Coordinating Flow Across Practice Boundaries: The Collaborative Work of Emergency and Internal Medicine

Dr. Rakhee Banik
Department of Family Medicine, McGill University, Montreal
Submitted: April 2017

Supervised by: Dr. Peter Nugus

A thesis submitted to McGill University in partial fulfillment of the requirements of the degree of Master of Science in Family Medicine

Table of Contents

ABSTRACT

Introduction

An understanding and approach to health research and health care has been dominated by a uni-professional and, at times, individualist, perspective. Yet, care coordination is crucial for patient safety, especially for an aging population. Health care workers have needed to try to transcend their particular communities of practice, in which they work and learn. One of the sharpest and least explored needs for care coordination is where complex patients are categorized in the emergency department (ED), which brings together emergency medicine (IM) doctors and internal medicine (IM) doctors. The latter group takes on the task of classifying and treating complex cases as a relatively generalist specialty. However, there is little foundation in theory or practice to understand the roles between these two important players, despite their importance in care coordination. Therefore, the aim of this study is to understand the similarities and differences in the roles and priorities of EM and IM doctors in the ED, and its implications for care coordination.

Methods

The understanding of roles and priorities calls forth qualitative methods, which focus on language. The study was set in a university health system, in which 14 attending physicians were interviewed, representing both EM and IM doctors based in the ED. The audio-recordings were transcribed and individually, and then collaboratively, the researchers categorized the talk into themes which are exemplified in the Findings

Findings

The participants' clinical work was shaped strongly by the communities of practice they inhabited, and which gave them the benefits and tensions of their community's organizational position. There was a high level of mutual empathy across the two teams, despite having different priorities on a spectrum of diagnostic accuracy versus organizational efficiency. Participants sought to solve conflict through organizational mechanisms to preserve interpersonal relationships. This allowed participants to navigate different criteria over the appropriateness of a patient for a particular service. Ultimately, the ED was held responsible for the length of patient stay, even where they were "boarding" admitted patients who had no in-patient bed.

Discussion and conclusion

This study showed that a community of practice perspective is a compelling way to characterize clinical work at critical points of the tight rationing of health services. Such a perspective needs to be adopted in government incentives for other health services to share the consequences of ED over-crowding. A similar communitarian perspective is needed to appreciate the clinical, organizational and educational priorities IM juggles system-wide in accommodating patients. Quality and efficiency are not opposing concepts. Efficiency benefits from careful decision-making, and careful-decision-making helps direct patients to transfer or discharge. More research is needed on patient categorization and care rationing from the perspectives of nurses, allied health and consumers.

RESUME

Introduction

La compréhension ainsi que l'approche adoptées par le domaine de la recherche et des soins médicaux sont dominées par la perspective d'un seul professionnel, parfois même par un individu. La coordination de soins est cruciale pour la sécurité d'un patient, spécialement en présence d'une population vieillissante. Les travailleurs du domaine de la santé ont besoin de transmettre leur pratique. L'un des besoins de coordination de soins le moins explorés est lorsque des patients présentant des situations complexes sont catégorisés au département d'urgence (ED), ce qui réunit les urgentologues (EM) et les médecins internes (IM). Les médecins à l'interne prennent la tâche de classifier et traiter les cas plus complexes. Cependant, il y a peu de fondations théoriques ou pratiques qui permettent de distinguer et comprendre les différents rôles de ces deux catégories de professionnel. Ainsi, le but de cette étude est de comprendre les similarités et différences des rôles et priorités entre un médecin EM et IM en ED, sans oublier ce que cela implique pour la coordination de soins.

Méthodes

La compréhension des rôles et priorités est l'objet de méthodes qualitatives qui se concentrent sur la langue. L'étude a pris place dans le pavillon de la santé d'une université, où 14 médecins, certain IM d'autres EM, tous basé en ED, ont passés une entrevue. Les enregistrements sonores ont été transcrits de manière individuelle, ils ont été catégorisés par la suite en thématique par les chercheurs. Voir section résultat pour de plus amples explications.

Résultats

Le travail clinique des participants était pris en considération. Il y avait un haut niveau d'empathie entre les deux équipes, malgré le fait qu'ils ont chacun différentes priorités : le spectre de l'exactitude d'un diagnostic et l'efficacité organisationnel. Les participants ont essayé de résoudre un conflit à travers le mécanisme organisationnel afin de préserver les relations interpersonnelles. Cette dernière méthode a permis aux participants d'explorer différents critères au lieu de l'aptitude d'un patient pour un service particulier. Inévitablement, les médecins ED ont été portés responsables de la durée du séjour du patient, même lorsqu'il était question de « boarding » des patients admis alors qu'il n'y avait pas de lit pour patient.

Discussion et conclusion

Cette étude a su démontrer qu'une communauté de pratique perspective est une manière intéressante de caractériser le travail clinique au point critique des services de santés limitées. Une telle perspective se devrait d'être adoptée et donc devrait être poussée par une motivation gouvernementale pour d'autres services de santé pour partager les conséquences de l'ED encombré. Une perspective similaire est nécessaire pour apprécier la facette clinique, organisationnelle et éducative des priorités de médecins IM qui tente d'accommoder les patients. La qualité et l'efficacité ne sont pas des concepts opposés. L'efficacité bénéficie d'une prise de décision minutieuse et prudente, ce qui permet de diriger un patient vers un transfert ou l'acquittement. Plus de recherche est nécessaire sur la catégorisation de patient et le rationnement de soins de la perspective des infirmiers, autres professionnelles de la santé et des consommateurs.

ACKNOWLEDGEMENT

Many individuals contributed to the successful completion of this Master's thesis. First, I would like to express my gratitude and sincere appreciation to my supervisor, Dr. Peter Nugus, who has shown stunning generosity towards me. I would not be completing this research work, and looking forward to my future involvement in research as a clinician, if he had not given me with the opportunity to become his graduate student. Since I began the Family Medicine Program, he has continuously offered me opportunities to learn and grow. I am beyond fortunate to have benefited from his great talent as a researcher, with the background in Sociology, Political Science and Adult Education. His ethnographic research in emergency departments and various hospital and community settings, and teaching, has focused on workplace and organizational learning, care coordination, and culture and identity in complex organizations. Dr. Nugus provided unwavering support and invaluable aid in developing the scope of this thesis, determining methods, advising on data collection, constant constructive feedback and editorial help.

I thank all the participating clinicians (emergency and internal medicine physicians) for their valuable time in their busy schedules. Many thanks to my thesis committee members Dr. Jean-Marc Troquet, Dr. Christian Rochefort, David Lessard, and Dr. Anne Schoenmakers for their constructive comments in establishing my study objectives and data analysis.

I would like to also personally thank to Family Medicine Graduate Programs Director, Dr. Gillian Bartlett-Esquilant for her continuous support and directions during my graduate studies at McGill. Special gratitude is owed to Ms.Genevieve Gore**,** the liaison librarian at the McGill Life

Sciences Library for making time to meet with me in person and patiently helping refine my searches.

I am grateful to Mr. Jamie Demore, Family Medicine Graduate Programs Coordinator for all of his support. Thank you Jamie for always taking the time to help us all. A big thanks, also, to my friends in the Department of Family Medicine, for making my graduate studies so memorable. Finally, I would like to express my deepest appreciation to my husband and my family because of their endless support during my studies.

PREFACE

This thesis was written according to the guidelines set out by McGill University for the submission of a document at the Master's level.

Rakhee Banik, MBBS, as the MSc. Candidate, was primarily responsible for carrying out the research described in this thesis. I conducted an extensive literature review and developed the specific study objectives for the research project. I collected, transcribed and analyzed the interview data and wrote all the sections of this thesis.

Dr. Peter Nugus, MAHons, MEd, PhD, Assistant Professor, the Principal Investigator of this Study and MSc. supervisor of Rakhee Banik, was responsible for the overall supervision of the study. He supervised all work carried out by Rakhee Banik towards the completion of this thesis, and provided feedback on all aspects of the thesis writing including coding, analysis and interpretation of results.

Dr. Jean-Marc Troquet, MD, Dr. Christian Rochefort, PhD, Assistant Professor, Dr. Anne Schoenmakers, MD, Dr. Joe Nemeth, MD, David Lessard, PhD, committee members for Rakhee Banik's thesis, provided constructive feedback on research methodology, interpretation of findings and ensured adherence to timelines.

INTRODUCTION

Coordinated care: Individuals versus teams

This qualitative study considers the implications of healthcare as a team sport, given the need for increasingly coordinated care. As a case study, it examines the way emergency medicine (EM) and internal medicine (IM) doctors work together to facilitate the transfer of patients out of the emergency department (ED), especially patients with complex conditions. Coordinated care is aligning differently specialized clinical contributions of different professionals and organizations to provide the care those particular patients need when, where and how they need it (Strauss et al., 1985). Medicine and health care have mainly been understood as bio-medical activities, with only relatively recent attention to human and collective aspects of the work (Ousager and Johannessen, 2010). Furthermore, in the developed world, a culture has evolved in which specialized knowledge is more highly valued than generalized knowledge (Brown and Webster, 2004). In practical terms, this has accounted for specialization of functions and technological advancements (Hecksher and Donnellon, 1994).

However, the populations of developed countries are aging rapidly (Reed et al., 2005). Older people are more likely than younger people to have multiple overlapping, or complex, conditions (Harper, 2014). Such conditions mean that older people are more much likely than younger people to require the involvement of multiple health professionals in different roles (Nies, 2009). This, in turn, makes it ever more important to have coordinated care (Crimmins, 2004).

Yet, the notion of coordination is not built-in to health systems. The need for coordination has seen a proliferation of particular coordination roles, representing “work-arounds” to specialized technical systems, in which individuals are supposed to be responsible for pulling the parts

together (Schoen et al., 2009). So, coordination mechanisms have become "exceptions to the rule", rather than becoming inherent parts of health systems. The attribution of responsibility to individuals for coordinating specialized functions has also been called a "case management approach". Case management approaches have shown some improvements in efficiency and effectiveness of care (Low et al., 2011). However, the increasing complexity of needs of the population, coupled with the increasing specialization of services, is driving up health care costs (Boeckxstaens and De Graaf, 2011). This means that the time has long passed when health systems can rely on benevolent individuals (Nugus, 2008). Rather than seeing a coordinated approach, health care is becoming increasingly fragmented, meaning that it is increasingly difficult to coordinate specialized functions within and across health occupations and organizations (Motley, 2013).

Communities of practice in healthcare

More is needed, therefore, than individual roles to 'band-aid' the need for coordinated care. Care needs to be considered as an activity among groups of people. Such an approach has been taken by writers who have conceived of health care work as comprised of "communities of practice" (Ranmuthugala et al., 2011). A community of practice is a social learning practice where a group of people who share the same interest or passion for something work together and increasingly learn and design practices associated with their shared activity (Lave and Wenger, 1991). There are three structural characteristics of communities of practice: the domain, the community, and the practice. Communities of practice have a shared *domain* of interest. Members involved in the community of practice are committed to the domain, value their collective competence and learn from each other (Wenger, 1998). Individuals in a community of practice work as a *community*,

which means that they help each other and share information. They build relationships that enable learning from each other. Having the same job title does not necessarily guarantee a community of practice unless members of the community interact and learn together (Wenger-Trayner and Wenger-Trayner, 2015). *Practice* is the main focus of the members of the community. Members of a community of practice develop a shared repertoire of resources, or practices: experiences, skills, and ways of addressing problems (Wenger-Trayner and Wenger-Trayner, 2015). No outside force is necessarily implicated directly in shaping, dictating or mandating practice, the community being attained by the members engaged in it. Since learning produces a social system, a practice can be considered as the property of the community.

Owing to specialization of health care roles, different health occupations, and medical and surgical sub-specialties, have been conceived as separate communities of practice. This concept of a community of practice applies especially in large health organizations that contain multiple professions and sub-groups within professions (Ferlie et al., 2005). Professional communities of practice have three features that are different from those in the nonprofessional practice (Wenger-Trayner and Wenger-Trayner, 2015). First, professional communities of practice are often unidisciplinary and a significant amount of work is needed to make up a community of practice that includes professionals from multiple disciplines. Secondly, communities of practice like to isolate themselves from neighboring professional communities of practice. Thirdly, these communities of practice are well-established to make any change within their communities, but not necessarily beyond them (Wenger-Trayner and Wenger-Trayner, 2015).

Relatively strong social boundaries have been shown to exist between health care workers from

different professions, identities and work practices. Individual professionals within multidisciplinary teams have often found it difficult to agree on how their roles might be redefined under the pressures imposed by so-called "evidence-based practice" (Ferlie et al., 2005). Indeed, the firmness with which professional boundaries are maintained has been showed to contribute to the deliberate "non-spread" of innovations (Ferlie et al., 2005). Usually, for members of the same profession, interactions are more frequent than their interactions with highly-ranked professionals of their organizations or members of other communities of practice. When working in an interprofessional team, doctors, for example, cannot adopt significantly changed practices without considerable negotiation with colleagues in the team (Ferlie et al., 2005). In the case of multi-professional corporations, significant conflict can arise when members of different occupations or roles work as a team, and then struggle to come in terms with different perspectives (Hinds and Mortensen, 2005). Communication gaps create tensions between subgroups, particularly when the members are engaged in highly complex tasks and can eventually impede the organization's performance (Hinds and Mortensen, 2005).

