

## Staging a performance: learners' perceptions about direct observation during residency

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**CONTEXT** Evidence strongly supports that direct observation is a valid and reliable assessment tool; support for its impact on learning is less compelling, and we know that some learners are ambivalent about being observed. However, learners' perceptions about the impact of direct observation on their learning and professional development remain under-explored. To promote learning, we need to understand what makes direct observation valuable for learners.

**METHODS** Informed by constructivist grounded theory, we interviewed 22 learners about their observation experiences. Data collection and analysis occurred iteratively; themes were identified using constant comparative analysis.

**RESULTS** Direct observation was widely endorsed as an important educational strategy, albeit one that created significant anxiety. Opaque expectations exacerbated participants' discomfort, and participants described that being observed felt like being assessed. Consequently, participants exchanged their 'usual' practice for a 'textbook' approach; alterations

to performance generated uncertainty about their role, and raised questions about whether observers saw an authentic portrayal of their knowledge and skill.

**CONCLUSION** An 'observer effect' may partly explain learners' ambivalence about direct observation; being observed seemed to magnify learners' role ambiguity, intensify their tensions around professional development and raise questions about the credibility of feedback. In turn, an observer effect may impact learners' receptivity to feedback and may explain, in part, learners' perceptions that useful feedback is scant. For direct observation to be valuable, educators must be explicit about expectations, and they must be aware that how learners perform in the presence of an observer may not reflect what they do as independent practitioners. To nurture learners' professional development, educators must create a culture of observation-based coaching that is divorced from assessment and is tailored to developing learners' identities as practitioners of both the art and the science of medicine.

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 INTRODUCTION

Residency programmes use direct observation (a strategy in which the ‘master’ clinician watches and provides feedback to the apprentice) to ensure that learners graduate with the requisite skills to be competent, safe and independent practitioners.<sup>1,2</sup> Direct observation is expected to serve two purposes. First, it is expected to underpin the assessment of learner performance that all programmes must conduct. Second, it is supposed to support learning by serving as a basis for formative feedback and for coaching, in order to guide learners toward meeting their learning objectives.<sup>3,4</sup> Evidence strongly supports the validity and reliability of direct observation in assessing a range of clinical competencies, including learners’ medical expertise, technical or procedural skills,<sup>5,6</sup> communication<sup>7</sup> and professionalism,<sup>8</sup> at the highest levels of Miller’s assessment hierarchy.<sup>9,10</sup> By contrast with its established usefulness in assessment, however, the influence of direct observation on trainees’ learning, patient care outcomes and professional identity formation has not been widely studied<sup>11–15</sup>; there is limited evidence to support that feedback generated from direct observation improves trainees’ learning and performance,<sup>12,16–18</sup> or that it improves patient safety and care.<sup>19</sup> Direct observation may not occur with enough frequency to be valuable for learning,<sup>20,21</sup> and using direct observation solely to assess individual competencies may miss ‘the underlying meaning and interconnectedness of these roles in shaping physician development’.<sup>13</sup> A better understanding of how direct observation influences learning is urgently needed.

But what exactly is ‘direct observation’? For an approach so widely endorsed, it is rarely defined, even in articles firmly focused on its use in medical education. We define direct observation as the active process of watching learners perform in order to develop an understanding of how they apply their knowledge and skills to clinical practice. Direct observation can serve either summative or formative purposes, and it may be used in a variety of settings, ranging from formalised assessment contexts like the objective structured clinical examination (OSCE) and the mini-clinical examination (mini-CEX), to informal coaching-oriented contexts in which assessment is not the express goal.<sup>22</sup> Observation-based summative assessment tools have garnered the bulk of research attention,<sup>23,24</sup> but direct observation can and should play a formative role<sup>9</sup> in identifying learners’ strengths and weaknesses, to

support continuous developmental feedback and to help learners create an action plan to address identified deficiencies. Observation, in short, forms the basis for coaching; however, the observational strategies that support effective coaching remain inadequately defined.<sup>25</sup>

