Original Research Article

Family Medicine Residents' Reactions to Introducing a Reflective Exercise into Training

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ABSTRACT

Introduction: Teaching residents how to reflect and providing ongoing experience in reflection may aid their development into adaptable, life-long learning professionals. We introduced an ongoing reflective exercise into the curriculum of a family medicine residency program. Residents were provided 15 minutes, three times a week, to complete these reflective exercises. We termed these reflective exercises "clinical blogs" since they were entered into a web-based computer portfolio, though they were not publicly available. The aim of this study is to explore family medicine residents' responses to the introduction of an ongoing reflective exercise and examine strengths and challenges of the reflective process. **Methods:** We invited a cohort of family medicine residents (8 residents) who had all participated in the reflective exercises as part of their residency to participate in one of two offered focus groups to share their experience with the reflective exercise. An investigator not connected to the training program led each focus group using minimal structure in order to allow for the breadth of residents' experiences to be revealed. The focus groups were audio recorded, and the recordings were transcribed verbatim without identifying participants. We used a grounded theory approach, using open coding to analyze the focus group transcripts and to identify themes. **Results:** Four residents participated in each focus group. We identified four main themes regarding family medicine residents' responses of the reflective practice exercises: (1) Residents viewed blogging (reflecting) as a method of enhanced personal and professional self-development; (2) Despite the reflective exercises being valued as self-development, residents see an inherent conflict between self-development and professional duties; (3) Residents recognize their emotional responses, but writing about emotional issues is difficult for some residents; and (4) Clinical blogging in our residency has not reached its potential due to the way it was introduced. **Discussion:** The themes indicate that future efforts at integrating reflective practice should further test the methods through which regular reflective practices are introduced. Identified themes provide evidence for reflection as enhancing capacity for self-development and suggest the potential for clinical blogging as a method to build a cornerstone for the capacity for reflective practice in medicine.

Keywords: Attitude of health personnel, clinical competence, ethics, medical, professional competence/standards, self-assessment, writing

Introduction

The path from naïf, prior to medical school, to competent clinician following medical school and residency training involves a transformation of the individual. This transformation occurs through the acquisition of a large amount of information and a wide range of skills, the development of attitudes coincident with those defined by the profession, and a habit of thought and method of reasoning rooted in methods of scientific inquiry.

How these cognitive skills develop, however, is just starting to be identified. Experience-based learning is the model often associated with developing expertise in medicine.[1] By itself, though, experience gained through the apprenticeship system does not lead to development of expert performance. For expert performance to develop, practice must be deliberate, meaning that one must, "acquire mechanisms [of thought] that are designed to increase their control and ability to monitor performance in representative situations…"[2]

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Thomas Kuhn, in The Structure of Scientific Revolutions, explained that scientists learn by "acquiring from exemplars," which are, "the concrete problem–solutions that students encounter from the start of their scientific education…"[3] Similarly, in medical education, physicians begin the development of clinical expertise through the development of clinical exemplars-typical presentations and management solutions for medical problems. This process of deliberate monitoring and adjusting of cognitive performance results in the development of mental structures, or illness scripts, which become the heuristics used by competent clinicians.[4,5]

A vital part of assembling these illness scripts is the construction of meaning, based on experiences, through the process of reflection.[6,7] Reflection is defined in several ways,[8-12] but generally entails, "a conscious and deliberate reinvestment of mental energy aimed at exploring and elaborating one's *understanding* of the problem one has faced (or is facing) rather than aimed simply at trying to solve it" (italics in original).[13] Reflection is not just thinking about an event; it is developing a self-knowledge through improved self-awareness. By evaluating an experience, new knowledge gained from the experience is integrated into one's existing knowledge structure.

Reflective exercises were first proposed at the start of the previous century[14] and have been used in education since the 1970s.[15] Today reflection has been introduced at all levels of health professions education.[11,16-25] Teaching medical residents how to reflect and giving residents ongoing experience in reflection may lead to better and more thorough illness script development,[26] and may also result in adaptable, life-long learning professionals who can better develop their expertise throughout their careers.

The aim of this study is to explore family medicine residents' responses to the introduction of an ongoing reflective exercise and examine strengths and challenges of the reflective process. The process of reflection was assigned, but residents chose the content/topic and approach to their reflections. Residents completing the reflective exercises participated in a focus group to talk about their experiences with reflection. Themes identified in residents' comments about the regular practice of reflection indicate the strengths and challenges of introducing the reflective exercise to residency training.

Methods

In this research, we used a grounded theory approach to examine themes of residents' comments shared in focus groups. Grounded theory in its original form[27] is a philosophical approach and research method based on an epistemology of constructionism and a theoretical perspective of interpretivism in which the explanatory framework is developed by the systematic gathering and analysis of data such that the explanations for human behavior are inductively grounded in the data[28] and can be useful in predicting the future.[27] In a grounded theory approach, the investigator starts without a predetermined theory, developing the theory systematically as data are collected and analyzed.[27] The resulting theory is "grounded" in the data and analysis, inductively derived from the phenomenon it represents.

