Placing the Patient at the Centre of the Learning Environment: Effect on Agency for the Learner, the Attending Physician and the Patient

Bavenjit Cheema
The University of British Columbia - Faculty of Medicine

Meredith Li
The University of British Columbia Faculty of Medicine

Daniel Ho
The University of British Columbia - Faculty of Medicine

Erica Amari
The University of British Columbia - Faculty of Medicine

Heather Buckley
The University of British Columbia - Faculty of Medicine

Carolyn Canfield
The University of British Columbia - Faculty of Medicine

Cary Cuncic
The University of British Columbia - Faculty of Medicine

Daniel Fritz
The University of British Columbia - Faculty of Medicine

Laura Nimmon
The University of British Columbia - Centre for Health Education Scholarship

Anneke van Enk
The University of British Columbia - Centre for Health Education Scholarship

Kiran Veerapen
The University of British Columbia - Faculty of Medicine

Katherine Wisener
The University of British Columbia - Faculty of Medicine

Cheryl Lynn Holmes
The University of British Columbia Faculty of Medicine

Research article

Keywords: medical learning environment, major insights, physicians
Abstract

Background/Purpose

Although much has been written about the medical learning environment, the patient, who is the focus of care, has often been excluded from this discourse. The purpose of this study was to explore the role of the patient as an active participant with agency in an authentic medical learning environment from the standpoint of the learner, the attending physician, and most importantly, the patient. We hoped to gain insights into the mechanisms that can reinforce professional values such as patient-centred and respectful behaviours in patient-present learning environments.

Methods

This study took place in an internal medicine ambulatory clinic using a "patient-present" clinic visit approach. We conducted all case presentations in examination rooms with the patient. We invited participants (attending physicians, undergraduate and postgraduate learners, patients and family members) to participate in semi-structured interviews after each clinic visit to explore the impact of the patient-present learning environment. We recruited 34 participants in the study; 10 attending physicians, 12 learners, 10 patients and 2 family members. We analyzed the data deductively using a conceptual framework of agency.

Summary/Results

We identified three major insights: 1. Patients were engaged and valued opportunities to be heard; 2. Attending physicians and learners reported that presenting cases with patients present challenged normal teaching practices, and they differed on whether it supported a more inclusive health care environment; and 3. A hidden curriculum emerged in a performance-based view of professional behaviour.

Conclusions

Patient-present teaching engaged patients and enhanced their agency by recasting the patient as the central focus within the healthcare encounter. We identified a tension between performing and learning. This study adds new insights to the concept of patient centredness and professionalism from the perspectives of all participants in the medical teaching and learning environment.

Background

In recent years, there has been an increasing emphasis on creating and implementing patient-centred care in clinical settings. While approaches vary, they share a common focus on creating an environment that encourages patient engagement (1). The clinical context of care is often simultaneously a context in which medical education takes place, suggesting the need to better understand how patient-centred care also alters the learning environment.
A positive clinical learning environment supports a learner's well-being, identity formation, and performance, whereas a negative one can lead to burnout and lack of collaboration (2, 3). Evidence suggests that the patient's presence contributes to a positive learning environment (4). For example, some studies have shown that patient inclusion is a strong component of teaching humanistic and professional behaviours to students (5), especially when physicians considered excellent teachers can model positive patient care behaviours at the bedside. Further, bringing patient voices into patient-centred educational experiences as often as possible can mitigate the loss of empathy that occurs in some disciplines with the progression of clinical training (6, 7). Moreover, a subset of research focusing on bedside teaching shows that, from the perspective of the teacher and learner, creating bedside experiences solidifies the culture of medicine as patient-centred (8–10). Bedside teaching allows for greater inclusion of the patient in decision-making, encourages efficiency in history presentations and evaluations, and serves as a reminder of the patient role in education and medicine (9). Patients, too, appear to benefit from bedside experiences, reporting increased understanding of their disease, a greater sense of compassion and respect from the medical team, and increased inclusion in their medical care (11).

