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Creating a Satisfying Continuity Clinic Experience for Primary Care Trainees

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INTRODUCTION

The considerable gap in the primary care workforce of the United States is anticipated to widen over the next 10 to 15 years.[1] Numerous physician groups have called for increased focus on primary care training in medical education.[2-4] In 2009, the Accreditation Council on Graduate Medical Education (ACGME) mandated an increase for ambulatory training during internal medicine residency, requiring a minimum of 130 half-day clinics over 3 years. This increased requirement presupposes that greater exposure will inevitably lead to more primary care physicians, but some have argued it is increased exposure to high-quality, high-functioning primary care experiences that inspire trainees to contemplate a career in primary care.[5]

In 2018, Stepczynski et al[6] conducted a systematic review of all English-language articles published prior to December 2016 about physician trainee satisfaction with ambulatory training. In that review, only 2 factors were reliably associated with trainee satisfaction: minimizing outpatient/inpatient conflict and recruiting faculty dedicated to outpatient teaching. Subsequently, a 2019 scoping review of all published ambulatory training innovations since the 2009 revision of the ACGME Program Requirements identified 182 relevant articles.[7] However, heterogeneity of the interventions described, use of nonstandardized measurement tools, and lack of patient-level outcomes assessments limited generalizability.

Freed from the strict methodology of a systematic review, narrative reviews are useful in synthesizing the available literature when the methodologic rigor of systematic reviews fails to provide practical recommendations.[8] Where evidence is lacking, expert opinion can inform recommendations. We provide a pragmatic, evidence-based narrative review of the literature, intended to offer concrete, actionable recommendations to increase resident satisfaction with primary care training.

METHODS

The authors, each with a decade or more of leadership experience as program directors in internal medicine or pediatrics (SH, JM, BD) and clinic directors (DT, LW, ME), represent 4 distinct primary care practices in Connecticut. Beginning in November 2018, we listed all potentially relevant factors emerging from prior reviews and the authors' own experience. Using an

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initial list of 15 factors, we met monthly until June 2019, deliberating about which were best supported by the literature. A final list of 10 specific factors was distributed among the authors, who reviewed the available evidence, drafted a summary, and presented to the group until consensus was reached.

RESULTS

We categorized 10 recommendations into 3 major themes: institutional commitment, residency program commitment, and faculty commitment.

Theme 1: Institutional Commitment

Recommendation 1: Partner with institutional leaders to invest in primary care. Keirns and Bosk[9] argue that exposure to primary care settings will not increase interest if these settings are under-resourced, dysfunctional, and perceived as undervalued by the institution. In a cost-conscious health care system with decreasing revenues and struggling hospitals, primary care may be undervalued relative to more lucrative procedure-based subspecialties. It is particularly true of residency program-based continuity clinics that historically provide care to uninsured or underinsured patients and rarely match operational costs.[10] Moreover, this complex patient population has a higher prevalence of significant medical and psychiatric illness than a typical general practice,[11] possibly contributing to further disillusionment.

Educational leaders must impress upon institutional leadership that investing in primary care, ideally via the creation of patient-centered medical homes, is essential. Such investment leads to improved patient outcomes,[12-14] reductions in cost and health care utilization,[15,16] and reduced physician burnout.[17] In addition to financial investment, institutions must also culturally embrace the importance of primary care. A hidden curriculum may disparage primary care, making it less likely to generate interest among both undergraduate and graduate medical education trainees.[18-21]

Recommendation 2: Maximize ambulatory functionality of electronic health records (EHRs). Although some EHRs accentuate ambulatory functionality, others emphasize inpatient utilization. Institutions must select and support an EHR well suited to both venues. Although the EHR has the potential to enhance data retrieval, care coordination, and medication safety, it can also increase time required for documentation, cause work disruptions, and increase electronic administrative tasks.[22,23] These challenges negatively impact satisfaction, and institutional leaders must support efforts to address them. Gidwani et al[24] demonstrated that the use of scribes is associated with higher provider satisfaction, while computerized physician order entry is associated with increased provider burnout.[25] Optimizing EHR workflows and minimizing burdensome electronic tasks will be appreciated by trainees and faculty alike.

Importantly, a capable EHR system should also facilitate effective panel management and population health. ACGME promotes this training priority with milestones focusing on practice data, quality improvement (QI) activities,[26] and community health.[27] While EHRs can provide individualized and mostly automated practice-level data, few studies in the literature have assessed best practices in this area.[28,29] Little dedicated time for such efforts, small resident panel sizes, and misattribution of panel data are difficult challenges to address. However, Haynes et al[30] showed improvement in ability to receive, interpret, and understand practice data with only a brief amount of educational time, so it can be overcome.