Study Context

The study was conducted in a family medicine residency program. This three-year training program has eight residents in each year of training. In addition to the standard teaching that occurs in this type of residency, we implemented a regular reflective exercise to the residency program, with the goal of enhancing their illness script development[26] as well as to develop their reflective ability. Faculty members connected to the family medicine residency recognize reflection as stepping back on a set of clinical experiences, and decided to introduce reflection to potentially enhance clinical reasoning, scientific sense-making, and personal growth and development.

Residents, when on clinical assignment at our family medicine model clinic, were given a 15-minute time slot three times a week to write a short reflective entry. We selected a 15-minute period based on the experience with similar reflection exercises in Denmark.[29] Residents were expected to produce a reflective entry of any length each time the reflection exercise was assigned.

All reflective exercises were entered by residents into a computerized portfolio, which were kept private and confidential unless the resident marked an individual exercise as public, meaning that it can be read by the resident's advisor, other residents, and faculty.

After several pilot projects of different prompts to encourage reflective writing, we decided not to include prompts. Rather, residents were instructed to use the exercise in any manner they chose. To avoid being prescriptive, the residents were shown many different short reflective exercises, including published ones as well as reflections written by faculty members.

The reflective exercise was introduced to residents as a "clinical blog." We intentionally avoided the word "reflection" based on experience with residents' perception that this word carries connotations of detachment and instead chose "clinical blog" to connect to residents' enthusiasm for clinical/patient care at this point in their professional development. However, unlike traditional internet-based blogs, residents can decide whether to share their writing, and the extent of possible sharing would be limited to others using this online system.

To enhance uptake, the clinical blogging exercise was introduced using the principles of diffusion of innovation.[30] We introduced clinical blogging over a 6-month period, provided peer support, shared positive experiences with clinical blogging by the residency director (a role-model and opinion leader for residents), and offered opportunities for open communication through feedback to the residency director.

Despite our efforts, completion rates for clinical blogs ranged from 0 to 31 blog entries per resident over a 7-month period. Scheduling limited the amount of time some residents had to produce clinical blogs, though all residents had at least 12 scheduled opportunities to write clinical blogs.

Participants and Procedure

We conducted two focus groups to hear residents' thoughts on the role of clinical blogging in their learning. Eighteen residents were invited to participate, and eight residents agreed. Some invited residents did not participate because of time constraints or they were not available at the time of the focus groups. Both groups contained at least one representative from each residency class and the gender distribution within the groups approximated the distribution of the residency. Group members were well known to one another but had not met the moderator before.

A researcher not connected in any way to the training program conducted the focus groups (AD). The groups were audiotaped and this recording was transcribed verbatim by a transcription service. Participant responses were kept anonymous by identifying participants as "voice 1," "voice 2," etc., on the transcription. The affiliated medical school's Institutional Review Board approved this research protocol.

The group interviews were conducted in a room at the residency-training site over the lunch hour. Each interview was approximately 1 hour long. The group interviews were semi-structured with low moderator involvement, with the moderator asking residents to share their experiences with clinical blogging. The moderator started each session with a statement similar to, "What I'm looking at is what your experience is with clinical blogging. What did you find challenging? What was easy or hard? What was helpful or unhelpful?" Additional probing or clarifying questions were asked as needed.

Analysis

Grounded theory guided the analysis[27] and identification of core concepts. The transcriptions of the audio recordings of these interviews were separately coded by two researchers (AD and AS) using an open-coding method to identify incidents in the interviews. Following this first-level coding, the same two researchers reviewed the transcripts together. Where there was disagreement (5% of the incidents), coders shifted and reorganized independently and then re-reviewed together until reaching consensus.

Codes were grouped into categories (axial coding), and core categories were identified. Primary themes related to categories of learning and subordinate constructs highlighting the range of experiences with clinical blogging are described below.

Results

Four primary themes emerged from the data.

Theme 1: Blogging (Reflecting) is Viewed by Residents as a Method of Personal and Professional Self-development

All residents expressed a desire to blog and a realization of the value in reflection. Blogging was seen as a creative activity or a potential source of creativity, though not everyone used it that way:

"My 15 minutes of blogging is actually 15 minutes playing guitar in a day. That's pretty much my sort of creative expression".

Residents identified using the blogging process as a learning/study tool, including as a note-keeping/storing device and as a way to consolidate/frame new information:

"The writing comes in the process of stepping back and looking at the sort of meta picture of it, the idea of being intentional about how I think and how I go about things".