Hospitals form highly differentiated social systems where collaboration and communication are required between healthcare providers to maintain patients' "flow" across units (Hewett et al., 2009). Communication failures influence the quality of health care and contribute to medical errors and adverse outcomes for patients (Hewett et al., 2009). Poor coordination and communication are not simply the result of poor transmission or exchange of information. Coordination failures are far more complex and related to hierarchical differences, conflicting roles and cultures, and interpersonal power and conflict (Sutcliffe et al., 2004). The process of coordination or integration of care ensures that there are systems in place to allow health

professionals to work optimally together across the boundaries of different communities of practice. As patients often wait during the transitions between care settings, more effective integration of health care services may reduce wait times and improve patient experiences, as well as improving the quality and safety of care (Hewett et al., 2009).

Interspecialty communication and collaboration among doctors, in the shared care of a particular patient or patients, requires the involvement of multiple specialist departments (Nugus, Carroll, Hewett et al., 2010). Patients with complex health conditions, like acute pancreatitis, an acute medical condition, is one such condition (Hewett et al., 2009). Contested responsibilities have emerged from a model of care driven by single-specialty ownership of the patient, with doctors allowed to evade responsibility for patients over whom they feel little sense of ownership (Hewett et al., 2009). For example, EM doctors often consult IM doctors on patients being considered for hospital admission or for discharge home with outpatient care plans. These two specialists routinely work together, co-manage patients, and share feedback regarding a patient's subsequent course of treatment (Sutcliffe et al., 2004). However, often there is little collaboration between emergency medicine (EM) and internal medicine (IM) doctors beyond brief encounters to discuss about individual patients (Sutcliffe et al., 2004). This sometimes results in hospital readmission for patients who return to the ED. Thus, an improved collaboration is required for better patient-centered care (Reisenberg et al., 2009).

The case of practice communities of emergency and internal medicine

The relationship between IM and EM doctors in transferring patients out of the ED is a case study of the relationship between communities of practice in health care. It is both an under-

researched area of healthcare, and a strong case of the difficulty of allocating clinical responsibility for and transferring complex patients, in particular. Essentially, the intensity of the need for flow in the ED, given rapidly cuing unplanned arrivals, puts particular pressure on the ED to categorize clients (Vassy, 2001). Given the complexity of older patients, internal medicine doctors are more likely to have to respond to patients whose conditions are difficult to neatly classify into a particular medical or surgical specialty. This makes the relationship between EM and IM a particularly valuable case study to examine the problem of coordination among teams.

Maintaining patient "flow" is a major challenge in ED care. In an ED context, flow is the efficiency with which arriving patients move through the ED to create space for future patients (King, Ben-Tovim, and Bassham, 2006). The inability to efficiently discharge or transfer patients creates "overcrowding" in EDs, which happens when the number of patients arriving exceeds the number of patients being discharged from or admitted to the hospital (Bernstein, 2006). Overcrowding in the ED leads to increased medical errors, adverse drug events, lack of timely coordination follow-up care, and unnecessary re-hospitalizations, major morbidity and mortality (Diercks et al., 2006; Hendrie et al., 2007; Collis, 2010). Therefore, moving patients out of the ED, either to be admitted to the hospital or to be discharged directly from the ED, is a critical task to facilitate the appropriate delivery of health care services. To ensure that patients flow through the ED efficiently and safely, EM doctors sometimes approach physicians from other medical or surgical specialty teams (such as orthopedic surgery or cardiology) as part of the process of diagnosing patient conditions and, sometimes, to directly seek hospital admission under a particular specialty, or to ensure that a patient can be discharged safely from the ED

(Vassy, 2001). Not all ED patients require the involvement of physicians from other specialist teams (Nugus, Carroll, Hewett, et al., 2010).

The Emergency Physician (EP), a doctor fully certified in emergency medicine or, in the case of Canada, emergency or family medicine, is often the first fully qualified doctor to see an ED patient, working with limited information and in uncertain situations. They treat sick patients and identify priorities. They lead the team in the initial assessment and resuscitation of patients, making the diagnosis in a time-pressured environment where the stakes and emotions are high (Apker et al., 2007). It is often unclear, initially, how seriously unwell a patient is or how quickly they need to be seen, and dealing with this uncertainty, as well as reassuring those with minor illnesses and relieving their symptoms, is part of the challenge of EM doctors (Apker et al., 2007). EDs traditionally accept all patients regardless of their conditions and, thereby, have limited control over the numbers of patients who arrive (Hyde, 2006). This places importance on how efficiently patient conditions can be assessed and diagnosed, the treatment plan can commence, and patients either admitted as a hospital in-patient or discharged (Nugus, Holdgate, Fry et al., 2011).

The appropriateness of use of ED services by patients with chronic conditions has received significant attention as potentially contributing to extended waits in the ED (Veen et al., 2016). Patient waiting in the ED can stem from many factors, such as waiting for an inpatient bed, time needed for patient monitoring, diagnostic or laboratory test results or specialists consultation. These are factors of coordination, or integration, of care, raising questions about whether systems

are in place to allow health professionals to work optimally together (Nugus, Carroll, Hewett et al., 2010).

As patients often wait during the transitions between care settings, better integration of health care services may reduce wait times and improve patient experiences. A First Ministers' Health Care Innovation Group identified several team-based models of care that have been shown to improve access and reduce wait times through better integration of services across care sectors, and also shown greater patient satisfaction (Canadian Institute for Health Information, 2012). Little research has been undertaken to understand the conditions that might support or undermine the coordinative innovations such groups might undertake.

In Canada, the overall average length of stay in the ED is approximately 4.4 hours, with 90% of visits complete within 8 hours (Canadian Institute for Health Information, 2012). In Quebec, the expected average wait time is 12 hours in the ED. The challenge of meeting the 12-hour target is also due in part to ED volume having increased by 3.4% in recent years. Other contributing factors include an increased workload in the ED due to the number of older patients rising by more than 25% (Canadian Institute for Health Information, 2012). Length of stay can depend upon the seriousness of a patient's medical problem, and ED patients spend greater lengths of time in the ED if they are ultimately admitted as an in-patient to the hospital (Canadian Institute for Health Information, 2012). Therefore, the interaction between EM doctors and doctors from other teams is vitally important for organizational flow and patient safety.

Patient care transitions between specialist communities of practice are more complex than those within the same specialty, reflecting organizationally-positioned differences between different communities of practice. Flow depends on "transitions of care", specific interactions, communication and planning that are required if patients are to move in a safe and orderly manner from one service or setting to another (Behara et al., 2005; Snow et al., 2009). Despite agreed standards, such as those produced by the Transitions of Care Consensus Conference in July 2007 in the US, little is known about the cultural and behavioural factors that constitute care coordination (Snow et al., 2009).

In a multi-disciplinary, or intra-professional team, a noticeable social distance is often observed between the members of cross-cutting communities of practice. The presence of strong professional identity makes it even less likely that knowledge will flow between different professionals in a team (Ferlie et al., 2005). Arguably, the distance between communities of practice of EM and IM is exaggerated because IM is relied upon to handle cases which are complex, and thus difficult to define into a single medical or surgical specialty (Vassy, 2001).

Many conditions with which patients present to the ED are relatively straightforward to categorize for more specialized care. However, many patients have complex or overlapping conditions, requiring deeper investigation (Vassy, 2001). In determining whether a patient needs to be admitted as an inpatient in the hospital or they can be discharged home, EM doctors require collaboration with doctors in other specialties. Almost 40% of ED visits result in some sort of consultation which means a request for admission or further consulting service management of a patient (Chan et al., 2014). EM doctors are more likely to collaborate with IM doctors for ED

patients: with complex health conditions whose diagnosis is unclear; whose illnesses are not responding to usual treatments; with multi-system diseases, or multiple diseases and medications; with chronic medical problems who are going for surgery; with chronic disease affecting pregnancy, or medical diseases occurring during or right after pregnancy; with difficult-to-treat hypertension; and with high-risk vascular conditions (Horwitz et al., 2009).

Although usage of the ED by older patients is different from that by younger patients, the transfer of patient of all ages to and from the ED has many challenges. However, older patients tend to have multiple health conditions and many have cognitive impairments, making it harder to decide and agree on which unit in the hospital to send them in case they require admission (Kessler et al., 2013). Because people with multiple health conditions tend to experience more complex and less organ-specific issues, emergency doctors often request consultations with internal medicine doctors either for disposition or discharge patients from ED safely (Horwitz et al., 2009). This means that it is important to understand the context of the agreement or disagreement between EM and IM doctors on what their respective roles and priorities should be in patient flow, to yield broader lessons on working in health communities of practice. Better coordination between EM and IM doctors could improve the patient flow in ED by facilitating the process of patients' hospital admissions, particular for those categories of patients listed above.

Research problem and objective

Coordination failures can be organizationally complex, including being related to hierarchical differences, conflicting roles, organizational cultures, and issues of interpersonal power

(Sutcliffe et al., 2004). One study showed that EM residents (medical graduates, but trainee attending physicians) complained about long waits for consultations and ward admission, and that the IM residents were dismayed by the number of inappropriate consultations they received from the ED (Apker et al., 2007). Many studies have shown that the interests of particular clinical communities of practice can lead to conflicts to maintain professional power (Vassy, 2001). Thus, for improved patient flow, it is important to understand the problems which implicate communication across inter-specialty communities of practice. Given the exaggerated difficulty of transferring patients who are difficult to categorize, we need to know what is important for EM and IM doctors when EM doctors engage IM doctors for consultations to diagnose patient conditions and determine admission or discharge. We will examine what ideas about specialty roles inform inter-specialty interaction in coordinating work – in the present case, when EM and IM doctors manage the same patient.

Some studies have considered how to improve the way emergency physicians and internal medicine physicians' work together. Many such articles are commentary papers rather than studies. The limited set of studies that consider the coordination of care between EM and IM has focused on: survey-derived perceptions of the relationship between consultation delays and errors (Nugus et al., 2010); quantifications of organizational performance data relating to consultations of IM doctors to EM doctors (Kessler et al., 2013); and handovers of ED patients to IM once they have been accepted by IM doctors (Behara et al., 2005), rather than what each of these communities of practice expect from each other. Different clinical communities of practice have different ways of doing work, which potentially complicates how they deliver care.

To date, and as far as we know, no research has examined what the priorities are for EM and IM doctors in the work they do together on the same patient to secure their transfer or discharge, and the extent to which these priorities align. We need to know this because solutions to persistent problems in health care coordination rely on understanding differences in organizational perspective (Nugus et al., 2010). This is especially needed in light of the important role IM has in categorizing complex patients at such an important distribution point in the health system. Furthermore, beliefs about clinical work orient health professionals to the way they act (Snow et al., 2009). The objective of this research, then, is to understand the priorities, expectations and perceived roles and encounters between EM and IM doctors.

METHODS

Study design

To contribute to improvements in the way clinicians from different communities of practice work together, it is important to understand how they see their work in relation to each other. We sought to find why and how EM and IM hold similar or different views in approaching the care of ED patients. Qualitative methods, as language-based methods, are effective tools for understanding perceptions and social interaction. (Attride-Stirling, 2001; Green and Thorogood, 2004). Thus, a qualitative study was conducted to understand what is important for emergency and internal medicine physicians when EM doctors engage IM doctors for consultations to diagnose patient conditions and determine admission or discharge for ED patients. The study was originally conducted under the auspice of a larger study concerning the structure of the university hospital system. Human research ethics committee (HREC) approval was sought from and granted by the Faculty of Medicine at McGill University to conduct the study (No. A04-E30-14A) (*Please find Appendix A for Human Research Ethics Committee approval, and Appendix B for Consent Form*).

This thesis takes the relationship between EM and IM as a case study of the broader question of reconciling different communities of practice. The appropriateness of the setting of the ED, and the population of EM and IM doctors, rests on the idea of "purposive sampling". A purposive, as opposed to a random sample, is chosen precisely because a particular setting or group of people are a strong example of a particular phenomenon (Bowling, 2002). Such a sample has also been recognized as an "extreme" example of a particular object of inquiry, the logic being that whatever the findings show in that case will apply more broadly by virtue of the intensity of that

setting (Yin, 2009). A simple example of this would be studying the live process of soil erosion during a storm.

Setting

The setting was a multi-hospital university health system in a major city in Canada. During the study, one of the two hospitals experienced a major restructure in which it was combined with other hospitals, but largely retained the same degree of independence as before, though in a more materially modern facility. The sample of physicians will be taken as coming from the combined university health system broadly, rather than from the two hospitals. The sample size may not permit a systematic comparison across two hospitals, although any insights generated by re-location, or any other variable of difference, will be noted in so far as they are relevant to intersecting communities of practice across organizations.

As part of the same university health system, EM and IM within each hospital belong organizationally to a single department of EM and IM, respectively, across this university health system. However, each of the two hospitals had a physically separate ED and IM unit. In both hospitals, IM doctors could be divided between those receiving and caring for patient admitted on the in-patient IM unit, versus those who had chosen to work in the ED, being physically located in the ED, to consult to, take referrals from and share decision-making for particular ED patients. As well as being part of the same health system, both hospitals were major adult referral hospitals, which, more so than smaller hospitals, provided the maximum inter-specialty complexity possible, in support of our object of inquiry.

There were two particular organizational idiosyncrasies distinguishing Hospital A (the stand-alone hospital) from Hospital B (re-located to a large multi-hospital site) which are noteworthy. These concern the structure of shifts undertaken by the ED-based IM team in the EDs, and the hours per day covered by those teams in the ED. Neither ED had 24-hour coverage by an IM physician. However, Hospital A's ED had an IM physician rostered in the ED until midnight. Hospital B's ED had an IM physician physically present in the ED until 6pm. The ED-based IM team of Hospital A followed a daily shift pattern in which an IM physician and their team of trainees would be rostered on for one day in the ED and then would hand over to another IM team. By contrast, Hospital B's ED had the same IM team for a week, after which they would hand over to another IM team for the subsequent week.

