



Development of ownership of patient care during clerkship Développement du sentiment de responsabilité face aux soins des patients durant l'externat

Andréanne Leblanc, Linda Snell et Ning-Zi Sun

Volume 14, numéro 2, 2023

URI : <https://id.erudit.org/iderudit/1099333ar>

DOI : <https://doi.org/10.36834/cmej.71362>

[Aller au sommaire du numéro](#)

Éditeur(s)

Canadian Medical Education Journal

ISSN

1923-1202 (numérique)

[Découvrir la revue](#)

Citer cet article

Leblanc, A., Snell, L. & Sun, N.-Z. (2023). Development of ownership of patient care during clerkship. *Canadian Medical Education Journal / Revue canadienne de l'éducation médicale*, 14(2), 6–15. <https://doi.org/10.36834/cmej.71362>

Résumé de l'article

Contexte/objectif : Le sentiment de responsabilité face aux soins des patients est un concept qui englobe un certain nombre d'attributs liés au professionnalisme et suppose un fort sentiment d'engagement et de devoir quant aux soins aux patients. On sait peu de choses sur la concrétisation de ce concept dans les premières étapes de la formation clinique. Cette étude qualitative vise à explorer le développement du sentiment de responsabilité face aux soins des patients durant l'externat.

Méthodes : À l'aide d'une méthodologie qualitative descriptive, nous avons mené douze entretiens individuels approfondis semi-structurés avec des étudiants en dernière année de médecine d'une université. Nous avons demandé aux participants de décrire leur compréhension et leurs croyances concernant le sentiment de responsabilité face aux soins des patients et d'expliquer la façon dont ces modèles mentaux leur ont été transmis pendant l'externat, avec une emphase sur les facteurs facilitateurs. Les données ont été analysées de manière inductive à l'aide d'une méthodologie descriptive qualitative prenant la formation de l'identité professionnelle comme cadre théorique sensibilisateur.

Résultats : Le sentiment de responsabilité face aux soins des patients ' se développe chez les étudiants par le biais d'un processus de socialisation professionnelle qui comprend des facteurs facilitateurs comme les modèles de rôles, l'auto-évaluation chez l'étudiant, l'environnement d'apprentissage, les structures des soins de santé et du cursus, les attitudes et les interactions avec les autres, et le développement de la compétence. Le sentiment de responsabilité face aux soins des patients qui en résulte se manifeste par une compréhension des besoins et des valeurs des patients, par l'engagement du patient dans leurs soins et par le maintien d'un fort sentiment d'imputabilité par rapport à leurs résultats de santé (« outcomes »).

Conclusion : Il est utile de comprendre le processus par lequel se développe le sentiment de responsabilité face aux soins des patients au début de la formation médicale et les facteurs qui facilitent cette appropriation pour élaborer des stratégies visant à l'optimiser. À titre d'exemple, on peut envisager la conception de cursus qui offrent plus d'occasions de contacts longitudinaux avec les patients et un environnement d'apprentissage favorable avec la présence d'un modèle de rôle positif, l'attribution de responsabilités clairement définies et l'octroi volontaire d'une autonomie grandissante aux externes.

© Andréanne Leblanc, Linda Snell, Ning-Zi Sun, 2023



Ce document est protégé par la loi sur le droit d'auteur. L'utilisation des services d'Érudit (y compris la reproduction) est assujettie à sa politique d'utilisation que vous pouvez consulter en ligne.

<https://apropos.erudit.org/fr/usagers/politique-dutilisation/>

Érudit

Cet article est diffusé et préservé par Érudit.

Érudit est un consortium interuniversitaire sans but lucratif composé de l'Université de Montréal, l'Université Laval et l'Université du Québec à Montréal. Il a pour mission la promotion et la valorisation de la recherche.

<https://www.erudit.org/fr/>

Development of ownership of patient care during clerkship

Développement du sentiment de responsabilité face aux soins des patients durant l'externat

Andréanne Leblanc,¹ Linda Snell,^{1,2} Ning-Zi Sun^{1,2}

¹Department of Medicine, McGill University, Quebec, Canada; ²McGill Institute of Health Sciences Education, Quebec, Canada

Correspondence to: Ning-Zi Sun; email: ningzi.sun@mcgill.ca

Published ahead of issue: Nov 14, 2022; published April 8; 2023 CMEJ 2023, 14(2) Available at <https://doi.org/10.36834/cmej.71362>

© 2023 Leblanc, Snell, Sun; licensee Synergies Partners. This is an Open Journal Systems article distributed under the terms of the Creative Commons Attribution License. (<https://creativecommons.org/licenses/by-nc-nd/4.0>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is cited.

Abstract

Background: *Ownership of patient care* is a concept that embodies a number of professionalism attributes and involves a feeling of strong commitment and responsibility towards patient care. Little is known about how the embodiment of this concept develops in the earliest stages of clinical training. The goal of this qualitative study is to explore the development of ownership of patient care in clerkship.