In this study, we draw on the concept of agency as a lens to explore how the learning and care environments change with patients’ continuous presence during case presentations and discussions. Thus, the purpose of this study was to explore how the patient’s presence shapes the care and learning environment for all participants—learner, attending physician and patient. We consider these insights critical not only to improving patient-centred care, but also in creating positive learning environments where all participants are empowered to be the best version of themselves (12).

Methods

In this study we collaborated with patients, learners, attending physicians and researchers with the aim to advance our understanding of the patient’s influence on the clinical learning environment.

Study Design:

We employed the principles of a design-based research approach to guide our study, wherein we subjected our investigation to iterative cycles of planning, testing and refinement (13). We also employed the concept of agency (14) as our lens to design and conduct interviews.

Setting

We conducted this study in the Ambulatory Internal Medicine Clinic (AIMC), a teaching clinic, in a clinical academic campus of our university medical school.

Intervention
In order to explore the role of the patient as an active participant in an authentic clinical learning environment, the patient was present for all teaching and learning experiences in the AIMC. Each attending physician committed to conducting patient-present teaching clinics with one to two patients each day throughout the week. Our intervention entailed having the learner present the entire case to the attending physician in front of the patient; additionally, all ensuing discussion also occurred in front of the patient. Usually, in this clinic, most aspects of the conversation around the case presentation occur in a conference room, hallway, or other location sequestered away from the patient. After the clinical teaching encounter, we interviewed each member of the interaction with interview guides tailored to the patient, the learner and the attending physician. Post-interventional interviews proceeded in two ways: 1) with the patients and learners immediately after their appointment, and 2) with attending physicians at the end of the week in the AIMC.

**Participants**

University and health authority behavioural research ethics boards approved this research plan. We recruited three types of participants for the study: attending physicians (10), learners (medical students and residents) (12), and patients (10) and their family members (2). The total sample size was 34 participants. The average age of attending physicians was 41 years, with teaching experience ranging from 4 to 36 years. Of the learners, 5 were third year medical students, and 7 were residents with training levels ranging from postgraduate years 2–4. The average age of patients was 50 years old.

We reminded patients that participation was optional, and that clinical care would not be compromised if they declined to participate at any point during the study. We invited attending physicians, patients and learners to participate in a voluntary post-interventional interview. We did not inform the attending physicians if any individual declined to participate.

**Data Collection**

We asked participants questions surrounding positive and negative experiences related to the learning environment, changes in behaviours and attitudes of the medical team, and overall impact on the learning environment. In accordance with design-based research processes, our interviews followed an iterative process of design, evaluation, and redesign. As we completed interviews, we made iterative modifications to the interview guide after the research team reviewed transcripts and noted when participants either raised constructs the investigators thought should be asked in a more targeted way or when probing questions did not yield much discussion. Typically, after each set of weekly interviews, we applied amendments to the interview questions for the following week.

**Data Analysis**

The investigator research team was comprised of clinical and academic faculty, educational leads, faculty development leads, and a patient researcher. The team met regularly, and all co-investigators read the first 21 transcribed interviews as they were completed to gain insights into participants’ responses, prior to analysis and to discuss and share our emerging impressions. Three members of the team then
independently coded the transcripts using NVivo™ Version 12 (Doncaster, Australia) according to what investigators commonly agreed were items of interest, such as changes in the teaching and learning experience, experiences of patient engagement, and a need to alter language in response to the intervention setting. We employed a deductive analytic approach using a framework of agency. We merged and categorized item level codes into theoretically informed pattern codes (15). We then further refined the pattern codes through an iterative analytic process that involved the input of all co-investigators. After a series of team meetings where iterative discrepancies in coding were discussed and negotiated, the research team reached consensus on dividing the pattern codes into three broad themes: enhanced patient centredness, a challenging learning environment, and a performance-based view of professionalism (16). Analysis proceeded until sufficient insights were reached that had conceptual depth of understanding into the research question (17). Data analysis internode agreement exceeded 92% using NVivo software.