Sampling and recruitment

We recruited our participants from two the above-mentioned academic hospitals that form the core teaching centers of the university health network. Recruitment was via e-mail where the program administrators provided us with names and e-mailed addresses of the attending physicians of EM and IM, respectively. We then contacted several physicians randomly through e-mail. We capped recruitment once the maximum of seven participants in each of the two groups was reached. Attending physicians, rather than trainees, were approached and chosen for interviews to maximize the experience of those who had worked with their colleagues in the other disciplines, and as experienced exemplars of their respective community of practice. Fourteen physicians were interviewed, seven from each of the two disciplines and a majority of them were working in both hospitals. There was almost exact balance in terms of gender, and an

even mix of younger and older physicians, following a maximum variation sampling strategy (Kitto, Chesters, and Grbich, 2008).

Semi-structured interviews

Our qualitative data sampling took the form of one-on-one, face-to-face interviews in order to develop a more comprehensive understanding of orientations to specialty roles (Chan et al., 2014). The interviews were conducted by Dr. Rakhee Banik, the Masters candidate and Dr. Peter Nugus, her supervisor and the project coordinator. The interviews were semi-structured to balance pre-arranged and comparable questions with flexibility to pursue unique lines of talk from the participants (Beach et al., 2012) (*Please see Appendix B for the Interview Guides*). The interviews were conducted between November 2015 and March 2016.

The interviews were audio-recorded. The average length of the interviews was 43 minutes. Before the interview, the participating doctors were informed, via email, about the study details and given assurance about ethical principles, such as anonymity and confidentiality (Brikci and Green, 2007). This gave the participants some idea of what to expect during the interview. Before the interview commenced the interviewees signed a consent form (Rocha, 2004). Wherever possible, interviews were conducted in areas free from distractions and at times and locations that were most suitable for participating doctors (Brikci and Green, 2007). Most interviews were conducted in the participating doctors' offices.

The purpose of the interview was to explore the views, experiences, beliefs and motivations of the participants in the study. The interview was designed to enable the researchers to link the

themes regarding what the priorities are for EM and IM doctors in the work they do together on the same patient to secure their transfer or discharge, and the extent to which these priorities align. Questions addressed expectations and roles of the two specialties in the ED, especially regarding patient flow. We frequently sought specific examples, given that specific examples tend to produce more detailed responses from which general principles can be discerned than by directly requesting the interview to provide abstract principles (Pulakos and Schmitt, 1995). The interviews followed a "funnel structure", commencing with more general questions about their work, and becoming more specific about literature-based themes of professional overlap and conflict (Baker-Ericzén et al., 2013). Simultaneous handwritten notes in the form of contextual and explanatory *memos,* were taken during the interviews and this later helped in our data analysis (Baker-Ericzén et al., 2013). The audio files were stored in two password-protected computers.

Analysis

The audio files of the interviews were transcribed into Word files. From the interviews, we wanted to discern the points of similarity and difference in the way these two groups of doctors see their work, including patient responsibilities in relation to each other, and how they interact with each other. The transcripts were analyzed by hand through inductive thematic analysis (Boyatzis, 1998), which is a broad analytical strategy to systematically categorize the data through cycles, to generate more abstract themes through the search for similarities and differences in the responses of participants (Lee et al., 2013; Daly, Kellehear, and Gliksman, 1997). Care was taken while doing the coding, the objective being that these coding could be used to communicate the findings without the need for an outsider to listen to the whole recording or reading the whole transcript (Attride-Stirling, 2001).

To aid credibility, Drs. Banik and Nugus coded the transcripts independently (Stetler et al., 2006). By re-reading notes and transcripts, each coder was able to understand the regularity of the data and identify codes and themes (Rice and Ezzy, 1999). We asked ourselves, separately, what each segment was about, and how it was similar and different to other segments (Fereday and Muir-Cochrane, 2006). This involved "coding", or labeling, the data (Brikci and Green, 2007). We reviewed all the transcriptions line-by-line and highlighted the lines, paragraphs, or segments that illustrate the main points related to our research objective (Crabtree and Miller, 1999). Upon further review of data, we independently assigned codes to the data (Fereday and Muir-Cochrane, 2006). To ascertain whether a code was appropriately assigned, we compared text segments to segments that had been previously assigned the same code and decided whether they reflected the same concept (Fereday and Muir-Cochrane, 2006; Miles and Huberman, 1994).

We then met to compare codes. We had approximately 80% agreement. We discussed the discrepancies and resolved the differences by consensus (Stetler et al., 2006), incorporating the memos we had compiled during the data collection process. The result was a single, agreed-upon set of the themes. After having determined the themes, we chose exemplary excerpts to display in the Findings section.

FINDINGS

Interdisciplinary collaboration: Emergency and internal medicine

This research focused on the broad relationship between EM doctors and IM doctors based in the ED. The setting was a university health system in Canada, comprising, among other hospitals and health services, two major referral hospitals. An important context – though not the central focus of this thesis – is that one of the hospitals was re-located as part of a larger hospital, within the university health system. Above all, the general modes of working between EM and IM in the ED are central to the focus of this study, not the differences between two different units.

However, the relocation was an unavoidable context. Though distinct hospitals, there was some synergy between the hospitals, being within the same university health system. There was cross-servicing of departments, meaning that there was only one medical service between the two hospitals for some medical specialties, such as Neonatology. The two hospitals were relatively close together and, following the transition, were further apart by a matter of kilometres. There were shifts in services from one hospital to the other through the transition. The hospital that was not re-located acquired Geriatric Medicine and Psychiatry from the relocated hospital. The relocated hospital acquired from the hospital that did not relocate Oncology and Transplant Medicine.

An important context to the relationship between EM and IM in these hospitals is that there were very few admitting medical services among medical sub-specialties, such as nephrology, respiratory medicine and gastroenterology, for example. This meant that IM was the gate-keeper of medical patients. Negotiations that would otherwise happen between EM doctors and doctors

from particular surgical sub-specialties, in the present case, would happen between IM and particular medical sub-specialties. This placed a high reliance on IM by EM doctors to seek consultations or admission for patient they believed to be medical, rather than surgical patients.

Otherwise, there were some differences in the way work was organized in the two hospitals. Some differences related to the transition; some did not. Although the focus of the study was not on the transition *per se*, witnessing accounts of these differences rendered them as variables in the way EM and IM work together. The shift structures of ED-based IM doctors were also different across the two hospitals. The IM work shifts of the hospital that did not relocate were based on a daily pattern, which meant handing over to a new physician and team (of residents and students) the next day. The IM work shifts in the relocated ED were based on a weekly pattern, in which the IM attending physician and their team were responsible throughout the whole week (rather than only for 24 hours), at which point they handed their patient load to the next weekly team. The IM attending physician stayed in the ED from 8am to 8pm and was then on-call for IM residents who stayed overnight. In the hospital which did not relocate, and in which attending physicians are only on call for shifts, IM attending physicians worked either from 8am until 4pm, or from 4pm until 12am.

Geriatric medicine no longer admitted patients in the relocated hospital, creating perceptions of increased workload among IM doctors. The relocation itself involved a reduction of 109 internal medicine beds, leading to a perception among EM doctors of increased workload at the relocated hospital. The relocated hospital experienced a 15-30% increase in self-referred ("walk-in") presentations for the first 12 months of operation.

The primary role of the ED was to assess, stabilize, and arrange for the transfer out of the ED of patients who present to the ED either by rescue vehicle or who were self-referred. Patients were initially triaged by a specially-trained triage nurse, which meant that they were assigned a category between one and five on the basis of urgency of need of treatment. One required immediate treatment by a doctor; five required medical intervention within two hours. Triage happened after registration, a process which was reversed in the case of those arriving by rescue vehicle. Usually, the emergency doctor was the first doctor to see the patient. The trauma team saw trauma patients, alerted by a trauma alert, usually by the ambulance or other rescue service on the way to the hospital. Once a patient was formally admitted (after being deemed to need 24 hours or more of in-patient admission), ED nurses, under the supervision of the Nursing Unit Manager, negotiated physical transfer to an appropriate inpatient unit with the Bed Manager and nurses from that particular unit. When no beds were available, patients remained physically "boarding" in the ED, even though they were no longer medically defined as ED patients.

Space emerged as a variable in the relationship between EM and IM. Prior to the relocation of one of the hospitals, both EDs had been occupying relatively old buildings, a confined space and were notoriously crowded workspaces. IM doctors, rostered to the ED, had dedicated desks, being permanently located, in both EDs. ED-based IM doctors had to liaise also with IM doctors who were restored on the in-patient unit. The new ED of the relocated hospital was spacious. An IM doctor suggested that there was insufficient space in the case hospital's ED, but also argued that physical proximity fosters close collaboration. Another IM doctor, while sharing most other EM and IM doctors' satisfaction with the spaciousness of the new ED, also commented that

communication was less efficient and "spontaneous" as in the crowded workspace of the ED prior to relocation.

A clear window on the benchmark for interdisciplinary working between EM and IM was provided early in the interviews. Early in the interviews, each participant was asked: how they perceived their role (EM or IM) in the ED; how they perceived the other discipline's (EM or IM) role in the ED; and what they believed the other discipline expected of them in the ED. Both EM and IM doctors agreed that it was the responsibility of EM doctors to initially stabilize the patient, undertake early investigations, commence the treatment plan, and to do so as efficiently as possible. Both sets of doctors equally claimed that IM doctors would expect, as an EM doctor put it, "appropriate consults, not to just dump things that I do not want to deal with" (Interview, emergency doctor).

EM doctors saw their role as to determine, as quickly as possible, a pathway in or out of the ED – for inpatient admission or discharge. One EM doctor added that this ought to be done by undertaking the fewest tests possible. An IM doctor summarized EM's role as follows:

> *Looking at it as an outsider and as an internist, I think [EM's] goal is to stabilize the patient. When the patient comes in with acute sickness, [EM doctors] make the initial assessment – the broad assessment in where we can say what are the initial differential diagnoses. If the differential diagnosis is obvious … they can manage the patient, or they can discharge the patient because they can manage certain diseases. But, they also recognize where the limits are for them because their training is a little bit different. So, they might need help when it comes to subspecialty things and that comes to [test] results [and] consulting appropriately when needed.*
>
> (IM Doctor, Interview)

EM doctors expected IM doctors to see ED patients quickly, to make admission decisions, to see more complex patients, and to keep EM doctors informed. In line with the independence of doctors, EM doctors regarded the efficiency with which IM doctors saw and responded to the needs of EM patients and EM doctors, as dependent on individuals and not dependent on experience of level. Availability was seen to be important:

> *"[For an] ED in a tertiary care setting … [IM here] does not have enough staffing after-hours. … It's really frustrating … In normal hours, they are available and that's good …. This is a systemic thing and I feel they are reasonable, but [because they've got limited service] after-hours, their service is below an acceptable level.*
>
> (EM Doctor, Interview)

IM doctors also saw their role as seeing complex patients efficiently.

> *There are often the cases where it's a multitude of different factors that are presenting for the patient and then there isn't one [single] clear-cut specialist that is taking care of them that one problem. Therefore, often by default they often end up going to internal medicine.*
>
> (IM Doctor, Interview)

As well as seeing relatively complex patients, IM doctors also saw their role, in a hospital- and system- wide context, as juggling beds fairly, in alignment with the hospital's acute-care focus, and in terms of which patient would benefit most from acute care. One IM doctor added clear role delineation and communication as an expectation:

> *[EM doctors] expect that we are clear in terms of what responsibilities we take for the patient and what responsibilities we want them to keep. … If we do not take the patient, [they would expect us to explain] why … we refuse and what should be the alternative. If we do not take the patient, does that mean the patient can go home or should the patient*

> *go to the ICU [intensive care unit]? It should be clear what we think should be the disposition [plan for] the patient.*
>
> (IM Doctor, Interview)

Into the mix was the variable of the need to educate residents and medical students on behalf of the health system, even though this was regarded as a less important variable than direct patient care. More acutely ill patients would be of more educational benefit to trainees than would a person who is chronically ill or dying and is in the IM in-patient unit because there are insufficient beds in the community.

Various organizational dynamics were at play in seeking to ensure that patient flow through the ED in a timely manner. One EM doctor said:

> *The way that I see it, ultimately as an emerg doctor, I am the one who is the deciding who is sick enough to be staying [ie. being admitted as a hospital in-patient] and who is well enough to be going [home]. And that is that dichotomous sort of approach I had to most of my patients. But then that suggestion that somebody needs to stay is ultimately decided by the internal medicine team, the specialist you are consulting, and we are speaking specifically about the internal medicine team.*
>
> (EM Doctor, Interview)

Thus it was not always clear what were the boundaries of role, formal authority and actual power in terms of transfer of patients out of the ED.

Patient Flow

Efficient and continuous ED patient "flow" was clearly a priority for both EM and IM doctors. The purpose of flow is to enable future patients to be cared for in the ED. This creates an inevitably organizational dimension to clinical care. Efficient flow was important for sending

patients to the right people in the right place at the right time. Therefore, both care quality and organizational efficiency were, in practice, bound up together, mutually dependent and inseparable. The importance of patient flow for both teams was highlighted by an IM doctor crediting IM with contributing positively to patient flow. The EM doctor was asked what the role of IM was in patient flow:

> *[IM doctors] definitely do help with flow, even with people [who] aren't admitted because we ask for their opinion [on] people who are either medically complicated, or[if]there's a question you don't know the answer to and they help us to determine a disposition. And frequently, if we're very busy, they will see the person and even come up with a disposition – discharge [someone] if they feel the person is safe to go home. So, we work quite intimately with them. A little bit differently at the two sites [in terms of] how they work with us, but … [IM doctors] are integral and we absolutely need them. The way they work in our hospital, we absolutely need them in the emergency department, for sure.*
>
> (EM Doctor, Interview)

Following assessment, for the tasks of diagnosis and treatment, on the one hand, and transferring patients to an appropriate department, on the other, or increasingly for triage, tests were often ordered, and doctors from inpatient teams, including IM, were often consulted. Consultation requests usually took the form of being entered in the computer, as phone requests. Sometimes the requests from IM were taken in person, given that some IM doctors had allocated desks and were based in the ED. Often consultation requests were for a doctor from an inpatient specialty team to come to the ED and see a patient and advise on treatment, and to see if a patient might possibly align with the particular specialty consulted. This may lead to a request for admission, which may also be requested initially by an EM doctor.