Methods: Using qualitative descriptive methodology, we conducted twelve one-on-one in-depth semi-structured interviews with final-year medical students at one university. Each participant was asked to describe their understanding and beliefs with regards to ownership of patient care and discuss how they acquired these mental models during clerkship, with emphasis on enabling factors. Data were inductively analyzed using qualitative descriptive methodology and with professional identity formation as the sensitizing theoretical framework.

Results: Ownership of patient care develops in students through a process of professional socialization that includes enabling factors such as role modelling, student self-assessment, learning environment, healthcare and curriculum structures, attitudes of and treatment by others, and growing competence. The resulting ownership of patient care is manifested as understanding patients' needs and values, engaging patients in their care, and maintaining a strong sense of accountability for patients' outcome.

Conclusion: An understanding of how ownership of patient care develops in early medical training and the associated enabling factors can inform strategies aimed at optimizing this process, such as designing curricula with more opportunities for longitudinal patient contact and fostering a supportive learning environment with positive role modelling, clear attribution of responsibilities, and purposefully granted autonomy.

Résumé

Contexte/objectif : Le sentiment de responsabilité face aux soins des patients est un concept qui englobe un certain nombre d'attributs liés au professionnalisme et suppose un fort sentiment d'engagement et de devoir quant aux soins aux patients. On sait peu de choses sur la concrétisation de ce concept dans les premières étapes de la formation clinique. Cette étude qualitative vise à explorer le développement du sentiment de responsabilité face aux soins des patients durant l'externat.

Méthodes : À l'aide d'une méthodologie qualitative descriptive, nous avons mené douze entretiens individuels approfondis semi-structurés avec des étudiants en dernière année de médecine d'une université. Nous avons demandé aux participants de décrire leur compréhension et leurs croyances concernant le sentiment de responsabilité face aux soins des patients et d'expliquer la façon dont ces modèles mentaux leur ont été transmis pendant l'externat, avec une emphase sur les facteurs facilitateurs. Les données ont été analysées de manière inductive à l'aide d'une méthodologie descriptive qualitative prenant la formation de l'identité professionnelle comme cadre théorique sensibilisateur.

Résultats : Le sentiment de responsabilité face aux soins des patients se développe chez les étudiants par le biais d'un processus de socialisation professionnelle qui comprend des facteurs facilitateurs comme les modèles de rôles, l'auto-évaluation chez l'étudiant, l'environnement d'apprentissage, les structures des soins de santé et du cursus, les attitudes et les interactions avec les autres, et le développement de la compétence. Le sentiment de responsabilité face aux soins des patients qui en résulte se manifeste par une compréhension des besoins et des valeurs des patients, par l'engagement du patient dans leurs soins et par le maintien d'un fort sentiment d'imputabilité par rapport à leurs résultats de santé (« outcomes »).

Conclusion : Il est utile de comprendre le processus par lequel se développe le sentiment de responsabilité face aux soins des patients au début de la formation médicale et les facteurs qui facilitent cette appropriation pour élaborer des stratégies visant à l'optimiser. À titre d'exemple, on peut envisager la conception de cursus qui offrent plus d'occasions de contacts longitudinaux avec les patients et un environnement d'apprentissage favorable avec la présence d'un modèle de rôle positif, l'attribution de responsabilités clairement définies et l'octroi volontaire d'une autonomie grandissante aux externes.

Introduction

Ownership of patient care, historically referred to as 'patient ownership' in the medical education literature, has been described as the conviction that 'one knows everything about one's patients and does everything for them.'¹ Although this description may seem to deemphasize patient autonomy and agency, the concept has been shown, in different studies, to encompass patient-centered notions such as commitment and advocacy within the context of residency training across different medical specialties.²⁻⁵ It has also been described as a cornerstone of safe and responsible patient care, and being essential for professional identity formation.^{4,6} *Professional identity formation (PIF)* is a process "during which the characteristics, values, and norms of the medical profession are internalized, resulting in an individual thinking, acting, and feeling like a physician."⁷ This transformation in student thinking is mediated by the process of socialization during which individuals with partially formed identities develop both personal and professional identities that are in accordance with the professional community's values and norms. The relationship between ownership of patient care and PIF has recently been studied in medical students through the use of simulation.^{9,10} The results suggested that ownership of patient care and PIF were interconnected, whereby students taking ownership of the simulated patients also began reflecting on their upcoming role as a physician and the responsibilities it entails (i.e. decision making). Likewise, when the students were put in the simulated role of a physician, they also felt a greater sense of responsibility towards the patient.⁹ Ownership of patient care was similarly described as a catalyst in developing a professional identity by Wyatt et al.¹⁰ This would be in alignment with Cruess et al., since the identities of medical students are in a formative state, they may be more susceptible to the influences of their learning environment.⁷ Therefore, to understand how ownership of patient care is acquired in early clinical training, we opted to study the factors influencing its development through the theoretical framework of PIF.

Little is known about how the earliest embodiment of ownership of patient care develops in medical students as they become involved in patient care during clerkship. A recent review explored the definition of 'patient ownership' and the factors influencing it.⁴ In this review, only two papers out of the 82 papers analyzed discussed 'patient ownership' from medical students' perspective.