Despite these gaps in understanding, direct observation makes pedagogic sense and educators tend to assume that its educational impact is high.<sup>26</sup> Learners, however, appear to be less convinced that they want to be observed.<sup>17</sup> Without understanding why, we risk trumpeting an educational strategy that may work better in theory than it does in practice. Our recent exploration of the sociocultural aspects of direct observation revealed one clue that may explain residents’ ambivalence<sup>21</sup>: *the onus is often on learners to ask for observation*. Learners are, however, reluctant because asking to be observed conflicts with efficiency and autonomy, cultural values embedded in the clinical institutions where medicine is taught and practised.<sup>21</sup> If learners are not convinced that observation directly enhances their education or professional development, and if they worry that asking for observation will negatively impact their professional credibility,<sup>21,27</sup> then it is perhaps not surprising that learners are ambivalent about, or even opposed to, being observed.<sup>10</sup>

We must not characterise all learners as ambivalent about direct observation, however. For some learners, being observed by trusted senior colleagues buoyed their confidence and improved their clinical skills.<sup>28–30</sup> This nuance demands exploration. If we hope that direct observation will promote learning, we need to understand the conditions that make observation valuable for learners, including whether or not an observer’s presence or purpose impacts learners’ professional development. Exploring how learners perceive the impact of direct observation on their learning and professional development is the first step to developing strategies for more successful implementation. Thus, the purpose of this study was to explore residents’ experiences of being observed during their training, including their perceptions of the impact of direct observation on their performance, behaviour and learning.

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 METHODS

We used a constructivist grounded theory approach (CGT)<sup>31,32</sup> to explore learners’ experiences with direct observation during their residency training. CGT recognises that researchers’ and participants’

experiences and perspectives influence how meaning is constructed about a basic social process (e.g. being observed during postgraduate medical training); this research was conducted by three clinician educators (CW, RH and SV) and two PhD-trained medical education researchers with expertise in rhetoric (LL) and health sciences (KL).

We sent a recruitment e-mail inviting all residents at the Schulich School of Medicine and Dentistry (Schulich) to participate in one-to-one interviews. Twenty-two trainees ( $n = 12$  females) representing a variety of specialties (including emergency medicine [ $n = 2$ ], family medicine [ $n = 2$ ], surgery [ $n = 3$ ], paediatrics [ $n = 1$ ], psychiatry [ $n = 4$ ], neurology [ $n = 2$ ], obstetrics and gynaecology [ $n = 2$ ], radiation oncology [ $n = 1$ ] and internal medicine [ $n = 5$ ]) and training levels ( $n = 13$  PGY 1 or 2;  $n = 7$  PGY 3–5, two clinical fellows) consented to participate in semi-structured interviews. During the interviews, one interviewer (KL) asked participants to describe the purpose and mechanics of direct observation in their training programme, to reflect on their experiences of being observed, and to describe the impact of direct observation on their learning and professional development. Because direct observation takes many forms, we purposefully did not define direct observation for participants, or limit discussion to a particular type of observation. Instead participants were asked to describe the aspects of their work that were typically observed, who observed their work and what form direct observation took (e.g. in-person observation, video, two-way mirror, etc.). All interviews were audio-recorded, transcribed verbatim and de-identified prior to analysis.

Data collection and analysis were conducted iteratively; we engaged in constant comparative analysis during the three-stage coding process. First, KL and CW independently coded the first two transcripts to identify frequently occurring initial codes; together KL and CW consolidated initial codes to develop preliminary themes, including defining observation, approaches to observation, the observer's identity, expectations for observation, system challenges or facilitators of observation, and implications of observation (including emotional responses and feedback credibility). KL then used the preliminary themes to code the next three transcripts to test their fit and relevance. To elaborate our preliminary analysis we used theoretical sampling<sup>31</sup> to gain additional perspectives about direct observation. Specifically, we interviewed two clinical fellows at Schulich and four internal medicine residents at the University of

British Columbia (UBC) who had participated in a pilot observation and feedback programme.<sup>22</sup> The Schulich clinical fellows were able to describe the role of direct observation in post-residency training; the UBC participants were able to compare and contrast usual direct observation practice with an innovative approach designed to coach professional development, rather than to assess their knowledge or skill. The interview guide also evolved to focus on analytical insights developed during constant comparative analysis. For instance, as the interviews progressed, participants were prompted to distinguish between the various approaches to observation (e.g. observation for summative assessment or observation for coaching) and to discuss which approaches they had experienced during their training. Although additional interviews may have revealed other insights, we ceased data collection when we determined that our findings were sufficient for understanding learners' experiences of being observed.<sup>33</sup>

All researchers participated in a series of meetings to review data, to refine themes, to develop categories and to interpret the impact of direct observation on learning. Specifically, the research team theorised that participants articulated two related, yet distinct ideas: (i) that institutional and specialty-specific social, organisational and cultural influences impacted how direct observation played out in their postgraduate training, and (ii) that direct observation variably impacted individual learners. Consequently, the team conducted two separate analyses to understand direct observation at the level of the system and at the level of the individual learner. The former analysis is reported elsewhere<sup>21</sup>; in this analysis, we focus on individuals' perceptions of the impact of observation on their own performance and behaviour. All research procedures were approved by the Western University Research Ethics Board.