All doctors interviewed, whether EM or IM, acknowledged that time and beds were in short supply across the hospital and health system, and that they were constrained by policies or practices beyond their immediate environment. Perceived impediments to patient flow included: inefficient transfers from triage to medical consultation within the ED; the time taken to undertake and receive test results; bed shortages in inpatient units; and the need to bargain with inpatient units to consult for ED patients and to admit patients. EM doctors seemed to carry an assumption that patients should be discharged directly from the ED, if possible.

An IM doctor expounded a difference in perspective between EM and IM on patient flow:

> *… Philosophically [there's] a difference between an internist's approach to patient flow and an ED doctor's approach to patient flow. An ED doctor likes to have a decision on disposition in a fairly brief period of time. You know, home or admit, are their two choices. An internist, in my sense, clearly also likes to have a decision on disposition. But, sometimes that decision isn't clear and so it's discharge, admit, or I don't have enough information to make that decision. … Sometimes [it's a case of] … I'm not sure whether a very brief treatment in the [ED] – one shot of an IV antibiotic someone for someone with a urinary tract infection, or a consultation with another service or a test – will actually change that admit or discharge decision. … There is this magical 24 hours after which ED doctors get their knickers in a twist about patients being in emerg because they've been told that length of stay has to be less than that. … A cancer patient [might be more appropriate for]… oncology or orthopedics. … The delay over 24 hours is often due to other services not being around to do their consultation in a timely way or a delay in tests or procedures. .... Because of imaging that was done late yesterday, the procedure that needs to be done couldn't be done until today. … [EM doctors say] "you have to admit", but I say, "I'm waiting for further information. The patient may or may not [even] be admitted to medicine [they might be best cared for by surgery]". … [Sometimes we need a consultation with] another service. … We can consult those services, I'm not naming names. We can see the patient at 9am and they turn up to see*

the patient at 5 o'clock in the afternoon, despite the fact that they're supposed to see the patient within two hours. …

(IM Doctor, Interview)

Thus, as the primary admitting service for medical patients, the IM has to deal with the entire hospital context. The IM doctor above was articulating the way IM responds to the need for EM doctors to fulfill performance criteria, manifested as organizational pressure, in particular, timeliness of disposition of ED patients. Public performance, to achieve accountability, was, thereby, a unique characteristic of EM work.

Patient safety of discharge or transfer was valued by both sets of doctors, highlighted most directly, by IM doctors. IM doctors expressed concern over whether patients could be discharged safely with sufficient support and follow-up medical services, family doctor care if available, and also to avoid re-presentation to the ED. IM doctors also conveyed concern about physically transporting admitted IM patients if: they believed a patient could benefit from more acute attention in the form of continued monitoring; or if a patient was soon to be discharged in any case. Follow-up care sometimes involved patients coming to the IM outpatient clinic.

In this setting, cardiology was the only admitting service with its own beds. Patients for all other medical specialties, such as pulmonology and gastroenterology, had to first be admitted to internal medicine. Internal medicine doctors then had to negotiate anew with these medical specialties. This made them the primary gatekeepers of medical beds, and required them to provide a second level of negotiation, akin to what EM doctors normally have to do. As stated by an IM doctor:

We, in general, in internal medicine, are the only service sort of based on [the ED] mainly because there are so many consults here and the reason we get the consultations is that we actually have beds. Many of the other consults services do not have beds. So, any patient they wish to admit would be admitted under the medicine and medicine teaching unit. That sort of frames what our role is. In terms of patients flow, I think I have to say that it is actually secondary to patient care. You know, our first priority is to see patients who need IM consultations and make sure they have the appropriate care, which involves assessing them to make the diagnosis and management and then suggesting what is unpleasantly called "dispositions". In other words, "what are we gonna do with them?" So, care takes priority over flow. We are asked to see three different kinds of patients. One [is] where we are really going to be making the diagnosis and making the decision on management and disposition. An example might be a patient with pneumonia who may or may not be well enough to go home, have another infection, or something else. We will decide whether they are suitable to go home, or if they need admission and, if they need admission, then put them on the list for admission. If they need to go home, we will give them antibiotics and whatever else is necessary and arrange a follow up. ... The second kind of patient we see are patients [for whom] somebody else's really driving the bus. An example might be a patient with a transplant of some sort, who comes in and needs to have an admission for whatever the reason. Frankly, the transplant doctors are the ones who are primarily in charge of the patient but this patient needs admission or may be a patient with GI [gastro-intestinal] bleeding – they need to come in. We "approve" the admission, again in quotation marks. We are not really making the major decisions of their care. ... The third kind of patient who we see are the patients that have nowhere else to go, and these are patients who in an ideal system would let not come to the acute IM floor. They might need rehabilitation; they might need placement in a long-term care institution. ... That's a misuse of our beds, because by filling up our acute care beds with patients who will take longer to get out, we end up not being able to take the patients who really need to be admitted. ...

(IM Doctor, Interview)

Emergency doctors also saw such second-level negotiation as impeding patient flow. An EM doctor pointed out that they try to transfer a patient straight to an admitting sub-specialty, such as cardiology, or one of a number of surgical sub-specialties, to avoid continual "patient passing", resulting from the failure of in in-patient team to take responsibility for patients who require admission.

One EM doctor reflected on hospital policy, and whether or not EM doctors should have "admitting rights".

> *I mean, everyone agrees the patient needs to come in [as an in-patient] … So, perhaps [the patient] should be just admitted as a policy. Just admit the patient – so [medical patients, for example] just come to this general repository – call it "internal medicine", or call it the "hospital beds" [and sort out which beds or which sub-specialty they should go to later].*
>
> (EM Doctor, Interview)

Such alternative policies were options, and seem to have been encountered by clinicians whilst they worked in other hospitals, or talking with colleagues who work in other hospitals. Fundamentally, the details of where and how admission or transfer decisions are made do not escape the inherent tension the interviews revealed between obtaining an accurate diagnosis and maintaining the efficiency of patient flow.

The tension between diagnostic accuracy and organizational efficiency

The priorities of EM and IM, respectively, reflect distinctive modes of collective practice that fulfill different organizational functions. Broadly, one could characterize the two perspectives – that of EM and IM – in terms of priorities about organizational efficiency and diagnostic

accuracy, respectively. This was elaborated in an earlier excerpt from the interview of an IM doctor. Yet, this distinction needs considerable qualification. What may be called accuracy and efficiency are important to both sets of doctors, and both rely on the other.

The relative emphasis on flow by EM doctors was reflected in the following display of mild frustration by an EM doctor:

> *You want an admission or discharge decision … [IM doctors are] more involved but [it can slow] flow. It gets draining when you constantly have to argue with them. … [We have to push them] … When we're not as involved with the IM patients [in the ED] things slow down.*
>
> (EM Doctor, Interview)

Another EM doctor said:

> *Nobody wants to take patients … [IM doctors tend to use the ED] as the default for patients they don't want … The short-stay unit is a great idea. The problem … is that I feel like sometimes internal medicine uses it as a default place for putting those patients that they do not want to admit to their own floor …*
>
> (EM Doctor, Interview)

Yet another EM doctor conveyed frustration over what they perceived to be a tendency by IM doctors to over-test on account of fear of litigation.

Particular areas of the ED are more amenable to deliberation for diagnostic investigation. The stretcher area is one such area, where IM and other consulting specialists investigate EM patient conditions. Such patients capture the tension between efficiency and diagnostic accuracy. They are well enough not to need electronic monitoring, but have test results, symptoms or histories that are sufficiently concerning for them to need a stretcher ("horizontal" rather than "vertical",

which is walking). More investigation is needed to determine their pathway in or out of the hospital.

The Short Stay Unit (SSU) – mentioned in the excerpt above – is a more dramatic example of slowing down the flow and enabling control for EM doctors. The SSU is ED-owned and operated. It is a precious resource to relieve over-crowding. Patients are sent to the SSU if they are relatively stable and probably dischargeable, but if, for example, doctors are monitoring a final course of treatment to ensure safe discharge. As described by an IM doctor, the SSU serves as a "buffer" from the relentless flow experienced in the ED. So, different sub-departments of the ED (such as the vertical area, the horizontal area, the trauma rooms and the SSU) have different paces and, therefore, relationships between accuracy and efficiency.

There was tension between the need for both accuracy and efficiency, rather than fixed positions or communities of practice around either of these. IM was perceived to play an important role in flow, from the point of view of both EM and IM doctors. IM doctors were committed to efficient flow, even if the emphasis on efficiency was not as central as to emergency clinicians. One IM doctor pointed out that IM doctors did not need a definitive diagnosis. Another IM doctor said:

> *If we know that a patient certainly needs admission to medicine, we transfer this patient to our unit regardless of what exactly is going on with the patient.*
>
> (IM Doctor, Interview)

Therefore, a firm diagnosis is not necessarily needed for IM to accept the ED's request for a patient's admission to IM. On the other hand, a test might be needed, to distinguish if a patient should go to IM or surgery.

IM doctors believed that they helped EM doctors orient medical cases to the appropriate place. This contribution was endorsed by EM doctors who emphasized the role of IM doctors in aiding diagnosis, as an important factor in disposition. One EM doctor explicitly associated IM with increased flow:

> *The internists [IM doctors] may see their consults first, and may actually be the first ones to say "Ok, this person is ready to go home". So, usually, now, there is, medicine less so, I mean, some specialties where there's a concern that the consulting actually makes their length of stay longer, because they ask for more tests and what not. … This is especially the case in stretcher care.*
>
> (EM Doctor, Interview)

The same EM doctor, as did an IM doctor cited earlier, associated the potential dependence on in-patient doctors as a delay in processing patients by EM doctors:

> *Generally, I don't find that internal medicine [IM doctors] [delays disposition]. … But, I think, if there is a consult (request) in, if we've consulted a specialist, then sometimes I think [some EM doctors] won't be as quick to see that patient. They could potentially send them home. So that (reluctance) could, potentially, you know, lengthen (the patient's) … stay, just by virtue of the thought: … "Oh, you know, someone else is going to be looking at this patient, so I will go and see someone else instead."*
>
> (EM Doctor, Interview)

The educational role of IM doctors was taken very seriously and mentioned by every IM doctor interviewed. Education can be taken as a component of diagnostic and treatment accuracy, otherwise recognized as quality of care. Conceding a trade-off between accuracy and efficiency, one IM doctor said:

> *I could go and see a patient within half an hour and finish because I know what is going on. When a student goes, it takes an hour or two hours and there are many cases where we do not necessarily evaluate right away and there are rounds at noon, and we want them to go, and at 1 o'clock we review the cases. That's what slows down things. … I would say we are pretty efficient. You know, I would say 7-8 [out of 10]. You have to keep in mind that this is a university hospital and a teaching hospital.*
>
> (IM Doctor, Interview)

As another IM doctor put it:

> *[This is] a teaching unit. We like to admit cases that have teaching value for the trainees which is specific to university centers. That also plays a role in the selection of cases.*
>
> (IM Doctor, Interview)

The priority on accuracy, and its relationship to education, was conveyed in the view that:

> *As an attending [physician] in an academic institution, I think number one about patient issues and number two about education issues.*
>
> (IM Doctor, Interview)

To the extent that organizational issues can be separated from patient issues, educational issues ranked more highly for this IM doctor than organizational issues. Yet, the co-existence of accuracy and efficiency was evident in a suggested role reversal, in which an IM doctor emphasized their commitment to efficiency of flow beyond that of EM doctors:

> *[As IM doctors] we don't need to be consulted always. We want flow, despite the fact that [the] ED sometimes refer to us because they just want to get rid of [the patien]) … and haven't done the appropriate investigations.*
>
> (IM Doctor, Interview)

The organizational impulse to balance accuracy with efficiency was ever present. As one IM doctor stated, "the 24-hour limit forces us to make a decision". The potential marriage of accuracy and efficiency was conveyed by an IM doctor, in discussion prioritization:

> *A key criterion of prioritizing ED consults is if a patient is complex, but urgently sick, we will [them] bump up the list to see them because the longer they wait the more complications [they're likely to get]*.
>
> (IM Doctor, Interview)

IM doctors saw their diagnostic work as central to flow efficiency. One IM doctor said: "We consult to the [medical] sub-specialties for [EM doctors]". As such, this IM doctor identified the status of IM as one of the few admitting medical services, as performing a service for the ED that EM doctors would otherwise have to do.

The expectation for efficiency, and its central role in quality of care, among IM doctors was also evident in one IM doctor saying that they expected EM doctors to "do the 'work-up' quickly" and then approach IM, in a timely fashion – "quickly and appropriately, that is, before or after relevant tests". IM doctors perceived that the unrelocated hospital's shift structure, based on a daily, rather than a weekly pattern, was more amenable to efficiency. It was held that IM doctors would be more reluctant to leave patients unprocessed for their colleagues the next day, an incentive which did not feature if they could wait until the end of the week before handing over. However, as one IM doctor pointed out, IM doctors were still at the mercy of bed availability in the in-patient units.