Recommendation 3: Team-based care and interprofessionalism. In a 2016 report, the Association of American Medical Colleges concluded that team-based care was one of 10 essential components of a highly-functioning primary care clinic.[31] Well-developed teams allow physicians to manage care in demanding environments and provide patient continuity when a resident is not in clinic. Additionally, team structure and culture have been associated with lower burnout among providers in primary care.[32] The Association of American Medical Colleges offers 9 elements of team-based care: stable team structure; co-location; sharing the care; defined roles with training and skills checks; standing orders and protocols; defined workflows; staffing ratios adequate to facilitate new roles; ground rules; and enhanced team communication with meetings, huddles, and minute-to-minute interaction. Residents who work with medical assistants and nurses throughout their tenure develop collaborative professional relationships, cultivating the skills needed to practice within a high-functioning team.[33,34] In such a team-based model, all members contribute

PERSPECTIVES VIEWPOINTS

- To increase resident satisfaction with primary care training, institutions must invest in primary care, optimize the electronic health record, and incorporate team-based health systems.
- Residency programs should commit to integrating subspecialists into the ambulatory site, enhance community engagement opportunities, foster a diverse patient population, and emphasize continuity of care.
- Faculty must commit to setting a culture of learning and engagement for trainees, while also balancing supervision and autonomy when precepting.

meaningfully to patient care and function at the highest level of their license. Also, patients interact consistently with at least one familiar member of a trusted team.

Theme 2: Commitment of Residency Program

Recommendation 4: Integration of subspecialties into practice site. Access to specialty care is essential for appropriate primary care delivery. Ideally, only limited specialist support would be needed, although the literature suggests otherwise. For example, using a sample of 845,243 visits from the National Ambulatory Medical Care Survey, one study found the referral rate for Medicare beneficiaries increased 10% over 10 years.[35] Likewise, in a study of community health centers, about 25% of visits resulted in medically necessary referrals.[36] Unfortunately, residency clinics often cannot meet the demand for specialty access, resulting in long wait times and risk for poor health outcomes.[37]

To address this problem, primary care providers should expand their skillset to include focused specialty care in a few highly needed areas such as diabetes or addiction. Further, embedding specialty services within primary care can improve access. For example, a Mayo Clinic study found that integrated spine specialists reduced referrals to the spine specialty clinic by 70% over 1 year.[38] Alternatively, hospitals and teaching programs can collaborate with specialists to host an internal specialty clinic co-staffed by specialists and trainees, which offers the unique opportunity for residents to deliver consultative care—under the supervision of a specialist—on their own primary care patients, enhancing continuity of care, valuable educational opportunities, and potentially improving resident satisfaction.[7] Over time, it may improve the expertise of the primary care team to deliver meaningful specialty care without external support.[39] In addition to billing for their services, the specialist can be supported by a flat fee paid by the sponsoring institution or may volunteer their time to support the teaching mission and the community.

Recommendation 5: Community engagement and home visits. Ambulatory care is more than the interaction between physician and patient in an office-based context. Visiting nurses, home health aides, and other home-based professionals are key to comprehensive care, especially with complicated patients. Exposing learners to these important experts enhances their understanding of the complex nature of ambulatory care. The ACGME milestone of system-based practice requires that all residents are able to "work effectively in various health care settings … coordinate patient care within the health care system … and work in interprofessional teams."[40] Partnering with community agencies and engaging in home-based care addresses these requirements. Further, incorporating home-based care into their own practice (ie, home visits) engages trainees with the patient's environment, uncovers barriers to care, and reveals hidden forces that impact a patient's health.[41,42] A study of a home visit program at a family medicine residency program showed improved understanding of community services, enhanced assessment skills, and improved overall care.[43] Another study among pediatric residents that included pre- and post-testing after implementation of a home visitation program demonstrated improvement in overall care of the patient, understanding of home and community resources, excitement about home visits, and comfort in the neighborhood. Importantly, these changes showed a sustained effect 14 to 22 months after the intervention.[44] Community engagement through home visits and other community-based activities provides meaningful context for comprehensive patient care.