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## RESULTS

For participants, direct observation was a double-edged sword. Most participants characterised it as an important educational strategy that helped them to bolster their confidence and to reveal their blind spots, but they also described a range of ways in which the presence of an observer might alter their behaviour. Observers could create emotional discomfort, alter a learner's clinical performance and compromise the learner–patient relationship. Contributing to these unintended consequences was a

pervasive tendency for learners to regard observation as assessment, which influenced not only their behaviour during observation, but also their confidence that observers were seeing an authentic portrayal of their medical expertise and clinical skill.

#### **Unintended consequence: emotional discomfort**

Participants were typically at ease being observed doing a task or procedure they could confidently perform well, 'but, then, if it's things that I'm very uncomfortable with, the stress of having someone there watching me will typically make me perform worse than I normally would' (P9). For the majority of participants, being observed made them feel self-conscious, made them 'sweat' (P15) or 'fumble' key information (P7), or made them forget components of the clinical examination:

I feel a lot more scatterbrained when I'm being watched. I know exactly what I'm supposed to do, but knowing someone is watching me, I'm just all of a sudden a lot more worried - *What did I forget? What's next?* Whereas when I'm on my own, I almost feel it's okay if I need to take 5-seconds and regroup in my head. But, if I'm being watched, it's just so much harder to keep calm and focused in my head. (P18)

Participants acknowledged that someone (a physician, a medical student, a nurse or a patient) was always watching, but the impact of the observer's presence differed, and being observed was typically only anxiety-provoking if the observer was perceived to have the same scope of practice or to be in a position to provide a formal assessment. Being observed by faculty members was described as stressful, and having multiple clinician observers over the course of a rotation could be particularly anxiety-provoking because learners had to tailor their style to what they perceived each observer was expecting to see. A psychiatry resident described that:

... everyone does things a certain way ... certain people expect you to focus ... on ... past psychiatric history. Some people want you to focus on how they (*patients*) were raised. And so once you know what that person is looking for and how they like to approach things, it becomes ... easier. (P18)

This comment seems to indicate that residents not only struggle with the discomfort of being observed, but also with the need to stage a performance for a

particular observer, and both struggles can take time to abate.

#### **Impact: performance**

Participants readily altered their clinical style to please the observer because most assumed that the observer was not only watching their performance, but also grading it. They suspected that their 'grade' could have implications for their formal assessment, permanent record, and even their training or career advancement: 'I think we're assessed every day ... It's a frame of how good you are at your job and how much you know ... but there's always the possibility that it could be punitive' (P16). Consequently, participants rarely conceptualised observation as coaching. Instead, having an observer present transformed the gestalt of a clinic room from a real-world patient encounter into something resembling an OSCE station, and participants described performing as though they were being graded, not coached. In the presence of an observer, participants reported being 'more cautious and reflective ... sort of medical school style' (P1) by following 'examsmanship rules which are basically the ways you are supposed to do things ...' (P10). 'There are certain techniques that are considered to be part of the respiratory exam, for instance, that I probably don't do that often because I don't find them high yield. But if I am being observed, I think I will err to be much more thorough' (P20). Thus, when observed, the goal shifted from providing patient-centred care to performance-centred care and the completing of an imaginary checklist. When asked how being observed changed his clinical approach, participant 3 said, 'I'd probably ask more thorough questions ... that have no bearing in the long run ... probably irrelevant questions, just to look like I'm doing everything under the sun in that check box'.