One of these described third-year medical students' perception of 'patient ownership' as viewing the patient as theirs, feeling responsible for them, and being active participants during the patient encounters and follow-ups.¹¹ The other paper found that elements of 'patient ownership' are observable by others and appreciable by students themselves as early as in the third year of medical school in the context of an internal medicine clerkship.¹² Other scholars have used the concept of psychological ownership as an analytic lens to assess clerkship students' perception of 'patient ownership'^{10,13} and found that this understanding evolved over clerkship, changing from communicating with patients and the medical team to participating in the management of patient care.¹⁰

However, it remains unclear *how* students gained their understanding of this concept through socialization during the clerkship experience with different clinical settings and role models. The goal of this qualitative study was therefore to explore students' understanding of ownership of patient care by the end of clerkship, as well as the factors perceived by them to enable the socialization that resulted in that understanding.

Methods

Study design and setting

This study was conducted using qualitative descriptive methodology.¹⁴ Qualitative descriptive methodology has been identified as an appropriate method for "gaining insights from informants regarding a poorly understood phenomenon."¹⁵

Based on guidance from the literature for qualitative interview sampling for informational sufficiency,^{16,17} we conducted 12 one-on-one in-depth semi-structured interviews.¹⁸ All participants were final-year (end-of-clerkship) medical students at McGill University. Each participant had completed at least 17 clerkship rotations of two or four weeks. Through convenience sampling, eligible students were recruited to participate in this study via e-mail invitations sent by AL who was a fellow medical student from the same class as the participants at the time. Authors obtained ethics approval from McGill's Institutional Review Board and informed consent from the participants.

Interviews were conducted between December 2017 and April 2018 following a semi-structured interview protocol (Appendix A) by AL. Each participant was first asked to describe their understanding and beliefs regarding 'patient

ownership' and was then asked to discuss how they developed their current understanding of this concept during clerkship, with emphasis on the factors that influenced this process.

Data analysis

The data was deidentified, transcribed and analyzed in an inductive and iterative process.^{19, 20} First-order coding was performed on all 12 transcripts by one investigator (AL). Six of these (50%) were independently coded by a second investigator (N-ZS). Results of first-order coding from both investigators were compared and discrepancies were resolved through discussion between the two investigators until consensus was reached. All three investigators participated in generation of the higher order codes and the overall conceptual elements using PIF as a sensitizing framework.²¹ Of note, N-ZS and LS are both general internists and clinician-educators who engage in full-time clinical practice and have many years of experience supervising students in various clinical settings.

Results

Each interview yielded 45 to 60 minutes of audio-data. Informational sufficiency was reached after seven interviews, but all data was analyzed. We identified 12 enabling factors to the development of ownership of patient care. Given the use of PIF as a sensitizing framework, we grouped these enablers into six categories: role modelling, self-assessment, learning environment, health care and curriculum structures, attitude of / treatment by others, and improved competence. All enabling factors act through professional socialization during clerkship to ultimately shape how end-of-clerkship

students think, act, and feel with respect to ownership of patient care. We will describe each of these categories of enabling factors using select quotes from participants. Figure 1 provides a schematic summary of our findings.

Enabling factors contributing to the development of ownership of patient care through socialization during clerkship

Attending staff/resident role modelling: Role modelling by attending staff and residents was identified by participants as an important enabler. Students underscored how strong role modelling was conducive to developing their sense of ownership of patient care:

I get that experience seeing someone do it from start to finish that would make me confident to say ok I now know how to do it in a proper way and I can come back and now be an advocate. (3)

I think the role models [...] influenced me in terms of how to form good patient physician relationships. [...] going in the patient's room, sitting down, taking the time to explain everything that was going on and address the questions they had. You know drawing diagrams where it was necessary, and not saying "do you have any questions for me?" but what questions do you have? (4)

[...] seeing preceptors that go out of their way to emphasize things like ask me about [patients'] social history, having internal med doctor specifically make me ask about occupational history [helped to shape my understanding of ownership of patient care] (12)

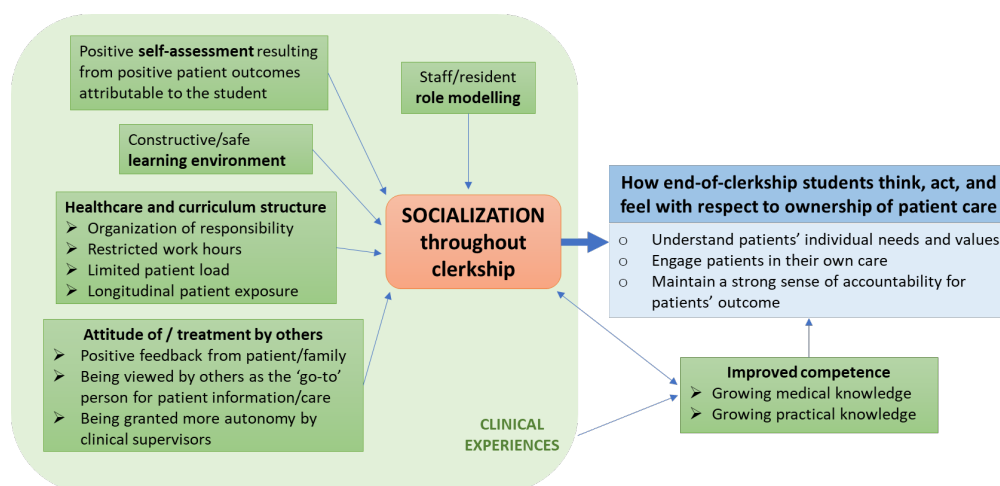


Figure 1. Schematic representation of the key enabling factors that act through the students' professional socialization during clerkship. These factors shape the internalization of ownership of patient care as part of students' professional identity formation.