Patient appropriateness

EM doctors have limited ability to determine "appropriateness" of the patients they see. By definition, EM doctors are obliged to regard all patients as appropriate. This is the crux of ED doctors' role not only as providers of clinical care, but also organizers of care. IM doctors made clear that they expected EM doctors to assess the patient, conduct appropriate tests, and have a provisional diagnosis, or at least a differential diagnosis, by which a limited range of likely diagnoses is presented, with others ruled out of consideration. The intersection between clinical and organizational work for EM doctors becomes sharply consequential in the case of "boarding" patients. These are patients who have been formally admitted to an inpatient unit, but for whom there are no in-patient beds available, requiring them to remain in the ED.

The negotiation over requesting consultations and admission stem from particular views on how appropriate particular conditions are perceived to be for particular medical and surgical specialties. All interview participants conveyed that doctors from EM and IM and generally well-intentioned and that most interactions were polite and professional. The primacy of organizational, rather than personal, determinants of behaviour, was provided by an EM doctor:

> *The problem is that there are bed shortages all over. … Sometimes the patient doesn't fill right into the slot. So then discussion often ensues. And the beds are usually full upstairs [in the in-patient units]. And each service has its priorities in terms of who they consider most appropriate for their given domain. … [Generally, in-patient teams] will take the patient if appropriate … We're talking about internal medicine. …[Consider an 85-year old] patient [who's clearly declining cognitively and has social problems] but doesn't really have active medical issues. … Yet she cannot go home. So she needs to be admitted to the hospital. … Theoretically, … internal medicine … would not consider admitting her … I wouldn't think. … And, they also have a teaching mandate. So the patient who's*

not what they consider … a case for [a] resident … [all things being equal] … now that's not a gain for them. [If I was internal medicine], I wouldn't admit [a patient] if there was not a particular medical issue. … [Because they deal with complex and multiple medical conditions] … internal medicine tends to become the default admitting service. ……

(EM Doctor, Interview)

So, IM doctors typically respond to the needs of patients with complex, ambiguous or multiple conditions, that are difficult to manage by a single specialty, balanced against medical needs and priorities. A quaternary care hospital – as the new hospital badges itself – will inevitably receive a relatively high number of highly complex patients. Some symptoms, such as shortness of breath, can be difficult to classify into a particular medical or surgical sub-specialty. As stated above, sometimes admission decisions for IM depend on test results and consultations to rule out the patient's appropriateness as a surgical admission. One IM doctor pointed to a case in which a patient had bipolar disease and was refusing his medication for other conditions. Even though IM doctors felt unable to help the patient, Psychiatry would not admit the patient because of their active "medical" issues. So, the patient was admitted to the inpatient IM unit.

In terms of appropriateness for IM, a straightforward example provided by another IM doctor of the challenging of governing patient appropriateness in IM was a patient with congestive heart failure (CHF) who also has acute kidney failure. Both the nephrologist and the cardiologist might have trouble managing the patient. The cardiologist might want to "dry" the patient because they have CHF while the nephrologist would be mostly concerned with protecting the kidney. The side effects of either one's medication might have an adverse impact on the patient, on account of the alternative condition, requiring an IM doctor to "balance out the side effects of the

treatment of one disease against treatment of another system" (IM Doctor, Interview). The organizational manifestation of such complex medical work can be captured in the words of an EM doctor: "IM's pretty efficient; they just expect appropriate consultations" (EM Doctor, Interview).

Such medically complex conditions complicate the task of defining appropriateness of a particular patient who might be considered by an IM doctor for admission. Such conditions highlight that patient appropriateness is not a fixed category, but shifts in terms of priorities, where there are limited human, temporal, material and financial resources. Rationing of resources is a reality, and is starkly evident in the reluctance of IM doctors to admit patients who might be needy, but whose occupancy of a bed is perceived to contradict the ideal system-wide role of an IM unit in a teaching-referral hospital:

> *Right now what happens [is] – and the reason we don't like to admit the geriatric patients who comes in for geriatric reason to medicine – because they would stay there for 3 months and our beds have become blocked by the long time care patient as opposed to someone who's acutely ill but will then go home. … It makes it difficult but we wouldn't have this discussion if we would be able to move people out of the hospital. … That's the main reason. It's not because we don't want to take the patient; it's just because it's kind of not addressing the acute care mission of the nursing unit. …*
>
> (IM Doctor, Interview)

The following excerpt shows how IM doctors need to balance time with bed and staff management, balancing present with future needs:

> *Sometimes when we won't have beds, especially towards the end of the day and [their inpatient IM unit] has open [available] beds, we try to prioritize the patient who might*

need an admission. If I have a 20 year old who comes in with a bit of cold or 79 year old comes in with kidney problems and heart failure, I think: "well, most likely the 76 year old patient needs admission" [even if the younger person is technically slightly sicker, so] I want to see that person first before I fill up the bed – because there is a flow problem for us in terms of admissions. There's more people in the daytime than at night-time. The sooner we get the admission in, the more [staff] there [is] to make sure the patients can be safely admitted. So, when do not have a [long]waiting list for beds or have open beds, we make sure there are no people waiting for a bed or [we'll] try to see patients who might need admission first.

(IM Doctor, Interview)

The same IM doctor also said they take into account how competent they believe the individual EM doctor to be to manage a relatively complex patient in determining how early to intervene in a patient case or secure IM unit admission.

Education has been presented as a variable in determining which patients are appropriate for admission at a particular time. An IM doctor said:

The ED is the place where residents and students have the opportunity to gain … vital … clinical experience, since there is no limitation of patients [coming through the door].

(IM Doctor, Interview)

Therefore, not only is education a variable in determining the appropriateness of an IM admission. The presentation of potentially limitless conditions of the ED makes the educational function of IM work fundamental to the way IM regards ED patients and their role.

Care coordination and patient safety across the hospital and health system

As stated, the ED is the "front door" of the hospital, making their role inevitably about directing patients into the hospital or out for discharge home or into a community bed. As the front door of the hospital, the ED is at the intersection of hospital and community care sectors. Not only can EM doctors not turn away patients; they also believe that they attract a considerable amount of media and political attention, which, in turn, generates public benchmarks and incentives as measures of ED efficiency. In Quebec, within 24 hours, each patient in the ED has to be admitted to a particular in-patient service. Yet, not every patient who has been at the ED for 24 hours needs to be admitted. A "perverse incentive" of imposing a 24-hour limit is that a patient who would otherwise have been able to return home within 24-36 hours, gets admitted.

EM doctors are primarily responsible for liaising among in-patient doctors to secure a consultation which may lead to the patient being admitted, or directly requesting admission on the basis of tests and other observational evidence. It might, of course, also lead to a discharge.

> *Oh, it's far from easy. In-flow – the actual seeing the patient and getting tests ordered and working towards the diagnosis and treatment – probably takes less mental and physical effort to me than orienting them towards the proper service and following that path until they're actually admitted. I don't know if I can speak [about the new hospital] particularly here – being admitted is a decision made by a service that agrees that: "yes, this patient will now fall under our responsibility". Once that decision is made, they can go up to that particular floor [assuming there's a bed available].*
>
> (EM Doctor, Interview)

As stated, EM doctors appreciated the value of the SSU to provide a pressure valve on the ED carousel. Some ED doctors were concerned that the SSU was sometimes used by IM as a default

place for putting those patients whom they do not wish to admit to their own in-patient unit. The purpose behind the SSU is that should, of course, be exclusively for short stays. Such patients should only require a stay of 24-48 hours, maximum 72. After this point, the SSU becomes unusable for its intended purposes, and patients become gridlocked. It appeared that IM have more power than EM. While EM cannot admit to IM, IM tend to "informally" admit to SSU, to which they do not have formal admitting rights. However, some IM doctors clarified what should happen: that SSU is for those patients who require admission for a limited time and if patients need to stay longer than their allocated time then they need to be transferred to the regular nursing unit. Of course, IM beds are often full, meaning that the 4-6 patients in the SSU are not able to move up if need be.

Having a hospital-wide role, and indeed being one of the few admitting medical services, IM, like EM, has a considerable role as an organizer of care.

> *Because all the patients that need to be admitted into medicine, we have to see them. In fact, we deal with the patient after [they] come out from ICU, who has to go to the floor. We deal with patient from CCU [the cardiac care unit], people [who] are on the surgical floor or in orthopedics. … If they need to be transferred, they would actually tell me, so I can juggle the beds around. I know what's available on the floor and what's coming from the ED because … the priority [is meant to be] to admit patients from the ED. The patient upstairs has a bed so they can be looked after. We want to transfer them for better care; you know if you still have beds, and have doctors and nurses [who] can look after them.*
>
> (IM Doctor, Interview)

IM and EM doctors said that respiratory, cardiology, oncology and palliative care doctors wanted patients whose presenting problem best aligned with their specialty. An IM doctor suggested

that, in order to find beds for admissible patients, those specialties without "admitting rights" in the form of dedicated beds – nephrology, gastro-intestinal medicine, rheumatology, and others, "have to depend on (IM's) good will or they have to persuade (IM to provide a bed for their patient)" (IM Doctor, Interview).

The negotiation and coordination work needing to be undertaken by IM in the ED is complicated by the ED-IM and the in-patient (acute) IM having different organizational perspectives on the type of patient the in-patient IM unit might receive. As one ED-based IM doctor said, admitting IM doctors do not want geriatric patients, or those with particular social or psychiatric problems. An IM doctor conveyed how EM and IM flow work together:

> *I think the [EM] physicians handle the flow for the overall [ED] versus IM, we just handle part of the flow. The patients who are medical and who might benefit from internal medicine admission or not – we just handle that part of the [ED] – we handle sub-flow. The [EM] physicians can be seen a little bit like the big gate-keepers for the emerg. They kind of distribute the flow to [whichever] kind of specialty they think is the best admitting service. … For us, we say: "yes, we admit, you're in the right service", or "no, because we are not the right admitting service, or the patient can actually go home". That information goes back to the [EM] physician who reassesses the patient and says: "OK, I think this patient needs an internal medicine admit [admission] and if IM agrees that's great" or "I think this patient should go to IM", but if IM says 'no', [the EM physician] comes back and says they should go to surgery … Or they say: "I think the patient can go home; can the patient actually go home?" Sometimes they serve as a bit of a – how do we say – triage for the different specialties and assess the safety net. When a specialty says the patient can go home, usually the [EM] physicians have the final word: "I agree the patient is safe to go" or not.*
>
> (IM Doctor, Interview)

Thus we see the integration of patient safety with coordination of care. EM doctors were implicitly asking: Is this patient safe to go home? As stated earlier, IM doctors play an important role in coordinating care not only internally, but also externally, in basing discharge decisions or recommendations on whether or not their or other outpatient services were available and follow-up appointments able to be made.

Systems for intra-professional teamwork and accountability

A striking finding was the level of mutual empathy held between the two groups of doctors. Participants had respect for the knowledge held by the alternative team. Some IM doctors acknowledged that EM doctors helped, for example, with reading an x-ray to see if the patient had a fracture. One EM doctor conveyed the hard work undertaken by IM doctors is helping patient flow. When asked what they believed IM doctors expected of EM doctors, another EM doctor said that they would expect EM doctors to consult with them on complicated patients. This conveys an assumption that IM doctors are perceived to be conscientious and not idle.

Some differences in individual style of work were acknowledged. Some individual were perceived as "faster" or "slower", or "hard" or "soft", or to be more or less inclined to communicate or be skilled at communicating. Definitions of "appropriateness" were not hard and fast and IM doctors were perceived as having different "thresholds" for which patient should be admitted and which might be able to be discharged. There were also perceived differences among IM doctors in balancing between clinical needs of patients and educational needs of residents in patient selection. Similarly, some IM doctors conveyed that differences among EM doctors in quality of consultations were more a function of individual personality, or difference in skill than in level, such as whether they were a resident or an attending physician.

Occasionally, beliefs about patterns within teams were suggested. One EM doctor felt that older IM doctors preferred to keep patients physically in the ED post-admission, whereas younger physicians tended to move them out faster. Both IM and EM doctors acknowledged that, to some extent, IM doctors choosing to work in the ED or only in the internal medicine inpatient unit were self-selecting. Broadly, on individual matters, that reflect broader medical culture, there was, as one IM doctor put it, "not much pressure to conform" (IM Doctor, Interview).

Yet, these individual differences were overwhelmed by patterns of work within and across their professional communities. An IM doctor explicitly said that disagreements about admission are "not personal", but are the result of pressure EM and IM doctors face. They said that EM doctors were under a lot of external pressure to maintain flow. An EM doctor claimed that other medical and surgical teams would take a patient if they genuinely perceived them to be appropriate. The same EM doctor said that internal medicine had become a default admitting department since there were few admitting medical services in the hospital. The EM doctor said that, if he was an IM doctor, he would be reluctant to admit a patient if the patient did not have a clearly discernible specialty team matching his medical issues. The participants could clearly see organizational challenges from the other team's point of view. While EM doctors said that IM doctors would expect appropriate referrals, IM doctors said that EM doctors would expect a reasonable degree of efficiency.

Thus there was considerable empathy conveyed for the perspective of the other team. Not once in the interviews was an individual referred to in a personally negative way. Empathy is also evident in the following excerpt from an interview with an EM doctor.

[IM doctors] have an important role in patient flow, in terms of being able to see their patients in a timely fashion. But they also have huge … workload. I mean, they are constantly being asked to see patients on a regular basis. Anyway, in terms of flow, they are key but … often, they are worked very hard [and] they are also limited in the sense that they can only bring up as many patients as they have beds available. So, despite, you know, their best efforts, they might sometimes be at the mercy of powers that are higher and above them. … I would hate to put myself in their shoes. I would gather that they would say that they are totally just completely overworked – and I think that is probably totally true. The sheer volume of patients that they have to see are more than any other specialists … in the ED [given that most medical specialties do not have admitting rights and independent beds, and receive them from IM]. So, just in terms of volume, it's massive.