#### **Unintended consequences: relationship with patients**

The presence of an observer could also disrupt the dynamic of carefully constructed resident-patient relationships. Residents described that they developed a rapport with patients by tailoring their demeanour and language to each patient's needs. Some participants described using a casual and relatively informal communication style with patients, often invoking humour to develop trust and to make the patient feel comfortable. However, having an observer present could cause participants to forgo their typical conversation style for a more formal approach:

So sometimes I'm fairly casual with patients. With young patients, I do use language, like if they're 18, and they're feeling suicidal, I'll say things like, so you're having a pretty (*expletive*) day, eh, it's not going so well. If I was being observed by strangers, I wouldn't talk like that with them ... But some patients who are receptive to joking around a little bit, or a bad pun, or that kind of thing, if I was being observed by people I didn't know, then I probably would be hesitant to do that. (P1)

Participants also perceived that patients were less likely to reveal sensitive information if there was an observer present: 'I feel patients will open up a little bit more ... when it's just one-on-one. If there are too many people in the room, it's making them a little bit nervous when they're divulging a lot of information' (P15). Participants also worried that patients would be more likely to interact with, and trust, the physician observer, particularly if the observer stepped in to correct or critique their work: '... maybe they don't trust me anymore ... maybe now they're going to say, "well I don't want to talk to you I want to talk to the person that corrected you"' (P10).

### A perceived lack of authenticity

Learners' recognition of alterations to their usual practices, related to anxiety, assessment-oriented performance or changes in the learner-patient relationship, raised questions about whether what was observed was authentic. Although learners understood that observation was intended to capture how they actually carry out the tasks of their profession, many questioned whether observation achieved this aim:

I don't think they're getting, necessarily, the assessment of your day-to-day approach, but of your understanding of what an approach would look like. I think that they probably get pretty good insight into that. (P20)

Participants perceived that the impact of an observer effect created an impression for observers that was not reflective of how they actually worked:

... I do feel that normally when I am independent doing my assessment, because I don't have as much of an anxiety level at that point, I don't seem to forget as much ... but I feel like it's easier for me to gather my thoughts when I know that I'm not being watched by someone. (P14)

Anxiety-induced mistakes were particularly frustrating because '... it felt like I had sort of blown off this opportunity to demonstrate that, in a very rare moment where I was actually being observed doing something that I felt that I was reasonably good' (P8).

### Contributing factors

Lack of clarity about what direct observation actually *was* and what it was intended to *do* raised questions about its purpose, the observer's role, and how observers and learners should behave. For many, observation of their clinical skills was uncommon and unpredictable: as one participant noted, unless '... you fortuitously happen to be there when a staff is there. . . or if the staff has a particular question and observes part of your history, or physical, in order to answer that question in their mind ... those skills don't tend to be observed nearly as much' (P19). Although participants recognised that direct observation was *supposed* to happen for assessment purposes, even there its occurrence could be uncertain: 'we have these evaluation forms that we are supposed to fill out about direct observation but I find that they're not usually done and there are no repercussions if they're not done' (P10). There was an implicit assumption that 'no news is good news', and that a lack of observation was indicative of competence. The unexpected appearance of an observer, therefore, raised questions about whether observation occurred randomly, or if the presence of an observer signalled a problem or deficiency:

Let's say I was in a particular clinic, and I was constantly being observed while I did the same history and physical over and over and over and not getting good feedback, then I would get frustrated. Because, I'm like, okay, why are you coming in and observing me, is there an issue? If there's an issue, why aren't you telling me? ... If they came in every single time ... I would probably say am I missing something? (P5)

The unpredictability of direct observation made it difficult for participants to discern whether the observer's purpose was to supervise, to assess or to coach. The surprise appearance of an observer, coupled with a lack of clear expectations about the purpose of his or her presence, triggered role ambiguity and significant emotional discomfort.

Participants differentiated between being *observed* and being *supervised*, but their definitions of these

terms were variable, and participants struggled to articulate what made each role distinct, highlighting the uncertainty surrounding the observer's role. In general, participants conceptualised supervision as a pragmatic 'active' (P10) process that was 'about getting the job done' (P13), to either ensure 'efficiency' or to use as a 'safety net' (P19) to catch mistakes. For participants, a supervisor was directly responsible for a patient's care and for teaching medical knowledge and technique. A feature of supervision was an expectation that the supervisor might verbally or physically take over if the situation required it:

... I can think of some staff, where I'll do a delivery and especially when I was more junior, they would be sort of right in your personal space because you're all crowded around this crowning baby. And they'd be like, "feel for the cord, feel for the cord or get the shoulder" and they're sort of telling you, or "don't touch that". You'd have, from time to time, your hands swatted away. (P8)

By contrast, observation was generally considered a 'hands off' activity intended to facilitate learning and to coach professional development. In this case, direct observation was supposed to afford learners the opportunity to take the lead, and to practice skills and to receive feedback about their service provision. Often, however, clear expectations for a particular clinical encounter were not typically negotiated, leaving learners uncertain about whether they were being supervised or observed. Consequently, participants defaulted to viewing observation as assessment, and performed accordingly:

