community and support systems on the patient's health. End-of-year narratives of this activity were more focused on the effect on the depth of the doctor- patient relationship. The researchers concluded that nonmedical visits could facilitate resident learning of contextual or organizational aspects of patients' health (Nothelle et al, 2018).

Interacting with patients in a "nonmedical" role offers the advantage of allowing students to focus on non-medical aspects of care. The above study allowed students an opportunity to adopt a more systemic outlook on the patient's health, taking account of impacts of the community and systemic support structures. For example, one student noted that "neighbors in surrounding homes were potential allies in the care of the patient". Another student noted that "fresh produce cannot be easily accessible by everyone", comparing the patient's context to "living in a food desert", and acknowledging the effects of this inaccessibility on a particular patient's health (Nothelle et al, 2018). Being unobtrusive participants in the delivery of care, and also immersed in a patient's home environment, allowed students the opportunity to act as observers and researchers, and take account of contextual aspects relating to these patients' health that went beyond individual cognitive constructs and skills.

The challenge of transcending a cognitivist approach to organizational phenomena

Teaching and learning contextual aspects of health care delivery in medical education is believed to be important, and, as shown above, has traditionally focused on cognitively-based individual constructs and the application of these constructs in medical practice. Researchers have suggested experiential learning activities as methods to facilitate learning about organizational aspects of care. Although studies have explored learning about organizational constructs and individual skills through situated learning activities, studies about a systems-approach to organizational learning have been limited. Only one study attempted to explore organizational learning beyond the individual level by involving students as observing

participants in an embedded activity (Nothelle et al, 2018). However, this study took place in patients' homes and therefore, does not consist of the ideal setting to explore contextual aspects of how health care is delivered within the heath care context. Furthermore, its emphasis was on the contribution of the activity to the doctor-patient relationship. The formal institutional context of the clinic provides an opportunity to learn about structures that affect the doctor-patient relationship.

Situated Learning Theory

This literature review has, thus far, covered organizational aspects of care in medical education, starting from the ways in which students acquire knowledge and attitudes, to their application in a one-on-one interaction, through to their application in a wider setting. Despite this application, learning seemed to be regarded as mostly an individually constrained process, relaying on the individual's capacity to acquire, manipulate and apply knowledge, some experiential and applied learning opportunities notwithstanding. This perspective, whether intended or not, and despite the relative longevity of ideas about social and cultural influences on behavior, overlooks the significant influences of social and cultural factors on learning and transformation. It has therefore been argued that learning ought to include influences of factors external to the individual (Billet, 2004; Boud & Middleton, 2003). The idea of situated learning provides an opportunity to expand on the de-contextualized perspective of learning in medical education.

Situated learning for organizational learning

Situated learning theory (SLT) is a sociocultural perspective on learning that was developed at a time when cognitive and behavioral theories dominated (Contu & Willmott, 2003). This theory differed from prevailing theories about learning in conceptualizing learning as a transformative process that occurs through participation in a community, and everyday interactive processes, rather than through a process that relies solely on the individual (Lave & Wenger, 1991). The theory describes learning as a fundamentally social process; a process embedded in everyday activity, context, and culture. It is also argued to be largely unintentional, through people's influence on each other in everyday interaction, in which the "culture" or shared meaning system of a group is spread, reinforced or modified (Wagner et al, 2021). The

interactive character of situated learning makes it a more inherently "social" than experiential learning, which has tended to emphasize individual learning.

As an archetypal situated learning theory, Lave and Wenger (1991) coined the term "community of practice" (CoP), which is a group of individuals who come together in pursuit of a shared goal, in a community which individuals aspire to belong to. A central concept in CoP is "legitimate peripheral participation" (LPP), which refers to the role of the newcomer in a CoP, accounting for their initial status at the periphery, and progressively moving towards the center by becoming a more actively engaged participant and acquiring responsibilities. Through this process, the newcomer acquires the norms, values and culture of the community. Furthermore, in addition to being individually transformed, the newcomer's participation in this community contributes to a transformation in the culture of the CoP itself. This dynamic learning process enables guidance, support, co-construction of the individual and the CoP, and reconceptualization of practice (Matsuo & Aihara, 2021).

Situated learning experiences are seen to provide an opportunity for collaborative practice change beyond mere acquisition of specific cognitively-based knowledge and skills (Payler et al, 2007). Medical student engagement, involvement and active participation in a clinical site may enable acquisition of norms, values and culture, specific to the health care delivery context, and ultimately, which influence the formation of professional identities (Salter & Kothari, 2016).

The Current Study

Researchers thus have shown the importance of learning activities that are grounded in experiences that evoke "authentic" environments (Billet, 2001, 2004; Dornan et al, 2007; Teunissen et al, 2007). As evidenced by the literature review, a research gap exists in exploring medical education interventions that enhance a systemic understanding of organizational aspects of care, an understanding that reaches beyond the acquisition of de-contextualized knowledge and skills. There is a need to understand the role of a situated learning activity, framed in relation to the interactive work environment of medicine, in contributing to a contextualized and systemic understanding of medicine and medical education. There is particular value in examining an educational intervention to foster such understanding. Beyond mere exposure to clinical sites, the

appreciation of contextual (non-biomedical) aspects of care require the integration of theory, because contextual influences on health care (such as interprofessional relations and policies) are not always immediately visible or tangible. A situated educational intervention during medical school holds the opportunity to advance student "reflexivity" — that is, reflection oriented to practice improvement and change (Nugus, 2008). Commitment to and skills for reflexivity are important for medical students, given the fundamentally interactive and multi-dimensional character of health care delivery (McHugh et al, 2020). Research has shown that 60-80% of errors in health care stem from the organization of health care, rather than being exclusively bio-medical (Kohn et al, 2000; Makeham et al, 2002; Østergaard et al, 1994; Schaefer et al, 1994; Williamson et al, 1983; Yule et al, 2006).

SLT suggests an opportunity to explore the potential of systemic understanding of organizational aspects of care through a situated learning activity. The purpose of the present study, therefore, is to examine how medical students come to learn the relationship between clinical work and organizational aspects of care after having completed a situated learning intervention. Two research questions guide this study towards that purpose: 1) In a learning activity about organizational aspects of care in the setting of primary care, to what extent did medical students perceive they learned from a situated learning activity? 2) What is the relationship between medical students' perception of learning and assumptions and expectations about learning and medicine? These questions were addressed through the analysis of survey data with mixed-method components.

CHAPTER 3
METHODOLOGY AND METHODS

The Methodology

The current exploratory study employed survey methods, with mixed-method components (Dillman et al., 2014; Morgan, 2014). Philosophically, the idea of social constructivism (also known as constructionism) undergirds the present engagement of situated learning theory and the mixed-methods strategy. Social constructivism holds that multiple realities are possible, because one's "reality" is constructed through lived experiences and interactions with others (Crotty, 1998). Of interest in the present research is what is meaningful to the participants (Charmaz, 2017). While valuing subjective meaning-making, a social constructivist position also acknowledges the possibility that there may be a real, objective, knowable world "out there", independent of subjective perception (Crawley, 2019; Segre, 2016). Yet, subjective meaning is afforded greater primacy because people's perceptions have "real-world" consequences for their behavior (Charmaz, 2017; Keller et al., 2019). Because a social constructivist position does not rule out the possibility of a real world, quantitative research is permitted, because measurement is seen to be able to deliver a plausible account of people's perceptions, attitudes or knowledge (Holtz & Odag, 2014). Yet, overall, the research is focused on the meanings of medicine and medical education that are evident in responses to an intervention to advance organizational knowledge and skills. Therefore, more emphasis is placed on shifting and shiftable views on medicine and medical education, than on fixed, predictable (or "structuralist") categories or views.

The constructed but "real-in-effect" world is articulated through a survey which has two components: one quantitative component and one qualitative. In the quantitative component, data about medical students' perceived knowledge, attitudes and skills were collected using a Likert-scale survey items before the situated learning activity ("pre") and after the activity ("post"), and these sets of data were compared statistically in order to document perceived learning from this intervention. In the qualitative component, data on student perceptions of the learning interventions were explored through open-ended free text items on a survey after the situated learning activity. Both quantitative and qualitative components were treated as two aspects of

one study (Morgan, 2014). The components were conducted simultaneously, and were analyzed to answer the research questions – that is, in a parallel convergent manner of combining different methods (Creswell & Creswell, 2018). Findings of the quantitative and qualitative components were then integrated conceptually, to serve the overall purpose of the study, the examination of the relationship between clinical work and organizational aspects of care after having completed a situated learning intervention. Therefore, from a pre-designed strategy, two relatively independent bodies of data were generated, capable of answering independent questions, and were integrated in the final analysis (Morgan, 2014).

The study was approved by the institutional review board (IRB) of the Faculty of Medicine and Health Sciences at McGill University (A10-E66-16B). The IRB confirmation can be found in **appendix D.**

The Setting

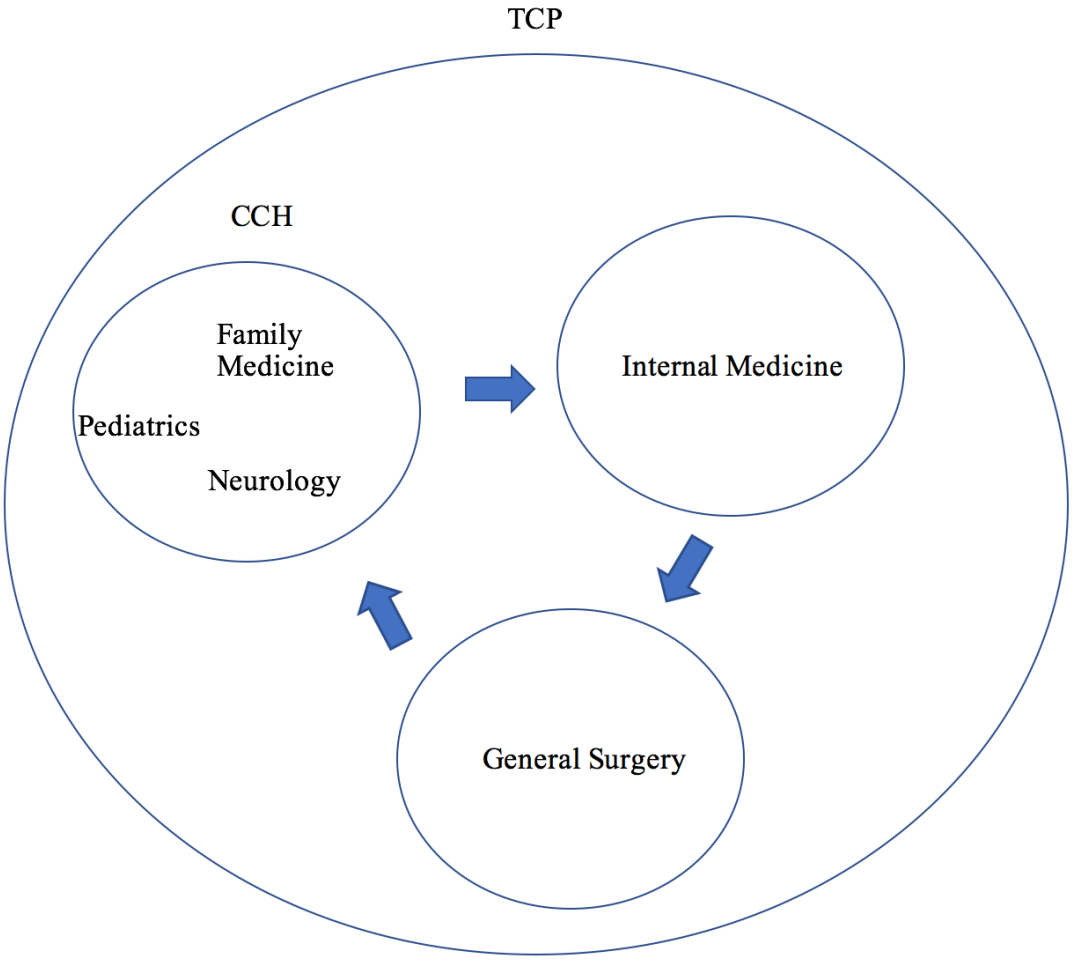
This study took place within the Faculty of Medicine and Health Sciences at McGill University. McGill University is located in Montreal, the second most populated city in Canada. The Faculty of Medicine and Health Sciences at McGill University is one of four accredited medical programs in the province of Québec and harbors approximately 180 medical students per year. The medical program at McGill University was last accredited by the committee on Accreditation of Canadian medical schools (CACMS) and the Liaison Committee on Medical Education in 2019 and was regarded as satisfactory in all domains.

The Case

The situated learning activity was called "Observing Healthcare in Action" (OHA) and consisted of a mandatory participant-observation project for second year medical students. The course was designed and delivered by Dr. Peter Nugus. The course comprised 22 hours of contact spread over 8 weeks. Data included in this study were collected between 2015 and 2018. Before the introduction of this situated learning activity, a curriculum change was mandated to provide early exposure to clinical practice to medical students at McGill University. As part of this movement, "Transition to Clinical Practice" (TCP) was created and consisted of a six-month program in

which medical students rotated through various clinical units. The OHA was part of TCP. The OHA was specifically part of the family medicine component. Over the six months dedicated to TCP, the students spent two months rotating through each of internal medicine, general surgery, and a three-discipline unit (comprising of family medicine, neurology and pediatrics) named Comprehensive and Consultative Health (CCH). This means that, in the cohort of 180, at any one time 60 students were participating in a two-month rotation in either internal medicine, general surgery or CCH. The figure below (**figure 1**) illustrates the medical student trajectory through these activities.

Figure 1 – Medical Student Trajectory through TCP



At the start of TCP, students participated in an introductory session to OHA in the presence of their entire cohort (approximately 180 students). This introductory session took the form of a two-hour lecture, which served to emphasize the role of social sciences within medicine, medical education and clinical care and to expose students to the features of ethnography – or at least participant observation. The session involved case presentations where social factors were shown to influence clinical care. Immediately prior to the rotation to the specific disciplinary groupings, a second session was staged for the 60 students rotating through CCH, in which more specific details about participant observations and the assessment tasks and expectations were provided. The sessions also included the presentation of examples of previous works of other students when available. The sessions were interactive in nature, including practical exercises, generating a lot of questions and early student feedback.

The OHA activities consisted of four main activities: lectures, small group progress workshops (10 students each, facilitated by a PhD student), and primary data collection through the observational exercise. The two assessments for this course were an oral presentation and a written assignment pertaining to their participant-observation learning activity. The students could do their assessment tasks individually or as a group, but they were assessed individually. For assessment of the presentation and assignment, the students were required to integrate within a particular contextual or organizational theme they chose (e.g. interprofessional relations): 1) some primary findings (including specific quotations or actions from their observations, to reference the concreteness of the situations in which they were embedded); 2) relevant social science readings covered in class (or others they chose); 3) two well-known and new primary care policies of the Quebec government; and 4) a document with excerpts from interviews with physicians who had a PhD in sociology or anthropology on the specific impact of social scientific knowledge on their clinical practice.

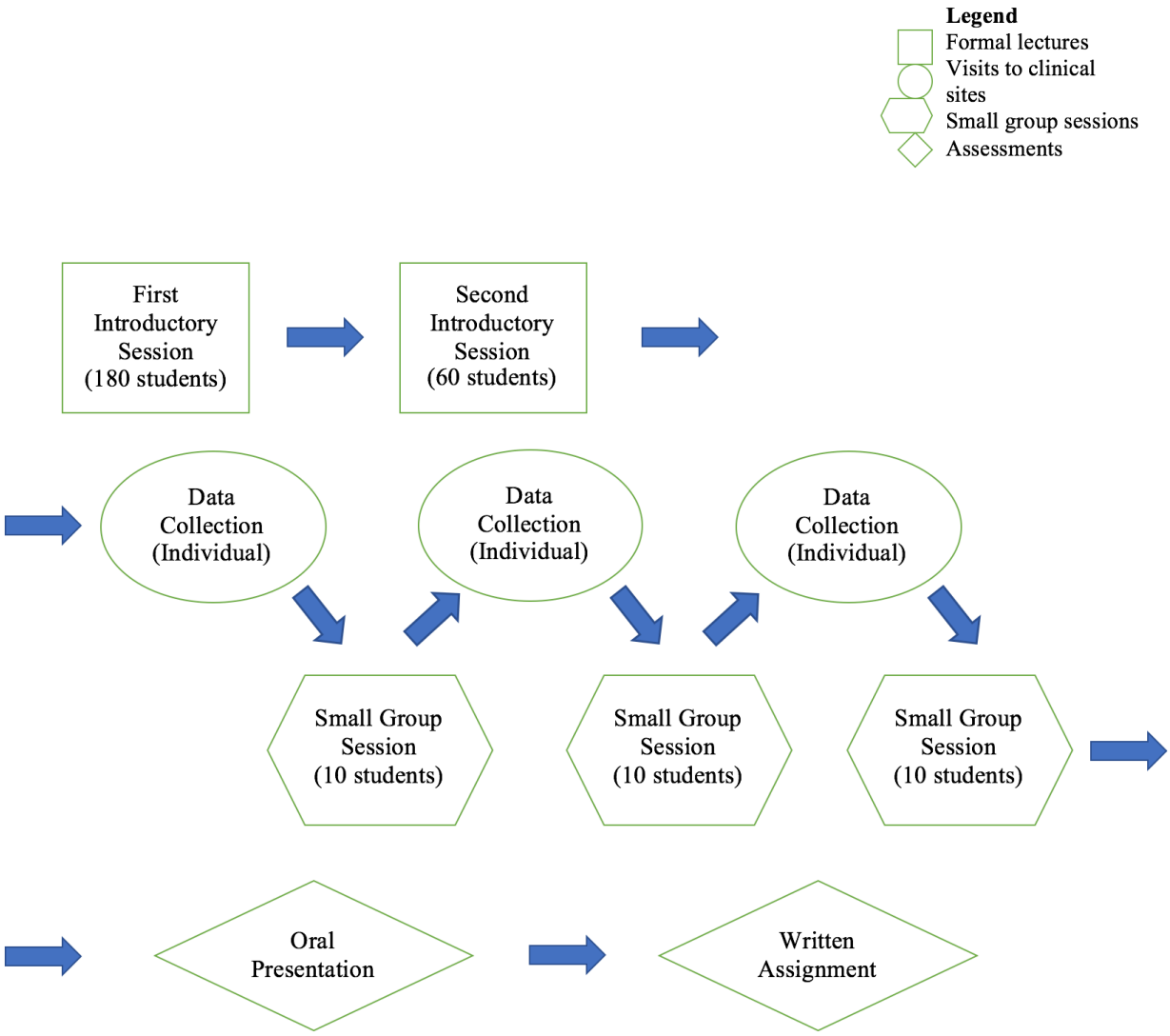
In order to gather the findings necessary for the final assignment, students participated in observational data collection. For the observational data collection component, students attended a primary care clinical site for three full mornings (three hours per morning). The sites had agreed to participating in the project. During these data collection periods, students were encouraged to take fieldnotes about organizational aspects of care on a specific theme that they chose. A list of examples were provided that students could choose from (e.g., interprofessional teamwork, infection control, and technology use) or were able to propose other topics. During

these visits, although students were physically present in clinical sites and may have joined clinical teams, they were instructed to take on roles of observers and to avoid being directly involved in clinical care or clinical activities. Their participation was therefore action-based and practical, even though they did not deliver frontline care (Geertz, 1973 and Spradley, 2016). In addition to reflecting on organizational aspects of care, students were encouraged to reflect on the impact of their entry to the clinical sites they visited.

