

Leadership Experiences of Internal Medicine Residents: A Needs Assessment for Leadership Curricula

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Purpose: Leadership development during medical training is critical. Accrediting bodies strongly recommend and residents desire leadership training. However, limited needs assessment data exist regarding trainee perceptions of and experiences with leadership training. Our objective is to describe residents' perceptions of leadership and desires for leadership training with the goal of informing effective curricular development.

Patients and Methods: In 2019 a trained qualitative interviewer conducted semi-structured interviews with volunteer second-year categorical internal medicine residents recruited via email across four institutions. Interviews were audio-recorded, transcribed, and inductively coded by two independent coders. After adjudicating discrepancies, coders synthesized codes into broader themes. Final thematic analysis was triangulated with the entire author group.

Results: Fourteen residents were interviewed (50% female). Few reported prior leadership training. Thematic analysis yielded six main themes. First, residents perceive "leadership" to be related to formal, assigned, hierarchical roles. Second, residents identify their own leadership primarily in the inpatient clinical setting. Third, residents identify clinical competence, emotional intelligence, and communication as important skills for effective leadership. Fourth, residents struggle to identify where leadership is currently being taught. Fifth, residents desire additional leadership development. Finally, residents prefer well-labeled, interactive methods for leadership development.

Conclusion: Although residents desire leadership development, these skills are not often explicitly taught, labeled, or assessed. Curriculum developers may consider explicitly contextualizing leadership training within an "everyday leadership" framework, dovetailing leadership coaching with daily teaching workflow and feedback structures, and implementing faculty development initiatives to allow for appropriate feedback and assessment of these skills.

Keywords: graduate medical education, curriculum development, needs assessment, trainee

Introduction

Despite lacking formal leadership training, physicians routinely lead complex multidisciplinary teams in research, education, and patient care.^{1,2} Clinical leadership skills are linked to higher-quality patient care and outcomes, and an improvement in leadership skills brings about better outcomes for both patients and health systems.³ For these reasons, graduate medical education (GME) accrediting bodies in the US and Canada^{4,5} and multiple recent publications^{1-3,6} have made explicit calls for formal leadership development training. The Accreditation Council for Graduate Medical Education emphasizes core residency competencies that involve specific leadership skills (eg, communication, professionalism, systems-based practice) as integral to residency training.⁴ In Canada, the framework for core competencies (CanMEDS) of trainees recently underwent a major shift to focus on leadership, stating "all physicians lead in their everyday practice",⁷ and leadership development

programs are effective in improving leadership skills, which was recently demonstrated by a high-quality randomized multicenter study.⁸

Despite these recommendations, significant gaps in GME leadership training exist. Published GME leadership curricula are few and far between, and generally target select groups (eg, chief residents),^{2,9} which may promote the idea that leadership is tied to formal roles and paradoxically increase the leadership gap by training those who have already demonstrated leadership capacity. Further, existing programs are heterogeneous in terms of content and delivery.⁹ Of particular concern is the reported lack of description of, and agreement on, foundational concepts and theoretical frameworks which have guided published curricula.⁹ Finally, little needs assessment data exist on how trainees perceive and experience clinical leadership which is important to guide curricular development and engender trainee buy-in.

To our knowledge, the most robust needs assessment in this area describes outcomes of a single-site resident survey conducted between 2013–2014.⁸ The majority of respondents indicated interest in additional leadership training, and topics of particular interest included “leading a team, confronting problem employees, coaching and developing others, and resolving interpersonal conflict.”¹⁰ While well-done, the survey methodology used in this study limits responses to predetermined options and is likely to have missed nuances of resident experience and perceptions in a definition-elusive area such as leadership; additionally, the single-site location limits generalizability.

To address the need for a generalizable needs assessment, we conducted a descriptive qualitative multi-center study with geographic and program diversity to explore resident perceptions of and experiences with leadership during internal medicine residency training.