Self-assessment: Another enabling factor identified by the students was the positive student’s self-assessment. Observing positive patient outcomes as a result of their ownership of patient care served as validation, as students reflected on their actions, and reinforced their desire to take ownership of patient care:

You can see the benefit that patients have from the time you spent with them whether it's [...] ensuring they get proper tests done, proper follow-up or proper access to care [...]. (S4)

A constructive/safe learning environment: Students described how having a constructive and safe learning environment was beneficial to the development of their sense of ownership of patient care.

The senior [...] would always make sure that medical students understood the whole case and why we were doing certain things for patients [...so] instead of chasing after [...] random stuff, you know why you were doing that and because of that you felt like you had a better sense of patient ownership. (S6)

Healthcare and curriculum structure: Four enabling factors can be grouped under the category healthcare and curriculum structure (Table 1). A clear attribution of responsibility, such as assigning patients to individual students, helped students to feel more responsible for “their” patients and be more inclined to engage in decision making and advocacy. Of note, this difference in attribution of responsibility was observed more in some disciplines than other:

[... in] pediatrics and internal medicine where you are given a patient [...] it's pretty much your admission, your patient, your discharge notes, everything for your patient so you do everything for that patient as opposed to surgical specialties where it's more like everyone does everything and divide and conquer [...] (6)

The other enabling factors in this group included: shorter work hours resulting in less fatigue and better engagement in patient care, limited patient load allowing for more time to interact with each patient, and longitudinal patient experiences allowing for more contact with the same patient and getting to know them better (see Table 1).

Table 1. Enabling factors under the category of healthcare and curriculum structure

Healthcare and curriculum structure	
Enabling factors	Quotes from students
Attribution of responsibility	“In the rotation that we had no assigned patient, the patient ownership was hard to develop.” (S7)
Limited work hours	“Having a cap on the number of hours that we [work] helped me because it allowed me to rest and be more calm and more present in my patient interactions which I think is the number one factor in me being able to learn and [...] exemplify these qualities [of patient ownership].” (S2)
Limited patient load	“If you have a very large workload [...] you have less time to spend for each of your patients and then that could negatively impact your sense of patient ownership [...] I definitely had the greatest workload [during my neonatal critical care rotation...] I did have less of a sense of patient ownership in that rotation because I definitely had less time to spend with each patient.” (S4)
Longitudinal patient experiences	“If you see them once, you might not necessarily remember the case unless it was a big case but [...] but because I saw them again, [...] seeing them more often does increase your ownership, I think.” (S10)

Attitude of / treatment by others: Three different enabling factors can be grouped under the category “attitude of / treatment by others,” which can be seen as direct and indirect validation by others. Such validation could take different forms and stem from difference sources, including receiving positive verbal feedback from the patient and their family, being identified by the patient and teammates as the “go-to” person for patient care, and by being granted more autonomy by supervising senior residents and/or attending physician (see Table 2).

Improved competence: The remaining two enabling factors can be grouped under the category “improved competence”, which develops through clinical experience. Unlike the other factors, competence is therefore both an enabling factor and an outcome of the socialization process. Students felt that their sense of ownership of patient care was enhanced by both increased medical and practical knowledge. Students made a distinction between “medical knowledge,” which pertains to medical expertise, and “practical knowledge,” which relates to how things run on a given service such as service-specific workflow and paperwork. Growing knowledge in both the medical content and the practical aspects of delivering patient care were felt to lead to improvement in students’ self-confidence and willingness to be proactive, their ability to engage in decision-making and patient advocacy, and their

overall efficiency in providing patient-centered care (see Table 3).

Table 2. Enabling factors under the category of attitude of/treatment by others

Attitude of / treatment by others	
Enabling factors	Quotes from students
Positive feedback from patient/family	“I had parents coming back to me and saying ‘wow we really had a nice experience with you’ [...]so I think you feel the ownership when a patient is giving you feedback on your patient ownership.” (S7)
Being viewed by others as the ‘go-to’ person for patient information/care	“This is my patient I know what happened to them [...] and other team members would come to [me] for questions and I think that’s kind of a proof that you own the patient’s case because people actually recognize it.” (S2)
Being granted more autonomy by clinical supervisors	“When you give the students more autonomy, it [...] can create a better sense of patient ownership because [...] you also give them more responsibilities and I think that under the proper supervision, more autonomy does promote patient ownership.” (S6)