Results

We identified three overarching themes in the reports of attending physicians, learners and patients. The first theme was enhanced patient centredness. This theme suggested the patient-present teaching model allowed for a more inclusive and patient-centred health care environment. The second theme was a challenging learning environment, meaning that attending physicians and learners reported that presenting cases with the patient present created difficulty in balancing patient care with teaching. The third theme was a performance-based view of professionalism. This theme illuminated the hidden curriculum of a performance-based view of professionalism as participants navigated their roles in the altered learning environment. Each theme is described in the sections that follow, in terms of whether each theme empowered, constrained, or did not affect participants’ ability to present the best version of themselves. Table 1 outlines the three key themes and their supporting nodes and exemplary participant quotes.
### Theme 1: Enhancement of Patient Centredness

| Node               | Exemplary Quotes                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **Patient Centredness** | Attending physician: “I think if they have a feeling that they’re being listened to it makes them, they’re probably the most comfortable, right, and I think it’s probably, if they’re sitting there by themselves for 15 minutes they have no idea what’s going on behind the scenes. At least now they know that someone actually listened and someone else is kind hearing the stories, so I imagine that’s helpful for them.”  
Trainee: “Definitely if I were the patient, I feel like it would be nice to have that transparency or see the whole process as you hear the whole story and then hear the plan. So, I imagine it’s, probably yeah, as far as patient-centred goes, more patient-centred than the other way where you kind of just make your plan and then come back and present then plan and the whole story isn’t presented.”  
Patient: “Well I just frankly think I have more information and I also have the opportunity to ask questions rather than having someone coming in and saying well I’m gonna change this medication and that medication. Okay, thanks very much, goodbye.” |
| **Engages Patient** | Attending physician: “I think the other thing is that it just builds a lot of cred with the patient so if they see you, if they hear everything that they’ve said kind of summarized and they see you listening attentively and thinking and asking more questions, they feel that you’ve actually spent time with them and they feel listened and you create a bond with them.”  
Trainee: “it might be nice for the patient just to hear their whole story repeated back to them because then they know for sure that the story that is being relayed to my staff is exactly the story that they have relayed to me, and they have this extra opportunity to be involved, if they wanted it, as I’m telling the story, you know, to jump in and add something that they may not have thought to add the first time around, or if I get anything differently than what they intended it to be. Then they have the chance to rectify as we go along.”  
Patient: “It definitely put me at ease, just being able to see and hear what they had to say as they were hearing the medical history. I mean you always get nervous when the doctors leave the room and have to talk amongst themselves. It definitely put me at ease having that discussion in front of me, especially since they can get the medical history right.” |
| Node                                      | Exemplary Quotes                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **Better Learning and Teaching Experience** | Attending physician: “I think the window of what trainees actually do with patients is kind of the undiscovered country of medical education. It’s what you spend most of your time doing but it’s probably where you actually have the minimum of supervision, ironically. I think for medical education to be truly competence-based; a senior mentor should be there for those moments more often.”  
Trainee: “At the same time, I also learn the communication skills it takes to reassure patients, especially the worry, and you know, just learning about communication techniques from that.”  
Patient: “And, you know, suggesting, I don’t want to say testing, but just teaching, referring to other tests, other suggestions so that the resident can learn or maybe respond saying “no, you don’t need that test” or “I didn’t think that test was necessary because of X, Y, Z.” So I thought that was very good for a teaching method for the student and the doctor.” |
| **Negative learning and teaching experience** | Attending physician: “I think I would have probably gone into more detail about different guidelines or evidence-based approaches…But I was mindful that the patient and their family, listening to all that jargon, wouldn’t find the additional information useful. I didn’t want them to be disengaged… I felt like I tried to engage the patient more, but at the sacrifice of the teaching points I would normally make”  
Trainee: “Maybe you’d spend a little more time talking though clinical reasoning and what your differential is and what your management plan is whereas if you’re in front of the patient, you’re a little more prone to cut to the chase.” |
| **Performance anxiety and management**     | Attending physician: “I find, with especially junior trainees…it’s more of a comfortable environment as well, to just discuss things outside the room because they feel more comfortable in terms of saying “I don’t know what this means.” I think there is a decent amount of performance anxiety when they discuss these results in front of patients.”  
Trainee: “I think, for me, when you’re more senior, I think it’s easier to do this kind of model versus when you’re more junior, there is a lot of pressure to collect an accurate history. And sometimes you’re more likely to miss something. I don’t always get everything right, but I think there’s more cognitive strain on junior learners when they’re collecting their history and the attending might need to correct some things or ask more questions, and the junior learner might feel out-of-place during that time” |
| **Patient factors**                        | Attending physician: “It works well for a subset of patients if there are straightforward identifiable medical issues that can be discussed in front of the patients, that’s fine. Maybe some patients with more somatic complaints and may not be an easily recognizable diagnosis can be more challenging”  
Trainee: “I think it depends on if there are somethings that may be difficult for the patient to hear, I would probably bring that up separately with the attending before I go in. For instance, if the patient is likely to suffer from a factitious disorder” |
### Theme 3: A Performance-based view of Professionalism