Methods

We conducted semi-structured interviews with Internal Medicine residents at four geographically diverse academic institutions. We chose a qualitative inquiry framework, selecting qualitative description to facilitate a more comprehensive understanding of resident experiences than other methods would allow.^{11,12}

Qualitative Description and Sample

The sampling frame for this study consisted of second-year Internal Medicine residents across four institutions: Saint Louis University Hospital, University of Pittsburgh Medical Center, University of Chicago Medicine and Oregon Health and Sciences University. We chose second-year residents as, having completed over a full year of medical training, they would have sufficient experience with clinical leadership in a variety of roles (eg, as an intern and resident team leader) to generate a thoughtful perspective. The Institutional Review Board (IRB) at each individual institution granted this project exemption. The Saint Louis University IRB acted as the IRB of record and reviewed the approval letters from the three other collaborating institutions’ IRBs.

Recruitment occurred via email. Each Internal Medicine Residency Program Director provided email addresses for eligible participants to the Qualitative, Evaluation, and Stakeholder Engagement (Qual EASE) Research Core staff at the University of Pittsburgh via each site’s project leader. The investigators had no further role in recruitment and have no knowledge of which residents ultimately participated in the study. Qual EASE staff sent the initial recruitment email to all eligible residents, and interested residents then completed a 20-minute semi-structured telephone interview. The Qual EASE interviewer obtained verbal informed consent prior to each telephone interview, which included publication of anonymized responses.

Data Collection

We developed the interview script following a thorough literature review and expert consultation. We pilot-tested the script with four Internal Medicine chief residents at two institutions and scripting was refined for readability. Questions sought to elicit residents’ perceptions of, and experience with, leadership in the clinical setting and their desires for future development ([Appendix 1](#)).

A single trained and experienced Qual EASE Research Core interviewer conducted and audio-recorded all telephone interviews, which were then de-identified and transcribed verbatim. Audio-recordings and transcripts were stored in

a secure Qual EASE database, to which the investigators did not have access. De-identified transcripts were shared directly with the investigators via encrypted cloud-based software.

Qualitative Description and Analysis

The initial unit of analysis was the transcribed telephone interview. Each deidentified transcript was uploaded to ATLAS.ti 8 for Windows (ATLAS.ti Scientific Software Development GmbH). Investigators conducted a thematic analysis without any a priori hypotheses. Two independent investigators (ML and SM) read each transcript and inductively constructed a codebook,¹³ independently re-applied the final codebook schema to all transcripts, and adjudicated coding discrepancies until agreement was achieved.

Investigators then elaborated relationships between codes to identify themes and sub-themes.^{14,15} Initial themes were triangulated with the full research team, and final thematic analysis was achieved through discussion and consensus of all investigators.^{16,17} Investigators noted that no new codes emerged by the 9th interview and completed coding of all 14 transcripts to respect participants' time and willingness to participate.

Results

Demographic Characteristics

Fourteen residents were interviewed (University of Chicago: 5, Oregon Health and Sciences University: 4, University of Pittsburgh: 3, and Saint Louis University: 2). Gender identity was evenly split among respondents [female: n=7 (50%), male: n=7 (50%)]. The interviewees' median age was 30, with an interquartile range of 28–31. Only one resident reported formal leadership training prior to starting residency.

Thematic Analysis

Thematic analysis yielded 6 main themes within two broader categories of resident perspectives: 1) current perceptions of and experience with leadership training and 2) wishes for leadership training.

Resident Perceptions of, and Experience with, Leadership Training

Residents Perceived Leadership to Be Hierarchical and Directly Related to Role

Residents perceive leadership as hierarchical and directly related to an assigned role:

[Somebody who] is... usually toward the top of a pyramid of people who are working for common goals and that person is kind of heading up the team and making sure that the team is all functioning efficiently and well to achieve a common end.

Like the military leader like in a whole decked out outfit... being able to manage the skills of those around you and underneath you and to some extent above you in order to like keep a coherent focus and mission and get the work done in timely fashion.

Residents Perceived Inpatient Clinical Service as Area to Demonstrate Leadership

Residents primarily identified the inpatient clinical setting as that which provides an opportunity to demonstrate leadership, as relating to their perceived increased level of autonomy in that setting.

As a resident... you are a leader every single day that you are on service. anytime that you have people beneath you or working with you, like interns and medical students, you are a leader.

Attendings give senior residents a lot of autonomy with regards to how they run the team, the decisions that are made... they get to practice kind of their leadership skills in that setting.