(EM Doctor, Interview)

Another EM doctor responded as follows, when asked how he would rate, out of 10, the responsiveness of IM doctors the ED's need for efficient flow:

It can vary [from individual to individual, but] … I would say, in general, [they're] good. But I would say from one to 10 … I'm always hesitant to give a … 10, but at least a nine. Some of them are excellent. Maybe 10, yeah, who knows? Some are great, I guess as good as you can be. And others less so, you know

(EM doctor, Interview)

EM doctors were also on the receiving end of compliments. Two IM doctor even gave EM doctors explicit credit for their perceived empathy:

You know [that EM doctors] know that not everybody who needs to be admitted has a bed. [EM doctors] know [that] if we've got no beds, we can't do anything about it. No, there is no pressure in the system because [EM doctors] know there's no bed. There's no need to give us pressure if we don't have a bed. There's nothing we can do. If it's a question of discharging the patient, then usually we need to get the Bed Management

Committee. They try to pressure the floor upstairs so the patient can be discharged. No one can be discharged if they're sick.

(IM Doctor, Interview)

EM doctors were complimented in the following case for being considerate:

[This work] is tiring, and then at night when you leave you are still on call. This is something that's good: the ED is usually very respectful. They would not call in the middle of the night to ask for a new patient to be seen. This patient can be seen in the morning unless it is really a diagnostic challenge. … Most of us have actually grown up together, trained together, worked together, and been on call together on a Saturday night, and we know them – it's very collegial. We're all trying to do our best to achieve the same goal for patients and obviously for the working environment. We like to have a collaborative relationship rather than showing an attitude of "well, you have to do this" and disagreeing.

(IM Doctor, Interview)

Apparently, then, personal relationships were highly valued, and priority was placed on their maintenance. The interconnectedness and interdependence of work within and across the two teams fostered a degree of moderation in the way these doctors resolved conflict. A particularly tall EM doctor said that his "physical appearance is influential" (Emergency Doctor, Interview).

However, he said:

[IM doctors] can get irritated with being pushed. … I avoid disagreements. I like to be professional and respectful. … I acquiesce if it's not really important.

(EM Doctor, Interview)

Across the teams, there were inbuilt incentives to resolve conflicts in an empathetic manner. An IM doctor said that, in theory, EM doctors can "force-admit" a patient by simply entering the admission into the computer, against the wishes of IM doctors. Yet, this would cause "politics" and relational problems with their IM colleagues, with whom they have to keep working. Such "politics" could be reciprocated. This was powerfully reinforced in the following excerpt from an interview with an EM doctor,

> *So, sometimes emergency doctors will say: "well, just send the patient up; they're admitted; there are no beds. Just send the patient up and put them in the hallway like they would be in the [ED]. Then, they'll feel the pressure that we're feeling down here, because as long as their beds are blocked they don't feel it, so they don't really push for it. And, sometimes, the thought is that staff will block beds or delay things for another shift upstairs. And that's obviously not appreciated. I don't know if that happens, but ultimately, we tend to see it in the emergency department 'cos that's just where people build up. We won't send someone up just to the hallway of the ward. It just doesn't happen. ... We could send a patient up, but we never do 'cos they could retaliate later. ... We're all colleagues and we all work together. We're going to, presumably, most of us, [stay here continuing] to work together for years forward. So, yeah, you want to have a reputation with your colleagues that is collegial. You want them to like you and you want to like them, so ideally you don't have any sort of bad [blood] ... You'll never win, so do your best and chill out.*
>
> (EM Doctor, Interview)

Maintaining positive relations across the teams, then, was perceived as more important than relieving work pressure. Turning to organizational systems was a way of de-personalizing conflict and maintaining personal relationships. There were formal accountability systems in place, such as clinical or dispositional guidelines, to regulate relations between different specialties or departments, and, as mentioned, the Bed Management Unit. Guidelines, for

example, were used to empower particular departments who felt disempowered relative to another. This was perceived to be the case between IM and surgery, for example, which was perceived to be reluctant to take patients who did not immediately require surgery:

> *The classic example is: "a patient doesn't need to go to the OR [operating room] within the next three nano-seconds; therefore, they are not a surgical patient". You have to say, "I am sorry, here is the guideline and you have no excuse." The interesting thing about that kind of bargaining is because this is something where there are clear guidelines. We have the ED doctors on our side. Pancreatitis goes to surgery; even if it doesn't need the OR.*
>
> (IM Doctor, Interview)

Recourse to the Director of Professional Services (DPS) is another example of a formal structure that de-personalizes conflict resolution. The role of the DPS allows for disputes to be resolved while providing "protections" for interpersonal relations. Often the DPS was asked to adjudicate differences of opinion between an EM and an IM doctor, for example, or about admission decision or location. This happens even within departments. One IM doctor said that the same actions can endear them to EM doctors but raise the ire of their IM colleagues in the inpatient unit. The IM doctor said that EM doctors "love it" when IM doctors are so fast that they admit or discharge all the patients for whom EM doctors requested a consult. This would annoy their IM colleagues, however, because they would suddenly be overwhelmed with patients. The IM doctor continues:

> *An elderly patient needs admitting for a placement and has no acute medical problems. Basically, I had written that in the chart and was told the patient has nowhere else to go. I said "I'm sorry, I'm still not admitting. Don't take it personally, but I have to say I'm not admitting," so then somebody higher up in the administration will tell me I'm forced to admit and then I can tell my teaching unit: "I'm forced to admit". It's not because I*

> *want to this; it's what the system wants me to do. I don't really think it's a clinical disagreement; it's a systemic disagreement.*
>
> (IM Doctor, Interview)

So, these clinicians need to "balance the system". In this case, the DPS was framed explicitly as a way to balance work priorities with the need for positive interpersonal relations. The IM doctor interviewed said that they were happy to receive an instruction from the DPS which would give them a defense if their own colleagues were unhappy as well as help them to make earlier disposition decisions. Interdependence, then, created a mutual need for collegiality.

DISCUSSION

Thesis contribution

This study showed that cross-specialty collaboration and behaviour is shaped by workers' positions in particular communities of practice. The participants' views reflected their membership in unique activity groups in which they simultaneously practiced and learned (Wenger-Traynor and Wenger-Traynor 2015). This study used a highly purposive case of different specialties at a critical point of tension in the health system – the categorization of multiple patients in the ED for specialized or generalized care, and the tension this suggested between quality and efficiency of care (Nugus and Braithwaite. 2010). Evidence abounded, in the above findings, that participants were caught up as parts of wider communities of practice. These communities exercised some influence on their individual members, in addition to those individuals' own behavioral choices. The contribution of this thesis is to show that communities of practice overwhelmed the ability of individuals to resolve entrenched challenges to care coordination. As such it contributed to the way health care behaviour ought to be understood – as systems of role-based influence – rather than a focus on individual cognitive motivation, as has been common in health care (Ferlie et al, 2005).

Non-biomedical research in health care has generally focused on individuals, and has only recently turned to also studying collectivities (Ousager and Johanneseen, 2010). In practice, coordination mechanisms have been limited to particular roles, so focused has the health system been on specialized units (Schoen et al. 2009). Yet, relatively strong social boundaries have been shown to characterize specialized groups (Hinds and Mortensen 2005). Yet, older people tend to have more complex issues, and the importance of coordination is therefore critical (Kessler et al.

2013). EM doctors are more likely to coordinate care with IM doctors for older patients, given the lack of clarity of the character of their symptoms or the combination of various conditions (Horwitz et al. 2009). The stages and impediments and impediments to ED patient flow were familiar. What this study contributed was to draw on a case study of perspectives on interactions between EM and IM doctors, to show the importance of group influence, and the need for a group perspective, on the way health care is organized.

The group rather than individual motivation for health care behaviour was evident in this study in shared organizational perspectives. Such perspectives were conveyed as shaping specific behaviours. The participants recognized each others' organizational positions and conveyed considerable empathy towards each other, without attributing blame to individuals for coordination challenges. Difficulties in care coordination were not a product of individual intention, by and large. The prominence of communities of practice for shaping perspectives and behaviours was also evident in the mutual interest each team had in maintaining positive intra-professional relations. Formal mechanisms such as policies, the Bed Management Committee and recourse to the DPS allowed these doctors to resolve their disputes without threatening the positive personal relations on which they relied.

There was relatively high consistency in the way each group anticipated the roles, priorities and needs of the other. Both teams were committed to efficient flow, and appreciated the role of diagnostic accuracy in efficient flow. Each team held different positions on the quality-efficiency spectrum, EM favouring efficiency, and IM favouring diagnostic accuracy. But the complexity of the work involved and the intimate relationship between these two dimensions of care make

such a spectrum simplistic. For EM doctors, flow was obviously a central feature of the clinical treatment trajectories of individual patients. What might be called the "dischargeability" (Nugus et al, 2010) of a patient was also central for IM negotiations with other medical specialties. In this way, IM had to do a second level of gate-keeping and distribution, especially given that, in this system, they were one of the few admitting medical services.

In elaborating the character of work in communities of practice, the study showed systemic limitations to the work of both sets of doctors. EM doctors had little control over inflow. IM doctors were responsible for juggling bed priorities according to availability, patient need, educational needs and system needs in terms of the acute care mission of the teaching-referral hospital. For example, all things being equal, IM doctors conceded that a patient who would benefit from direct intervention and be able to be discharged was of more benefit to all stakeholders – even if they came from another hospital – than a patient who would linger in the hospital for want of a community bed. Patient safety was a major consideration in discharge for both teams, and particularly for IM who took into account follow-up and primary and secondary care service availability in admission-discharge decisions. In these ways, IM has a coordinative role across the health system.

The question of perceived appropriateness of a patient for a particular service is important for all specialty teams. As we saw, this question might be more challenging for IM doctors. IM tends to receive patients who are not merely complex, but for whom a clear presenting condition, amidst other conditions, might not be clear and who, thus, might be subject to resistance on the particular of specialties that are devoted to particular organ-systems. Participants provided some

vivid examples of cases in which the patient could have been categorized for two or more different specialties, or where they clearly required in-patient admission but for which the primary or presenting condition was not necessarily clear.

The unique physicality of the clinical work of EM doctors ultimately posed a significant organizational challenge. IM, as for other services, receive, transfer and discharge patients. But patient movement has a special significance for EM doctors that it does not have for other clinicians. The physical component of ED work – the physical transfer of patients out to receive new patients – is significant because it held accountable for its efficiency, in order to fulfill its role in the hospital, and indeed the health system. In this way only the ED is held responsible for its efficiency.

Limitations

A limitation of this research is that there were not enough participants from, and, therefore, not enough distinction in the data across, the two particular hospitals to draw firm conclusions about what makes EM-IM relations similar or different in the two hospitals sampled in this system. Nevertheless, the findings hold across this hospital system because many of the participants worked across both hospitals and the main findings above were coherent across participants from the two hospitals. In other words, in the findings, there were more similarities than differences across the participants within each team.

Even so, undertaking research in one hospital system raises the question of applicability in other settings. Yet, the focus of this study concerned navigating the relationship between a limited number of specialized and more generalized services for a seemingly endless source of patients

(Chan et al. 2014). This is a topic that is widely resonant in healthcare, and in the discussion of ED flow (Bernstein 2006). Therefore, the professional and organizational themes addressed in this study ought to be recognizable beyond this system. The findings are applicable to the extent that the issues are similar in particular other settings (Nugus, 2008).

One limitation on the applicability of the findings of this study might relate to the strong gate-keeping role of IM in this system. In some hospitals or systems, other medical (as opposed to surgical) specialties, such as gastroenterology, respiratory medicine and others, are admitting departments in their own right and have their own in-patient units. In the present system, IM negotiates the admission of most medical patients with general medicine beds, and negotiates the allocation of particular patients with these other specialties. Nevertheless, these findings ought to resonate in systems with specialty admitting systems in the sense that, at some point in the patient trajectory, decisions have to be made about where they should go for which specialty treatment.

Implications for policy, research and education

For policy and service management, a clear implication of the strength of communities of practice in coordination work is that a systemic focus, rather than an individual-reward-and-punishment focus, needs to be applied by managers and policy-makers to improve care coordination. Broader systems affect clinician behaviour. In particular, there is a flow-on effect of having relatively few community beds for patients with complex or chronic conditions. Bed shortages were acknowledged by many participants as a pervasive impediment to patient flow.

A further implication is that systems need to come into place in which all parties who contribute to a lack of patient flow are held accountable. It seems that the ED bears a disproportionate brunt of this responsibility because of their visibility and the collision the systems trade-offs colliding in the ED, as a gateway to other services (Diercks et al., 2006).

The IM was able to use the ED as an overflow unit, but the ED was held responsible for "boarding" patients who had been formally admitted to IM but who remained physically in the ED for want of a bed in the IM unit. Admittedly, as this study has shown, IM have many organizational and educational goals to juggle, the ED is held responsible for all patients physically in the ED. Indeed, since the 24-hour rule, by which a patient must have a plan or formal admission (even without a diagnosis) does not include physical re-location from the ED, it is relatively perfunctory and ineffective. It can only punish the ED for problems over which it has little control. Such accountability mechanisms should be implemented at management levels of both jurisdictions and hospitals.

For education, an implication of the study is that all medical trainees need to understand the importance of organizational work, including patient flow. Such training ought not to focus on such work as a separate component but as an integral part of clinical medicine, given the significance of organizational and inter-personal dynamics that influence medical decision-making. In particular, IM residents ought to be trained to understand the importance of flow for clinical work in the ED.