| Nodes                          | Exemplary Quotes                                                                                                                                                                                                 |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **Professionalism Empowers**  | Attending physician: “There is more off the cuff remarks, not necessarily about the patient physically or in terms of their background, or obviously any of the other hallmarks, orientation or gender or whatever the case may be. Certainly, there is more editorializing about symptoms, about coping, especially when you’re dealing with a patient where you are suspecting there is a functional disorder. I think how you talk about that case, I think would, frankly, be a little bit insensitive if the patient were to hear.”  
Trainee: “You might say something that is not really relevant to the case or that you know, can sometimes come across as insensitive if it’s said in front of the patient but it’s obviously not meant in a malicious way but just kind of, through informal chit chat with your attending or whatever, so I think those kind of things, you’re definitely more mindful of not to say for sure.” |
| **Professionalism Constrains**| Attending physician: “I’m a little bit more reluctant to question the resident or med student in front of the patient in case they don’t know the answer. I don’t think that’s necessarily fair to them”  
Trainee: “The clarity of the thought process was compromised as a result of being distracted and not wanting to upset the patient…the execution of the approach changed by being scattered and disorganized….It was harder. It was definitely harder for the same reasons. I wasn’t my best professional self.” |
| **Performance Anxiety and Management** | Attending physician: “The other thing is that, if I have to try to cobble stuff together, it can make the student look bad in front of the patient. And I don’t like to do that. I like my learners to feel that they’ve presented a very confident demeanor to the patient… And I don’t like them to feel that I’m contradicting them or making them look bad in front of the patient.”  
Trainee: “It definitely made it more anxiety-provoking and made me question my competence in attaining respect by the staff.” |

### Enhanced Patient Centredness

Within this theme, we found a strongly repeating narrative of patient engagement and patient centredness from the patients, attending physicians and learners. When asked what patient centredness meant to the three stakeholders, there was overwhelming consensus that it meant having the patients feel heard, included and confident in understanding their medical care.

Of the 34 interviews conducted, 33 interviewees spoke positively about patient engagement in the patient-present teaching model. From the attending physicians’ perspective, increased personal interaction with patients in itself led to an impression of increased engagement. They explained that patients may feel disengaged when left waiting while conversations about them are occurring elsewhere. They felt this model allowed patients to contribute more to the conversation by elaborating on details of their history as conveyed by the learner. Learners felt very similarly to the attending physicians and echoed that this approach allowed for patients to have a clearer picture and understanding of their medical diagnoses and
necessary treatment plans. They described how it was important that patients know the detailed thought process behind certain treatment plans.

At the same time, participants also reported concerns about patient disengagement. Specifically, attending physicians and learners were concerned the patient would feel lost and less engaged due to medical jargon, the academic level of conversation, and the length of review. They were also cautious about worrying the patient with broad differential diagnoses that could allude to serious but less likely conditions such as cancer.

The concerns regarding patient disengagement were not reiterated by the patients. In contrast, patients contributed an overwhelmingly positive response to this teaching model. They reported greater engagement in their visit by witnessing the medical thought process, even if they could not understand it all. They appreciated learning *why* changes were being made to their medications, for example, instead of being simply instructed to take an altered dose. Among the patient interviews, only one patient expressed feeling disengaged by the medical jargon used; the others had no complaints in this regard.