I started talking with the patient but I was unclear of whether we were doing the consult together, or whether I was responsible for doing the consult and he was just going to step back. So I kind of started but then I sort of second guessed whether it would just be me and just having those thoughts and being distracted by the fact that he was there and I wasn't sure what his role was, led me to do a terrible history. It was so painful. So then he eventually took over... And then afterwards he had said, 'Oh that was really strange. It was kind of like I was observing you in an OSCE situation, like an oral structured exam' and I was like yeah, that's really what it felt like but I think it was because the terms were not necessarily clear beforehand ... (P8)

## Mitigating factors

Despite the challenges we identified related to direct observation, we also recognised instances where learners drew learning value from their experiences of being observed. For some, the heightened anxiety they felt while being observed was useful, as it simulated the stress of clinical situations:

... observation, I think, totally replaces that adrenaline that you would have if you were looking after a real person ... the affective component of memory that helps you remember real cases, that have been stuff you read in the book, that affective emotional component of being observed ... I remember that stuff ... (P1)

For others, the experience of having a trusted observer watch their work was critical for 'building confidence' (P19) and for ensuring that they were developing into safe, competent clinicians. 'Not knowing what you don't know is very dangerous' [P8], and participants described that being observed was necessary for mastering procedural skills and for identifying their 'blind spots' (P8). In fact, *not* being observed could be anxiety-provoking. One participant surmised that more frequent direct observation might have assuaged some of her doubts about her skill set:

I feel very confident with my competence in other respects but I feel that because I have not been observed there is a part of me that says I don't know if I'm doing this right ... I don't want to wait until I'm in third year or graduated before someone watches me and says, 'she's doing it that way?' I think it's better to have it done now so I would say there is a part of me that feels unclear, not that I don't think I'm competent but I really don't know if I'm doing it right. (P10)

Our analysis suggests that factors that mitigate the observer effect may be important in understanding how such positive experience can be created. Although there was always an element of anxiety about being observed, emotional discomfort did not seem as paralysing for participants who viewed observation as a routine occurrence. Participant 1 stated, 'I'm so used to observation ... I'm always observed', so for this participant, and for others who perceived that observation was a normal, relatively frequent and expected part of clinical practice, the performance anxiety associated with being

observed had positive learning outcomes. For others, emotional discomfort negatively impacted their performance: 'I think a lot of that comes from the fact that it is a novel experience. It does throw you off your game a little bit' (P20). The observer's behaviour and his or her relationship to the learner could also mitigate the observer effect. Observers were carefully chosen and finding one who set clear expectations and a positive, professional relationship set the stage for a comfortable encounter:

I think the difference in that case might have been that I'd had a good relationship with that particular preceptor at that point, and I was aware of it, I knew it was happening, so I could be prepared mentally for that. Because I felt it was a little . . . it probably would have been anxiety-provoking if I hadn't had such a good relationship with that staff, and known about it in advance. (P22)

Some participants recognised the impact of an observer's behaviour on the usefulness of the experience and suggested ways that an observer might be effective:

I think the ability to shut up makes a good observer, because if you're constantly interjecting, you're not observing anymore. So, I think you have to be able to be quiet and watch. And then, really be able to sort of break down what you were seeing, so that, not only can you see the good, but you can see the bad as well. And if there's not something that's necessarily bad, see how to make something better, because we can always be doing better. (P3)

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## DISCUSSION

It's a scientific principle that the act of observation is changing the outcome of an event. (P21)

Calls to increase the amount of direct observation in postgraduate medical education make intuitive sense; direct observation offers a valuable opportunity for educators to see how trainees perform during staged or real-world clinical encounters, and to craft feedback to help learners identify their strengths and weaknesses.<sup>2</sup> Specifically, observation of learners in workplace settings 'offers the opportunity to see beyond what they know and into what they actually do, which is fundamentally essential to training qualified physicians'.<sup>10</sup> However, our findings suggest that the presence of an observer also

creates unintended consequences that alter learners' clinical behaviour, leading them to question whether their observed performance accurately reflects what they actually *do*. With the authenticity of their own performance in doubt, we speculate that the credibility of the feedback they receive on that performance may be diminished, even if the observer is trustworthy. The observer effect is well studied in other settings, but our research expands on its limited, yet impactful, role in the medical education discourse and may explain, in part, the ambivalence residents have about being observed.<sup>34</sup>