Implied in this study was a distinction between the organizational roles and priorities of ED-based IM and IM based on the in-patient unit. More research could be conducted in the potential to elaborate these two branches of what might be called “Acute IM” and “In-patient IM”. Such research might also be linked with empirical study of the impact of whether ED-allocated IM doctors should physically sit in the ED, as they do in the present system, or only come to the ED to consult.

Research might also be conducted on incentives by specialist attending physicians to attend the ED in a timely manner. Sometimes IM decisions are held up because there is a lack of clarity over whether a patient’s primary condition is even medical, much less appropriate for a particular medical specialty, or whether they should be classified as surgical. Some research has been conducted on financial incentives in health care (Marteau et al., 2009). More research should be encouraged on schemes such as extra payment per efficient consultation. Such research is important given the role of consultation in decisions over where and to whom a patient should be sent, and whether or not they even need to be admitted as an in-patient to the hospital. Furthermore, research should be conducted on the relationship between the time-honored tradition of medical independence – which allows specialists to manage their time and priorities, and work in a non-standardized way – and organizational priorities of care coordination. Finally, research from nursing, allied health and consumers perspectives would enrich our understanding of the possibilities, challenges and expectations of coordinated care.

CONCLUSION

This study showed the embedded systemic influences that shape behaviour in a critical point of the health system. EM and IM struggled to provide what they believed was optimal care in the face of the need to ration resources, including time, beds and personnel, and organizational contradictions. As members of communities of practice, their behaviour was often driven by the priorities, and hence incentives, provided by their communities' organizational location in the hospital. Perhaps the tension that exists between IM and EM in terms of juggling diagnostic decision-making with the efficiency required to treat multiple present and future patients is an unavoidable feature of a complex – that is, highly specialized – organization.

Highly developed and democratic societies will always struggle to balance providing the greatest good for the greatest number – and the rationing that this implies – with technologically advanced care. High community expectations lead to risk aversion in terms of "defensive medicine" – over-testing patients. Implied in this study was the option that patients currently have, in the jurisdiction studied at least, is to choose where they received their care. Modern medicine tries to avoid death, an impetus which may be a response to society's reluctance to accept death. Some responsibility for choosing priorities needs to be borne by the communities of democratic societies who, in theory at least, are responsible for the government of themselves, and thus responsible for their own provision of optimal present and future care.

REFERENCES

Apker, J. Mallak, L.A. Gibson, S.C. (2007). Communicating in the "Gray Zone": Perceptions about Emergency Physician–hospitalist Handoffs and Patient Safety. Academic Emergency Medicine, 14 (10), 884–894

Attride-Stirling, J. (2001). Thematic networks: an analytic tool for qualitative research, 1(3), 385-405.

Baker-Ericzén, M.J., Jenkins, M. and Haine-Schlagel, R. (2013). Therapist, Parent, and Youth Perspectives of Treatment Barriers to Family-Focused Community Outpatient Mental Health Services, Journal of Child and Family Studies, 22(6), 854-868.

Beach,C. Cheung,DS. Apker,J. Horwitz,L.I. Howell,E.E. O'Leary,K.J. Patterson,E.S. Schuur, J.D. Wears, R. Williams, M.(2012),Improving interunit transitions of care between emergency physicians and hospital medicine physicians: a conceptual approach. Acad Emerg Med, 19(10), 1188-95.

Behara, R. Wears, RL. Perry,SJ. Eisenberg, E. Murphy, L. Vanderhoef, M. Shapiro, M. Beach, C. Croskerry, P. Cosby, K. (2005) A Conceptual Framework for Studying the Safety of Transitions in Emergency Care: Advances in Patient Safety: From Research to Implementation: Volume 2.

Bernstein, S. L. (2006). Frequent emergency department visitors: The end of inappropriateness. Annals of Emergency Medicine, 48(1), 18-20.

Boeckxstaens, P., and De Graaf, P. (2011). Primary care and care for older persons: position paper of the European Forum for Primary Care. Quality in Primary Care, 19(6), 369.

Bowling, A. (2002) Research methods in health – Investigating health and health services, Open University Press.

Boyatzis, R. (1998). Transforming qualitative information: Thematic analysis and code development.Thousand Oaks, CA: Sage.

Brikci, N. and Green, J. (2007) A Guide to Using Qualitative Research Methodology

Brown, N. and Webster, A. (2004). New Medical Technologies and Society:Reordering Life. Cambridge, UK: Polity Press.

Canadian Institute for Health Information. (2012). Health Care in Canada: A Focus on Wait Times, Retrieved from https://secure.cihi.ca/estore/productFamily.htm.

Chan, T., Bakewell, F., Orlich, D., and Sherbino, J. (2014). Conflict Prevention, Conflict Mitigation, and Manifestations of Conflict During Emergency Department Consultations. Academic Emergency Medicine, 21(3), 308-313.

Collis, J. (2010). Adverse effects of overcrowding on patient experience and care. Emerg Nurse, 18(8), 34-39.

Crabtree, B., and Miller, W. (1999). A template approach to text analysis: Developing and using codebooks. In B. Crabtree and W. Miller (Eds.), Doing qualitative research (pp. 163-177.) Newbury Park, CA: Sage.

Crimmins, E. (2004). Trends in the health of the elderly. Annual Review of Public Health, 25, 79-98.

Daly, J., Kellehear, A. and Gliksman, M. (1997). The public health researcher: A methodological approach. Melbourne, Australia: Oxford University Press.

Diercks, D. B., Roe, M., Peacock, W. F., Kirk, J. D., Pollack, C. V., Jnr, and Chen, A. Y. (2006). Prolonged emergency department length of stay is associated with worse guideline compliance and increased adverse events. Annals of Emergency Medicine, 48(4), 29.

Ferlie, E. Fitzgerald, L. Wood, M. Hawkins, C. (2005). The Nonspread of Innovations: The Mediating Role of Professionals, Academy of Management Journal, 48 (1), 117–134.

Fereday, J., Muir-Cochrane, E. (2006). Demonstrating Rigor Using Thematic Analysis: A Hybrid Approach of Inductive and Deductive Coding and Theme Development, International Journal of Qualitative Methods, 5(1), 80-92.

Green, J and Thorogood, N .(2004). Qualitative Methods for Health Research, London: Sage

Harper, S. (2014). Economic and social implications of aging societies. Science, 346, 587-591.

Hecksher, C., and Donnellon, A. (1994). The Post-bureaucratic Organization: New Perspectives on Organizational Change. London, UK: Sage.

Hendrie, J., Sammartino, L., Silvapulle, M. J. and Braitberg, G. (2007). Experience in adverse event detection in an emergency department: Nature of events. Emergency Medicine Australasia, 19(1), 9-15.

Hewett, D.G., Watson,B.M,, Gallois.C,, Ward.M, Barbara A Leggett,B.A, (2009), Intergroup communication between hospital doctors: Implications for quality of patient care, Social Science & Medicine, (69),1732–1740.

Hinds, P. J. Mortensen, M. (2005), Understanding Conflict in Geographically Distributed Teams: The Moderating Effects of Shared Identity, Shared Context, and Spontaneous Communication, Organization Science, 16 (3).

Horwitz, L.I. Thom Meredith, MH. Schuur, J.D. Shah, N.R. Kulkarni, R.G. Grace Y. Jenq, G.Y. (2009). Dropping the Baton: A Qualitative Analysis of Failures During the Transition From Emergency Department to Inpatient Care. Annals of Emergency Medicine, 53 (6), 701–710

Hyde, P. (2006). Managing across boundaries: Identity, differentiation and interaction. International Journal of Innovation and Learning, 3(4), 349-362.

Hyeyoung, O. (2014). Hospital consultations and jurisdiction over patients: consequences for the medical profession. Sociology of Health & Illness, 36(4), 580-595.

Kessler, C., Williams, M.C., Moustoukas, J.N., and Pappas, C. (2013). Transitions of Care for the Geriatric Patient in the Emergency Department. Clinics in Geriatric Medicine. 29(1), 49-69.

King, D.L. Ben-Tovim, D.I. Bassham, J. (2006). Redesigning emergency department patient flows: Application of Lean Thinking to health care. Emergency Medicine Australasia, 18(4), 391–397.

Kitto, S.C. Chesters, J. Grbich, C. (2008). Quality in qualitative research. The Medical Journal of Australia, 188 (4), 243-246.

Lave, J., Wenger, E. (1991). Situated Learning: Legitimate Peripheral Participation. Cambridge, UK: Cambridge University Press.

Lee, J.I, Cutugno, C Pickering, S.P., Press, M.J., Richardson, J.E., Unterbrink, M., Kelser, M.E., and Evans, A.T. (2013).The patient care circle, A descriptive framework for understanding care transition, Journal of Hospital Medicine, 8(11), 619-626.

Low, L.-F., Yap, M., and Brodaty, H. (2011). A systematic review of different models of home and community care services for older persons. BMC Health Services Research, 11, 93.

Marteau, T.M., Ashcroft, R.E., Oliver, A. (2009). Using financial incentives to achieve healthy behavior, British Medical Journal, 338.

McDonald KM, Sundaram V, Bravata DM, Lewis R, Lin N, Kraft SA, McKinnon M, Paguntalan H, Owens DK. (2007). Chapter 5. Conceptual Frameworks and Their Application to Evaluating Care Coordination Interventions,Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies (Vol. 7: Care Coordination)

Miles, M.B., Huberman, A.M. (1994). Qualitative Data Analysis: A Sourcebook of New Methods, Educational Evaluation and Policy Analysis, 8 (3), 329-331

Motley, M. (2013). Improving patient-centred care through advance care planning: Three-quarters of patients at the end of life cannot participate in medical decision-making. Journal of the American Academy of Physician Assistants, 26(6), 38-43.

Nies, H. (2009). Key elements in effective partnership working. In International Perspectives on Health and Social Care: Partnership Working in Action (Glasby, J. and Dickinson, H., Eds.) (pp. 56-67). London, UK: Blackwell.

Nugus, P. (2008). The interactionist self and grounded research: Reflexivity in a study of emergency department clinicians. Qualitative Sociology Review. 4(1), 189-204.

Nugus, P, Carroll, K., Hewett, D.G., Short, A., Forero, R. and Braithwaite, J. (2010). Integrated care in the emergency department: A complex adaptive systems perspective. Social Science & Medicine, 71 (11), 1997-2004.

Nugus, P. Holdgate, A. Fry, M. Forero, R. McCarthy, S. Braithwaite,J. (2011) Work Pressure and Patient Flow Management in the Emergency Department: Findings From an Ethnographic Study. Academic Emergency Medicine, 18 (10), 1045–1052.

Ousager, J., Johannessen, H. (2010). Humanities in undergraduate medical education: A literature review, *Academic Medicine*, 85(6), 988–998

Pulakos, E.D. and Schmitt, N. (1995), Experience-based and situational interview questions: Studies of validity, Personnel Psychology, 48(2), 289-308.

Ranmuthugala, G. Plumb,J.J. Cunningham,F.C. Georgiou,A. Johanna I Westbrook, J.I. Braithwaite,J. (2011) How and why are communities of practice established in the healthcare sector? A systematic review of the literature, BMC Health Services Research, Volume 11, pp. 273

Reed, J., Cook, G., Childs, S. and Cormack, B. (2005). A literature review to explore integrated care for older people. International Journal for Integrated Care, Vol.5.

Rice, P., and Ezzy, D. (1999). Qualitative research methods: A health focus. Melbourne: Oxford University Press.

Riesenberg, L.A., Leitzsch, J., Massucci, J., Jaeger, J., Rosenfeld, J.C., Patow, C., Padmore, J.S., Karpovich, K.P. (2009). Residents and Attending Physicians Handoffs: A Systematic Review of the Literature, 84(12), 1775-1787.

Rocha S (2004) 'Has anyone said "ethics"? "Safety" of beneficiaries? Some considerations about info gathering in the field', Analysis and Advocacy Unit, MSF B

Schoen, C., Osborn, R., How, S.K.H., Doty, M.M. and Peugh, J. (2009). In chronic condition: Experiences of patients with complex health care needs, in eight countries. Health Affairs, 28(1), w1-w16.

Silverman, D. (2013). Doing Qualitative Research, 4th edition

Snow, V., Beck, D., Budnitz T., Miller D. C., Potter J., Wears R. L., Weiss K.B., and Williams M. V. (2009). Transitions of Care Consensus Policy Statement: American College of Physicians, Society of General Internal Medicine, Society of Hospital Medicine, American Geriatrics Society, American College of Emergency Physicians, and Society for Academic Emergency Medicine. Journal of Hospital Medicine, 4 (6), 364-370.

Stetler, C.B., Legro, M.W., Rycroft-Malone, J., Bowman, C., Curran, G., Guihan, M., Hagedorn, H., Pineros, S., Wallace, C. M. (2006) Role of "external facilitation" in implementation of research findings: a qualitative evaluation of facilitation experiences in the Veterans Health Administration, Implementation Science, Vol.1, 23

Strauss, A., Fagerhaugh, S., Suczek, B., and Wiener, C. (1985). Social organization of medical work. Chicago, IL: University of Chicago Press.

Sutcliffe, K.M., Lewton, E, and Rosenthal, M. M. (2004). Communication Failures: An Insidious Contributor to Medical Mishaps. Academic Medicine: Journal of the Association of Americam Medical Colleges, 79(2), 186-194.

Vassy, C. (2001). Categorisation and micro-rationing: Access to care in a French emergency department. Sociology of Health & Illness, 23(5), 615-632.