Interspersed between each of these visits to clinical sites, students met in groups of ten with a small group leader to discuss their observations and help structure their individual projects. Small group leaders consisted of teaching assistants who were PhD candidates in anthropology, sociology or family medicine with experience in ethnography. These small group sessions were designed to help students learn by sharing advice with each other, and develop coherence around the various parts of the project. The students were frequently told that the OHA itself was a lesson in coping with uncertainty, and that the process and outcome of ensuring conceptual coherence between parts of the project around a particular theme was training for working in complex clinical environments.

The written assignment and oral presentation components consisted of reports on an integrated account of the chosen theme with information or data from each of the above-mentioned parts of the activity, specific findings and data from the observations, an account of methodological choices and decision-making through the observational process, personal reflections, and recommendations for change to the sites they visited. In this fashion, students were required to merge theory and practice, taking account of contextual aspects of the primary care sites they visited. **Figure 2** outlines the medical student trajectory through the components of OHA.

Figure 2 – Medical Student Trajectory through OHA



Appendix E contains the course outline, a handout distributed to medical students at the start of the course. This handout served to provide students with general information about the course and the course objectives. An additional handout (more detailed at 10 pages) was distributed to guide student field-note taking and guide student observations. As mentioned, a list of sample organizational themes was provided as a reference for possible examples they could link to their observations (**appendix F).** A description of two provincial political bills were provided to the students, that they would be required to link to their observations and recommendations in their oral and written reports. Lastly, a document with abridged transcripts of interviews by the course

director with physicians with PhDs in the social sciences was also provided to the students and was also required to be integrated into their written and oral assignment. An example of one of these transcripts can be found in **appendix G**.

The oral presentation consisted of a ten-minute presentation per student. It offered the opportunity for peers to ask questions and help solidify contents of the presentation in preparation for the written assignment. The written assignment consisted of ten pages including references and a one-page sample of field notes. The written assignment was due at the end of TCP. Most groups therefore had several months to complete the written assignment. However, those who started CCH (family medicine, pediatrics and neurology) component last only had six weeks in total to complete the written assignment, and one week between the oral presentation and the written assignment. An anonymized sample of a student written assignment can be found in **appendix H**.

Participants and Recruitment

All second-year students in the medical program in the Faculty of Medicine and Health Sciences at McGill University from cohorts 2015 through to 2017 were required to participate in the learning activity. These students were also given a choice to participate in this study in relation to the learning activity (Total N=540 over three years). There was no compensation for participation. Students could only participate with written consent. Students were reassured that participation was completely voluntary and that their instructor would not know whether they chose to participate or not. Potential participants were reassured that their grades would not be affected by their decision to participate (or not participate) in the study. They were also informed that even if they chose to participate, they could withdraw their participation at any time.

Specific demographic data were not collected through the surveys. However, I believe our participants were reasonably representative of students enrolled students in the MDCM program. Students were all English-speaking, and some were francophone. The students were expected to be balanced in terms of sexes and genders, and balanced in terms of those directly from CEGEP (college d'enseignement general et professionnel: 2-year post-high school college, mandatory in Québec), versus those who were post-graduate, given the high priority of achieving a balance in these factors in the medical program at McGill University. In the 2021 University

census, the breakdown of the characterizing features of medical students admitted to McGill University were the following: 55% were graduates of a Quebec University (117 students); 37% were graduates of a Quebec CEGEP (79 students); 5% were graduates from a Canadian University outside of Quebec (10 students); 1% were from international institutions (2 students). The rest were admitted to the MD-PHD program and I can therefore assume they have completed a graduate level program (5 students). Four students were from First Nations and Inuit groups (2%). I have no reason to believe that our participating sample would differ substantially from the broader student population. I also had no specific hypotheses relating to the interaction of demographic characteristics and our phenomenon of interest, so no demographic information was collected from participants.

The Surveys

Both quantitative and qualitative data from this study derived from a single survey, featuring both Likert-scale and open-ended items. The survey can be found in its entirety in **appendix I**. For the quantitative component, Likert-scale items were used to document pre-course and post-course student self-perceived knowledge, attitudes and skills. The surveys consisted of a "pre" course survey and a "post" course survey, which contained 19 quantitative items each. These surveys were initially designed and implemented by the main investigator to document student perceptions of the learning activity and engage in quality improvement (PN). For the purposes of this study, two investigators (PN and AG) came together and mutually selected ten items from the initial survey to analyze, given the direct relevance of these items to the first research question of the current study: in a learning activity about organizational aspects of care in the setting of primary care, to what extent did medical students perceive they learned from a situated learning activity?

The instruction for answering the Likert-scale items were as follows:

> *Please choose a response that best corresponds to your opinion about each of the following statements by circling the appropriate number (6 = strongly agree, 5 = moderately agree, 4 = somewhat agree, 3 = somewhat disagree, 2 = moderately disagree, 1= strongly disagree)*

The ten items selected for quantitative analysis are the following:

1. *In my opinion, the way health care is organized is directly related to the quality of clinical care provided*
2. *In my opinion, health care policy is directly relevant to the quality of clinical care provided*
3. *I know how health organizations work*
4. *I know how primary health care organizations work*
5. *I understand the role of a primary health care clinic in the health system*
6. *I understand the structure of health care in this province*
7. *I understand the structure of primary health care in this province*
8. *I understand the roles of health care staff in roles other than medicine*
9. *I understand the role of a doctor*
10. *I understand the role of a family doctor*

Students were, therefore, asked to rate the degree to which they agreed (or disagreed) with the ten statements listed above. A comparison of the "pre" survey and the "post" survey would therefore document the extent to which medical students perceived that they learned from OHA and the extent of their attitude change across the course.

For the qualitative component of the study, the two researchers (PN and AG) mutually selected three items from a second open-ended free text survey designed by the main investigator. As part of the same survey, these questions were asked "pre" course and "post course" to enable comparison before and after the course. The qualitative component of the survey initially contained 19 items. The investigators selected three "post"-intervention questions for analysis given the direct relevance of these items to the qualitative question of the current study: what is the relationship between medical students' perception of learning and assumptions and expectations about learning and medicine?

The following disclaimer appeared at the top of the free-text survey items:

There are no right or wrong answers!

The three items selected for qualitative analysis are the following:

1. *How do you feel about the ethnographic exercise?*
2. *What did you learn from doing the ethnographic exercise?*
3. *If there were any changes in your attitudes or perceptions of your knowledge or skills from the commencement of this course, to what extent do you attribute them to: (a). The TCP program (b) The Family Medicine TCP component (c) The ethnographic research project?*

The term "ethnographic" was used because the project at particular stages was labelled "Ethnographic Project", until it was renamed "Observing Healthcare in Action". For these items, students were given the opportunity to submit free text answers. In this qualitative component, only "post" answers to the free text response items were included because the research question in this component examines the relationship between students' perception of learning and their assumptions. Students' perceived learning could, therefore, only be reasonably examined after the completion of the learning activity.

Data Collection

Data collection took place at two time points. The "pre" surveys were completed at the end of the first introductory class of OHA, and the "post" surveys were completed at the end of the last class of the "family medicine" rotation, once the written assignments were already completed and submitted. Despite the leading role of Dr. Nugus in the learning activity, he was not involved in data collection or data entry. For both pre and post time points, and for all participating groups over the three years, Dr. Nugus introduced the goals of the current research project, and invited the students to participate. This meant that, formally, 180 students per year had the opportunity to participate. He then left the room and an administrative assistant handed out the surveys to the students. Students were given 20 minutes to complete the surveys, and then had the option of returning the survey to the administrator once completed. The first page of the surveys contained the students' names. The administrative assistant collected the surveys and handed them to a research assistant who was uninvolved in teaching the course or student assessments.

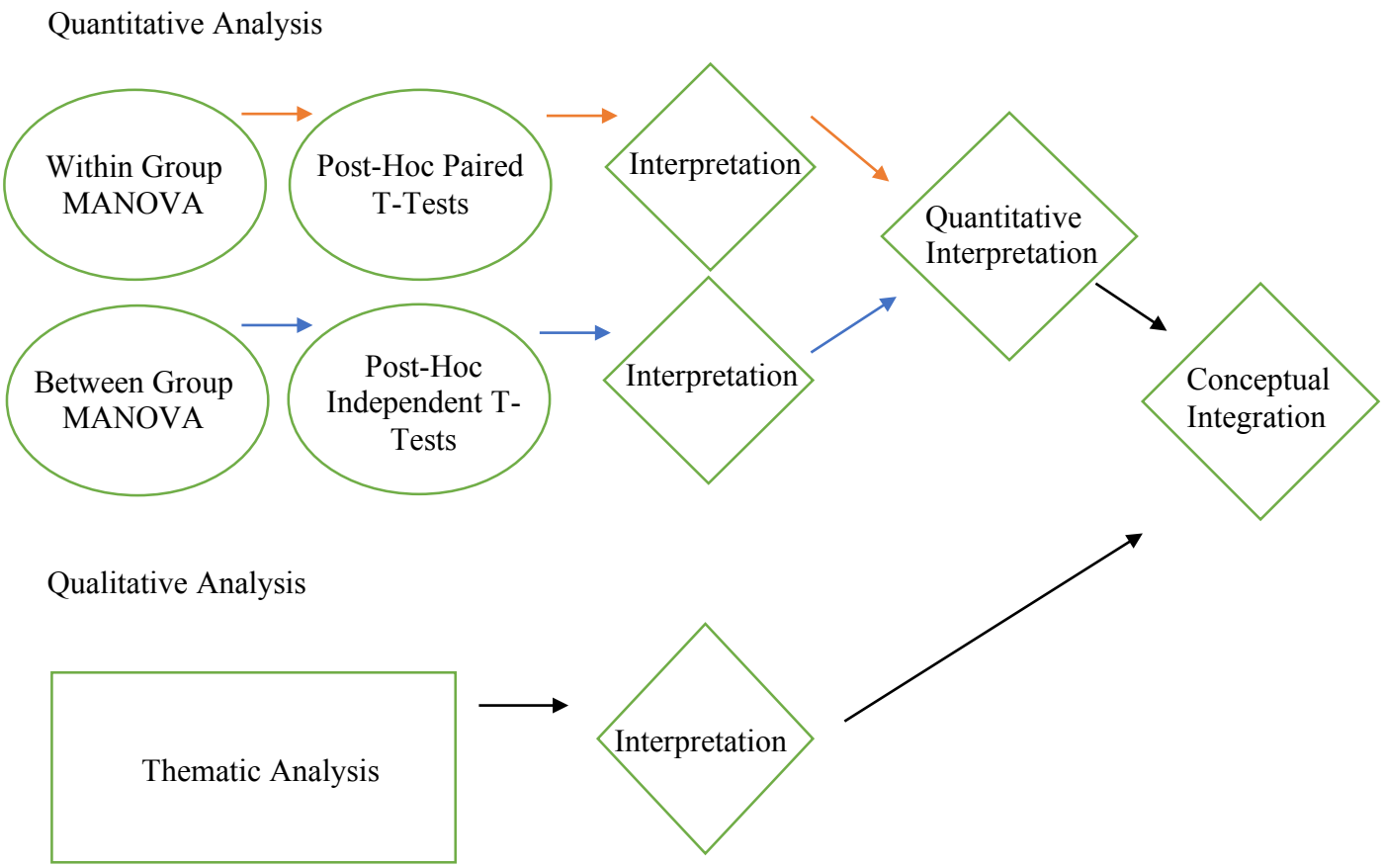
This research assistant matched the "pre" and "post" surveys and provided a unique identifier to each participant. The first page of the surveys, and the consent forms, which contained the students' names were then torn off and kept in a separate folder. The research assistant then locked this folder of students' names, and the substantial components of the surveys in filing cabinets at McGill University. The computer documents that contained coding information were kept on a computer that was password protected. After a full year following the completion of the course by the last cohort involved in this study (2017), the main investigator was given access to the coded surveys. By this time, assessment of OHA projects was long completed, and grades were already assigned and submitted for all students. Quantitative and

qualitative survey results were entered into Excel spreadsheets by two different research assistants. Once again, all excel spreadsheets were kept on computers that were password protected.

Data Analysis

Data analysis was completed by the main investigator and a second research investigator in 2020 and 2021. By the time surveys were fully analyzed, all participants would likely have already completed medical school. The strategy for data analysis is summarized in **Figure 3**.

Figure 3 – Data Analysis Design



Therefore, the strategy for analysis consisted of quantitative analysis of data from "pre" and "post" likert-scale surveys, and concurrent qualitative analysis of data from "post" free-text

surveys. Findings of both quantitative and qualitative components were then interpreted separately and subsequently conceptually integrated.

Quantitative component

For the quantitative component, scores of likert-scale surveys "pre" and "post" OHA were analyzed across the three cohorts (2015, 2016, 2017) using a MANOVA in two ways: a "within group" analysis (repeated measures) and a "between groups" analysis (Verma, 2016). A "within group" (repeated measures) analysis consists of a design where each participant is measured repeatedly as they participate in each treatment condition (Klein et al, 2001). In this type of design, participants are compared to themselves at different time points, and it therefore has the advantage of controlling for confounders such as variability between participants and intrinsic characteristics of participants. A "between groups" analysis compares all individuals participating in one treatment condition to all individuals participating in another treatment condition (Schober & Vetter, 2020). This type of analysis has the benefit of practicality and flexibility: it allows for participants to spend a shorter duration of time in the experiment as they participate in one treatment condition, without the need to participate in others.

In this research, a "within group" design was achieved by matching "pre" and "post" surveys according to participant, and subsequently comparing "pre" and "post" scores for each of the participants across each item of the survey using a "within group" MANOVA (Klein et al, 2001). During this analysis, it became apparent that a significant portion of participants only completed the survey at one out of the two time points for various reasons (see Findings Chapter). To preserve as much data as possible, a decision was made to analyze this same data using a second approach: a "between group" design (Schober & Vetter, 2020). In this approach, participation at each time point was considered a "new" entry, and additional data could be analyzed and accounted for without the need for matching "pre" and "post" surveys. Both approaches to quantitative analysis will be presented in this research. A p value cutoff of less than .0005 was chosen to accommodate for overlapping comparisons.

Following the "within group" and "between group" MANOVAs, post hoc tests were used to explore significant main effects and interactions found in the MANOVAs (Verma, 2016). Post hoc tests consisted of paired T-tests and independent T-tests (Derrick et al, 2017). Results were then interpreted to determine the extent to which medical students perceived to learn from OHA.

Qualitative component

An in-depth semantic thematic analysis of free text answers of the "post" OHA survey was undertaken by two researchers. The purpose of the thematic analysis was to discern patterns of meaning within the qualitative data (Green & Thorogood, 2018). Three levels of analysis were undertaken by the two researchers: to discern codes; which were organized into a smaller group of categories; which were organized in a smaller group of themes (Silverman, 2017). For the first two phases, this involved allocation of codes or categories to particular phrases and sentences, and then systematic comparison and contrast for each subsequent phrase or sentence to see if that text matched an existing code or category, warranted modification of an existing code or category, or required the creation of a new code or category (Braun & Clarke, 2006). The process involved increasingly abstract classification, until the final themes, while ensuring that they were grounded in the data (Fereday & Cochrane, 2008).

Within the first level, each response to a survey item was read and coded by both researchers (AG and PN) independently of the other. Subsequently, the codes were shared and discussed among the researchers, and final mutually agreed-upon codes were attributed and entered into an excel spreadsheet. A discussion took place for each code of particular disagreement until both researchers felt the code adequately conveyed a plausible meaning of the response provided for each item, in relation to the other data units where variation or interpretations was actively sought (Fereday & Cochrane, 2008). The second and third level coding was achieved collaboratively by both investigators through open discussion. This process was accomplished through an inductive, data-driven process with no a priori codes (Green & Thorogood, 2018). Conceptualization of the third level codes was then achieved to describe distinct discourses concerning medicine and medical education, with respective evaluation of the course, and perceptions and assumptions underlying each discourse.

Combining the analysis of quantitative and qualitative data

Central to this project's ability to identify the relationship between the extent of student learning about organizational matters in medical decision-making and the meaning they attributed to the educational experience is the integration of both quantitative and qualitative methods in the study. This study applied a convergent complementary approach to combining quantitative and qualitative data (Morgan, 2014). In regard to the two research questions, the

quantitative data alone addressed the extent of perceived learning, and both methods address the way students attribute meaning to the learning activity. Specifically, then, the two data sets were analyzed separately, and were combined conceptually to answer the second research question. Although the qualitative data will address meanings attributed to the exercise, the combination of the two methods shaped whether the meaning students attribute to the educational experience were more appropriately framed as reflecting fixed or emerging positions in terms of their social scientific education about organizational aspects of medical care.