Table 3. Enabling factors under the category of improved competence

Improved competence	
Enabling factors	Quotes from students
Growing medical knowledge	“Medical knowledge [...] plays a part because if you don't really understand what's going on then how can you take patient ownership [...]” (S3)
Growing practical knowledge	“Once you figure out how the rotation works [...] you can then [...] start taking patient ownership better so it's a bit of a game to try to figure out how each [service] runs first.” (S3)

Ownership of patient care as part of the end-of-clerkship students’ professional identity: The enabling factors listed above all play an important role in the professional socialization of students during their clerkship experience. This socialization shapes how end-of-clerkship students’ come to think, act, and feel with respect to ownership of patient care. Overall, students described this as a patient-centered concept: five of twelve students spontaneously described it as such. Two students questioned the meaning of the term ‘patient ownership’ and made remarks such as “I don’t want to say it’s owning your patients because you don’t own your patients; it’s more of a collaborative process” (S6). However, when the students who did not spontaneously identify with the term ‘patient ownership’ were given a summary of how it is described in the

literature, they felt that this model strongly resonated with their mental model of exemplary patient-physician relationship, which we feel is better captured by the term ‘ownership of patient care’ rather than ‘patient ownership.’

Table 4. How end-of-clerkship students think, act, and feel with respect to ownership of patient care.

Elements	Quotes from students
Understanding patients’ individual needs and values	“To me, patient ownership means knowing your patient. [...] not just their presentation or symptoms or medication but also their background [and] their values [...] to counsel them in a way that aligns with their values.” (S2)
Engaging patients in their own care	“[Patient ownership] is more of a collaborative process that you go through for [...] patient-centered care. [...] We are truly the caregivers for the patients [who are] part of the team” (S6)
Maintaining a strong sense of accountability for patients’ outcome	“[Patient ownership is] feeling that you're really taking responsibility for a patient's care, that you're the one who knows them and their case the best and you're arranging their care and the one responsible for making sure they received the best care possible.” (S4)

When students were asked to further describe ownership of patient care based on their clerkship experience, three elements emerged (Table 4). Students felt that, to have ownership of patient care, one must (1) understand patients’ individual needs and values, (2) engage patients in their own care, and (3) maintain a strong sense of accountability for patients’ outcome.

Discussion

We found that the understanding of ownership of patient care by end-of-clerkship medical students has a strong focus on patient-centered care, including key elements such as understanding patients’ individual needs and values and engaging patients in their own care. This is consistent with how ownership of patient care is predominantly depicted in the medical literature.¹⁻⁶ However, some students in our study found the term ‘patient ownership’ confusing, suggesting a paternalistic relationship of physicians ‘owning’ their patients. Such concern is shared by others who cautioned against the implied notions of power and dominance in the word ‘ownership,’ which go against collaborative care and patient empowerment.²² Reflecting on this in hindsight, although we used the term ‘patient ownership’ throughout our study, we believe the term ‘ownership of patient care,’ which is also used in the medical education literature,^{4,6,19,20,23} albeit less commonly, is more accurate

and reflective of the essence of the concept. We therefore advocate for its use over the original term 'patient ownership.'

According to the professional identity formation (PIF) literature, the professional identity of being a physician can be viewed as how an individual thinks, acts, and feels like a physician.⁷ Although the concept of ownership of patient care has always been situated within the professionalism discourse in the medical education literature, the link with PIF has never been explored. Our results suggest that taking ownership of patient care can be viewed as a manifestation of professional identity because it involves how one thinks (by attending to patient needs and values), acts (by engaging patients in their own care) and feels (accountable for patient outcomes) towards patient care. Cruess et al. describes PIF of medical trainees as a process of socialization through the clinical learning environment.²¹ In their PIF model, the socialization process was affected by many factors such as role models and mentors, self-assessment, the learning environment, the healthcare system, attitude of/treatment by others, and learning through clinical and non-clinical experiences.

Our study identified 12 enabling factors which contribute to the development of ownership of patient care during clerkship, all of which closely relate to the factors that modulate professional socialization as described in the PIF model described by Cruess et al.²¹ These factors are also similar to those identified in the residency training literature.^{4,20,23} This is unsurprising as students and residents often share the same workplace-based learning environment. Having the same factors identified as important to the development of ownership of patient care in both contexts suggest that they are likely high-yield targets for interventions.

Firstly, role modelling emerged as a crucial factor in the development of ownership of patient care in our study. This is consistent with the PIF model where role models and mentors are depicted as crucial contributors to the socialization process.²¹ Poor role modelling of values taught in early medical school has been identified as contributing to the difficulty in integrating professionalism into medical school curricula,^{24,25} and should be considered a high-priority target for intervention. Practically, this could be achieved by faculty development activities that sensitize clinical supervisors to the concept of ownership of patient care and associated enabling factors, the importance of strong role-modelling, and how to teach and provide constructive feedback on ownership of patient care.