When I'm on teams inpatient services, again there's that explicit expectation that you are a defined leader... whether or not you...acknowledge it or not, you are taking on a lot of roles that involve leadership. You are defining team plans, you're communicating amongst your team members, you are delegating roles to the interns and medical students on your team. And so you are doing a lot of roles that are, um, attributed to leadership positions.

Only one resident identified the concept of informal, everyday leadership:

I think sometimes identifying maybe not just being like the president of a club but showing other ways that people can be a leader so people know all the different ways that they can lead, that it doesn't just have to be you know taking this position or doing this. Like you can just lead in your everyday life.

Residents Perceive Effective Leadership to Be Demonstrated Through Clinical Competence, Emotional Intelligence, and Effective Communication

Residents identified the following skills as important for effective leadership: clinical competence (necessary but not sufficient), emotional intelligence, and communication. Residents also place a high value on a safe and comfortable learning environment. These skills were often described within a single clinical scenario; the following excerpt illustrates the interconnectedness of these individual concepts:

I remember a situation where we went down to the Emergency Room and there was a patient had come in atrial flutter... the medicines they put him on to control the arrhythmia sent him straight into cardiogenic shock; it made his weak heart even weaker. And so we get down there and we're seeing this patient... and rather than freak out, blaming people, start naming names, [Resident] just walks into the room, he sees the patient not doing very well... and he very calmly grabs a nurse, says, can you please turn that pump off? and then walks over to the patient, reassures the patient that everything's okay, and then grabs me and kind of walks with me out of the room and says, like, this is an example of how things can go. I'm gonna have a chat with the attending here in the ER. And when he sits down and he talks to them he's not like accusatory or anything, he just says, I'm very concerned about the patient; I think he needs the unit. And they were like, well, why? We always do this. And rather than fight, [Resident] was just like would recommend that you get a [cardiology] evaluation... this patient was intubated, on pressers like, four hours later, almost died. And I thought that that was excellent, excellent leadership, like, he just identified the problem and rectified it. And he showed me the steps to do that along the way so that I learned how to...swiftly take care of a patient and show your colleagues in the ER, that you know exactly what was going on. And because they know him, because they like him... they immediately communicated how they got to this decision. And I think if they didn't know him, and they saw him as confrontational or adversarial, they would never have told him why they'd made that decision; we might never have gotten to the root of the problem. So I think being a leader is also about how you approach people and how you handle conflict.

Most Residents Struggle to Identify Where Leadership Skills are Taught in Their Institutions

Though 3 of the 4 participating institutions in this study conduct formal leadership programming, most residents struggled to identify where leadership skills were currently being taught. Five of 14 residents identified that their residency programs did offer leadership training but described it as poorly labeled and difficult to recognize.

I'm not really aware of anything super formal that our residency training offers.

I'm sure we must have some sort of, like, what they call a formalized leadership...training, but I don't...know that off the top of my head I recognize it directly as that

Residents most often described learning leadership skills through an informal apprentice model, in which skills are taught or role modeled, via exposure rather than formal development.

It's more of like an apprenticeship than it is a uh, a formal teaching about leadership... you sort of learn from your attending... on the wards I would often ask my attending like 'How, how would you have handled this?' and kind of used their expertise to build on my own, own leadership skills there. So that's kind of an informal teaching.

Resident Wishes for Leadership Training

Residents Desire More Leadership Training

Residents generally voiced a desire for additional leadership skill training during residency. Some residents offered content areas as suggestions, which were primarily centered within the domains of communication broadly (4 comments), conflict management or negotiation (4 comments) and coaching or developing others (2 comments).

Communication skills...are always useful. I think negotiation is part of it because you're making decisions - does the patient need to come to me... how do I talk to this resident who's trying to transfer a patient to me who's my friend, but also I don't necessarily agree with them on the clinical standpoint.

[it's] been a little bit difficult knowing how much or how little to help to teach... I think sometimes I don't know how to promote the people below me. I know how to kind of give them compliments but sometimes knowing how to help them make the next step, learning to promote the people I'm leading.

Some residents also desired additional leadership development training but found it challenging to name specific skills which would benefit them most.

I think it's hard –it's one of those things where it's hard to know what you don't know.