Overwhelmingly, patients felt reassured in hearing the information they had relayed to the learner later translated to the attending physician. They indicated that it gave them confidence that they were authentically heard by the learner and the attending physician. They also appreciated being able to correct or add details to the ongoing conversation. Ultimately, for the participants in this study, a patient-present teaching model reinforced a more patient-centred and inclusive health care environment.

### A Challenging Learning Environment

Within this theme, a negative impact on teaching and learning emerged as performance anxiety and management in 7 attending physician interviews and 8 learner interviews. Concern about a negative impact on teaching and learning largely came from the perspective of attending physicians. They indicated that they hesitated to adopt very detailed, evidence-based teaching for fear of alienating the patients with their medical jargon or increased length of the visit. They also worried about probing for fear of making learners look incompetent in front of the patient. Additionally, they felt patient-present teaching might create a less safe environment for learners to ask questions. Learners expressed similar barriers to discussing detailed teaching points and asking questions in the room with the patient present. To mitigate these barriers, 13 interviewees (8 attending physicians and 5 learners) suggested preparing the learner in advance and/or debriefing after the interaction.

An increase in performance anxiety that correlated to a learner’s year of education was also reported. Junior learners (third- or fourth-year medical students), who are at the stage of becoming familiar with the foundations of medicine, said they felt that they not only had to impress their attending physician but also had to continue to engage with the patient in the room. According to some learners, this perceived balancing act made for a more challenging learning environment.

In contrast, 15 interviewees (8 attending physicians, 4 learners, 2 patients and 1 family member) described the patient-present teaching model as leading to a *better* teaching and learning experience.
This positive impact was largely attributed to being able to teach and assess students in real-time, and the opportunity to coach crucial skills such as patient interaction and communication.

The last identified barrier to patient-present teaching related to patient-specific characteristics. Learners and attending physicians noted it would be difficult to discuss sensitive topics such as substance use or psychiatric diagnoses. They indicated patient personality also played a role, with, for example, patients who interrupt often potentially impeding the teaching exchanges. Overall, attending physicians and learners reported that, in trying to navigate the relations among all three stakeholders, having the patient present created challenges to robust teaching and learning.

**A Performance-based View of Professionalism**

When questioned about perceptions of professionalism, attending and learner interviewees suggested that patient presence both empowered and constrained. On the one hand, patient presence was seen to contribute to an environment that encouraged participants to be “more professional”. Attending physicians and learners commented that patient-present teaching helped discourage inappropriate language and comments about patients. They described an increased formality of interaction between attending physician and learner. On the other hand, attending physicians and learners often felt it was uncomfortable to probe a learner’s knowledge in front of patients. This was due to an anticipation that it would undermine patients’ confidence and increase anxiety of learners. Similarly, learners feared appearing incompetent to both the attending physician and the patient. When presenting the case, they felt it was challenging to balance medical terminology for the attending physician with lay language for the patient, and that this balance at times led to greater disorganization in the presentation. Learners also worried about presenting a plan in front of patients that they had not previously discussed with the attending physician for fear it could be wrong. The conversation suggests a hidden curriculum where expectations of demonstrating knowledge underlies the explicit purpose of the encounter as a teaching experience.

**Discussion**

Evidence has shown patient inclusion in medical education not only improves learners’ perceptions of patient-centred care, but also increases empathy in clinical training (18). Yet, a clear understanding of the patient’s role and its effect on the learning environment is lacking. An in-depth look at the patient, learner and attending physician experience in an authentic clinical environment illuminated the reciprocal effects each role had on the learning environment. Anthony Giddens’ lens of agency reminds us that social structures and individuals exist in an intimate, mutually influential relationship (14). Individuals in an environment create and recreate social structures, while they also rely on rules and resources of the social structures to direct their actions (14). The insights contribute to the use of theories of agency in medical education, by applying its conceptual meaning in clinical and medical education contexts. Agency usually relies on the ability to enact your most authentic self. In this study, we bring tenets of agency to the construct of professionalism as being the best version of yourself, which was visible in the way participants described changing their conduct (12).
Patient Centredness