Our second enabling factor, students' self-assessment (often prompted by observation of patient outcomes), is also supported by the PIF framework, which states that learners become active participants in their own identity formation through self-reflection.²¹ This factor also highlights the importance of role models and mentors, whose guidance can further increase the effectiveness to such reflection.⁷ A constructive and safe learning environment is another important enabling factor that contributes to the socialization process of ownership of patient care. This finding is supported by the observation that a safe and welcoming environment encourage students to model appropriate behaviors.²⁶

The PIF framework identified the healthcare system as an influencing factor to socialization. Our data showed that specific institution and/or service-related healthcare delivery models are closely intertwined with clerkship curriculum structure and can significantly influence the development of ownership of patient care. Among these, we found attribution of responsibility to be particularly important. Jarvis-Selinger et al. pointed out that "contexts that encouraged students to engage in meaningful relationships and to carry real responsibilities influenced professional identity formation."²⁷ Wyatt et al. also found that the use of consistent language and explicit expectations by clerkship directors to engage in ownership of patient care was perceived by clerkship students as supportive to their ability to take ownership of their patients.²⁸ To enhance attribution of responsibility, those in charge of clinical rotations should encourage the practice of assigning specific patients to individual students. This may require creative adaptation on services that typically function with a team-based patient care, such as surgery in our study. One possible solution would be to assign each student a limited number of patients with particular clinical conditions that are aligned with rotation objectives and have the student be the main person rounding on these patients, assisting in their surgery, and following up on their active issues. This can happen in parallel with the students still participating in a team-based shared patient care for the remaining unassigned patients to maintain the integrity of the clinical service and workflow. The health care and curriculum structure group of enabling factors identified in our study also includes longitudinal experiences. Strategies to achieve this may include implementing longitudinal clinics within a rotation-based curriculum design or creating a clerkship program based entirely on longitudinal patient experiences, such as longitudinal integrated clerkships (LICs), where students

would follow cohorts of patients across different care settings.²⁹⁻³¹

Attitude of/treatment by others was found to be very important for students' development of ownership of patient care by providing external validation from different sources (i.e. patients, teammates, and clinical supervisors). This category of factors echoes Cruess et al.'s observation that attitudes and treatments by others, including patients, peers, and health care professionals, all impact professional identity formation.²¹ Autonomy granted by clinical supervisors is one of the three enabling factors within this category that is particularly interesting and amenable to intervention. Jarvis-Selinger et al. affirmed that "individuals felt a stronger sense of being a physician when they had appropriate clinical autonomy and a sense of ownership over patients' care."³² Similar observations have also been made in the residency training literature where the level of autonomy given to residents was found to influence their perceived control and abilities.³² Clinical supervisors can purposefully foster student autonomy by encouraging them to independently complete patient assessments and develop impression and plans fully before providing coaching and guidance. In addition, it may be worthwhile educating and encouraging clinical supervisors to explicitly offer positive reinforcement linking manifestations of good ownership of patient care to positive patient outcomes.

Finally, improved competence through clinical experiences was also found to be crucial to the development of ownership of patient care. A learner's self-perceived competence is closely related to the cumulative amount of medical and practical knowledge that are gained through their clinical and non-clinical experiences. This sense of competence influences the socialization process by increasing students' confidence to take on more responsibilities and thereby more ownership of patient care. Having a structured orientation session at the beginning of every clerkship rotation combined with frequent quality feedback on developing clinical and practical knowledge/skills may allow students to more rapidly gain competence and independence, thereby facilitating them taking ownership of patient care sooner.

Our results offer novel insights into the development of ownership of patient care very early on in clinical training and complement the existing literature that is largely in the context of residency training. The fact that many of the enabling factors and proposed areas for interventions identified in our study echo studies in residency

education^{4,20,23,29} suggests that concerted efforts by medical schools and residency training programs to foster ownership of patient care will be mutually beneficial. In addition to corroboration by existing literature in residency education, our recommended interventions are also well-supported by the PIF theoretical framework.

Conclusion

In conclusion, our study provides an understanding of how ownership of patient care develops in early medical training and the factors that influence its development. By situating the key findings within the theoretical framework of professional identity formation, we outline a number of potential interventions that target the enabling factors to better promote students' ownership of patient care. These interventions include fostering students' autonomy, providing a supportive learning environment with positive role modelling, ensuring clear attribution of responsibilities, and designing curricula with more opportunities for longitudinal patient contact.

This study has a number of limitations. Firstly, this was a cross sectional study exploring end-of-clerkship students' perceived development of ownership of patient care, and not a longitudinal study examining the actual evolution of students' ownership of patient care over time. Secondly, this study was conducted in a single institution. However, we feel the detailed description of our study setting and design will help the readers determine the transferability of our findings.

Finally, we would like to explicitly recommend that the medical education community use the term 'ownership of patient care' rather than the traditional term 'patient ownership' because the latter can be confusing due to its paternalistic connotation while the former is more in line with the essence of the term both from the literature and based on our study results.

Conflicts of Interest: None

Funding: None

Acknowledgements: We would like to thank the McGill University medical students who participated in this study for candidly sharing their experiences with us. We are also grateful to the members of the McGill Institute of Health Sciences Education for critical review of the study proposal and manuscript, and particularly to Drs. Sylvia and Richard Cruess for their valuable input and guidance related to the professional identity formation framework.