Enhancing Trustworthiness

The qualitative analysis was achieved by two researchers. I am an associate professor of clinical family medicine at McGill University and a practicing family physician with a specific interest in family medicine medical education. I used to be a medical student at McGill University in the years 2011 to 2015. The teacher of OHA, Dr. Nugus, is an associate professor in the Department of Family Medicine and the Institute of Health Sciences Education (IHSE) at McGill University, with a background in political science, philosophy, adult education and sociology. He has extensive experience in ethnographic research across various hospital and community settings. Taken together, these experiences and qualifications position these investigators to relate to medical student perspectives and experiences, to understand contextual aspects of learning in medical school, and to understand the relationship between clinical work and organizational aspects of care. Dr. Meredith Young, a member of my thesis advisory committee, is an associate professor and cognitive psychologist in the IHSE at McGill University, with extensive experience in quantitative research methods. She closely guided the quantitative analysis and helped shape the overall research strategy. Dr. Linda Snell, a member of my thesis advisory committee, is a full professor of medicine, and an internal medicine physician. She is also the Senior Clinical Educator at the Royal College of Physicians and Surgeons of Canada. As an expert on competency-based medical education, she provided advice on the positioning of the educational exercise in understanding the journey of clinical training.

To increase reflexivity during the qualitative research component, the researchers kept a journal and entered memos during each analytic meeting, and at each level of qualitative analysis (Nowell et al, 2017). The memos from these journals were reviewed periodically, a process

leading to additional discussion and reflection about decisions, and their potential influence on the findings and overall direction of the study. Additionally, several meetings took place with other experts in family medicine and medical education where methods, results and interpretations were presented and discussed. These meetings provided an opportunity for the researchers to reflect their ideas off of peers who were uninvolved in the research analysis for an external perspective (Silverman, 2017). In this fashion, multiple methods were employed in an attempt to increase the credibility, transferability, dependability and confirmability of the analysis.

CHAPTER 4

The Extent of Learning about Organizing Care: Quantitative Findings

Students completed surveys containing Likert-scale items before and after the situated learning activity, as outlined in the methods chapter. Ten questions were selected for analysis for this study, as these were believed to align with the purposes of the current study. The questions were arranged in a Likert scale, with six options: "strongly agree". "moderately agree", "somewhat agree", "somewhat disagree", "moderately disagree" and "strongly disagree" (see **appendix I)**.

Scores for all ten questions across the three cohorts were compared using a MANOVA in two ways: a "within groups" analysis (repeated measures) and a "between groups" analysis. Both analyses were conducted to preserve as much data as possible. Overall, 422 students (out of a total of 540 students) from cohorts 2015, 2016, and 2017 consented to participate in the study. These 422 students completed at least one Likert-scale item for one of the ten items of the survey, either "pre" activity or "post" activity. The participation rate was 81.04% for the "pre" survey, and 50.94% for the "post" survey. Reasons for missing data included: missing consent forms; missing name or date on the survey so that the survey was not able to be categorized as pre or post nor matched to a given participant; student requested to be removed from the study (1); student did not complete one of the two surveys in its entirety; or, entire groups of students did not complete one of the two surveys. When entire groups missed completing the survey, it was because the course leader was unable to distribute the surveys, for example, because the class finished late and there was no residual time to allot for the surveys.

Repeated Measures MANOVA

A Repeated Measures MANOVA was performed to assess whether medical students' scores on surveys differed significantly from "pre" surveys compared to "post" surveys. Such a change would indicate perceived learning about organizational aspects of care after having completed the situated learning activity, and the extent of this learning. I also wanted to determine whether there was differential learning across cohorts. In other words, is there a difference between

cohorts in their perceived learning? In this analysis, students who could be matched for "pre" and "post" surveys were included. This consisted of 119 students in total. **Table 1** demonstrates the number of participants in each cohort, as well as the total sample size for this analysis:

Table 1 – Number of Participants in Each Cohort

Cohort 2015	48
Cohort 2016	38
Cohort 2017	33
Total	**N = 119**

In this Repeated Measures MANOVA, there were two dependent variables: time (two levels: "pre" and "post") and question (ten levels: one to ten inclusively). The independent variable was cohort (three levels: 2015, 2016, 2017).

This analysis showed that scores on the survey differed significantly across time ("pre" vs "post")(F (1, 116) = 108.74; $p < .0005$), and across questions (F (9, 1044) = 105.25; $p < .0005$). Additionally, significant interactions were found between question and cohort (F (18, 1044) = 2.08; $p < .05$), and between question and time (F (9, 1044) = 13.33; $p < .0005$). There was no significant effect of cohort (F (2, 116) = .018; $p > .0005$).

These findings demonstrate that medical student scores on the survey were significantly higher, overall, after having completed the situated activity, compared to before having completed the activity. Medical student scores also differed significantly across question; some scores were significantly higher on some questions, compared to others. Furthermore, the cohort medical students belonged to did not appear to have a significant effect on medical student scores on the survey in general.

A significant interaction between question and time (F (9, 1044) = 13.33; $p < .0005$) suggests that the differences between "pre" and "post" scores differed significantly across question. Post hoc tests were completed to explore this interaction and consisted of paired sample T-tests. A significant difference was found between "pre" and "post" scores of questions two through to ten (see **Table 2**). Scores did not differ significantly for question one, likely because the "pre" scores were already high, suggesting a possible ceiling effect. **Table 2** outlines results of the post hoc tests. Standard deviations and means were highlighted for each question in

this table. Bold text of the paired T-test result for questions two through to ten reflects their statistically significant results.

Table 2 – Results of Paired T-Tests Results according to Question

Question	Mean (Standard Deviation) on "Pre"	Mean (Standard Deviation) on "Post"	Paired T-Test Result
1. *In my opinion, the way health care is organized is directly related to the quality of clinical care provided*	5.20(.94)	5.28(.94)	$t(131) = .83, p > .05$
2. *In my opinion, health care policy is directly relevant to the quality of clinical care provided*	5.02(.84)	5.20(.87)	**$t(132) = 2.44, p < .05$**
3. *I know how health organizations work*	3.36(1.07)	4.19(.84)	**$t(131) = 8.40, p < .05$**
4. *I know how primary health care organizations work*	3.53(1.02)	4.36(.94)	**$t(129) = 8.20, p < .05$**
5. *I understand the role of a primary health care clinic in the health system*	4.42(.90)	4.84(.94)	**$t(131) = 4.18, p < .05$**
6. *I understand the structure of health care in this province*	3.59(1.11)	4.18(1.05)	**$t(132) = 6.18, p < .05$**
7. *I understand the structure of primary health care in this province*	3.74(1.07)	4.29(1.00)	**$t(129) = 5.43, p < .05$**
8. *I understand the roles of health care staff in roles other than medicine*	4.19(.91)	4.73(.91)	**$t(131) = 5.69, p < .05$**

9. *I understand the role of a doctor*	5.00(.76)	5.17(.84)	***t*(132) = 2.23, p <.05**
10. *I understand the role of a family doctor*	5.02(.69)	5.18(.88)	***t*(127) = 1.98, p <.05**

The following graph (**figure 4**) outlines the average scores per question. The blue line signifies "pre" scores, and the green line signifies "post" scores.

Figure 4 – Scores according to question and time ("pre" and "post")

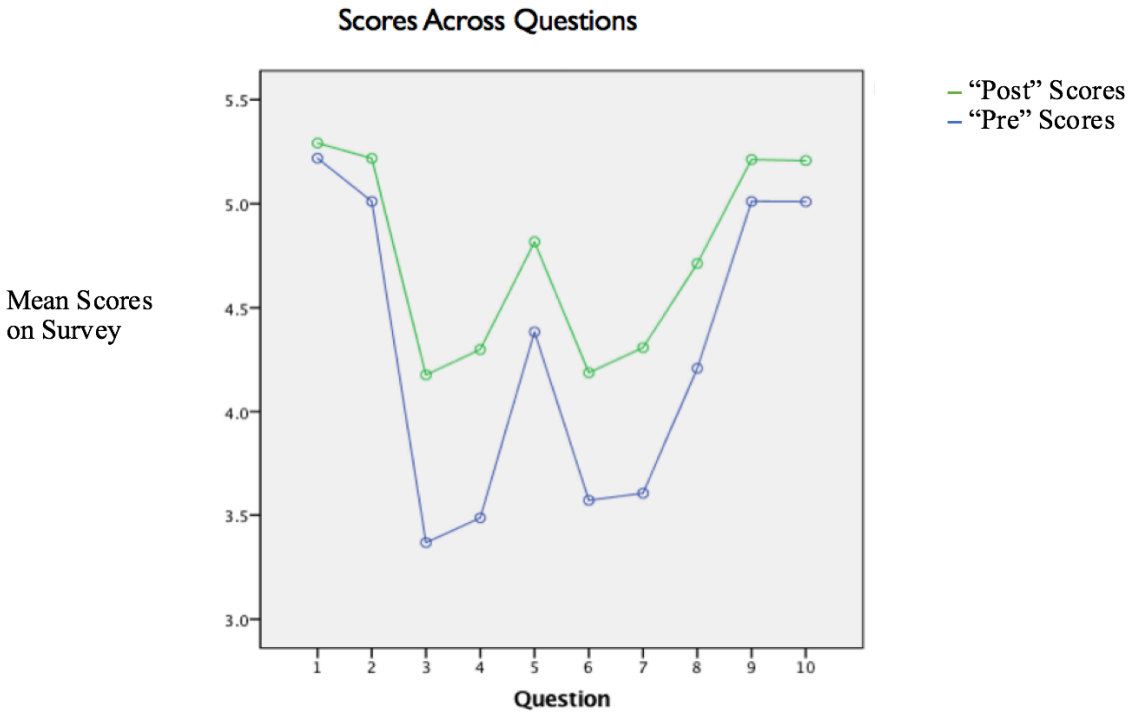
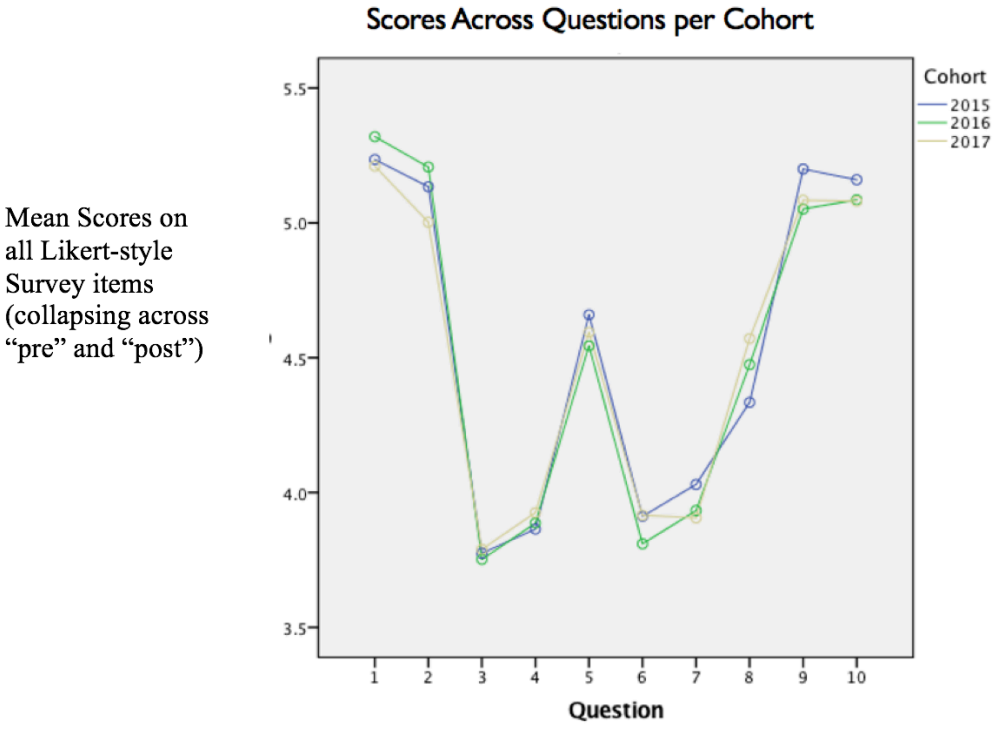


Figure 5 illustrates the scores across questions for all three cohorts. This graph helps visualize the lack of significant differences in scores between cohorts.

Figure 5 – Scores across questions and cohort (2015, 2016, 2017)



The significant interaction between cohort and question (F (18, 1044) = 2.08; $p < .05$) suggests that some cohorts could have demonstrated higher scores on some questions compared to others. Although I was interested in determining overall impact of cohort on scores to assess whether some cohorts were intrinsically different from others, small differences across questions were not relevant to the purpose of the overall study. For this reason, this interaction was not explored any further at this stage.

These results demonstrate that scores for questions two through to ten increased significantly after students had completed the situated learning activity, suggesting that students have perceived they learnt from the activity, and that there were changes in attitudes. Medical students therefore perceived they learned about: the relevance of health care policy to quality of

clinical care provided; how health organizations work; how primary health care organizations work; about the role of a primary health care clinic in the health system; about the structure of health care in the province where they are training; about the structure of primary health care in the province where they are training; about the roles of health care staff in roles other than medicine; about the role of a doctor; and about the role of a family doctor. The cohort to which medical students belonged to did not appear to affect overall perceived learning about organizational aspects of health care.

Between Subjects MANOVA

In addition to the Repeated Measures MANOVA, a Between Subjects MANOVA was conducted to minimize lost data and confirm findings of the Repeated Measures MANOVA using a larger sample size. In the Repeated Measures analysis, "pre" and "post" scores on the survey needed to be matched, which lead to the advantage of controlling for confounders such as variability between characteristics of the participants. However, the need to match "pre" and "post" scores led to a decreased sample size, because any student who did not complete the survey at both time points needed to be excluded from the analysis (N= 119 vs 422). By treating each "pre" and "post" survey as independent entries, a Between Subjects MANOVA could be used, allowing data to be preserved. Results of the Repeated Measures MANOVA could therefore be "confirmed" using a Repeated Measures MANOVA.

For the Between Subjects MANOVA, the sample size was 527. **Table 3** demonstrates the number of participants in each cohort, and the numbers of "pre" and "post" surveys:

Table 3 - Number of Participants in Each Cohort and for "pre" and "post"

Cohort	"Pre"	"Post"	Total
2015	153	49	**202**
2016	95	80	**175**
2017	86	64	**150**
Total	**334**	**193**	**N = 527**

In the Between Measures analysis, there were two independent variables: cohort (three levels, 2015, 2016, 2017) and time (two levels, "pre" and "post"). "Question" was a repeated measure in addition to the dependent variable (ten levels, one through to ten).

The analysis revealed that scores differed significantly across time ("pre" and "post") and across question (F (1, 521) = 67.84; $p < .0005$ and F (9, 4689) = 306.21; $p < .0005$, respectively). A significant interaction was found between time and questions (F (9, 521) = 15.81; $p < .0005$). Once again, scores did not differ significantly across cohorts (F (2, 4689) = .077; $p > .0005$). In this analysis, the interaction between question and cohort was not significant (F (18, 4689) = 1.45; $p > .0005$).

These findings are consistent with the findings of the Repeated Measures MANOVA, and therefore, confirm that medical student responses to survey items, as a whole, were significantly higher after having completed the situated learning activity, compared to before the situated learning activity. This analysis is also consistent with the finding that medical student scores differed significantly across question; and that cohort did not appear to have a significant effect. In other words, findings of the Between Subjects MANOVA were consistent with the Repeated Measures MANOVA, showing that the significant amount of missing data of the Repeated Measures analysis has not significantly influenced the overall findings.

Similarly to the Repeated Measures analysis, in the Between Subjects analysis, a significant interaction between question and time (F (9, 521) = 15.81; $p < .0005$) suggests that the differences between "pre" and "post" scores differed significantly across question. At this stage, Post hoc tests were conducted to explore the interaction between question and time, and independent two-tailed sample T-tests were used. A significant difference was found between "pre" and "post" scores of questions two through to ten, similarly to results obtained through the Repeated Measures MANOVA. Scores were not significantly higher for question one, once again, because it was likely that the "pre" scores were already high, suggesting a ceiling effect. **Table 4** outlines results of the Post hoc tests. Standard deviations and means were highlighted for each question. Bold test reflects statistically significant paired T-test results for questions two through to ten.

Table 4 – Results of Independent T-Tests Results according to Question

Question	Mean (Standard Deviation) on "Pre"	Mean (Standard Deviation) on "Post"	Paired T-Test Result
1. *In my opinion, the way health care is organized is directly related to the quality of clinical care provided*	5.24(.91)	5.33(.89)	$t(550) = 1.22, p > .05$
2. *In my opinion, health care policy is directly relevant to the quality of clinical care provided*	5.03(.88)	5.23(.85)	**$t(550) = 2.60, p < .05$**
3. *I know how health organizations work*	3.37(1.01)	4.16(.87)	**$t(549) = 9.45, p < .05$**
4. *I know how primary health care organizations work*	3.48(.96)	4.31(.94)	**$t(546) = 9.84, p < .05$**
5. *I understand the role of a primary health care clinic in the health system*	4.41(.90)	4.83(.91)	**$t(549) = 5.33, p < .05$**
6. *I understand the structure of health care in this province*	3.58(1.05)	4.18(1.01)	**$t(549) = 6.51, p < .05$**
7. *I understand the structure of primary health care in this province*	3.63(1.02)	4.28(.97)	**$t(546) = 7.35, p < .05$**
8. *I understand the roles of health care staff in roles other than medicine*	4.22(1.00)	4.75(.89)	**$t(550) = 6.27, p < .05$**
9. *I understand the role of a doctor*	5.05(.77)	5.20(.81)	**$t(551) = 2.22, p < .05$**
10. *I understand the role of a family doctor*	5.04(.78)	5.20(.81)	**$t(544) = 2.37, p < .05$**

The following graph (**Figure 6)**, outlines the average scores per question. The blue line signifies "pre" scores, and the green line signifies "post" scores. It appears similar in trend to the graph illustrating results of the repeated measures MANOVA.