Veen, D.V.D., Heringhaus, C., Groot, B.D. (2016). Appropriateness, Reasons and Independent Predictors of Consultations in the Emergency Department (ED) of a Dutch Tertiary Care Center: A Prospective Cohort Study, PLOS One, 11(2).

Wenger, E. (1998). Communities of practice: Learning, Meaning, and Identity, Cambridge University Press.

Wenger-Trayner, E. Wenger-Trayner, B. (2015). Communities of practice, A brief introduction.

Yin, Robert K. (2009). Case Study Research: Design and Methods, Fourth edition. Thousand Oaks: Sage

APPENDIX A: INSTITUTIONAL REVIEW BOARD (IRB) 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

April 14, 2014

Dr. Peter Nugus
Centre for Medical Education
1110 Avenue des Pins Ouest
Montreal, Quebec H3A 1A3

RE: IRB Study Number A04-E30-14A
International dynamics of organizational change: How will work roles change and re-align in a major restructure?

Dear Dr. Nugus,

Thank you for submitting the above study for IRB review.

As this study involves no more than minimal risk, and in accordance with Articles 2.9 and 6.12 of the 2nd Edition of the Canadian Tri-Council Policy Statement of Ethical Conduct for Research Involving Humans (TCPS 2) and U.S. Title 45 CFR 46, Section 110 (b), paragraph (1), we are pleased to inform you that approval for the study a nd consent forms (April 2014) was provided via an expedited review by the Chair on April 14, 2014 valid until **April 2015**. The study proposal will be presented for corroborative approval at the next meeting of the Committee and a certification document will be issued to you at that time.

A review of all research involving human subjects is required on an annual basis in accord with the date of initial approval. The annual review should be submitted at least one month before **April 2015**. Should any modification to the study occur over the next twelve months, please advise IRB appropriately.

Yours sincerely,

Roberta Palmour

Roberta Palmour, PhD
Chair
Institutional Review Board

cc: A04-E30-14A

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

CERTIFICATION OF ETHICAL ACCEPTABILITY FOR RESEARCH INVOLVING HUMAN SUBJECTS

The Faculty of Medicine Institutional Review Board (IRB) is a registered University IRB working under the published guidelines of the Tri-Council Policy Statement, in compliance with the Plan d'action ministériel en éthique de la recherche et en intégrité scientifique (MSSS, 1998), and the Food and Drugs Act (17 June 2001); and acts in accordance with the U.S. Code of Federal Regulations that govern research on human subjects. The IRB working procedures are consistent with internationally accepted principles of Good Clinical Practices.

At a full Board meeting on April 14, 2014, the Faculty of Medicine Institutional Review Board, consisting of:

John Breitner, MD	Patricia Dobkin, PhD
Robert L. Munro, BCL	Scott Owen, MD
Roberta Palmour, PhD	Lucille Panet-Raymond, BA
John Storring, MD	Margaret Swaine, BA

Examined the research project **A04-E30-14A** titled: *International dynamics of organizational change: how will work roles change and re-align in a major restructure?*

As proposed by: Dr. Peter Nugus (Applicant) to _____ (Granting Agency, if any)

And consider the experimental procedures to be acceptable on ethical grounds for research involving human subjects.

14 April 2014 (Date) | Roberta Palmour (Chair, IRB) | (Dean of Faculty)

Institutional Review Board Assurance Number: FWA 00004545

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

15 September 2015

Dr. Peter Nugus
Centre for Medical Education
1110 Avenue des Pins Ouest
Montreal, Quebec H3A 1A3

RE: IRB Study Number A04-E30-14A
International dynamics of organizational change: How will work roles change and re-align in a major restructure?

Dear Dr. Nugus,

On 14 September 2014, at a meeting of the Institutional Review Board, the following amendment received a full Board review and approval:

- Updated Interview Guide for Emergency Medicine and Internal Medicine Doctors.

Regards,

Roberta Palmour, PhD
Chair
Institutional Review Board

cc: A04-E30-14A

McGill Faculty of Medicine

Institutional Review Board
- Amendment Submission Form -

NOTE TO RESEARCHERS: Researchers proposing any changes to an approved study must obtain the approval of the IRB before proceeding with these changes, except when necessary to eliminate an immediate hazard to the participant (in this latter situation, the IRB must then be immediately notified and the modification submitted for consideration.) Amendments may include, but are not limited to, changes to the research design, participant population, or consent procedures.

At the discretion of the IRB Chair or Co-Chair, amendments may be reviewed via an expedited process. However, significant revisions will require that the proposal be reviewed by the IRB Committee at a scheduled meeting.

Principal Investigator	Peter Nugus
Study Title	International dynamics of organizational change: How will work roles change and re-align in a major restructure?
IRB Study Number	A04-E30-14A
Please describe the proposed study amendment or modification and the rationale. Is it **Minor** (e.g., administrative changes, change in sponsorship/study funding) or **Major** (e.g., adding an intervention such as additional blood tests, or changes to the study design, changes to the study population)?	This is a minor change, involving additional questions to the interview guide for some participants. Our research so far has shown the importance of coordination between hospital departments, in particular, emergency (EM) and internal medicine (IM) doctors. We need to explore this further. We would have interviewed EM and IM doctors, among others, in any case. However, we need to ask these doctors particular questions about the way they work together. These questions are contained in the submitted interview guide which is amended for EM and IM doctors.
What follow-up action do you recommend for study participants *who are already enrolled in the study*?	☐ Inform study participants ASAP ☐ Revise the consent/assent forms (please enclose) ☐ No action required ☑ Other (please describe) Amended interview guide (submitted)

DATE OF I.R.B. APPROVAL
SEP 14 2015
Faculty of Medicine
McGill University

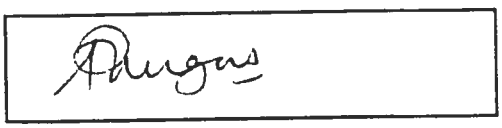
Documentation: The following documentation is required for an ethics review of the amendment:

- Signed and dated amendment submission form;
- Revised study documents, where applicable.

Please submit one (1) copy of the revised documents and the completed submission form to the Institutional Review Board, Faculty of Medicine, McIntyre Medical Building, Room 633. Minor amendments may be submitted by e-mail to: submit2irb.med@mcgill.ca. Amendments requiring a full Board review should be submitted to the IRB at least one (1) week prior to the designated committee's scheduled meeting (the last digit of the IRB study number indicates the designated committee.)

For additional information, please contact the IRB office.

SIGNATURE

Principal Investigator  Date 9/9/2015

Interview guide for emergency medicine and internal medicine doctors

Sample semi- structured interview Questions for Qualitative study

Questions for Emergency Department Doctors:

Q 1. What is the emergency medicine physicians' role in maintaining optimum patient flow?
Q 2. What is the internal medicine physicians' role in maintaining optimal patient flow?
Q.3 What do you expect of IM doctors?
Q.4. What do they expect of you?
Q5. What are the circumstances and criteria for requesting IM doctors for consultations?
Q6. Describe a typical case leading to a particularly fast time taken for IM to respond a consult request from ED? Why?
Q.7 Describe a typical case leading to a particularly slow time taken for IM to respond a consult request from ED. Why?
Q.8. What are the determinants needed for you to require consultations more quickly than others?
Q.9 How is the manner in which or reasons you consult with IM similar or different from before the move to the Glen? Why?

Questions for Internal Medicine Department Doctors

Q1. What is the internal medicine physicians' role in maintaining optimal patient flow?
Q.2. What is the Emergency medicine physicians' role in maintaining optimum patient flow?
Q.3 What do you expect of EM doctors?
Q.4. What do they expect of you?
Q.5. Describe a typical case leading to a particularly fast time taken to respond a consult request from ED. Why?
Q.6 Describe a typical case leading to a particularly slow time taken to respond a consult request from ED? Why?
Q7. What factors usually influence your response time when you get a request for consultation from ED?
Q.9 How is the manner in which or reasons you respond to a request for a consult from the ED similar or different from before the move to the Glen? Why?

APPENDIX B: INFORMED CONSENT FORM

How do emergency medicine and internal medicine physicians enable and enact care coordination? A mixed method study

CONSENT FORM FOR EMERGENCY AND INTERNAL MEDICINE DOCTORS

Investigators: Dr Peter Nugus, Dr Rakhee Banik, Dr Anne Schoenmakers, Dr Christian Rochefort, Dr David Lessard, Dr Jean-Marc Troquet, Dr Joe Nemeth

Introduction
The Investigators are conducting a research study to understand the way emergency (EM) and internal medicine (IM) doctors understand each others' roles. This is important because EM and IM doctors have to work together in diagnosing and transferring patients, either for discharge or hospital in-patient admission. You were selected to participate either because you are an EM or IM doctor in the Montreal General Hospital or the Royal Victoria hospital.

Study Procedures
If you volunteer to participate, one of the investigators, most likely Dr. Rakhee Banik, will ask you to:

- Participate in a semi-structured, audio-recorded interview, lasting approximately 25-30 minutes, at a time and place of your choosing.
- Complete a short survey as part of the interview.

The interviews will take place between October 2015 and April 2016.

Risks and Benefits
There are few risks involved in participating in this study. Some questions may make you feel uncomfortable. Please also note that this is a descriptive study, and not an evaluation of your work, your department or your hospital. You will not benefit directly from your participation in this research. The findings of this research may inform resident education. You and your department will also be informed of the findings of this research. In the presentation of such findings, your name will not be used.

Withdrawal from the Study
You may withdraw your consent and discontinue participation at any time. If you withdraw from the study, no data collected from you will be used.

Cost
Apart from the time that you make available, there is no cost to you to participate in this study. If you withdraw from this study and discontinue participation, there will be no penalty to you, and no loss of benefits to which you were otherwise entitled.

Compensation
You will not be compensated for participating in this study.

Participants' Rights

- You can choose whether or not you want to be in this study, and you may withdraw your consent and discontinue participation at any time.
- Whatever decision you make, there will be no penalty to you, and no loss of benefits to which you were otherwise entitled.
- You may refuse to answer any questions that you do not want to answer, or have particular comments or responses to questions excluded from analysis, and still remain in the study.

Confidentiality
Any information that is obtained in connection with this study and that can identify you will remain confidential. It will be disclosed only with your permission or as required by law. You have the right to review, edit or erase the files in whole or in part. The researcher will not look at patient medical records.

Contact
If you have any questions, comments or concerns about the study, you can talk to the Principal Investigator, Dr Peter Nugus. Please contact Dr Nugus at: peter.nugus@mcgill.ca or on 514-754-0073.

If you have questions about your rights while taking part in this study, or you have concerns or suggestions and you want to talk to someone other than the PIs about the study, please call the Senior Ethical Administrator, McGill University Faculty of Medicine, at 514-398-8302 or write to:

Senior Ethical Administrator
McGill University Faculty of Medicine
IRB, Room 633, McIntyre Medical Building
3655 Promenade Sir William Osler
Montreal, Quebec H3G 1Y6

You will be given a copy of this form to keep.

Signature of participant
The study has been explained to me and my questions have been answered to my satisfaction. I agree to participate in this study. I do not waive any of my rights by signing this consent.

_____	_____	_____
Name of participant	Signature of participant	Date

_____	_____	_____
Name of person requesting consent	Signature of person requesting consent	Date

APPENDIX C: INTERVIEW GUIDE

Interview guide for emergency medicine and internal medicine doctors

Semi- structured interview Questions for Qualitative study

Thank you for your time. If you don't mind, we'll audio-record the interview so that we can concentrate on what you're saying. Here is the consent form which we'll ask to sign. You can withdraw consent at any time. This study is part of a larger project and its questions will inform research about inter-departmental relations.

Questions for Emergency Department Doctors:

1. Please tell me how you find working as an emergency doctor.
2. Why did you become an emergency doctor?
3. What advice would you give a medical student considering working in emergency medicine?
4. In a nutshell, what is the emergency medicine physicians' role in maintaining optimum patient flow?
5. In a nutshell, what is the internal medicine physicians' role in maintaining optimal patient flow for emergency patients?
6. What do you expect of IM doctors?
7. What do you think they expect of you?
8. When have you disagreed with an internal medicine doc? Why? What happened? How was it resolved? What was your relationship? What difference would it have been if you didn't know, like or trust them?
9. Under what circumstances do you request IM doctors for consultations? What are the implicit criteria for such requests for consultations.
10. On a scale of 1-10 how efficient to you think IM doctors are at responding to requests for consultations?
11. What are the conditions that you think evoke a <u>fast response time</u> for IM consultations. Why?
12. What are the conditions that you think evoke a <u>slow response time</u> for IM consultations. Why?
13. Are there particular situations or clinical conditions where it matters more or less whether their response is fast or not? Why?
14. Are there individual characteristics of emergency doctors that help or impede effective transfer of patients to other medical or surgical teams? What are they?
15. What about you?
16. (If you work at both hospitals, or have worked at both hospitals), can you please tell me what is different and similar in the way you work with the other team (emergency / internal medicine) at the two hospitals?

Questions for Internal Medicine Department Doctors

1. What is the internal medicine physicians' role in maintaining optimal patient flow?
2. What is the Emergency medicine physicians' role in maintaining optimum patient flow?
3. What do you expect of EM doctors?
4. What do you think they expect of you?
5. When have you disagreed with an EM doc? Why? What happened? How was it resolved? What was your relationship? What difference would it have been if you didn't know, like or trust them?
6. What are the conditions that you think evoke a fast response time for IM consultations. Why?
7. What are the conditions that you think evoke a slow response time for IM consultations. Why?
8. What factors usually influence your response time when you get a request for consultation from ED?
9. On a scale of 1-10, how efficient do you think internal medicine doctors are at responding to requests from the ED for consultations?