References

1. Van Eaton EG, Horvath KD, Pellegrini CA. Professionalism and the shift mentality: how to reconcile patient ownership with limited work hours. *Arch Surg*. 2005;140(3):230-5. <https://doi.org/10.1001/archsurg.140.3.230>
2. McLaren K, Lord J, Murray SB, et al. Ownership of patient care: a behavioural definition and stepwise approach to diagnosing problems in trainees. *Perspect Med Educ*. 2013;2(2):72-86. <https://doi.org/10.1007/s40037-013-0058-z>
3. Masson V, Snell L, Dolmans D, Sun NZ. Exploring the evolving concept of 'patient ownership' in the era of resident duty hour regulations. *International Conference on Residency Education*; September 30, 2016; Niagara Falls, Canada 2016.
4. Kiger ME, Meyer HS, Hammond C, et al. Whose patient is this? A scoping review of patient ownership. *Acad Med*. 2019;94(11S):S95-S104. <https://doi.org/10.1097/ACM.0000000000002920>
5. Sun NZ, Gan R, Snell L, Dolmans D. Use of a night float system to comply with resident duty hours restrictions: perceptions of workplace changes and their effects on professionalism. *Acad Med*. 2016;91(3):401-8. <https://doi.org/10.1097/ACM.0000000000000949>
6. Greenzang KA, Kesselheim JC. Responsibility for patient care in graduate medical education: yours, mine, or ours? *JAMA Pediatr*. 2015;169(11):987-8. <https://doi.org/10.1001/jamapediatrics.2015.1825>
7. Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. Reframing medical education to support professional identity formation. *Acad Med*. 2014;89(11):1446-51. <https://doi.org/10.1097/ACM.0000000000000427>
8. Keegan R. *The evolving self: problem and process in human development*. Cambridge: Harvard UP. 1982.
9. Tien L, Wyatt TR, Tews M, Kleinheksel A. Simulation as a tool to promote professional identity formation and patient ownership in medical students. *Simulation & Gaming*. 2019;50(6):711-24. <https://doi.org/10.1177/1046878119869038>
10. Wyatt TR. Investigating the meaning of patient ownership: an exploratory study of a commonly used phrase within an internal medicine department. *J Med Humanit*. 2020. <https://doi.org/10.1007/s10912-020-09632-8>
11. Latessa R, Schmitt A, Beaty N, Buie S, Ray L. Preceptor teaching tips in longitudinal clerkships. *Clin Teach*. 2016;13(3):213-8. <https://doi.org/10.1111/tct.12416>
12. Wyatt TR, Bowen J, Mann K, Regehr G, Cianciolo AT. Coming in from the cold-physician professional development as deepening participation in the healthcare community. *Teach learn med*. 2016;28(4):358. <https://doi.org/10.1080/10401334.2016.1208095>
13. Wood E, Wyatt T, Egan S. Clinical setting differences in third-year medical students' perceptions of "ownership." *JRMC*. 2019;2(1). <https://doi.org/10.24926/jrmc.vXiX.XXX>
14. Sandelowski M. Focus on research methods-whatsoever happened to qualitative description? *Res Nurs Health*. 2000;23(4):334-40. [https://doi.org/10.1002/1098-240X\(200008\)23:4<334::AID-NUR9>3.0.CO;2-G](https://doi.org/10.1002/1098-240X(200008)23:4<334::AID-NUR9>3.0.CO;2-G)
15. Kim H, Sefcik JS, Bradway C. Characteristics of qualitative descriptive studies: a systematic review. *Res Nurs Health*. 2017;40(1):23-42. <https://doi.org/10.1002/nur.21768>
16. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field methods*. 2006;18(1):59-82. <https://doi.org/10.1177/1525822X05279903>
17. Boddy CR. Sample size for qualitative research. *Qual. Mark. Res*. 2016;19(4):426-32. <https://doi.org/10.1108/qmr-06-2016-0053>
18. Diccio-Bloom B, Crabtree BF. The qualitative research interview. *Med Educ*. 2006;40(4):314-21. <https://doi.org/10.1111/j.1365-2929.2006.02418.x>
19. Greenzang KA, Revette AC, Kesselheim JC. Patients of our own: defining "ownership" of clinical care in graduate medical education. *Teaching learn med*. 2019:1-9. <https://doi.org/10.1080/10401334.2018.1556103>
20. Soeprono T, Markman J, Grodesky M, Cowley D. Practical interventions to enhance resident ownership of patient care. *Acad Psychiatry*. 2018;42(2):222-7. <https://doi.org/10.1007/s40596-017-0731-3>
21. Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. A schematic representation of the professional identity formation and socialization of medical students and residents: a guide for medical educators. *Acad Med*. 2015;90(6):718-25. <https://doi.org/10.1097/ACM.0000000000000700>
22. Saba GW, Villela TJ, Chen E, Hammer H, Bodenheimer T. The myth of the lone physician: toward a collaborative alternative. *Ann Fam Med*. 2012;10(2):169-73. <https://doi.org/10.1370/afm.1353>
23. Djulbegovic M, Beckstead JW, Fraenkel L. The patient care ownership scale: development of an instrument to measure patient care ownership among internal medicine trainees. *J Gen Intern Med*. 2019:1-8. <https://doi.org/10.1007/s11606-019-05066-8>
24. Pololi L, Frankel R, Clay M, Jobe A. One year's experience with a program to facilitate personal and professional development in medical students using reflection groups. *Educ Health*. 2001;14(1):36-49. <https://doi.org/10.1080/13576280010015074>
25. Stephenson AE, Adshead LE, Higgs RH. The teaching of professional attitudes within UK medical schools: reported difficulties and good practice. *Med ed*. 2006;40(11):1072-80. <https://doi.org/10.1111/j.1365-2929.2006.02607.x>
26. Benbassat J. Undesirable features of the medical learning environment: a narrative review of the literature. *Adv Health Sci Educ*. 2013;18(3):527-36. <https://doi.org/10.1007/s10459-012-9389-5>
27. Jarvis-Selinger S, MacNeil KA, Costello GRL, Lee K, Holmes CL. Understanding professional identity formation in early clerkship: a novel framework. *Acad Med*. 2019;94(10):1574-80. <https://doi.org/10.1097/ACM.0000000000002835>
28. Wyatt TR, Egan SC, Wood E. Assessing patient ownership in clerkships: an exploratory study of student and clerkship directors' perceptions. *J Contemp Med Edu*. 2018;7(2):38-41. DOI:10.1177/1046878119869038
29. Ogur B, Hirsh D. Learning through longitudinal patient care—Narratives from the Harvard Medical School—Cambridge