Figure 6 – Scores according to question and time ("pre" and "post")

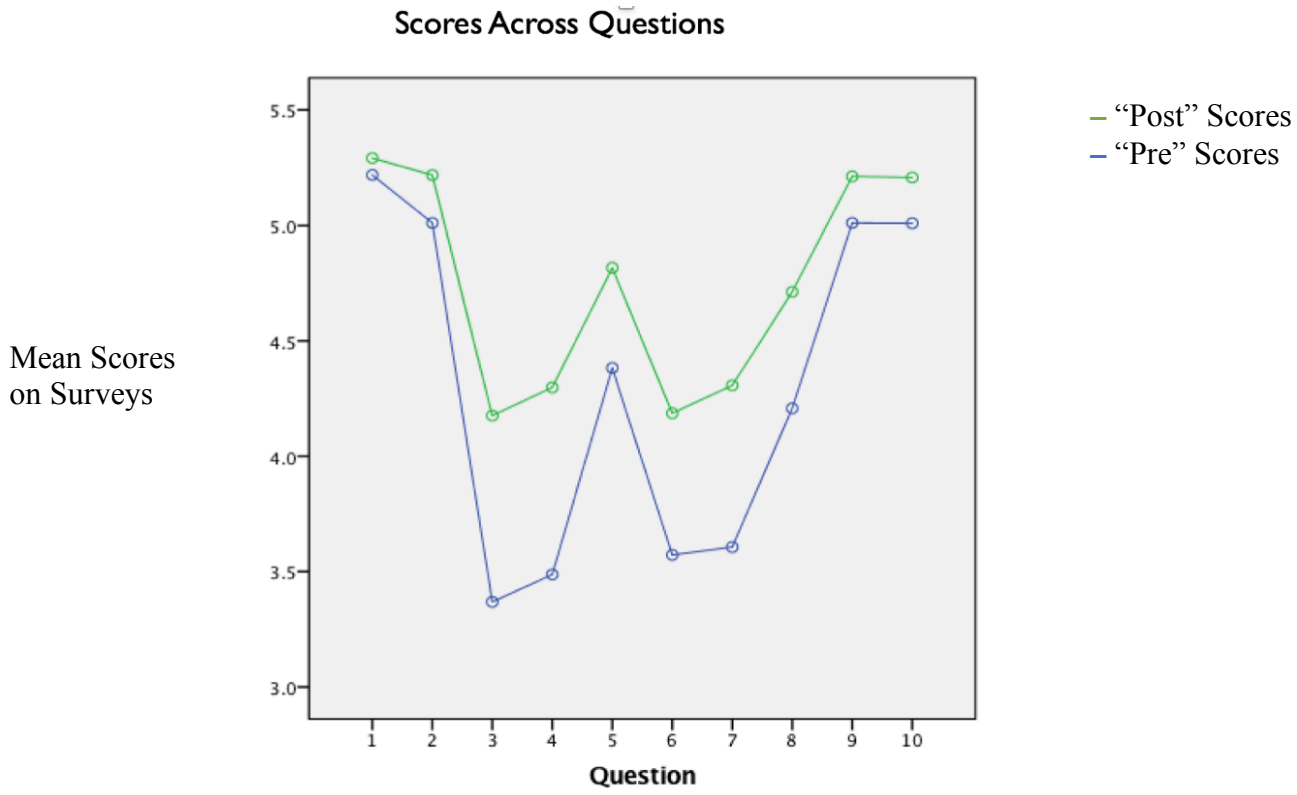
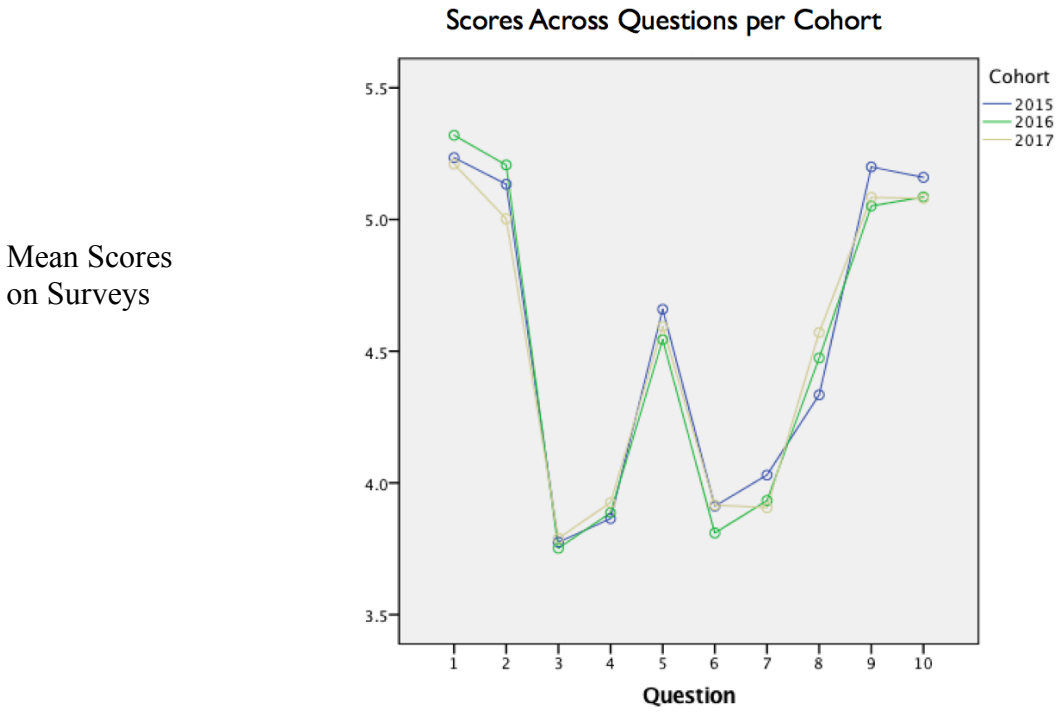


Figure 7 illustrates the scores across questions for all three cohorts. This graph helps visualize, once again, the lack of significant differences in scores between cohorts.

Figure 7 – Scores across questions and cohort (2015, 2016, 2017)



These results demonstrate that scores for questions two through to ten increased significantly after having completed the situated learning activity, suggesting that students report learning from the situated learning activity. Medical students therefore report learning about and changed attitudes in relation to: the relevance of health care policy to quality of clinical care provided; how health organizations work; how primary health care organizations work; about the role of a primary health care clinic in the health system; about the structure of health care in the province where they are training; about the structure of primary health care in the province where they are training; about the roles of health care staff in roles other than medicine; about the role of a doctor; and about the role of a family doctor. The cohort to which medical students belonged to did not appear to affect overall perceived learning about organizational aspects of health care.

Summary

Responses to questions included in the "post" surveys appear to be significantly higher than "pre" surveys, particularly for questions two through to ten, suggesting that students had increased their self-perceived knowledge, attitudes, or skills in the context of organizational aspects of care following a situated learning activity. There was also a possible ceiling effect for question one, as evidenced by the high score of the mean "pre" scores. These findings were demonstrated through a Repeated Measures MANOVA and deconstructed using Post hoc paired sample T-tests, and again, through a Between Subjects MANOVA and deconstructed using Post hoc independent sample T-tests. These significant increases in item scores were consistent across all cohorts (2015, 2016, 2017), suggesting consistency in findings in learning about organizational aspects of care through a situated learning activity.

CHAPTER 5

Meanings Associated with Learning about Organizing Care: Qualitative Findings

The following findings convey the qualitative data concerning students' engagement with the situated learning activity. Responses to three broadly-based free-text response items drawn from the post-activity surveys were selected for analysis. As described in the methods section, the following three questions were selected for analysis:

1. *How do you feel about the ethnographic exercise?*
2. *What did you learn from doing the ethnographic exercise?*
3. *If there were any changes in your attitudes or perceptions of your knowledge or skills from the commencement of this course, to what extent do you attribute them to: (a). The TCP program (b) The Family Medicine TCP component (c) The ethnographic research project?*

Thematic analysis of all free text responses to the selected survey items in the post-activity survey was undertaken by two researchers – independently at first and then collaboratively – as outlined in the methods section. The first level of analysis yielded 1159 codes (some of which varied only slightly from one another other); the second level of analysis condensed these codes into 118 categories into which the initial codes were grouped; and the third level yielded seven more refined categories. These seven categories consisted of: "not sufficiently medical learning"; "irrelevant to medicine"; "concrete learning – knowledge"; "concrete learning – skill"; "reflection"; "medicine as systems learning/elevated learning"; and "value of practice". Conceptualization of the categories yielded a distinction between the characteristics of a "bio-medical" versus a "systemic" discourse concerning medicine and medical education, with respective evaluation of the course, and perceptions, and assumptions underlying each discourse.

Thus, the thematic analysis produced two contrasting discourses. Students could not necessarily be categorized in one perspective over the other, and did not necessarily maintain the same perspective throughout the activity or survey. For example, a student could have expressed the feeling that medicine was bio-medically focused, and then, at a different time, could have appreciated that medicine was systems-based. The display of these two perspectives does not

mean that individuals exclusively held particular views, and that such views were fixed. However, the qualitative data manifested as these fluid and contrasting discourses.

In essence, each discourse was accompanied by a particular *perception* of what the situated learning activity involved and meant, and could be characterized as a reflection of a particular *assumption* about what medicine and medical education are, and a relatively explicit *evaluation* by the students of what they learned in the course (**Table 5**). This "evaluation" was discerned through evaluative comments (such as "the course was beneficial"). The discourses emerged variously and collectively from the qualitative responses, and do not lend themselves to specific alignment with individual quantitative responses. The "systemic" discourse was accompanied by a generally positive evaluation of the course, and the "bio-medical" discourse was accompanied by a generally negative evaluation of the course. The discourses reflected competing perceptions that the activity had not been helping them to learn actual medical practice, in the case of the bio-medical discourse, versus the perception that the activity had been helping them to become a well-rounded physician. **Table 5** summarizes the two contrasting discourses evident in the qualitative data – bio-medical and systemic, respectively –and their relationship with particular assumptions and whether they found the course a positive or negative experience.

Table 5 – Medical Students' Perceptions, Assumptions and Evaluation

	Bio-Medical	Systemic
Perception	Not learning medical practice (for the moment)	I am learning to be a doctor (holistic)
Evaluation of the activity	I've learned very little, if anything	I learned at least something, if not a lot
Assumption	Medicine is a practical enterprise bio-medically focused on the body of an individual patient	Medicine is reflexively systems based.

Underlying these evaluations and perceptions were particular assumptions that the data implied, suggesting, respectively, that medicine itself was a practical activity with a relatively exclusive bio-medical focus to be applied to an individual patient, versus the assumption that medicine was a systemic and holistic activity. Specifically, then, students who, through their comments, perceived the course in terms of them having learned little or nothing reflected a perception that the activity had not contributed to their development as medical doctors,

supported by an underlying assumption that medicine, and thereby medical education, was a practical enterprise in which medicine had a bio-medical focus on the body of an individual patient. Students who, through their comments, rated the course in terms of them having learned at least something, if not a lot, reflected the perception that the course was helping them to become well-rounded, even holistic doctors, supported by the underlying assumption that medicine is not only bio-medical but is systems-based, requiring reflexive, or critical thinking about the relationship between the theory and practice of medicine. Aspects of perspective, evaluation and assumption, are variously evident in each of the two discourses, outlined in the sections to follow.

A systemic discourse

Patterns in the qualitative data showed an overlap between coherent sets of perspectives on perceptions of the medical education value of the exercise, the evaluation of the quality of the course, and underlying assumptions about what medical practice is all about. As such, some students expressed having appreciated the situated learning activity for the purposes of organizational learning.

> *"Ethnography can be a great way to evaluate the practices in an institution."*

> *"It was a new type of exercise for me and I appreciated to learn a new method to answer a social [scientific] question."*

These quotations demonstrate an acceptance of the participant observation exercise and situated learning experiences as methods for organizational learning. The latter student also alluded to the novelty of this experience, demonstrating that this type of reflective activity about organizational aspects of care is uncommon in medical education. Both students convey that they had learned from the activity, and associated the activity with organizational aspects of care.

Students conveyed appreciation of the link between social scientific concepts and medicine, and appeared to show a degree of humility in relation to organizational topics, suggesting an openness to learn about these concepts. For example, one student stated:

> *"[I believe] it's a good opportunity to work in an inter professional setting; for the first time being an observer to understand healthcare issues at a system level."*

This student appears to have appreciated being an observer on the team, and expressed feeling that this activity facilitated a degree of integration to the health care system, and facilitated a systemic understanding of the health care context for them at this early stage in their career trajectory. Some lessons reflected a cross-over between skills of observation and learning to doctor:

> *"[I learned] to observe and ask more questions on things that are familiar but that I don't exactly have a profound understanding of."*

This quotation demonstrates a degree of humility, and openness to learning about concepts of organizational aspects of care. The student appears to have appreciated the opportunity to observe and ask questions about organizational aspects of care, implicitly linking such knowledge to medicine as a field and to their understanding of medical education.

Some students showed that they had reflected on the experience, and identified a link between learning about organizational aspects of care, medicine as a field, and their future work as physicians:

> *"[I learned that] ethnographic techniques could be useful in future qualitative research. The observation skills I learned could be applied in my future clinical work. [The] organization of healthcare is very important, but problems and issues within an organization might not be obvious to the staff."*

This student evidently saw links between the skills of observation that they were employing in the exercise with both medical practice itself, and as a social scientific device to understand patterns of meaning in work. The student implied understanding of the organizational influences on decision-making that might not be immediately obvious in the clinical environment. By linking "problems" and "issues" with qualitative research techniques that might be useful for

"future work", the student conveys the benefits of being an observing participant, and as a future agent of change in the way health care is delivered.

The following quotation shows a student's reflexive appreciation of the overlap of the theory of a situated learning activity and its practical potential to illuminate less obvious aspects of the work culture.

> *"[I learned] that as healthcare workers we are often unaware of the big picture, other areas we are not working in, and unconscious behaviors we have."*

The student earmarked the learning as a contribution to developing a systems-level perspective on care, and its relationship with individual behaviors for which health care professionals are capable and responsible. Thus, in terms of perspective, evaluations and assumptions, an evident discourse holds that organizational activity constitutes medical learning and that such education is to be valued. Such a discourse is a broadly-based role for medicine in which care for the patient and care for the organization were mutually supportive.

The biomedical discourse in relation to contextual features of medical decision-making

Some students conveyed that they did not feel that the situated learning activity was conducive to learning medicine, which overlapped in the data with views on the role and nature of medical practice. The following quotations convey this strongly.

> *"This was the low-point so far in my medical education."*

> *"[I feel] very strongly that it is a waste of time and resources. This has been brought up every year before. Changing the name doesn't help. Take the hint."*

By way of initial summary, students conveying negative evaluations through their responses to open ended items often accompanied their view with one or more of the following points that were explicit or implicit: that the organizational or communicative aspects of care were not "real" medicine and were either not relevant to their medical education, or not relevant at this particular stage of their medical education, compared with biomedical topics or skills; that such

aspects of care or work were obvious or "common sense" and did not need to be taught or learned; that such organizational or communicative aspects of care or work were not sufficiently important to be formally structured as learning activities or to be formally assessed; that such organizational or communicative aspects of work or care were sufficiently optional that the choice and privilege of adhering to or aligning with them was with or ought to have been with the medical student or future doctor. This is evident in the remaining data excerpts of this section.

> *"As someone who already is always questioning the way healthcare is organized and delivered, I don't think I learned much. In fact, I think that in the context of the rest of our class requirements, most of us view this class as just another assignment that we don't have enough time to do a good job of, but that [the university] can use as a bragging point: we have all [of] our students do a [situated learning activity]. Unfortunately, this project may turn people off of the process of questioning health care structures."*

This quotation suggests a view that the knowledge and skills engaged with in the situated learning activity were of questionable value and importance of the activity in the students' education. The concern was accompanied by the implication that there must be a secondary gain for the university, suggesting the feeling that they may be taken advantage of in some way. The final sentence conveys the power that the student perceived they have either currently as medical students or in the future as doctors to choose if or how they would engage with organizational matters in health care. This is not to suggest that the students perceived such topics to be unimportant *per se*, but that they were not sufficiently important to be taught formally.

Accompanying the distaste some students felt for this exercise, and its relationship to medicine, some students explicitly associated the lack of importance of organizational topics in general in the field of medicine. In at least one case, the view that the exercise was irrelevant to medical students' interests was preceded by the morally-restitutive claim that their view might have been different if the activity had been less formally structured:

> *"[I'm] frustrated. Unimpressed. I was initially excited by the [situated learning activity] (I love ethnography, generally), but was appalled by how this was laid out. Unnecessarily*

strict guidelines and structure that removed the most creative and interesting parts of ethnography, making us focus on the "organizational structure" while having absurdly little field work time, much of which had no relevance to our interests or preferred focuses."

The following student appears to express frustration over the effort that needed to be exerted, something that they believed should be "creative" or unstructured. Presumably, the content and skills were not perceived to be sufficiently important – that is, central to medical practice and, hence, medical education – to be studied as ends in themselves.

"Good project but [it] should not be with those [high] expectations. Integrate it in a fun activity to do – shouldn't it be fun?"

As for many views espoused by those whose verbal responses conveyed the course negatively, the above quotation conveys a view that the exercise was not sufficiently important to be treated as seriously as other topics in medical education, such as through formal assessment.

Some students whose qualitative data rated the course negatively expressed their preference for biomedical work, or application of biomedical concepts or skills explicitly, in addition to conveying their dislike for organizational topics. This suggests that organizational learning is perceived through such discourses to be less relevant or less important in medical education, and likely to their future work as medical doctors. Two such examples are as follows:

"[There was] too much time devoted to this, yet not enough time to make the [situated learning activity] very useful to us. Sorry! I would have liked more hands on clinical rotations instead."

"I did not enjoy [the situated learning activity] unfortunately. I would have appreciated more time with patients."

Thus, these students explicitly conveyed that they would prefer clinical experiences. Furthermore, in the time and space limitations of a curriculum, this would mean more time with

what the students defined as "clinical" – that is, biomedical – experiences and less time with social scientific concepts and skills, and organizational and communicative skills and knowledge. These quotations demonstrate students' perspectives about medicine being a practical enterprise, and that the focus of medical education should be biomedical or clinically oriented, in keeping with what they would define as central components of medical work.