Residents Prefer Explicit, Interactive Format

When asked to identify preferred methods for future leadership training, residents voiced a preference for explicit, interactive formats for future leadership development training (eg, workshops, coaching, reflection). This directly contrasts their aforementioned perceptions of current leadership training delivery (ie, informally, through apprenticeship).

I wonder if it would be something where the residents could actually submit firsthand experiences and then kind of discuss amongst themselves. getting other people's opinions, both that are at the same level you are and all the people then who are further along in their careers, is sometimes helpful.

Simulating different scenarios I think would be very helpful, with some sort of formalized...feedback about how we handled those situations.

Discussion

When asked to define leadership, residents draw on a largely formal, hierarchical definition that is siloed within the inpatient medical team, exclusive of other interprofessional members. Though residents prioritize leadership training as important, they struggle to identify formal curricular development efforts within their programs and cite an apprenticeship model for learning these skills.

Most importantly, postgraduate trainees view leadership through a traditional and individualistic lens which contrasts with modern views of clinical leadership that recognizes the critical importance of teams and relationships. Onyura et al's recent systematic review summarizes this contrast clearly:

Over the past decade, discussions on leadership in healthcare have started to embrace contemporary conceptualizations of leadership that define leadership as mutually influencing, power-sharing, and collective... they all have at their core a reframing of leadership as exercised within groups along relational lines that are not necessarily defined by formal roles or traditional hierarchies.

The implications of these findings are significant. First, residents may not appropriately or easily identify existing leadership curricula as such if the content falls outside a hierarchical, individualistic conceptual model of leadership. This discordance could mean that trainees and program leaders "talk past" each other in terms of goals, expectations, and results of existing or proposed leadership training. These findings highlight the importance of 1) explicitly identifying a clear conceptual model of leadership at the outset of any curricular effort and 2) re-framing leadership to reconcile any conflict with a more hierarchical view of clinical leadership. Second, educational program leaders must be cognizant of the risk of overweighting technical and task-oriented cognitive and managerial skills (eg, time management, conflict resolution) in lieu of equally important relational components of leadership.^{1,2,9,18,19}

Additionally, our finding that postgraduate trainees struggle to identify existing leadership development efforts and learn leadership predominately through apprenticeship is in keeping with a larger body of research that shows the paucity of these programs.^{1,2} The implications of this struggle are twofold: 1) the content and quality of resident current leadership training is variable and largely dependent upon clinical faculty to draw attention to and reflect upon workplace

interactions and 2) as a result, graduating residents may not have a consistent leadership experiences that guarantee competence in a predetermined set of skills. Thus, we propose a work-based learning approach for resident leadership development. Work-based structures are increasingly recognized as well-suited for leadership development as it facilitates both real-world practice and refinement of leadership skills.²⁰ Such an approach provides two benefits. First, it is in keeping with our findings that postgraduate trainees desire interactive learning, coaching, and reflection as key elements of content delivery. Further, work-based approaches could help overcome limitations on curricular time and space, commonly cited barriers to traditional didactic curricula within GME.

This study has several important limitations. First, we interviewed a relatively small number of residents. Second, our sample is at risk of selection bias in that residents who chose to participate could have held particular interest or strong beliefs about leadership training within GME. Finally, our findings may not be generalizable to other institutions, practice locations, or training specialties. It is unknown whether trainees in other fields or settings are exposed to more, fewer, or different leadership training experiences.

Next steps in this area of research include a larger qualitative study examining this area and potentially expanding to first-year residents as leadership development needs may differ by stage of training and exploring residency program leadership perspectives on leadership training.

Conclusions

Residents view leadership through an outdated lens, as being tied to a formal, hierarchical role rather than a set of skills to be developed and used within day-to-day workflow. To optimize resident buy-in and effective delivery of leadership development curricula, programs should explicitly identify and frame a conceptual framework of relational, informal leadership at the outset of any curriculum and utilize work-based models for coaching and assessment that pay balanced attention to cognitive, emotional intelligence, and character domains of leadership.

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Contributors: Residents and Program Leadership at OHSU, University of Chicago, St. Louis University, and University of Pittsburgh.

Disclosure

The authors report no conflicts of interest in this work.

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