Becoming a competent, patient-centred physician requires learners to master technical rationality (the 'textbook' knowledge and procedural skills required *to do the work of doctoring*) and to hone professional artistry (the way experts *practice the art of doctoring* by synthesising the mechanics of medicine with workplace-based experience).<sup>35,36</sup> We suggest that learners' ambivalence about being observed is related to epistemological tensions pertaining to how they learn and to how they develop their professional identities. That is, learners' performance goals are hierarchically organised at three levels of decreasing importance: their self-concept (or ways of being), mastering the tasks of doctoring and learning the tasks of doctoring.<sup>37,38</sup> Participants perceived that they largely honed their technical rationality and professional artistry<sup>35,36</sup> through the trial and error of autonomous learning and service provision; they assumed that the purpose of direct observation was to assess tasks and their task learning. They rarely, if ever, thought of an observation as being for their personal or professional development. Being observed, therefore, created significant emotional discomfort because it conflicted with participants' autonomy<sup>21</sup> and burgeoning self-concept, because it was perceived as relatively novel and because it was almost always perceived as a high-stakes proposition.<sup>39</sup> Consequently, participants felt pressured to stage a performance to impress their observer.

Our findings make two novel contributions to the literature. First, participants had difficulty distinguishing between observation and supervision, and they were therefore uncertain about the observer's role and purpose. Regardless, the presence of an observer signalled for them that they were being assessed. Second, an 'observer effect' was perceived to alter their performance in a way that could undermine the credibility of the feedback received.

### Are observers ‘observing’ or ‘supervising’?

Participants described that expectations of what direct observation is, and what it is intended to do, were often not clearly articulated. They rarely knew when an observation would occur, how the observation would unfold, and whether the observer’s purpose was to assess their knowledge and skill, to ensure patient safety or to nurture their professional development. In other words, learners were unsure whether they were being *observed* or *supervised*. Supervision and observation are distinct curricular strategies, yet the terms are used interchangeably in the literature and, we suspect, in practice. Although there is considerable overlap, making sense of the differences between supervision and observation requires paying attention to what is foregrounded, to the distance between the observer and the learner, and to who is able to fulfill pedagogical roles.

Supervision is ‘the provision of monitoring, guidance and feedback on matters of personal, professional and educational development in the context of a doctor’s care of a patient’.<sup>40</sup> Supervision prioritises patient safety<sup>40</sup>; there is an expectation that trainees will be supervised by the ‘most responsible physician’, albeit with graduated responsibilities and progressive independence.<sup>41,42</sup> Supervisors use direct observation as *one component* of what they do, but supervision may also occur at arm’s length, sometimes without the supervisor being physically present. By contrast, direct observation implies that an observer is actively watching how learners perform; not all observers, however, are necessarily responsible for supervising trainees. Learner performance may be watched, and perhaps commented on, by a range of observers (e.g. patients, allied health professionals, junior trainees, etc.); although patient safety is often an important piece of direct observation, a learner’s education and professional development sometimes take centre stage. However, attending physicians typically have the dual role of supervising and being asked to observe, and the delineations are opaque both for observers and for those being observed. Because overlap occurs, confusion reigns and participants’ confusion seemed to directly impact whether or not they perceived direct observation as valuable to their learning.

Although direct observation, for supervision, for coaching or for summative assessment, has a place at all stages of training, we were struck by participants’ lingering perceptions that observation was inextricably linked to assessment. But perhaps we shouldn’t be. The observer’s intentions and

expectations for the observation’s purpose matter less than what learners’ *perceive* the observer’s intended purpose to be.<sup>43</sup> Participants perceived that they were directly observed to gauge whether or not they could be trusted to competently and independently perform clinical work<sup>44</sup>; ‘the observer as coach’ seemed antithetical to their observation experiences. Consequently, lack of clarity about the purpose of and expectations for the observation exacerbated their role ambiguity; in other words, in the presence of an observer, participants did not know whether to behave as a *learner* or as a *doctor*.