Although patient centredness is a cornerstone of current day medicine, it is challenging to find one cohesive definition (1). Nevertheless, members of all three participant groups described a similar understanding of patient centredness: ensuring the patient feels heard, included and confident in understanding their medical care. Ultimately, patient centredness entails creating an environment that elevates the patient’s agency in a clinical setting by allowing them to assert themselves more effectively. When patient-present teaching occurs, it appears to enable patient’s agency by allowing space to correct and clarify their history, and to ask questions that clarify changes to their health care. Yet, although this model supports increased patient agency, the medical professionals reported being constrained by concerns that teaching was burdensome, esoteric, or overwhelming to the patient. However, patients wanted to maximize their exposure to conversations about their health, even if they were not directly engaged by the speakers and even struggled to follow all that was said. It appears that in the clinical learning environment, physicians act on the basis of empathetic assumptions about how patients and learners may feel. Similarly, learners anticipate what both the attending physicians and patients expect, and then modify their actions based on these sometimes-conflicting assumptions of how their role will be seen. There was a consensus among all groups of participants that patient-present teaching increased their concept of patient centredness. Even so, some attending physicians remained somewhat hesitant to adopt and integrate this model of teaching as routine practice.

Challenging Learning Environment

The addition of the patient into all aspects of the clinical teaching environment results in the patient being able to observe all elements of the medical team process. In the absence of the patient, the role expectations for learner and teacher are clear, but with the patient in the room the role of the roles change, and tensions emerge. Attending physicians expressed hesitancy about in-depth teaching, wanting to preserve learner respect and a non-judgemental learning environment. This hesitancy arose from the higher stakes of the learners’ performance in front of the patient. This was especially apparent when attending physicians worried about junior learners’ performance anxiety, which they felt was heightened with a patient present. Attending physicians wanted to interact appropriately with their audience, the patient, while also preserving respect for the learners in their performance role. Learners expressed confusion over which took priority: impressing their attending physician or including the patient. Instead of a two-way interaction, this suddenly became a triad of individuals whose roles changed, dependent on the social performative interplay occurring in the room. This reciprocity demonstrates the organic changes in agency that occur when there are more persons in an interaction. It was perceived that the attending physician’s agency to teach without fear of isolating the patient or demeaning a student, and the learner’s agency to ask questions and learn without fear of judgment, would be constrained by the patient. This resonates with Anthony Giddens’ theory of agency, where our ability to exert ourselves changes depending on a set of social structures. Ultimately, we see that although patient-present teaching does create a patient-centred and inclusive environment, the merging of front- and backstage
scripts causes a confusion of roles. Thus, this fosters a challenging educational environment to navigate for the attending physician and learner.

**Performance based Professionalism**

Medical educators often intend to impart their professional values to the next generation through role modelling (19). We set out to see if attending physician and learner perceived their professionalism shifted in terms of actions and behaviours towards patients, when patients were present in situations in which they normally do not take part. However, what we discovered was a performance-based view of professionalism. Professionalism was not only viewed as appropriate interactions with patients, but also as competence in demonstrating biomedical expertise. This could be understandable from the viewpoint of the physician: being knowledgeable and competent as a biomedical expert is an integral professional expectation. Yet, when analyzed through the lens of a learner, it may be difficult to know how to strike the right balance between the reality of their not-yet-expert status and the expectation that part of their training is to perform as if they were knowledgeable and competent experts (20). One of the common concerns of attending physicians with a patient-present teaching model was unintentionally undermining the learner's performance as an expert through teaching in front of the patient. On the one hand, attending physicians and learners commented that patient-present teaching helped discourage inappropriate language and comments about patients. On the other hand, however, attending physicians and learners often felt it was unprofessional to question learner competence in front of patients because they perceived this would decrease the patient's confidence in their providers. Specifically, attending physicians did not want to make their learners “look bad” in front of a patient by probing them with questions they might answer incorrectly.