Shifting Perspectives about Organizational Aspects of Care in Medicine

Beyond the two discourses outlined above, qualitative data showed the potential to shift from one discourse to the other. The data suggest that learning was not fixed, but rather, dynamic and evolving. Some students expressed struggling with the learning activity at first, but then shifting perspective throughout the activity. One such example is as follows:

> *"[I learned] how to observe [and] write notes for all things, even when I don't have a theme in mind – the theme will clarify itself with time."*

This student expressed feeling possibly challenged in the beginning of the activity, but as the activity progressed, the student was able to make sense of the activity and gather their observations together in a coherent way, leading to an appreciation of the goal of OHA. Similarly, the following two quotations demonstrate a shifting perspective about the value of the activity, presumably for medical education:

> *"I saw the value of it only after having completed it."*

> *"I found it interesting only at the end."*

These quotations reflect that discourses were not necessarily fixed. The situated learning activity provided an opportunity for a change of perspectives about the value of the situated learning activity and the concepts or skills with which the students were to be engaged. In the latter quotation, there is also a possible element of surprise, as learning about organizational aspects of care suddenly became of interest in the endeavor of medical training.

Some students conveyed an increase in appreciation of the course as a valuable component of their medical education journey, demonstrating a new understanding of the role of social scientific knowledge or skills within medicine. One such example is:

> *"I am [now] more respectful of the social sciences and human variables observed [in this situated learning activity]"*

Thus, the content discourses, combining views on the exercise, and assumptions about medicine and medical education, were shifting and shiftable. The more positive view on the exercise by this particular student is captured in his articulation not only of increased respect of social scientific phenomena as part of an academic enterprise, but how they relate integrally as factors influencing health and illness, and needing to be managed in medical care.

Summary

The qualitative data reflect two contrasting discourses of medical students who completed the situated learning activity for the purposes of learning about organizational aspects of care. Students who felt they learned something reflected the assumption that medicine is systems-based, and perceived themselves to be on their way to becoming well-rounded, perhaps holistic doctors after this intervention. Students who felt they had learned little or nothing reflected the assumption that medicine was bio-medically focused, and perceived the activity to have contributed little or nothing to their development as medical doctors. These discourses have been shown to be somewhat dynamic, fluid, and may have the capacity to evolve over time, suggesting an opportunity for educational influence.

CHAPTER 6

Discussion

The quantitative data showed a significant increase, or shift, in self-perceived learning about organizational phenomena in medical practice and attitudes towards the significance of organizational factors in health care delivery. The qualitative data showed patterns in terms of perceptions of the medical education value of this situated learning activity, the role of the organizational factors in quality health care and medical decision-making, and assumptions of what medicine and medical education is and should be.

The picture of moving contextualized discourses was only able to be delivered through engagement with *both* quantitative and qualitative data. The qualitative analysis showed coherent discourses at work in the free-text responses of participants. It was the quantitative results themselves that showed, at a cohort level, a shift from a collectively de-contextualized view to a more contextualized view of medicine and medical education after the OHA activity. Without the qualitative data, it would not have been possible to articulate the discourses of medicine and medical education evident among students who undertook the OHA activity. Without the quantitative data, it would not have been possible to ascertain that students learned from the activity which was grounded in a systemic (as opposed to biomedical) approach to medicine.

The significance of combining qualitative and quantitative methods in this study rests in how the relationship between these two discourses, manifest as perceptions of knowledge and skill, and attitudes. Not only were there two distinct and patterned discourses; but, as shown by both quantitative and qualitative data, at a group level, the discourses had been shifting in the direction of appreciation of social scientific education and the importance of organizational and contextual aspects of health care. We accessed the shift that some students made across discourses. We focused on discourses of medicine and medical education as shifting and shiftable representations of meaning (Fairclough, 2014, Foucault, 1972). The conceptual framework of situated learning theory, the combined quantitative-qualitative methodological approach, and the findings thus reflected less of the structuralist perspective evident in *The Student-Physician* by Merton and colleagues (1957) and more of the constructivist perspective prompted by *Boys in White*, the study by Becker and colleagues (1961).

The first question asked was: to what extent did medical students perceive that they learned from a situated learning activity about organizational aspects of care in the setting of primary care? The second question asked was: what is the relationship between medical students' perception of learning and assumptions and expectations about learning and medicine? Quantitatively, there was a significant shift in students' perception of their learning, and in their attitudes to organizational phenomena in health care delivery. Furthermore, even though the discourses evident in the study were distinct and coherent, they were also shiftable and shifting. The study suggests that some medical students at least, had and could combine systemic understanding of health care delivery with self-identification as present or future agents in health care systems.

Teaching and learning organizational aspects of health care delivery in medical education has traditionally focused on cognitively-based de-contextualized constructs and the application of these constructs in medical practice (Bleakley & Marshall, 2013; Hayward et al, 2014; Langlois, 2020). This thesis drew on situated learning theory to demonstrate that, in addition to facilitating development of individual skills and knowledge, a situated learning intervention enables an understanding of organizational aspects that reach beyond a focus on the de-contextualized individual and include systemic contextual aspects of care. This process can be achieved through medical student presence on site, student engagement, observational participation in clinical activities, reflection and shaping reflective activities into practically-applicable interventions or tools. An opportunity therefore exists for medical students to learn the culture of the clinical site in which they participate, and, in turn, they may influence the clinical site in which they participate as well. Such a process can lead to a transformation of both the participant and the community in which they participate (Boud & Middleton, 2003, Lave & Wenger, 1991).

Ultimately, this study demonstrated that students are influenceable, and that there is an opportunity to change student perspectives about organizational aspects of care in the health care delivery context through a situated learning intervention. This was demonstrated by the statistically significant increase in scores of surveys completed after the learning activity, compared with scores of surveys completed prior to the activity, across all ten items in the quantitative section of the study. The extent of increase in scores may be under-represented in this study due to a ceiling effect, as evident in the relatively high scores on pre-activity surveys.

Students have, therefore, shown that they can learn from such an intervention, and the extent of their learning could have been underrepresented due to characteristics of the survey. These findings demonstrate that students are malleable, influenceable and capable of changing perspectives after a situated learning activity for the purposes of learning about organizational aspects of care.

An additional contribution of this study is the increased understanding and knowledge about how medical students perceive organizational learning in medical education, and the impact of these perceptions on medical student learning. Two contrasting and competing discourses were shown. Students who felt they learned something assumed medicine reflected a systems-based discourse, and perceived themselves to be on their way to becoming more holistic doctors after this intervention, whereas students who felt they had learned little or nothing assumed medicine was bio-medically focused, and perceived the activity not to have contributed to their development as medical doctors. Understanding these discourses provides a deeper understanding of the perceptions that impact medical student learning of social scientific concepts, and about how health care is organized, especially in a primary care setting.

Previous research about situated learning activities had not directly been placed in a primary care context, offering little learning about organizational aspects in this milieu. For example, studies have involved an indigenous community (Huria et al., 2017), or have been simulated in scenarios where students were assigned fabricated cultures (Kratzke & Bertolo, 2013). One study involved the primary care context, but focused on the home environments of patients, which allowed for a better understanding of the patient's social contributors to health. However, this study did not involve learning about the health care delivery of primary itself (Nothelle et al., 2018). Our study is unique in its specific placement in a primary care setting, which allowed students to learn how work is organized, at the interface of generalized and specialized medical care, and at the interface of interprofessional relations between doctors, and nurses and allied health professionals, such as physiotherapists, occupational therapists, social workers, dieticians and psychologists. The challenges of contemporary health care that make a contextualized understanding of medicine important are exacerbated for primary care. Primary care exists at the interface of the complex, messy lives of patients and their communities, and the formal healthcare system. This places responsibility onto primary health care professionals to coordinate care among the varied professionals and services that patients need (Phillips et al.,

2010). The lessons about education for contextualized care are even more important for primary care rotations and residencies.

In this study, we demonstrate that medical students' perspectives can be characterized as two distinct discourses about organizational learning in medical education. This does not mean that students can easily be categorized as one or the other, although that would most often be the case, nor does it mean that students could be classed as maintaining one of the two discourses. Such is the fluid nature of a discourse – which can be defined as a coherent ideology that can viably be constructed from available talk and text (Flairclough, 2014). Just as students (and people generally) can be influenced by a dynamic interaction of mind and social interaction, discourses are active in their own rights, not merely passive reflections of cognitive thought (Foucault, 1972). Underpinned by a constructivist philosophy, the student body in this study was also shown to be influenceable in their perspectives, given the increase in collective perception of their self-perceived knowledge and skills. It therefore follows that, although discourses about organizational aspects of care are stable and opposing, they are not necessarily fixed, and could be impacted by an educational intervention. Despite the longevity of ideas of situated and collaborative learning, medical education would still seem to be dominated by a de-contextualized approach. An opportunity exists to further influence medical student culture through a situated learning activity about organizational aspects of care in an outpatient family medicine setting.

Among the contributions of the present study was evidence of what is important to medical students in learning about how work is organized specifically in a primary care setting. Students came to appreciate and understand particular features of primary care, such as a relatively high degree of interprofessional collaboration. Additionally, this study provides an opportunity to teach students a systems-based perspective on how work is organized in family medicine and primary care through a situated learning activity. Students in this study were also given an opportunity to reflect on their roles in the health care team and role-playing as decision-makers, with the ability to influence the way medical work is organized in the future. This opportunity came from immersion in a primary care health care milieu, which facilitated potentially deeper understanding of the culture of how work is organized in this particular context. Students spent several hours interacting, observing and reflecting about aspects of

outpatient family medicine that are often difficult to teach in a didactic or classroom setting, as many elements of a culture are ritualistic, unintentional or subconscious.

The current study also differs from a significant portion of the literature in that it encourages a systems-based outlook on organizational aspects of care in family medicine. In studies reviewed, researchers were mostly focused on competencies, individual interactions, or on individual cognitively-based constructs (Huria et al., 2017; Kratzke & Bertolo, 2013; Nothelle et al., 2018). Distance from clinical performance or competencies has therefore shown to enable opportunities for a more systemic perspective of health care delivery, that reaches beyond individual interactions, skills and constructs. Furthermore, the students' ability to accomplish the educational tasks required of them demonstrated reflexivity and systemic understanding by linking their observations obtained through situated learning to social theory and real policy, and providing practical guidelines for their sites. This study therefore remains unique in enabling an increased systems-understanding of organizational aspects of care through a situated learning activity in a family medicine outpatient context.

The study demonstrated how students can reflect on their position within the health care context as decision makers with actual influence on their learning sites, that which they will likely join as doctors. This study has enabled students the opportunity to not only reflect on organizational aspects of care in a family medicine context, but also provide feedback on how work is organized to impact change, and reflect on their role within this system. Such reflexive activities extend beyond a conventional focus on individual competency (Huria et al., 2017; Kratzke & Bertolo, 2013; Nothelle et al., 2018).

Findings of this study also extend previous literature about student perceptions in relation to organizational learning. Previous research has shown that students, in general, appear to appreciate, enjoy or value learning about organizational aspects of care (AlMahmoud et al., 2017; Cruickshank et al., 2011; George et al., 2012; Hultman et al., 2013; Matthews & Van Wyk, 2018; Record et al., 2015; Sattar et al., 2016; Shevell et al., 2015; Tseng et al., 2016; Yu et al., 2016; Zhang et al., 2014). However, the current study links the doubt that some students appear to have about the role of organizational learning in medical education with their interpretations of medicine, medical practice and, hence, medical education. This suggests the possibility of a social desirability bias in the literature – the tendency to underreport socially

undesirable attitudes and behaviors and to over report more desirable attributes in some studies about medical student attitudes. Another possibility is that asking students whether they simply "value" or "appreciate" the social sciences in medical education undermines what medical students expect to learn during their training, how they would like to learn it, and what value they attribute to such concepts.

Limitations

One limitation of the current study is the lack of demographic information of students who have completed the surveys and free text questions, compared to those who have not. These missing characterizing data prevent a comparison of students who have chosen to answer or participate and those who have not. These data were not available for various reasons, including the fear that students would not answer authentically to avoid being identified, despite extensive and successful efforts to anonymize the data. However, for the current study, this information appears less relevant because I attempted to understand perspectives of groups of individuals – medical students – and was less interested in comparing individuals within that group. I can therefore conclude that at least a subset of medical students have the perspectives outlined in the study, no matter how they differ from the students who have not responded. I have no reason to believe that the age, gender and educational profiles of the students are different from other cohorts of this university, or at least Canadian medical schools.

Another limitation of the current study is missing data, which was considerable when matching pre-post surveys in the quantitative component of the study. I have addressed this problem by adding a non-matched analysis that demonstrated similar results when comparing all available pre-scores to all available post-scores (Rise & Steinbekk, 2013). Given that both analyses yielded similar results, I can assume that missing data in the matched analysis have not impacted results of the study in a significant way.

The possibility of social desirability bias in responses represents another limitation of the study. In this case, one would worry about students' tendency to please instructors of the course, possibly hoping to obtain a good grade. In the current study, an attempt was made to minimize this bias by ensuring anonymity of surveys, and involving research assistants who were uninvolved in teaching the course. Students were reassured that their identities could not be

retrieved, therefore increasing the chances that they would feel comfortable to share authentic perspectives. Given opposing and relatively extreme perspectives obtained in the qualitative component of the study, it does not appear that this bias has impacted results of the study in a significant way.

Traditionally, pre-post interventional studies create an expectation of being a program evaluation. The current study was not a program evaluation *per se*, even though some of the tools used will be familiar in program evaluations. Program evaluations center on the collection of data with the purpose of making judgements about the program, improving its effectiveness or informing decisions about future program development. The current study was exploratory, focused on the examination of students' engagement with social scientific concepts in medical education, and the situated learning activity was simply an opportunity to accomplish this examination.

Finally, the methods chapter modestly presented the two types of methods used as quantitative and qualitative components of what some might call an "epidemiological survey", rather than labelling the study as a "mixed-methods study" *per se*. There could be debate over whether the derivation of two methods from a single survey is sufficient to make the study a "mixed-methods study", given that interviews, for example, would be expected to produce more voluminous data than free text responses. However, a number of features point to the plausibility of the "mixed-methods" label being applied to the present study: the study involved the collection, analysis and integration of both quantitative and qualitative data in one study; the conclusion about shifting discourses was discernible through and relied upon a combination of quantitative and qualitative findings; the individual methods made independent contributions to the conclusions that meant that findings were delivered from each type of method, regardless of and relatively unpredictable from their source of origin; the two different types of methods were intentionally built in to the design of the original survey with the intention of producing different and original types of findings; and, although free text survey responses would be expected to be less voluminous than, for example, interview data, the scope of qualitative data from free-text responses is not inherently more limited than interview data, because interview data could also yield minimal responses with disengaged participants, in which analysis of the transcripts is able to be exhausted entirely without reliance on thematic saturation.

Implications

While an emphasis on biomedical and de-contextualized aspects of care has assumed primacy among many medical education researchers, the current study encourages a focus on physicians, or indeed any health care professionals, as key and reflexive players in a complex system of health care delivery. Such a perspective implicates a shift in medical education and theory, in the way we conceptualize policy and in medical practice.

A systems-based approach to teaching about organizational aspects of care offers medical students a broader perspective about their roles in such a system. Students are, therefore, encouraged to perceive a continuity between their emerging identities as doctors and the world they are entering, recognizing how their communities of practice influence their identity formation. Adopting such an attitude can promote the teaching of organizational aspects of care in medical education, and the valorization of contextual factors of health care delivery, which they can role model into the future.

Furthermore, a shift in perspective from an individualistic one to a systemic one may influence a shift in practice. Through a systemic understanding of how care is delivered, students may be better positioned to become doctors who adopt a more socially-aware and community-based perspective, taking account of how their roles, individuals, groups or processes may influence their practice, ultimately leading to a high quality health care system. This is especially important for family medicine and primary health care delivery.

Future research should aim to further our understanding about how medical and other health professional students come to learn about systems that impact how work is organized in family or general medical practice, and in health care generally. Educational policies should incentivize educators and universities to enhance a systems-based approach to teaching organizational aspects of care in health professions education, with the goal of forming health care professionals who form a deeper understanding of contextual aspects that impact the delivery of care.

CHAPTER 7

Conclusion

As a post-script, the OHA exercise, though surviving four years in total, was no match for the combined power of those medical students who would see it removed from the curriculum, and so the exercise was disbanded at the conclusion of 2018. The course convenor was speaking with a hospital-based physician about a year later about the prospect of a new research project involving work-based learning of coordinated care. The physician shared with the convenor that a first-year resident had expressed with pride that "we got rid of that ethnography course", to the amusement of both. At least the convenor could console themself with the occasional unfamiliar resident approaching them randomly in Montreal saying words to the effect that "I didn't like that, but now I understand why it was important".

The current study based on this exercise aimed to increase understanding about how medical students come to learn the relationship between clinical work and organizational and contextual aspects of care through a situated learning activity. Medical students demonstrated a dichotomous discourse about organizational learning, where students who felt they learned something, assumed medicine to be systems-based, and considered the course as contributing to the journey of becoming more holistic doctors. In contrast, students who felt they had learned little or nothing, conveyed the assumption that medicine was bio-medically focused, and perceived the activity not to be contributing to their development as medical doctors. It is possible that, where a particular feature of education or work is regarded as not being "real medicine", that it might always attract reviews that are at best lukewarm or "watered down".

The two discourses, systemic and biomedical, appear to be distinct, but are not necessarily fixed, as students have been shown to be influenceable. Furthermore, the study showed that after completing a situated learning activity, medical students increased their perceived learning and attitudes about organizational aspects of health care delivery. An opportunity, therefore, exists to further engage learning activities that are not merely experiential, but reflexive and situated in combining theoretical and practical exposure to health care concepts and factors that influence health care delivery.

The literature about medical education had shown a gap in exploring medical education interventions that enhance a systemic understanding of organizational aspects of care in family medicine and primary care. This research exemplifies how SLT can guide educational interventions that facilitate medical student understanding of organizational aspects of care in primary care. It highlights the need for a more systemic perspective of organizational aspects in medical education, that reach beyond the individual in clinical interactions. Such a perspective can enhance medical student learning about systems and structures that impact health care delivery, such as policies, groups, individuals, interprofessionalism and health care delivery processes. Furthermore, it enables medical students' recognition and appreciation of the medical doctor's role within such a system, including the power to impact change, ultimately leading to a higher quality of health care delivery and access.