We speculate that participants assumed that direct observation was supposed to be inversely related to their professional development. In other words, as participants earned progressive independence, they expected that direct observation would recede from their everyday clinical work.<sup>21</sup> Because it seemed implausible to participants that direct observation might be used solely to coach their professional development, the sporadic appearance of a clinician-observer was perceived as a *surprise* that sounded an alarm for participants to be on guard. In response, participants described that they automatically defaulted to performing in assessment mode. Specifically, participants focused on *doing* or demonstrating that they understood clinical facts or that they knew the ‘textbook’ approach for performing a clinical skill, and suppressed their *being*, or how they integrated art into the science of medicine.<sup>45,46</sup> Our findings provide empirical research to support anecdotal evidence that the presence of an observer changes how trainees perform.<sup>47</sup>

### The ‘observer effect’

Different expectations and approaches can lead to different perceptions of performance,<sup>48,49</sup> and being observed is well known to change behaviour.<sup>50–56</sup> The Hawthorne, or observer, effect was first described after a series of early 20th century studies at the Western Electric telephone factory in Chicago, which measured how workplace variables, including illumination, rest and observation, impacted employee performance.<sup>53</sup> Regardless of how they manipulated variables, researchers concluded that being observed significantly influenced workers’ productivity and altered their performance.<sup>54</sup> Even seasoned health care professionals are not immune to the observer effect. Clinicians alter their diagnostic and prescribing behaviours<sup>52</sup> and demonstrate better compliance with hand hygiene protocols<sup>55</sup> and clinical practice recommendations<sup>56</sup> ‘merely as the result of being studied’.<sup>52</sup>



Changes in behaviour occur even if clinicians are observed in their usual clinical environments, and regardless of the observer's attempts to be unobtrusive or to minimise their discomfort.<sup>56</sup> Being observed by a fellow clinician may intensify the impact of the observer effect, and discomfort may be a strong motivator for changing performance or behaviour.<sup>56</sup>

In research, an observer effect is attributed, in part, to artificial study conditions, and it is either controlled for, or acknowledged, as a potential explanation for, or limitation of, the results.<sup>50,51,57,58</sup> The literature suggests that the purpose of workplace-based observation is, however, to circumvent the artificiality of exam settings to see how learners perform in a naturalistic clinical environment; the potential for an observer effect to influence workplace learning and performance is rarely considered. Instead, in medical education and research, it is widely assumed that direct observation is a reference standard teaching and assessment strategy, in part because of the presumed relationship between direct observation and effective feedback. Feedback is considered a foundation of learning,<sup>59</sup> but the effectiveness of feedback relies on its credibility. For learners to perceive feedback as credible, the activities upon which the feedback is centred should be observed,<sup>60</sup> and the observer must be trustworthy.<sup>18,60-62</sup> Our paper's contribution is in uncovering another key element of credibility: the perceived authenticity of the observed performance.

### Implications

For feedback to impact learning, it must align with a learner's self-assessment and goals<sup>60,63</sup>; DeNisi and Kluger theorise that learners' respond negatively when they interpret feedback intended to address task or task learning as a critique of their self-concept.<sup>37</sup> We contend that feedback is a red herring. Violations of professional identity are distressing,<sup>46</sup> and for participants, being observed became stressful and anxiety provoking when it clashed with their assumptions about their independence and skill. Therefore, although negative emotions may manifest in learners' responses to an observer's feedback,<sup>37,38</sup> we speculate that it is the appearance of an observer that poses the greatest threat to a learner's self-concept, and in turn, to learners' receptivity to feedback. In other words, if learners perceive that they 'staged' a performance as a learner that doesn't reflect what they would have done as a doctor, they may be unlikely to value feedback generated from that inauthentic performance.

We suggest that a perceived observer effect may partly explain learners' perceptions that useful feedback is scant.<sup>56</sup> Although there may be learning value in the implicit pressure exerted by an observer to make learners perform in a more thorough and meticulous way, educators must recognise that an observer effect risks moving the learner's perception of their performance from authentic to inauthentic, thus minimising the credibility of feedback they receive. If participants' perceptions are accurate, then assessing an 'authentic performance' is difficult, if not impossible, for clinician educators. Observing and assessing the communicator, health advocate and professional roles may be particularly problematic. For instance, patient-centred communication requires improvisation<sup>64</sup>; in their usual practice, participants described tailoring their communication style to each patient. In the presence of an observer, however, they described adopting a formal and formulaic approach, raising questions about whether it is possible for clinician educators to authentically evaluate communication and other key competencies through direct observation.