"Most of the benefit I've been getting is being able to put my jumbled thoughts out there and make some sense out of them. I think the act of just writing it isn't really doing anything for me, but reading what I wrote and saying what I'm thinking about this, and (pause) figuring out how the process of my day or whatever situation I was writing about affected me. That's the big benefit I've been getting".

Theme 2: Despite Being Valued as Self-development, Residents See an Inherent Conflict Between Self-development and Professional Duties

Several residents used the analogy of exercise to explain that, similar to other forms of self-care, they felt they had to place professional priorities ahead of blogging. This distinction was made evident by the frequent concern for lack of time or lack of the mental space to reflect. Even when given the time and place to reflect, they were often unable to do it because of the need to fulfill patient care responsibilities-answering messages, completing forms, completing records, or preparing for patient visits:

"My priority is to actually read up on patients that I'm going to see that day, or take care of my (message) box. Patient care always trumps it, and what ends up happening is I think about blogging. I idealize and think wow, wouldn't it be great if I could like write about something I saw, 'cause we definitely know that there's value".

In addition to a perceived lack of time, residents also expressed the need for a mental and physical sanctuary away from patient care activities to be able to reflect effectively, drawing analogies to a church service and airport chapel as refuges that allowed for reflection. Their desks, though separate from direct patient care, are not physically removed enough from their duties to provide this mental refuge. More frequent bloggers in particular (who might be more invested in the process than less frequent bloggers) described challenges of space as a need for sanctuary:

"But it's about being in the right like mental frame of mind. So it's making sure I'm not distracted, not thinking about my mailbox, or my e-mail, or patient calls, or the patient I just saw".

This conflict to take time for one's self also translated into an issue of culture-constraints of putting self-development ahead of patient care. Medicine has a culture of self-denial and this culture, though not explicitly stated by core faculty, perhaps, is picked up by residents:

"If somebody looked over and saw that I was blogging, I feel like they'd be wondering why aren't you helping cover the [message] boxes?" (laughter).

Residents see reflecting-on-action[1] as a necessary aspect of patient care though their training seems to emphasize action to a greater extent than reflection ("act now, think later"… or never). Blogging was equated with reflecting-in-action or reflecting-on-action and was seen as a vital aspect of medical practice, but the ability to do so was being lost.

Related to this focus on action is the perceived loss of the ability to connect with the personhood of individual patients. The electronic medical record, with its preprogrammed patient care notes, seems to remove, for residents, the ability to reflect as they outline patients' stories on paper as a way of understanding each patient's situation as it unfolds in time.[31] Residents recognize blogging as a way to capture and articulate the full range of the experiential narrative, although they would rather it were part of the patient's record:

"I used to write these really lovely notes about my patients, so that my note was not just this patient is a 42-year-old woman, bullet point, bullet point. It's a story. And we're actually deliberately encouraged not to do that. It's not possible to even have that kind of narrative or reflection about the patient in the course of writing the clinical care (plan). And so to spend 20 minutes of blogging when I could spend five more minutes on a patient note to really[unclear] so the next person who reads the note goes this isn't just a woman with menstrual cramps, but a woman who's in an abusive relationship and internalizing what's going on. It's like that I'm even losing that (connection to patients)".

Theme 3: Residents Recognize their Emotional Responses, but Writing About Emotional Issues is Difficult for Some Residents

Residents described challenges of identifying one's own weaknesses to oneself. Also, blogging does not meet their need to norm–their need to know that their feelings of inadequacy or their difficulty coping is or was also experienced by fellow residents. As a result, they would rather talk about their own feelings, insecurities, and difficulties with other residents, instead of writing about them. For some residents, writing without being able to talk about it with someone, to get support and feedback, is difficult:

"[Thinking about] things that were hard and things that were wonderful, that's how I get my head around emotional things that have happened in my day is by talking to people. So for those of us who don't (need to hear another person's response)–I think for some people, it's wonderful 'cause they can kind of express themselves on paper, and that's just not how I do it".

"For me just to write it doesn't do as much for me as sharing it, sharing the story and getting feedback on it".

A related concept is reluctance to be vulnerable among peers. This vulnerability would be exposed by making their blogs public-even straight scientific blogs would expose a vulnerability. At least one resident has posted public blogs, but the completeness of this resident's blogs makes others hesitant to post their own publicly:

"I think part of the learning process is to let your ignorance show. But I wonder if there's a hesitation on my part to do an open blog because it would show OK, so I didn't know how to diagnose a medical problem two weeks ago. Well, now I do, fine. But you know, then you really have to show everything you know and you don't know to everyone".

Theme 4: Clinical Blogging has not Reached its Potential due to the Way it was Introduced

Clinical blogging was introduced without any requirements for how it should be done, only that it should be done. However, numerous examples of how to use it were given, in terms of ideas and instructions as well as examples shared with residents by faculty members. The lack of structure of the

space (essentially an empty box) gave residents little in the way of feedback as to whether they were doing it "right."