Future research should aim to develop understanding of the specific ways in which situated learning activities can advance knowledge and skills for appreciating and managing organizational influences on medical decision-making, beyond a focus on de-contextualized knowledge and skills. Additionally, research should further our understanding about how medical students come to learn about systems and structures that impact how work is organized in health care. Since the present research focused on organizational features on health care delivery and decision-making, rather than patient lives and circumstances, future research ought to consider how a systemic perspective plays out in reconciling patient vulnerability and disadvantage, and limitations in health care access and delivery. Thus, research endeavors should examine the link between a systems-based perspective in medical education and promotion of inter-professionalism, justice and equity in global health, and the expansion of community-based and primary care services and accessibility.

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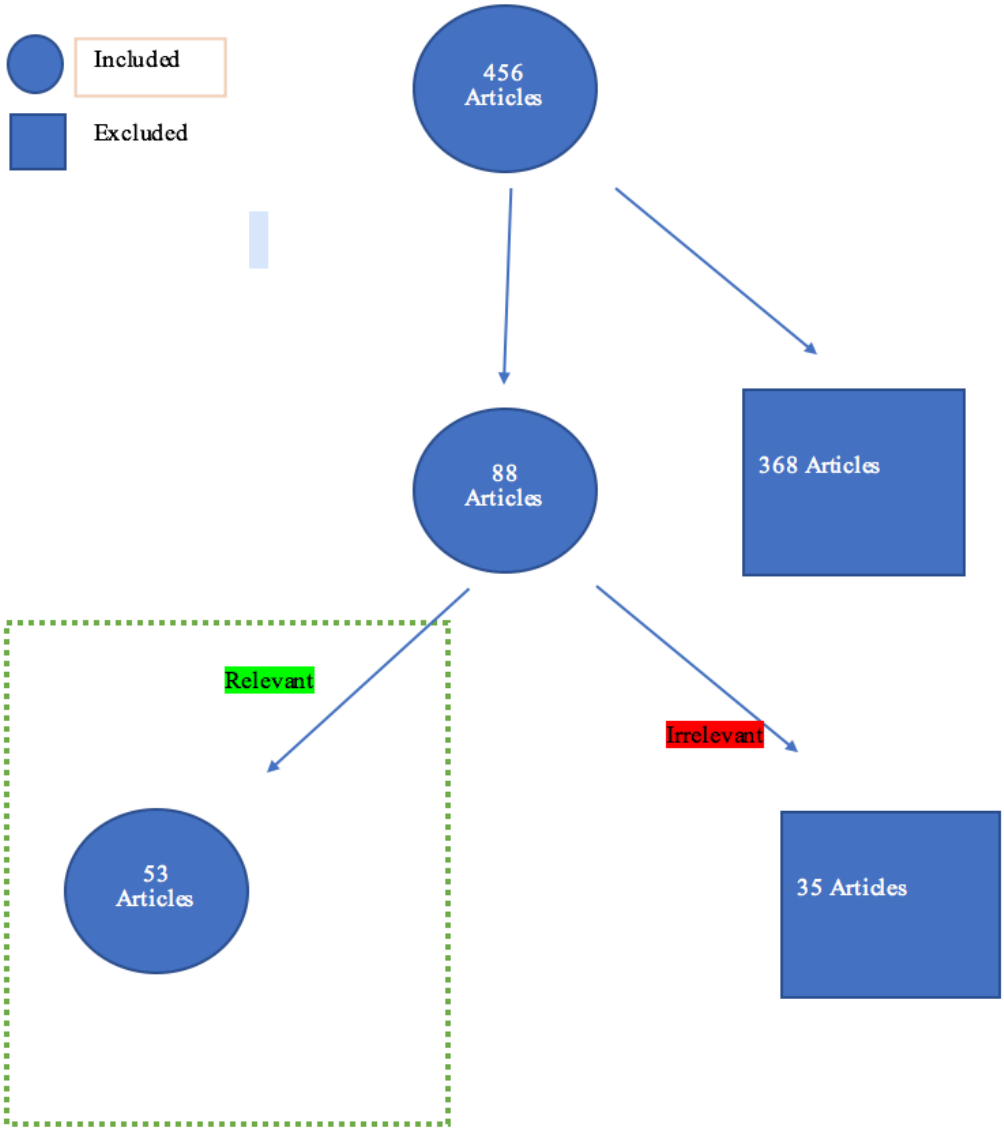
Appendix A – The Search Strategy

Keyword or Term related to Learner or educational intervention	1. exp medical education/
	2. exp medical student/
	3. exp resident/
	4. exp curriculum/
	5. "situated learning".ab,ti.
	6. ethnographic.ab,ti.
	7. 1 OR 2 OR 3 OR 4 OR 5 OR 6
Keyword or Term related to Target Skill or Target Learning Material (Organizational Factors)	8. "institutional factors".ab,ti.
	9. nonmedical.ab,ti.
	10. exp social aspect/
	11. "organizational factors".ab,ti.
	12. exp doctor patient relationship/
	13. exp professionalism/
	14. exp cultural competence/
	15. 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14
Keyword or Term related to Outcome, Proof of Learning or Feedback	16. exp course evaluation/
	17. "student$ perception$".ti,ab.
	18. "student$ perception$".ti,ab.
	19. exp student attitude/
	20. exp student satisfaction/
	21. 16 OR 17 OR 18 OR 19 OR 20
Search Limiters	22. 7 AND 15 AND 21

Appendix B – Criteria for Categories of Relevance Attributed

Category	Criteria
"Not Relevant"	Commentaries
	Focus on Validation of Tool
	Description of Educational Intervention without Assessment of Outcomes
	Description of Learner Perceptions or Attitudes without Link to Education
	Focus on Biomedical Learning or preparing for Biomedical Tests
"Relevant"	Focus on Appreciation, Exposure or Value of Non-Biomedical Skill, Concept or Competency
	Focus on Developing a Competency in a Non-Biomedical Skill
	Focus on Learning a Skill or Concept via Experiential or Immersed Learning in a Clinical Setting
	Focus on Contextualizing Non-Biomedical Skill to Clinical Setting, and appreciating the impacts of this concept or skill on organizational aspects of health care

Appendix C – EMBASE Search Results



Appendix D – Ethics Approval

McGill

Faculty of Medicine
3655 Promenade Sir William Osler #633
Montreal, QC H3G 1Y6

Faculté de médecine
3655, Promenade Sir William Osler #633
Montréal, QC H3G 1Y6

Fax/Télécopieur: (514) 398-3870
Tél/Tel: (514) 398-3124

October 8, 2019

Dr. Peter Nugus
Department of Family Medicine
Centre for Medical Education
Lady Meredith House
1110, avenue des Pins Ouest
Montreal QC H3A 1A3

RE: **IRB Study Number A10-E66-16B**
A mixed-methods study of the impact on medical students' attitudes, perceptions, and knowledge of a mandatory ethnographic research project

Dear Dr. Nugus,

Thank you for submitting an application for Continuing Ethics Review for the above-referenced study.

The study progress report was reviewed and Full Board re-approval was provided on October 7, 2019. The ethics certification renewal is valid until **October 13, 2020**.

The Investigator is reminded of the requirement to report all IRB approved protocol and consent form modifications to the Research Ethics Offices (REOs) for the participating hospital sites. Please contact the individual hospital REOs for instructions on how to proceed. Research funds may be withheld and / or the study's data may be revoked for failing to comply with this requirement.

Should any modification or unanticipated development occur prior to the next review, please notify the IRB promptly. Regulation does not permit the implementation of study modifications prior to IRB review and approval.

Regards,

Roberta M. Palmour

Roberta Palmour, PhD
Chair
Institutional Review Board

cc: A10-E66-16B

Appendix E – Handout distributed to students**:** course outline page 1

McGill

TCP Course Element *Outline: Observing Healthcare in Action*

Instructor: Dr. Peter Nugus, Assistant Professor, Department of Family Medicine
Office Hours: By appointment
Contact Details: peter.nugus@mcgill.ca

Small Group Facilitators: Anna Horton, anna.horton@mail.mcgill.ca
Maud Mazaniello-Chezol, maud.mazaniello-chezol@mail.mcgill.ca
Stephanie Nairn, stephanie.nairn@mail.mcgill.ca

Description

Observing Healthcare in Action (OHA) is an element of the *Transition to Clinical Practice* (TCP) course, within the *Comprehensive and Consultative Health* (CCH) component. In the *Longitudinal Family Medicine Experience* (LFME), you observed family doctors. In this element, you will also undertake observations in a clinical setting. To build on the LFME experience, the observations this time will be more systematic, and you will be required present a meaningful account of what you observe. You will take notes, and analyze those notes in relation to ideas beyond bio-medicine, which will form the basis an oral presentation. These are: a particular theme in health policy; at least one quote from two-three leading MD-social scientists you will encounter; and an account of what, if anything, is particular about the patient population served by the clinic which you observe and the implications of the population profile for the way people in the clinic work with each other and with their work environment. The aim of this element is for you to understand that non-biomedical aspects of health care (such as clinician perceptions and biases, staffing levels, patient social circumstances, room size, and a unit's culture) – that is, the healthcare *context* – shape medical practice, and are, therefore, an integral part of medical practice.

Overall Objectives

By the end of these sessions, students should be able to:

1. Demonstrate an understanding of the relationship between different types of contextual elements (eg. objects, space, technology, language, staff relations) that can affect healthcare delivery.
2. Critically analyze clinical encounters, in the light of various perspectives, to show how particular perspectives affect how care is delivered.
3. Compare observed practices and contextual elements to best practices and identify opportunities for improvement in healthcare delivery.

(TCP Objectives 2.2.1, 3.1, 3.2, 3.3, 4.1, 5.2.3, 7.1, 7.2, 7.3, 7.6)

Learning Objectives

By the end of this course element, through one or both assessment tasks, students should have demonstrated the ability to:

- Critically observe and take field notes.
- Align, from various options, primary data, information on organizational context, and ideas from the literature about medical work.
- Communicate this alignment.
- Identify different ways that health care can be delivered.
- Negotiate their presence and role in clinical sites.

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Instruction Methods and Schedule

Formal training activities in the OHA element include three methods: (1) two introductory lectures; (2) two interactive small group sessions in which students are expected to actively participate; and (3) two practical observational fieldwork sessions. The second lecture, small group sessions and fieldwork activities will take place over a two-week period. The first lecture will take place in the common week 1 of your eight-week *Comprehensive and Consultative Health* component of TCP. The oral presentation will be delivered in week 8. The first lecture will provide the objectives and rationale for the OHA element, and orient you to the way you undertake your assessment tasks. The second lecture, in your groups of 20, will cover more specifically how you collect, record and analyze observational data, and convey what is expected in your assessment tasks. In the two small group students, you will share in your group details of the progress of your observations and assessment tasks. Advice will be shared among the small group facilitator and students. In discussion, you will be expected to show that you are familiar with the readings. These activities are scheduled as follows:

Common Week 1 (for whole CCH cohort)

- Lecture 1 (Wednesday, 1:35-3:25pm)

Block Week 1 (weeks 2, 4 or 6 of CCH, depending on 2-week block rotation in CCH)

- Lecture 2 (Monday 8:45-10am: (5858 Cote des Neiges, Level 3, Room 4))
- Fieldwork Session 1 (Tuesday PM or Wednesday PM, depending on group)

Block Week 2 (weeks 3, 5 or 7 of CCH, depending on 2-weeks block rotation in CCH component)

- Small Group session 1 – for both groups of 10 (Monday PM) (5858 Cote des Neiges, Level 3, Room 4-5)
- Fieldwork Session 2 (Tuesday PM or Wednesday PM, depending on group)
- Small Group Session 2 – (Thursday PM or Friday PM, depending on group) (5858 Cote des Neiges, Level 3, Room 4-5)

Common Week 8 (for whole CCH cohort)

- Oral presentations – Thursday AM.

Course Content

Component	Reading/s
Introductory Lecture 1: Observing Healthcare in Action: What and why?	No set readings
Introductory Lecture 2: Observing Health Care in Action: Linking action, ideas and practice	1. Pope, C. (2005). Conducting ethnography in medical settings. *Medical Education*, 39 (12): 1180-1187. 2. Carroll, K. (2008). Reshaping ICU ward round practices using video-reflexive ethnography. *Qualitative Health Research*, 18(3): 380-390.
Small Group 1: Observing Health Care in Action: How do we do it?	3. White, I.D., Faithfull, S. & Allan, H. (2008). The re-construction of women's sexual lives after pelvic radiotherapy: A critique of social constructionist and

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	biomedical perspectives on the study of female sexuality after cancer treatment. *Social Science & Medicine*, 76(1), 188-196.
Small Group 2: Observing Health Care in Practice: Making practice meaningful for meaningful practice	4. Nugus, P., Greenfield, D., Travaglia, J., Westbrook, J. & Braithwaite, J. (2010). How and where clinicians exercise power: Interprofessional relations in health care. *Social Science & Medicine,* 71(5), 898-909.

Evaluation

Students will be graded on a pass/fail basis. Students are deemed to have passed when they have achieved 60% or more of the total assessment marks available. The final grade will be based on the evaluation of a student's oral presentation, and the student's participation and professionalism in class. If one or more of these assessment items will be deemed unsatisfactory, the student may be required to re-present assessment item(s) within a limited time after the conclusion of the component. The percentage of each component in relation to the total final grade is shown below:

Component	**Grade %**
Oral Presentation	90%
Participation & Professionalism	10%
TOTAL	100%

The themes from which you can choose include: coordination (inter-professionally, inter-departmentally, or system-wide); collaboration (intra-interprofessional or inter-professional); patient safety; efficiency (time or resources, etc.); access; vulnerability; equity; quality of care; diversity; or another, by agreement with your small group facilitator. Please note that "communication" is not a theme. Communication happens unavoidably.

Oral Presentation

Presentation Date: Thursday, 9:05am, Week 8
Students will hold an oral presentation detailing their fieldwork experience, and linking their findings to the broader theme they have chosen. Oral presentations may be done individually, in pairs, or in groups. Students may team up with students outside of their small group, or even in another rotation within the CCH experience. For the oral presentations, students will be located according to their self-assigned teams, rather than according to their small group assignments.

Total time allotted for individual or paired presentations is 8-10 minutes. Presentations done in groups of three will be 13-15 minutes. Students will have the opportunity to ask 2-3 questions collectively after each presentation. PowerPoint slides are optional, however encouraged. Powerpoint presentations must have a cover slide with the name/s of the student/s presenting and the title of their presentation. Students are to send their PowerPoint slides to their Small Group Facilitators 48 hours prior to their assigned presentation date and time.

Oral presentations must cover the following four topics, as stipulated in the *TCP-OHA Guide* (though not necessarily using these words as headings, and not necessarily in this order):

Part A: Setting and context

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Part B: Theme and findings
Part C: Methodological reflection
Part D: Lessons learned for your clinical practice about understanding workplace contexts

Please read the *TCP-OHA Guide for more information on undertaking the oral presentation.*

Participation and Professionalism

Students' participation and professionalism throughout the ensemble of course components will be evaluated. Attendance, punctuality, demonstrated knowledge of the designated readings, and valuable contributions to class discussions will all contribute to students' participation and professionalism grade.

McGill Resources

The following resources are available on MyCourses to assist you:

- OHA *Outline*
- OHA *Guide*
- Powerpoint slides of the two lectures
- *MD-Social Scientists Speak (*Reflections on the role of Social Sciences in Medicine)
- 4 Readings (listed in the *Outline*)
- Grading criteria for the oral presentation
- Letter to be carried when undertaking fieldwork
- Observational matrix (as a general guide to behavioral observation)
- Transcription symbols

Parts of the element may be video-recorded. No video-recording of any student will be used without the express permission of the student featured.

McGill Policy Statements

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures. In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded. This course will not be using text-matching software.

Appendix F – Handout distributed to students: sample themes

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Transition to Clinical Practice – *Guide* for *Observing Health Care in Action*

This *Guide* complements and elaborates on the *Outline* for the *Observing Health Care in Action* element of the *Transition to Clinical Practice* (TCP). It does not replace the *Outline*. The *Guide* contains details for completion of the oral presentation, the major assessment component of this element. It will be assumed that students will have read the *Guide* in preparing this assessment task.

Overall Objectives

By the end of these sessions, students should be able to:

1. Demonstrate an understanding of the relationship between different types of contextual elements (eg. objects, space, technology, language, staff relations) that can affect healthcare delivery.
2. Critically analyze clinical encounters, in the light of various perspectives, to show how particular perspectives affect how care is delivered.
3. Compare observed practices and contextual elements to best practices and identify opportunities for improvement in healthcare delivery.

(TCP Objectives 2.2.1, 3.1, 3.2, 3.3, 4.1, 5.2.3, 7.1, 7.2, 7.3, 7.6)

Oral Presentation

The oral presentation will be based on:

- a **theme** that you select;
- your critical observations in the field;
- your description of the population and its impact on the organization of your clinic;
- the perspectives of two leading physician-social scientists; and
- the assigned course readings.

The oral presentation will be made in week 8. It may be undertaken either as an individual, in pairs, or in groups of three. Your partner/s may come from your own or another small group, or indeed another segment of CCH. For the oral presentations, students will be located according to their self-assigned teams, rather than according to their small group assignments.

You need to select one theme. The themes include, but are not limited to:

- Coordination (inter-professionally, inter-departmentally, or system-wide)
- Collaboration (intra-interprofessional or inter-professional)
- Patient safety
- Efficiency (time or resources, etc.)
- Access
- Vulnerability
- Equity
- Quality of care
- Diversity
- or another you choose, only with permission from your small group facilitator.

Appendix G – Reference distributed to students:

Sample transcript of interview by the course director with an expert physician

Dr. Vinh-Kim Nguyen

Dr. Nguyen (MD, PhD), a McGill graduate, is an Emergency Physician, and Professor of Anthropology, Université de Montréal, and Graduate Institute of International & Development Studies, Geneva

Fundamentally, the practice of being a physician ... boils down to the patient encounter. And that encounter occurs in a space that's called the clinic. ... A clinic is an historically and socially-constructed space ... which is why understanding it requires understanding the history of medicine. ... The way health systems and how medical authority are created in society are not based on any biological or objective reality, but social and historical circumstances. ... To understand the patient encounter, you need social science, because the clinical encounter is a social encounter. It's not two biologies meeting. It's two people in a relationship.