We are *not* suggesting that direct observation is unimportant or futile. The role of direct observation in assessment is valuable and well described. For junior residents, being observed doing the checklist work of doctoring is useful; however, senior residents require coaching to help them integrate developing competencies into a professional identity and 'the emphasis should be on trying continuously and longitudinally to help students to find out who they are, who they are becoming, and who they wish to become'.<sup>65</sup> Despite the potential for an 'observer effect' to impact perceptions of authentic performance and assessment, direct observation remains arguably the best way for clinician educators to see how learners *do the work of doctoring*, and to assess whether learners are safe and competent.<sup>10</sup> Some participants valued being observed and described that having an observer see their 'real-time' decision-making and interactions with patients and colleagues was advantageous for their learning. For these participants, direct observation was an important, even critical, educational strategy that had a positive impact on their learning and professional development.<sup>21</sup>

We *are* suggesting that for direct observation to consistently have a positive impact on learning, clinician educators need to think differently about how they conceptualise and engage in direct observation. To maximise the credibility and value of direct observation for learning, three features are required: (i)

learners must trust, and have a good relationship with, the observer,<sup>22</sup> (ii) the observer must clearly articulate expectations, and (iii) it should be clear when observation is connected with assessment and when it is not.

### A way forward

To avoid role ambiguity, to reduce uncertainty and performance anxiety and to mitigate perceptions of inauthenticity, it is imperative for observers to clearly articulate if their purpose is to assess learners' medical expertise or to coach learners' professional development. In other words, observers must clarify for learners whether their goal is to assess how a learner *does* the work of a physician or to nurture the ways he or she *becomes* a physician. Clinician-scientists at the University of British Columbia recently piloted a promising coaching-based feedback programme<sup>22</sup> built on normalising observation and feedback in authentic clinical settings, de-emphasising assessment and clearly articulating the coaching intent of the programme to both learners and teachers. Although this innovative programme is promising, more work is required to address logistical issues and to devise strategies to successfully implement similar innovations across residency programmes. Specifically, clinician educators are overburdened with clinical and academic duties, rendering it difficult to make room in their busy schedules for the time this type of observation programme requires. To be helpful for learners and to be feasible for educators, we also require better evidence about how frequently, and for how long, direct observation needs to occur for learners to become accustomed to the presence of an observer.

Another way forward is to broaden perceptions about what it means to be a credible observer. Participants reported that the degree to which participants altered their behaviour depended on who was watching; participants performed, or *perceived* that they performed, more authentically when someone other than a physician was watching. Because multi-source feedback research provides the most robust evidence that workplace-based assessments impact learner performance,<sup>66</sup> research exploring the feasibility and credibility of engaging patients and families in medical education and assessment is timely and critical. For instance, although patients and family members may not be able to provide credible feedback about certain aspects of learner performance (e.g. textbook medical knowledge or procedural skills)<sup>67</sup> they *are* qualified to provide feedback about whether or not learners communicate with or

advocate for them in ways that meet their needs. Additional evidence is required to assess the feasibility of more meaningfully engaging patients and families in medical education and assessment.

### Limitations

Our findings describe the experiences of residents at two Canadian academic centres and are therefore not intended for generalisation to other settings. This is a study of perceptions, which means that learners might perceive that their performance has been altered negatively by having an observer present, but it may not actually be. Similarly, they might perceive that direct observation offers little educational value or impact, even if it directs them more than they recognise. Notwithstanding these possibilities, learners' perceptions matter; perceptions influence the likelihood that feedback will resonate and clinician educators can use their awareness of a potential observer effect when they observe and when they craft their feedback. Research exploring whether or not clinician educators perceive that their presence impacts learner performance is also warranted.

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### CONCLUSION

The observer effect, or the unintended consequences that happen when an observer is present, may alter learners' performance, raising questions about the authenticity of direct observation and the perceived credibility of the feedback that arises from it. The perceived novelty of direct observation, coupled with perceptions that their performance was being graded, created significant stress and anxiety that altered how participants approached their work. It is perhaps not surprising that participants felt that, in the presence of an observer, they were being assessed. For participants, the presence of an observer is stressful and anxiety-provoking and may unintentionally exacerbate their role ambiguity, intensifying tensions around their professional identity formation. Both of these experiences contribute to an overall sense of discomfort that perpetuates ambivalence about being observed. We are *not* suggesting that direct observation is unimportant. But we *are* suggesting that educators need to be aware that how residents *perform* in the presence of an observer may not reflect what they actually *do* as independent practitioners,<sup>68</sup> and that this has a ripple effect on how valuable they feel the observation and attendant feedback is to their learning.

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