As for the learners, they feared appearing incompetent to both the attending physician and the patient. When presenting to the attending physician, they describe how it was challenging to balance medical terminology for the attending physician with lay language for the patient. They reported that they worried about appearing incompetent to the attending physician because they used fewer medical terms, or because they were unorganized in their delivery of presentation. Learners also worried about presenting a plan in front of patients that had not been previously discussed with the attending physician for fear it could be wrong. Through the lens of agency, we see the extent to which the dominant social structure of medical education forms norms that reinforce how even in a learner position, medical students must appear to be knowledgeable. Thus, this constraint limits the actions and risks the attending physician and learner are willing to take in the patient-present teaching environment.

**Limitations**

We acknowledge that this study was undertaken in an outpatient clinical environment. Therefore, although these findings may translate to an inpatient setting, unique affordances and challenges may arise in another setting and deserves future research.

**Conclusions and Implications**
**Patient-present teaching** empowered patient health care interactions by increasing engagement of the patient. We found that despite the fear of overwhelming a patient with medical jargon, conversations were well-received and welcomed by patients. Additionally, this learning context recast the patient as the central focus for learners and attending physicians. Yet, patient inclusion limited perceptions of agency in teaching and learning for the attending physician and learner by creating a tension between upholding a performance role versus a learning role. This key insight challenges us to think critically about the complexities of balancing the role of the learner as both a performer and as a learner.

Further research can continue to explore the concepts of performance vs. learning as they emerge in patient-present learning. Future research could build off our insights by asking: How do we create environments that strengthen the learner’s experience. It would be interesting to explore whether patients are as likely as attending physicians and learners to treat ‘professionalism’ as synonymous with mastery of biomedical expertise. If it is not, and both teacher and learner understood that patient confidence would not be compromised by this, would that change learners’ perceptions and anxieties about seeming to “fail” in front of the patient? In this sense, we might possibly prevent impactful teachable moments out of our desire to maintain an outward appearance of “always being right”, regardless of whether patients themselves actually rely on this expectation. Furthermore, it is unclear whether these attitudes from teachers and learners persist even when patients do not share this perspective.

To conclude, we recommend the use of **patient-present teaching** to increase patient empowerment and patient centredness in medical education with the following considerations for the attending physician, the learner and the patient: 1. Reassure the attending physician that **patient-present teaching** empowers the patient instead of compromising their experience. Prepare the attending physician to address the student’s performance anxiety and consider de-briefing sensitive issues outside the patient-present interaction; 2. Assess the readiness of the learner: the more experience and confidence the learner has, the less anxiety-provoking is this new setting. Prepare and debrief the learner (describing the teaching approach before going in and asking whether they have any questions after the encounter) to mitigate fears of failing in front of the patient; 3. Partner with the patient for a positive learning experience. Inform the patient that medical language will be used for the benefit of the learner and that such use of language is not meant to exclude them. Thank the patient for helping to put the patient at the centre of learning.

**Declarations**

**Abbreviations**

AIMC - Ambulatory Internal Medicine Clinic

**Declarations**

**Acknowledgements**
The authors are grateful for the participation of the Attending Physicians in the Internal Medicine Ambulatory Clinic of the University of British Columbia.

**Ethics**

This study was approved by the University of British Columbia Behavioural Research Ethics Board and the Vancouver Coastal Health Research Institute (VCHRI) board, study number H18-02507. All participants provided written consent and received a copy of their consent form.

**Consent for Publication**

Not applicable.

**Availability of Data and Materials**

The datasets during the current study are not publicly available due to participant confidentiality but are available from the corresponding author on reasonable request.

**Competing Interests**

The authors declare that they have no competing interests.

**Funding**

The Patient in the Learning Environment Study was generously supported by the Royal College/AMS CanMEDS Research Development Grant, reference number 19/AMS-01.

**Authors’ Contributions**

BC, EA, HB, CCa, CCu, LN, AvE, KV, KW and CH made substantial contributions to conception and design of the study. BC, DH and ML acquired the data. BC, DF, and CH analysed the data; all authors contributed to interpretation of the data. BC and CH drafted the initial manuscript and all authors contributed to substantial revisions. All authors have read and approved the final manuscript.