This lack of specifics was intentional so that residents would be free to use it in any way they saw fit. Since the entries are confidential and not used in any assessment, there is no requirement, other than to record an entry, that needs to be met.

Whereas if it was presented more in a let's learn to reflect or let's actually formalize our reflection, because it's actually good for our education. (laughter) As opposed to like it felt a little bit more like you must do this. So I don't know the right way to approach it or to present it, but I look around and I see a lot of people who are very scarred by blogging, and the whole experience over the past year.

Discussion

Residency training is a time when, ideally, residents move from dependent to independent learning. The transition is not a smooth one, however, since the structure of most programs and the longstanding apprenticeship model of training does not encourage self-direction. In addition, learners who possess exemplary dependent learning skills often find it difficult to transition to the nebulousness of self-directed learning.

This dependent/independent-learning environment in a residency also means that there is considerable looseness surrounding "required" activities, especially when residents perceive more requirements than time allows. Introducing any learning activity, especially one that does not have immediate consequences for non-completion, has to provide enough internal reward that learners adopt it.

In our focus groups, residents appreciated the value of a reflective exercise as part of their curriculum, although they found it difficult to do. The "reflect now" aspect of scheduled clinical blogging hampered their efforts, as did the ever present call of professional duties that were not being attended to during this personal development exercise. As blogging has become more of a part of our standard curriculum, though, the culture has changed and residents feel less social pressure to eschew self-development activities in favor of getting the work done.

Reflection, especially written reflection, is not easy for some learners. Our minimally structured approach without prompts to guide the reflections and with minimal prescription of content seems to have left some residents wondering if they were doing it "right." In addition, facing their emotional issues and responses without the ability to norm with peers via discussion made reflection difficult. We are experimenting with combining clinical blogging with a brief facilitated group debriefing session for residents to share the concerns they discovered during blogging.

In introducing a reflective exercise in residency training, many of our ideas were effective. First, we gave them designated time to do it rather than simply adding it on to their already overloaded schedule. We used planned, purposeful techniques to enhance early adoption. Without being prescriptive, we provided examples of how the process can be used, allowing residents to adapt it to meet their own needs. Initially, but not in follow-up, we provided additional time for residents who wished to discuss the contents of their blogs, or related topics.

Strengths and Weaknesses

A strength of this study is that the analysis is thoroughly grounded in data representing residents' experiences and thus free from preexisting ideas of strengths and challenges in reflective practice. We interviewed residents who frequently and infrequently wrote clinical blogs, finding similar themes in both groups, indicating similar strengths and challenges across both frequent and infrequent clinical bloggers. A new faculty member who does not hold a position of power within the residency invited residents to the interviews, and someone with no connection to the residency interviewed them. As a result, there should not have been pressure to "say the right thing."

One challenge in the current data is that the study reflects attitudes of only family medicine residents, and attitudes and responses may be different when reflection is introduced in residencies of other specialties. In addition, we found that resident attitudes and behaviors were influenced to some degree by the method of introduction of the reflective exercise (Theme 4). As a result, less (or more) attention paid to change management in a residency may affect resident attitudes and responses to the reflective exercise. This family medicine residency places inherent value in teaching patient-centered care, which recognizes and validates the ways the patient experiences and roles influence both their perception of care and the choices they make in the provider-patient interaction. Thus, participating residents may be influenced by a core value to reflect on patient experiences, and this core value may exceed the boundaries of the clinical blogging exercise.

Similarly, the experiences of focus group participants may not be generalizable to all family medicine residents. Participants who elected to be part of the focus groups may differ from the general attitudes of family medicine residents in that focus group participants may inherently be more attracted even to the process of reflection about the clinical blogging.

Future efforts at integrating reflective practice should further test the extent to which clinical blogging can serve

as a cornerstone for developing the capacity for reflection experiences with patients, about the process of medical education, and about personal growth within the context of medical residency. Role modeling of reflective exercises by faculty may also improve uptake by residents and prove beneficial to both groups. Future research should also address the issue of sharing clinical blogs, as more choices in sharing blogs may create a higher value on both the formative process and the potential feedback from reflective exercises.

Conclusion

Family medicine residents who completed clinical blogs described growth in personal and professional development through the reflective exercise but also described competing demands of professional duties that limited their time and commitment to the reflective exercise. Residents recognized emotional responses as important, but they described limitations of the reflective exercise in processing their emotional responses. Themes identified through focus groups of family medicine residents provide evidence for clinical blogging as a pathway for developing capacities required for medicine, but the study also highlights potential limitations in the process of introducing clinical blogging as reflective practice.

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