To understand this relationship, you have to understand the trajectory that brings the physician and the patient together in the space of the clinic. ... Both trajectories are historical and social; medical doctors only gained a monopoly on therapeutic authority about a hundred years ago, and to this day certain social classes are over-represented amongst physicians. Social factors, accumulated over ... time, determine who gets sick and who doesn't – what in epidemiology we call "social determinants of health". ... Cultural factors shape how we experience and interpret our bodies, and when and how we decide to seek care. ...

My first-year medical students ... go into the clinic as volunteers – in a non-medical role. And they have to understand what the power dynamics are ... in order to be accepted and to make themselves useful. I say to them: "This is what you do every time you start a new rotation: you not only have to start to understand the medicine, but you have to understand ... the social space that you are integrating into and the culture of it". ... Because, you know, ... orthopedics has a different culture from psychiatry or family medicine. ... And then they do a case history ... often of someone they know, ... like a friend of relative. ...

I was called down to admit a patient from the emergency room. ... She was over 100, lucid, living in a home and being cared for by a very loving and doting family, including a granddaughter ... who is a doctor. ... The ER doc told me that she needed to be admitted because: "Yeah well, you know, she came in with a bit of anemia and had had the flu". She was over 100 right!? "Just bring her in to top her up". It was just the craziest thing. It's absurd ... Are you treating the number or the patient? ... Why was he treating the number? What was his rationale? And his rationale was: "She could bleed again, so if I give her a transfusion to increase her hemoglobin, she's much less likely to have to come back to the emergency room." So in fact he wasn't really treating the patient! ...

Often the profile of the student body does not match the patients that we treat. ... There are weaknesses in the "cultural competency" approach, but I think that it's really important that medical students, who are often from privileged backgrounds, understand how much power they actually have. ... And, you know, it may be from the slightest thing – they may not notice it – but they can really hurt people. And that can really cause a bad experience for the patient. I know this because that's what patients tell you all the time, day in, day out. ... Although I think it's improving, ... what is often overlooked in medical training is the fact that you are being given responsibility over people who are at their most vulnerable, and not worrying at all about ... the kinds of harm you could do not addressing biases and discriminatory practices ... or inequality is poor patient care. ... I think there has been a lot of work around that, particularly in the US, around cultural and social competency and so on. ... Diversity's not an easy thing. ...

But I actually had really amazing role models as clinical teachers. So, I also experienced the best. ... Now I know for myself that gestures of caring make a huge difference when you are sick. So, we've got a situation where if we want to maintain our legitimacy as healers, we have to be attentive to system-wide things, and I wish there was more of that. Ultimately, medical students would benefit from a more systematic consideration of power. ...

Appendix H– Sample Student Written Assignment– Page 1

CLSC health care workers stood up

ETHNOGRAPHY

RESEARCH PAPER

Written by [redacted]

[redacted]

Part A. HEALTH ORGANIZATIONAL ANALYSIS

1. Introduction

I conducted my ethnography project at the [redacted], a site familiar to me given that both my Longitudinal Family Medicine Experience and my TCP family medicine placements occurred there. CLSC [redacted] is part of the CSSS [redacted] which includes CLSC [redacted] hospital and an outpatient psychiatry clinic amongst others. It offers a variety of services to a very diverse and multicultural clientele: immigrants have access to psychosocial services, babies can get immunized, low income families can be followed by a nutritionist in a program that provides them with healthy meals, elderly patients can consult an occupational therapist to make home recommendations and prevent falls and so on. Additionally, similarly to other CLSCs, it offers a smoking cessation program as well as a cardio-metabolic program designed for educating diabetic patients on how to live with their disease. All in all it is a community center that welcomes on a daily basis patients of all ages, diverse ethnicities and variable socio-economic statuses.

The focus of this paper is first of all recognizing that there is a significant "no-show" rate of patients at this CLSC, an observation I had also made during my previous experiences in this CLSC shadowing various allied health professionals. Most importantly, this paper will discern that this issue is recurrent across all services provided by the CLSC but differs however in terms of magnitude and in terms of how it impacts the different 'healthcare workers' involved. To be more precise, a no-show will be defined in this paper as a patient not presenting to a scheduled appointment without notifying the CLSC prior, or canceling two hours before the start of the appointment.

2. Methods

The data in this paper includes five hours of observation of informal interaction and four hours of semi-structured informal interviews with a total of ten health care workers at the CLSC. The first two field works were devoted to clarifying my emerging focus and observing how the CLSC functions from the point of view of different health care workers. Indeed, during the first shift, I was stationed in the 'Services courants' nurse's examining room. I sat in the corner of the room and watched Nurse 1 interact with patients. At the end of my shift, I took the opportunity to interview two other nurses. For the second shift, I sat behind the reception desk between receptionist 1 and receptionist 2 for two hours, listening to them schedule and re-schedule appointments, as well as interacting with patients at the desk. This also allowed me to understand how patients come to schedule an appointment with a social worker. At the end of my shift I also interviewed social worker 1. For the third shift, I went around the CLSC to interview employees of various occupations namely two employees working in the administration, the medical secretary, social worker 2 as well as health interventionist.

3. Findings

a. Understanding how the CLSC functions: from taking the appointment to its realization

After finishing an appointment, patients come back to the front desk to schedule a date for their follow-up appointment. The receptionist asks them what date is more convenient for them and coordinates with them depending on the availabilities. The receptionists also receive calls from patients who schedule their appointments by phone.

On the day prior, all appointments are reconfirmed. Every day, one receptionist is specifically assigned to calling the following day's patients and reconfirming their appointments. This receptionist will be taking calls for the rest of the day while the two others handle the front desk. If no one answers the phone, a message is left on the machine. On Saturdays, one of the receptionists comes in to reconfirm Monday's appointments at CLSC [redacted] and on Sundays she confirms Monday's appointments at CLSC [redacted]

When a patient comes in to the CLSC for his appointment, he waits in line to speak to one of the two receptionists. He is asked to present his health card. The receptionist then confirms his arrival on eClinibase, the software used to schedule and display appointments, and his appointment entry turns from beige to green. If the appointment was taken with a nurse, the nurse has to check the software and take notice of the patient's arrival. She then comes to the waiting room to get the patient. If the appointment was taken with a doctor, the receptionist will call the physician's office and leave a message on his or her machine to announce the patient's presence. The doctor then comes and guides that patient back to the office.

b. Rate and impact of no-shows and measures taken, by occupation

i. Nurses at the 'Services courants'

Nurses usually have shifts between the walk-in clinic and the 'Services courants' (appointment-based) where they treat patients who require regular care and follow-up. Patients in the 'Services courants' come in very regularly: it can vary from three times a week for a urine catheter replacement or wound dressing changes, to once every three months for the administration of an intra-muscular medication. Their appointments are often fixed and decided in advance – which also means that they do not receive calls from the receptionist three times a week to confirm their appointments the day prior.

However, very often these patients decide not to come in, and more often than not they do not bother to call and cancel their appointments. **"Je dirais qu'il y aurais 5 à 10% des patients qui ne viennent pas"** (Nurse 1) "**Hier par exemple, sur les 15 patients qui étaient prévus, trois ne se sont pas présentés**" (Nurse 2). "**C'est très variable [...] Le plus souvent, la raison pourquoi ils ne se présentent pas c'est qu'ils ont cessé le traitement et ne prennent pas la peine de nous aviser**". (Nurse 3).

The implications of a patient not showing up are numerous. Firstly, this patient's time slot could have been given to someone one else who needed it at that time. Secondly, that patient is very likely to come another day to the walk in clinic leading to an overcrowding of the clinic and longer waiting times. **"Le patient qui est vraiment blessé et qui a besoin d'être traité plus urgemment, est desormais retardé."** (Nurse 3) Thirdly, one of the nurses emphasized that it is a waste of resources because she could not maximize productivity during that unused time slot. **"J'attends quinze minutes avant de réaliser que le patient ne va pas se présenter, et du coup je n'ai que quinze minutes avant que le prochain patient arrive. Que puis-je faire en quinze minutes? Rien du tout."** (Nurse 2)

When asked how they are affected when a patient did not show up, all nurses agreed that it can be irritating. **"C'est très irritant; j'ai pris la peine d'aller chercher leur dossier et le lire et finalement il ne vient pas**." (Nurse 1) However, all three were very understanding: none seemed angry telling me, with calm facial expressions and tone of voice unchanged: **"Tout cela est normal, on est un centre communautaire**." (Nurse 3)

Measures to avoid no-shows were put in place, but do not seem to be implemented in practice. **"Je trouve qu'on est très permissive."** (Nurse 1) As a matter of fact, a two-page pamphlet exists that specifies the responsibilities of the patients coming to the CLSC to benefit from nurses' services. It repeats twice (in two different sections) that patients must come to their appointments on time and if needed call to cancel their appointment at least 24h in advance. Yet, it is my understanding that nurses rarely give the pamphlet to their patients. Additionally, some nurses try to implement their own rules. **"Si un patient manque trois rendez-vous, je lui annule tout ses rendez-vous."** (Nurse 1) Nevertheless, this never happens. Instead nurses simply warn the patients when the issue becomes recurrent. Interestingly, the administration had previously implemented a regulation that urged nurses to write the names of patients that do not show up on a sheet. If a patient had missed three appointments, the administration would schedule a meeting with them to discuss the issue. However, it seems they have abandoned this system. **"D'ailleurs je ne sais même plus où on a placé la feuille. L'administration aurait peut-être rencontré trois patients avant de laisser tomber. Il n'y a pas vraiment une personne en charge de ce problème."** (Nurse 3)

ii. Social workers

As for social workers, no-shows seems to affect them much more than others. Most of the time, when a patient comes to the reception and asks to speak to a social worker, he or she quickly meets with the social worker on call. They briefly discuss the issue at matter then set up a one-hour appointment for a complete evaluation. This is where the majority of the no-shows occur, sometimes at a rate of 50%, according to one social worker. **"C'est plate mais c'est compréhensible; si les gens ne sont pas si motivés ou pas très vulnérable, ils ne vont pas se présenter à ce rendez-vous."** (Social worker 1)

Even if they are understanding, this issue can be bothersome because social workers schedule one-hour appointments and can sometimes end up with an open schedule for three hours, as social worker 1 explained. Moreover, many patients do not have a flexible

schedule. The social workers often try to accommodate them and agree to stay in the office until 7pm. **"C'est fâchant parce qu'on les attend, et ils ne viennent pas."** (Social worker 1) The second social worker seemed more frustrated with the issue as her volume of voice increased and she raised her eyebrows. **"Certains doivent remplir des dizaines de papiers pour avoir accès à l'aide qu'ils ont besoin, et même à cela ils ne viennent pas. C'est incroyable."** (Social worker 2)

Measures were implemented in the hopes of reducing no-shows. Firstly, when patients start seeing a social worker, they have to theoretically sign a 'contract' which specifies that if they are absent twice they will no longer be seen. In reality, I was told that this is never applied because their absences are often justified, according to social workers. Social worker 2 also explained that she is there to provide help not to sanction patients. Additionally, following the first one-hour encounter, instead of directly scheduling a second appointment then having to follow up with calls and letters when the patient does not show up, they found an alternative. The patient is given the social worker's office number and told that they have two weeks to call if they are interested in scheduling a follow-up, or else their file will simply be closed. Note that this rule does not apply to patients who are suicidal or extremely vulnerable, in which case the social worker will make sure that they are followed up. All this being said, the rate of no-shows remains very high.

iii. Health interventionist (smoking cessation and nutritionist)

My encounter with the health interventionist was by far the most memorable. No-shows appear to be a considerable problem for her and a major source of frustration. Over the past year she has been collecting statistics. In terms of smoking cessation appointments, from the 1st of April 2014 to the 1st of March 2015, her rate of no-shows is 31%. As for her health education center appointments, for that same period, the rate of no-shows is 23%. "**Les femmes enceintes n'annulent pas généralement, ce qui expliquerait un taux moins élevé**." She says that she understands that smoking cessation is hard but it is unacceptable for people not to show up to their appointments, especially without notifying her. At this point in the interview, she was almost yelling with frustration, her voice getting more high-pitched, her eyes opened wide, eyebrows raised and her hands grabbing her hair "**On est irrité de la désinvolture des gens qui prennent des rendez-vous et qui ne viennent pas, comme si notre temps ne valait rien du tout! J'ai un baccalauréat et une maîtrise moi !"**

When asked if she tried to do something about it, she explained that if after 10 minutes a patient did not show up, she would call and tell them that she was waiting for them and that they should come now. "**Souvent ils n'habitent pas très loin, alors je leur dis de venir et que je les attends."** She added that she thinks that the CLSC is very permissive and that something should be done. "**Je trouve qu'on est mou, il n'y a aucune conséquence. Je propose qu'on charge dix dollars et si ils viennent alors c'est gratuit**."

iv. Administration

The administration is not collecting any statistics on this issue, even though all the information is readily accessible on their system. I got the impression that they were not concerned about this, as they were shrugging in response to my questions. "**Non, ce n'est pas particulièrement un grand souci**." (Administrator 1)

When asked how they dealt with patients that did not show up, Administrator 2 answered that if the patients recurrently skipped their appointments, they could call them and give them a warning. However she added that most of the time when they call the patients it is to make sure that they are okay - not hospitalized or deceased. All in all, the administration did not seem to be very concerned with this issue.

v. Doctors

Unfortunately, during the nine hours of fieldwork, no doctor was available to be interviewed. However, given my experience at this CLSC, I knew that the issue of no-show also affected them, so I interviewed the medical secretary instead. According to her, approximately one patient per doctor per day does not show up to his appointment even though it was confirmed the day prior. I would like to note that this is only an approximation. With one of the receptionist, and using the eClinibase software that contains all the scheduling, I was able to determine the number of appointments missed with one of the doctors during the month of March 2015. The software displayed 23 appointments cancelled the same day and 7 appointments that were confirmed but not realized (meaning a no-show).

"C'est dommage pace qu'il y a plein de monde qui n'ont pas accès à un médecin et qui auraient pu en profiter. C'est un privilège ; la moindre des choses c'est d'appeler et d'avertir." (Medical Secretary)

When asked if she had any recommendations, the medical secretary suggested that doctors talk to their patients in order to sensitize them to the implications of no-shows. All in all, this issue also seems to affect doctors but not enough data was gathered to determine the impact of no-shows on physicians.

4. Conclusion

In conclusion, a high rate of no-shows exists at this CLSC and impacts all the services delivered at this community center without exception. However, even though it can be irritating, most health care workers (except for the outraged nutritionist) seem to have accepted this as being the norm, the CLSC being a community-based center.

Inversely, in my opinion, this should not be accepted as the norm because it definitely constitutes a challenge to delivering optimal care. First of all, the consequences of patients not showing up can have repercussions on their own health: missing a needed medication shot, not being able to reschedule soon enough leading to a worsening of their disease and so on. Additionally, this issue leads to longer waiting times because of the

no-shows that eventually show up unexpected another day. From the CLSC's perspective, frustration and irritation can sometimes build up, and I wonder if, subconsciously, this might affect the type of care no-show patients receive. Finally, I would like to add that each no-show patient represents a waste of time, resources and money – all of which could have been spent on other patients or better equipment in the aim of delivering the best care possible.

5. Recommendations

I would recommend that this issue receive more attention from the administration, as I believe there is an excess waste of resources that could be taken advantage of with the implementation of new regulations. Importantly, I think it is crucial to appoint someone with responsibility for this issue, who will collect and analyze the statistics and the financial implications of no-shows.

In general, I think all employees should be less lenient and sensitize their patients more on their responsibilities and on the consequences of their behaviors. Also, some of the old systems that were put in place should be implemented again such as the social worker's contract, the nurses distributing the pamphlet and the administration meeting with regular no- show patients.

An interesting tool I found looking up this issue in the literature was from a study entitled "Managing the Habitual No-Show Patient" [i], published in the American academy of Family Physicians, in which they created Dr. Virtual Physician. Essentially, the clinic identified the habitual no-show patients and put them on a six-month probation period. Every time they schedule an appointment, it is booked on a virtual scheduling database. If the patient does show up, he or she has to wait to be slotted in after the regularly scheduled patient with their regular physician. If they do not show up, then their physician's schedule will not have any wasted time slots, since this patient's appointment was not taken into consideration in the first place. If during these six months, the habitual no-show patients present punctually, they are put back on the regular schedule; if not, their record is terminated from the clinic. According to the study, this tool led to a 20% decrease of the clinic's no-show rate and a 30% increase of patient visits with physicians. If all other methods fail, the CLSC could perhaps try implementing Dr. Virtual Physician in the aim of reducing their no-show rates.

6. How could you analyze your data through the lens of a particular social theory?

According to Foucault "A society without power relations can only be an abstraction."[ii] It is thus evident that there needs to be power within institutions such as the CLSC for it to be able to function as efficiently as possible. However, according to my observations so far, there is a lack of dominative power relations exerted on a daily basis at the CLSC, or to the least they are not apparent.

Foucault states that a certain number of features are required in order to establish power. Among them he indicates that there needs to be "a system of differentiations that permits

one to act upon the actions of others"[ii]. My observations would suggest that the CLSC lacks such a system, a fact that could explain the inferior efficiency that would lead to the focus of my paper, a high rate of no-shows.

As a matter of fact, the CLSC is part of a larger organization, the CSSS which in itself contains an hierarchal board committee. However, the system of differentiation that I would suggest would not be on the macro-organizational level (CSSS), rather on the micro (within each occupation of the CLSC). This is to say that for each occupation at the CLSC there needs to be a person in charge, that has formal 'power' (e.g. a head nurse responsible for all the nurses, a chief physician in charge of all the physicians and so on). Not having such individuals that have such formal authority might explain why an issue such as the no-show rate has been left unattended for so long. Such individuals would be measuring the outcomes and evaluating the efficiency of the work being done in order to determine the issues that need to be addressed and implement new regulations accordingly. Currently, it seems that no one is taking the responsibility and no one feels that it is there duty to address issues such as the high rate of no-shows. Indeed, as per Foucault's analysis of power, what are needed are power relations implemented within a system of differentiation within the CLSC Villeray for it to be functioning to the highest point of its efficacy and provide optimal care.