- integrated clerkship. *Acad Med.* 2009;84(7):844-50.
<https://doi.org/10.1097/ACM.0b013e3181a85793>
30. Norris TE, Schaad DC, DeWitt D, Ogur B, Hunt DD, Consortium of Longitudinal Integrated C. Longitudinal integrated clerkships for medical students: an innovation adopted by medical schools in Australia, Canada, South Africa, and the United States. *Acad Med.* 2009;84(7):902-7.
<https://doi.org/10.1097/ACM.0b013e3181a85776>
31. Walters L, Greenhill J, Richards J, et al. Outcomes of longitudinal integrated clinical placements for students, clinicians and society. *Med Educ.* 2012;46(11):1028-41.
<https://doi.org/10.1111/j.1365-2923.2012.04331.x>
32. Jarvis-Selinger S, Pratt DD, Regehr G. Competency is not enough: integrating identity formation into the medical education discourse. *Acad Med.* 2012;87(9):1185-90.
<https://doi.org/10.1097/ACM.0b013e3182604968>
33. Biondi EA, Varade WS, Garfunkel LC, et al. Discordance between resident and faculty perceptions of resident autonomy: can self-determination theory help interpret differences and guide strategies for bridging the divide? *Acad Med.* 2015;90(4):462-71.
<https://doi.org/10.1097/ACM.0000000000000522>

Appendix A. Interview protocol

Questions:

First, I would like to ask you a few questions to get to know you better.

1a. Could you tell me where you did most of your clerkship rotations? *(main purpose is to distinguish those who participated in the Gatineau 'longitudinal' curriculum from those who did most of their clerkship in Montreal)*

1b. In which field of medicine do you want to pursue your career?

Now that you have told me a bit about yourself, let's discuss the topic of this study.

2. Have you ever heard of the term 'patient ownership'?

2a. *(If answered yes)* What does it mean to you?

2b. *(If answered no)* What does the term make you think of?

3. For you, what does an exemplary physician-patient relationship look like?

Now, let me tell you how 'patient ownership' has been described in the medical literature. 'Patient ownership' has been described as a manifestation of professionalism in physician-patient relationship and involves a strong commitment and a feeling of responsibility towards the patient. It also includes notions such as advocacy, autonomy, communication, compassion, follow-through, knowledge, teamwork, and confidentiality.

4. How do you think this definition of 'patient ownership' relates to your own definition of the term or your beliefs about physician-patient relationship that you just mentioned?

5. Reflecting on your clerkship experiences and comparing the different clinical rotations you had,

5a. what were the explicit or implicit behavior standards or expectations for expressing / showing 'patient ownership'?

5b. did you get a sense that these standards or expectations were different from one clinical rotation to another? How did they differ? Why do you think they are different?

6. Thinking about your own understanding of 'patient ownership' (or exemplary physician-patient relationship), how has your clerkship experience shaped this understanding?

(ask the following questions ONLY if time allows)

7a. Thinking about your clerkship experience and what you've talked about up until now, how has the McGill Undergraduate Medicine Curriculum supported you in your own development of 'patient ownership'?

(consider asking follow-up questions based on what have been discussed so far or related to any of the following areas of interest: physicianship (Osler fellowship) program, workload policy, semi integration of curriculum).

7b. If you were in charge and could make change to one aspect of the McGill Undergraduate Medicine Curriculum to enhance medical students' sense of 'patient ownership' as they finish their clerkship, what change would you make and why?

These are all my questions. Is there anything you'd like to add?