**References**

1. Hudon C, Fortin M, Haggerty JL, Lambert M, Poitras ME. Measuring patients' perceptions of patient-centred care: a systematic review of tools for family medicine. Ann Fam Med. 2011;9(2):155–64.
2. Gruppen LD, Irby DM, Durning SJ, Maggio LA. Conceptualizing Learning Environments in the Health Professions. Acad Med. 2019;94(7):969–74.
3. van Hell EA, Kuks JB, Cohen-Schotanus J. Time spent on clerkship activities by students in relation to their perceptions of learning environment quality. Med Educ. 2009;43(7):674–9.
4. Gruppen LD, Irby D, Durning SJ, Maggio LA. Interventions Designed to Improve the Learning Environment in the Health Professions: A Scoping Review. MedEdPublish. 2018;7(3):73.
5. Weissmann PFM, Branch WTM, Gracey MACP, Haidet CFM, Frankel PM, MPH. RMP. Role Modeling Humanistic Behavior: Learning Bedside Manner from the Experts. 2006.

6. Holmes CL, Miller H, Regehr G. (Almost) forgetting to care: an unanticipated source of empathy loss in clerkship. Med Educ. 2017;51(7):732–9.

7. Schrewe B, Bates J, Pratt D, Ruitenbergh CW, McKellin WH. The Big D(eal): professional identity through discursive constructions of ‘patient’. Med Educ. 2017;51(6):656–68.

8. Reilly JB, Bennett N, Fosnocht K, Williams K, Kangovi S, Jackson R, et al. Redesigning rounds: towards a more purposeful approach to inpatient teaching and learning. Acad Med. 2015;90(4):450–3.

9. Bennett NL, Flesch JD, Cronholm P, Reilly JB, Ende J. Bringing Rounds Back to the Patient: A One-Year Evaluation of the Chiefs’ Service Model for Inpatient Teaching. Acad Med. 2017;92(4):528–36.

10. Gonzalo JD, Heist BS, Duffy BL, Dyrbye L, Fagan MJ, Ferenchick G, et al. The art of bedside rounds: a multi-center qualitative study of strategies used by experienced bedside teachers. J Gen Intern Med. 2013;28(3):412–20.

11. Lichstein PR, Atkinson HH. Patient-Centered Bedside Rounds and the Clinical Examination. Med Clin N Am. 2018;102(3):509–19.

12. Holmes CL, Harris IB, Schwartz AJ, Regehr G. Harnessing the hidden curriculum: a four-step approach to developing and reinforcing reflective competencies in medical clinical clerkship. Adv Health Sci Educ Theory Pract. 2015;20(5):1355–70.

13. Dolmans DH, Tigelaar D. Building bridges between theory and practice in medical education using a design-based research approach: AMEE Guide No. 60. Med Teach. 2012;34(1):1–10.

14. Varpio L, Aschenbrener C, Bates J. Tackling wicked problems: how theories of agency can provide new insights. Med Educ. 2017;51(4):353–65.

15. LeCompte MD, Schensul JJ. Data analysis: How ethnographers make sense of their data. In: LeCompte MD, Schensul JJ, editors. Designing and Conducting Ethnographic Research. UK: Rowman Altamira; 1999. pp. 147–59.

16. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77–101.

17. Varpio L, Ajjawi R, Monrouxe LV, O’Brien BC, Rees CE. Shedding the cobra effect: problematising thematic emergence, triangulation, saturation and member checking. Med Educ. 2017;51(1):40–50.

18. Gaufberg EH, Batalden P, Sands R, Bell SK. The hidden curriculum: what can we learn from third-year medical student narrative reflections? Acad Med. 2010;85(11):1709–16.

19. Stern DT, Papadakis M. The developing physician—becoming a professional. N Engl J Med. 2006;355(17):1794–9.

20. Scott IM. Beyond ‘driving’: The relationship between assessment, performance and learning. Med Educ. 2020;54(1):54–9.

Supplementary Files
This is a list of supplementary files associated with this preprint. Click to download.

- PatientConsentFormPAA18March2019.docx
- PatientandLECodebook20.08.04.docx
- PTLEInterviewGuideFinal.docx