Part B. METHODOLOGICAL REFLECTION

1. What surprised you, either in the roles or way the clinic / CLSC or its staff work, or in the process of doing this research project?

Firstly, I was surprised that I was able to find results in such a short amount of time conducting this research project. I was somewhat worried prior to starting the project that it would not yield much. Mostly however, I am surprised of the content of my results and specifically of the global lack of incentive to do something about the issue.

2. How did you determine the answers to the questions in Part A?

Firstly, an important component that governed the decision-making in choosing my focus was the fact that I have been shadowing at this same CLSC since Med-1 (I had done my LFME there). During that time, this issue had come to my attention and had struck me. In fact, we had to shadow our preceptor for three hours every other week for a total of twenty visits. I would say that at nearly half my visits there would be a patient that did not show up. However, I decided to keep an open mind for the first fieldwork in case another focus would emerge. At the end I decided to use my primary focus as I was intrigued to find out how it affected the other services at the CLSC.

Given that I wanted to keep an open mind, I mainly used an observational approach for the first fieldwork and for the half of the second fieldwork. This helped in confirming my focus: no-shows did indeed affect all services and not only physicians (I witnessed a no

show when I was stationed at the nurse's office during my first field work and during my second fieldwork I overheard the receptionist talking on the phone with patients who were cancelling their appointments last-minute). Observing also helped me better understand how the CLSC is organized and how it functions. This was important in clarifying my focus as well. However, given that there was so much going on and I was a bit overwhelmed, I decided that I would gather much more pertinent data if I conducted informal interviewing. I was thus able to ask targeted questions that would directly answer my focus. I tried as much as possible to transcribe the exact words of my interviewees as well as their facial expression and tone of voice to be able to discern any hidden frustration. If I had any uncertainty with regards to the exact words said by my interviewees, then I did not use that quote in the paper. Globally, the informal interviewing definitely was more helpful in elaborating my focus and answering the questions to Part A.

Additionally, I would like to add that I did my best to triangulate as many sources as possible: I based my paper on observations, interviews as well as documents (I was able to obtain the pamphlet the nurse was talking about as well as the contract the social workers are supposed to use). Additionally, I tried as much as possible to interview at least two employees from the same occupation in order to compare their point of views and infer more accurate conclusions.

3. How did you manage / negotiate your role and presence in the field?

During my first fieldwork I initially had a hard time explaining my presence in the field and clarifying my role. However, I was lucky to find a gatekeeper during my second fieldwork: one of the receptionists was very kind and welcoming. She gave me some statistics based on the eClinibase software and provided me with the door code so I can access the office hallways. From there on I knocked on the doors of various healthcare workers - starting with the ones I had already met during my previous visits as a medical student - and proceeded with my informal interviewing. For the ones I had not previously met, I found that stating that I was a student who was conducting research on the CLSC was less confusing to them than when I specified I was a medical student.

4. What are the weaknesses in the study and what would you need to do to draw firmer conclusions about this clinical site?

Definitely one of the major weaknesses in this study is the lack of sufficient data that could undoubtedly lead to premature conclusions. As LeCompte mentions in his paper "hunches and guesses are explored in initial interviews and observations. They then are elaborated and retested through continued collection of data [...] until new information confirms a stable pattern, and the model appears to be complete." (p.18)[iii] Given that I only had nine hours of observation and that I did not retest my data, my study only reflects the beginning of the initial evaluation and its preliminary results. This paper thus constitutes a superficial approach as opposed to the "immersion approach"(p.5)[iii] and "long term involvement"(p.6)[iii] that LeCompte describes in his paper. As he explains,

only such approaches would be able to provide a comprehensive understanding of the culture and processes of the CLSC and allow me to draw definite and accurate conclusions.

Additionally, at some instances I felt that the health care workers were reluctant in providing me with details, especially employees working at the administration. I am speculating that they might have gotten the impression that I was questioning their abilities in doing their job, even though I tried to ask my questions very objectively. As Pope mentions in the paper *Conducting ethnography in medical settings*, it can be very useful to join "participants for meals, coffee and cigarette breaks, parties and other social events" as it can provide "vital additional data for [my] analysis" (p. 1184)[iv]. Pope also mentions that in some instances she was allowed to observe because "she did not pose a threat"(p. 1184)[iv]. Perhaps if I had tried to ask my questions while joining the employees during their lunch time, employees might have felt more at ease with me and provided me with more details.

Part C. PERSONAL REFLECTION

1. How do you see the relationship between this research experience and the Longitudinal Family Medicine Experience ?

In my opinion those two experiences were very different, even though they took place in the same clinic. During my LFME experience, I was focusing on **one physician's** encounter with his patients, involving **various diseases** and issues. All the visits took place in the family physician's office, which meant I did not move around. Additionally, I was focused on learning how to take a history and perform a physical examination. On the other hand, during this research experience I was focusing on va**rious health care workers** but on **one issue**.

Moreover, during my ethnography project I was trying to write down as many details as possible (which drawer the nurse opened, where the gloves box was situated compared to the sink, which section of the software she was writing in) whereas in LFME I only retained the skeleton of what was being said.
However, both experiences allowed me to experience the day-to-day tasks of health care workers at a CLSC.

2. How do you see the relationship between this research experience and other components of the TCP-family medicine course and what you have learned in other components of your medical education so far?

During the clinical component of the TCP family medicine course, every other week, we were assigned for one morning to a particular health care worker. During that time, the health care worker would explain to us what his/her job entails and the type of patients that he/she encounters. This gave me a better understanding of the services available at a CLSC, which is useful in providing better guidance and options for my future patients.

Conversely, this research experience placed me in the same setting with the same people

but taught me to observe not just what they do but how they do it and what factors influence their daily tasks. It also taught me to look at an organization with a critical point of view in order to identify areas that might be improved upon. This will be useful for me in the future, as this project demonstrated the importance of leadership skills as well as taking organizational responsibilities within our work environment (be it a clinic or a hospital).

3. What might you think or do differently in your clerkship and future work as a doctor than if you had not undertaken this organizational research project?

As mentioned above, during my future work as a doctor I will definitely be more aware that everyone in the workplace is involved in maximizing efficiency and identifying deficits and issues. This project showed me that even as a medical student I am able to identify matters to be improved upon; in the future, as someone who will be working instead of just observing, I could definitely not only identify but also make changes.

4. What, if anything, might you do differently if you were doing this study again?

In terms of informal interviewing, many employees did not have much time to talk to me. If I had to do this study again, I would call in advance and take an appointment with each of them in order to properly conduct an interview. Additionally, I would bring an audio-recorder with me so that I can focus more on describing the environment, the tone and facial expression of the interviewee. I felt like I missed a lot of information because I could not write down information fast enough. An audio-recorder also would have provided me with more quotes; due to the uncertainty of some quotes, I was not able to include them in this paper. Finally, I would have asked other students to work with me on that same topic in order to have more objective results and compare them.

Appendix H– Sample Student Written Assignment– Page 12

References

i. Izard, T. (2005). Managing the Habitual No-Show Patient. *American Academy Of Family Physicians, 12*(2), 65-66.

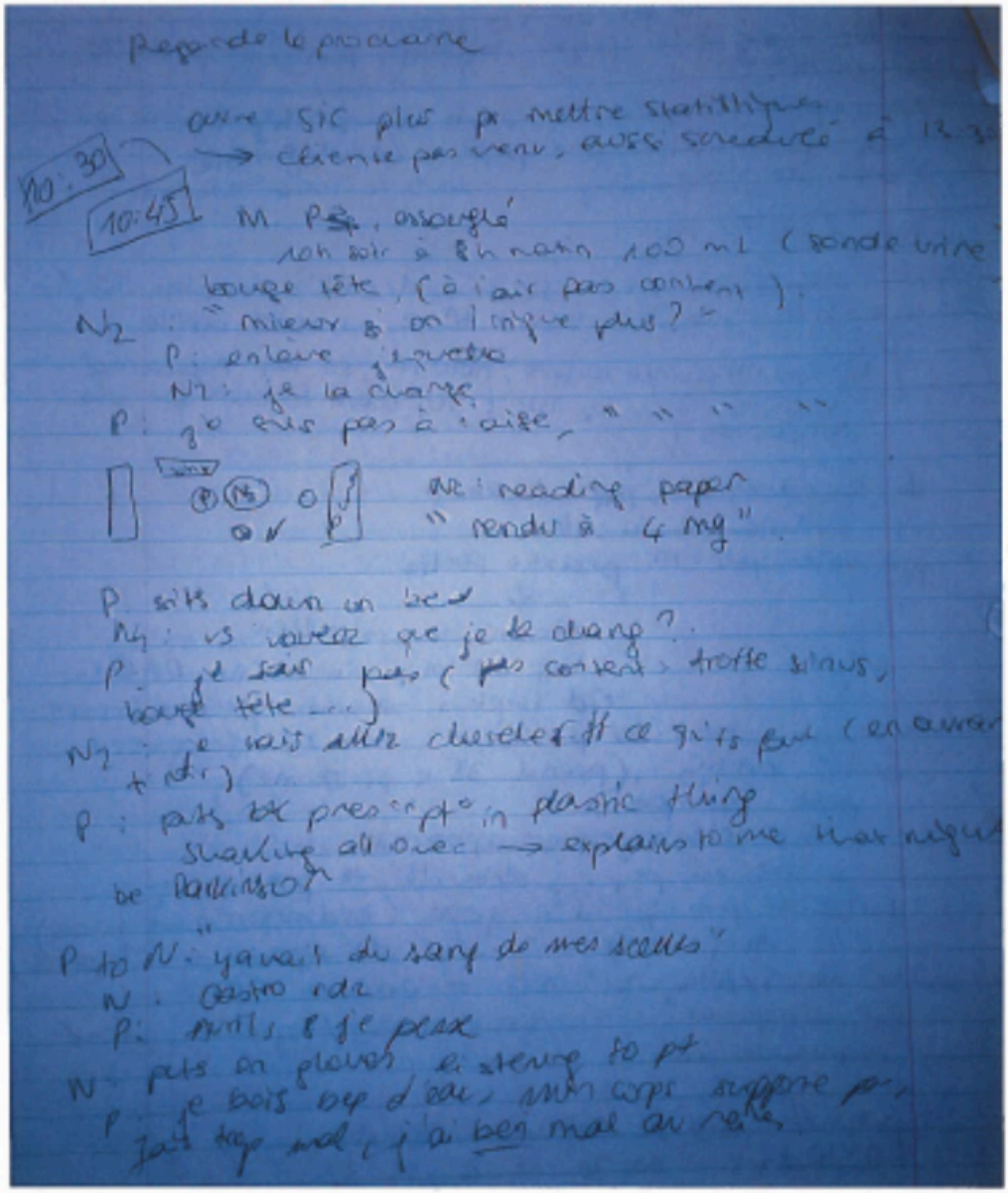
ii. Foucault, M. (2000). The subject and power. In *Power* (Ed. P.Rabinow): 342-348. NYC, New York: Vintage Books:

iii. LeCompte, M.D. & Schensul, J.J. (2010). What is ethnogaphy? In *Designing & Conducting Ethnographic Research.* Plymouth, UK: AltaMira, pp. 1-34.

iv. Pope, C. (2005). Conducting ethnography in medical settings. *Medical Education,* 39 (12): 1180 – 1187.

Part D. **Fieldnote sample**

A. One page sample of hand-written field notes

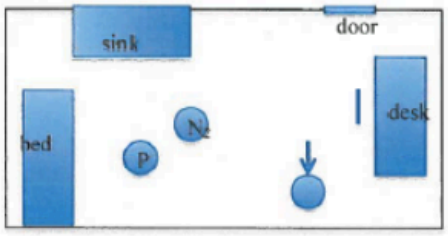


B. One page sample of typed transcript of field notes

[The nurse opens eClinibase to see if the next patient is here. The patient's name is still in beige (not arrived yet). She opens SICplus databse and inserts the statistics of the previous patient.]

[10:30am]
N: « cliente pas venue » … « elle est aussi schedulée à 13:30? »

[10:45am]
[Patient M.P. arrive, il est essouflé]
P: « de 10h soir à 8h du matin, 100 mL [d'urine dans la sonde] » [he nods his head, he looks unhappy]
N2: « C'est mieux si on l'irrigue plus? »
(P removes his jaket)
N2: « Je vais la changer »
P: « Je ne suis pas à l'aise »



N2 (reading on a paper): « Vous êtes rendu a 4mg »
(P sits down on the bed)
N2: « Vous voulez que je la change? »
P: « Je sais pas » (il frotte ses sinus et bouge la tête [il a pas l'air content])
N2 : « Je vais aller chercher tout ce qu'il faut » (en ouvrant le tiroir)
(P puts back the prescription that he had given the nurse in a plastic folder ; he is shaking)
P explains to me that his doctors think this might be Parkinson disease.
P : « il y avait du sang dans mes scelles »
N2 : « Gastro…rendez-vous »
P : « Avril 8 je pense »
(N2 puts on gloves)
P : « je bois beaucoup d'eau, mon corps ne supporte pas » « fait trop mal » « j'ai ben mal aux reins »

Appendix I – Sample Quantitative Likert Scale Survey "post" – Page 1

Family Medicine Transition to Clinical Practice: Primary Care Ethnographic Project (Survey 2: PART B)

DATE: _____

SECTION A: Please choose a response that best corresponds to your opinion about each of the following statements by circling the appropriate number (6 = strongly agree, 5 = moderately agree, 4 = somewhat agree, 3 = somewhat disagree, 2 = moderately disagree, 1= strongly disagree):

Organization = management or internal activities of coordinating work among health care staff in similar and different roles.

	Response					
	Strongly Agree	Moderately Agree	Somewhat Agree	Somewhat Disagree	Moderately Disagree	Strongly Disagree
B1. In my opinion, the way health care is organized is directly related to the quality of clinical care provided	6	5	4	3	2	1
B2. In my opinion, health care policy is directly relevant to the quality of clinical care provided	6	5	4	3	2	1
B3. I know how health organizations work	6	5	4	3	2	1
B4. I know how primary health care organizations work	6	5	4	3	2	1
B5. I understand the role of a primary health care clinic in the health system	6	5	4	3	2	1
B6. I understand the structure of health care in this province	6	5	4	3	2	1
B7. I understand the structure of primary health care in this province	6	5	4	3	2	1
B8. I understand the roles of health care staff in roles other than medicine	6	5	4	3	2	1
B9. I understand the role of a doctor	6	5	4	3	2	1

Appendix I – Sample Quantitative Likert Scale Survey "post" – Page 2

	Response					
	Strongly Agree	Moderately Agree	Somewhat Agree	Somewhat Disagree	Moderately Disagree	Strongly Disagree
B10. I understand the role of a family doctor	6	5	4	3	2	1
B11. I have the collaboration skills to work with others in a health organization	6	5	4	3	2	1
B12. In my opinion, ethnography has an important role in understanding health care	6	5	4	3	2	1
B13. In my opinion, ethnography has an important role in improving health care	6	5	4	3	2	1
B14. I believe that having engaged in this *Observing Healthcare in Action* (OHA) project will make me a better doctor	6	5	4	3	2	1
B15. I believe that engaging in this Transition to Clinical Practice – *Comprehensive & Consultative Health* (CCH) course will make me a better doctor	6	5	4	3	2	1
B16. I am confident that I have the skills to undertake a research project in health care	6	5	4	3	2	1
B17. I am confident that I have the skills to undertake an ethnographic research project	6	5	4	3	2	1
B18. I will be a family doctor	6	5	4	3	2	1
B19. I learned a lot doing the *Observing Healthcare in Action* (OHA) project	6	5	4	3	2	1

Appendix I – Sample Quantitative Likert Scale Survey "post" – Page 3

	Response					
	Strongly Agree	Moderately Agree	Somewhat Agree	Somewhat Disagree	Moderately Disagree	Strongly Disagree
B20. I learned something doing the *Observing Healthcare in Action* (OHA) project	6	5	4	3	2	1
B21. In my opinion, doing some direct observation of clinical work has a role in understanding health care	6	5	4	3	2	1
B22. In my opinion, doing some direct observation of clinical work has a role in improving health care	6	5	4	3	2	1
B23. I felt welcome in my clinical fieldwork site	6	5	4	3	2	1
B24. I felt that my ability to do the *Observing Healthcare in Action* (OHA) project well was dependent on my ability rather than external factors	6	5	4	3	2	1
B25. The *Observing Healthcare in Action* (OHA) project was well organized	6	5	4	3	2	1
B26. The *Comprehensive & Consultative Health* (CCH) course within the TCP was well organized	6	5	4	3	2	1

Thank you for completing this survey!

Appendix I – Sample Qualitative Open-Ended Free Text Survey– Page 1

Family Medicine Transition to Clinical Practice: Primary Care Ethnographic Project (Survey 2)

DATE: _____

PART A: There are no right or wrong answers!

1. Ethnography is:

_____

_____

_____

2. The important features involved in the organization of health care are:

_____

_____

_____

3. What does the phrase "health care coordination" mean to you?

_____

_____

_____

4. What do you see as the role of health policy and management, with respect to the way care is organized, in the quality of clinical care delivered?

_____

_____

_____

5. What is the role of primary health care clinics in the health system?

_____

_____

_____

6. What were your expectations for the Family Medicine Transition to Clinical Practice component generally?

_____

_____

7. What were your concerns about the Family Medicine Transition to Clinical Practice component generally?

_____

_____

8. How do you feel about the ethnographic exercise?

_____

_____

Appendix I – Sample Qualitative Open-Ended Free Text Survey– Page 2

9. How will you know the Family Medicine Transition to Clinical Practice component, in general, will have been successful?

10. What worked well in the way the ethnographic exercise and assignment were designed?

11. What, if anything, would you recommend be done differently in designing or executing the ethnographic exercise for future cohorts?

12. What advice would you give a first-year medical student who would do the ethnographic project in their second year?

13. What did you learn from doing the ethnographic exercise?

14. What, if any, changes have come about in your knowledge, skills or attitude from doing this ethnographic project?

15. If there were any changes in your attitudes or perceptions of your knowledge or skills from the commencement of this course, to what extent do you attribute them to:

(a) The TCP program

(b) The Family Medicine TCP component

(c) The ethnographic research project