Recommendation 6: Aim for a diverse patient population. Diversity in clinic patient characteristics and medical conditions are associated with higher resident satisfaction.[19,45-47] Gender balance and a diversity of patient ages are also associated with improved satisfaction among internal medicine residents, while a lack of patient diversity may dissuade residents from pursuing primary care.[19,45] Similarly, for pediatric residents, higher clinic satisfaction is associated with diverse pediatric patients from all socioeconomic groups, as well as a balance of adolescents and newborns.[46] In addition, higher satisfaction among both internal medicine and pediatrics residents has been linked to patient panels with a well-balanced spectrum of health problems not dominated by pain, psychiatric issues, or chronic diseases.[47] For a range of structural reasons, ambulatory training sites may serve a patient population skewed in terms of patient sex, age, social class, health status, or medical conditions.[48-50] Educators should aim to maximize patient diversity for trainees by, when possible, balancing panels across patient characteristics (eg, age, sex) and offering opportunities for block rotations at ambulatory sites with complementary patient populations.

Recommendation 7: Continuity and fidelity between residents, patients, and faculty. Continuity with a defined panel of patients is essential for meaningful practice-based learning. Studies indicate that continuity of care is associated with fewer patient hospitalizations and emergency department visits, increased adherence to medications, and improved patient satisfaction.[51,52] Creating continuity between patients and residents may require several components including: flexible patient scheduling (eg, same-day appointments), ability to

reliably predict resident schedules, and team-based care that creates a familiar cadre of providers for an individual patient. By creating teams of 5 or 6 residents who cover each another, one clinic improved continuity with primary care provider to primary care team from roughly 41% to 89%. It was accompanied by a significant no-show/cancellation rate decrease from 10.6% to 4.6%.[53] Additionally, continuity between residents and faculty is also important and allows for the development of meaningful mentorship and substantive feedback over time.

With continuity in mind, the Residency Review Committee for Internal Medicine recognizes that ambulatory education programs must minimize the conflict between inpatient and outpatient experiences.[40] In response, numerous programs have implemented "X+Y" scheduling, in which inpatient rotations (X) are separated in time from ambulatory block rotations (Y). Initially described in 2010,[54] distinct X+Y block schedules have been shown to increase resident satisfaction with the ambulatory experience and improve resident patient continuity.[55-57] Distinct ambulatory block rotations also provide dedicated time for didactic conferences, subspecialty experiences, panel management, and QI activities. Importantly, successful implementation of X+Y scheduling involves careful consideration, as transitioning to this model involves substantial scheduling and cultural changes.[58]

Recommendation 8: Participation in clinic operations. Resident engagement in clinic operations is a hallmark of highly functioning residency clinic practices and meets an important training need. Empowering residents to become tomorrow's primary care leaders requires experience engaging with institutional leadership.[31] Participation in clinic operations also allows a trainee to become an involved stakeholder, thus promoting a greater sense of ownership while simultaneously allowing increased awareness of their clinical microsystem. The trainee learns to access a system's resources more efficiently, influence clinical processes, and drive QI efforts. Furthermore, engagement in clinic operations allows residents to influence the shared values and common goals of the practice, belong to a larger leadership community, and promote connection with colleagues, all of which are strategies that may reduce physician burnout.[59]

Theme 3: Commitment by Faculty

Recommendation 9: Enthusiastic, dedicated and well-trained primary care faculty. Faculty set the culture for learning and engagement for the trainee. Recruitment of faculty who model excellence for primary care and enthusiasm for teaching correlates with improved trainee experience.[45,47] Satisfaction with faculty mentorship is also associated with increased likelihood of choosing a career in general internal medicine.[60] While faculty may have other duties as educators, we believe faculty preceptors should be well supported and well recognized in their role, potentially through the provision of awards or formalized titles that acknowledge teaching excellence in the clinic. Such recognition should serve as an important factor for salary support and promotion. Faculty development should also be supported and encouraged, including training in teaching techniques (eg, observation, feedback, and evaluation) and attendance at educational and primary care conferences to stay current with ACGME requirements and their clinical field. As clinician-educators, faculty should be experts in both practice and pedagogy.

Further, we believe faculty should follow a panel of patients within the ambulatory practice because it ensures faculty ownership of practice goals and the patient experience and front-line knowledge to inform QI and research projects.[61] Faculty involvement in direct patient care fosters a spirit of collaboration, mentorship, and shared goals that enhance the well-being of the residents.

Recommendation 10: Balance supervision and autonomy when precepting trainees. Clinician educators are beholden to the public to ensure patient safety. Yet educators must also promote autonomy in trainees so they can thrive as future independent practitioners. The outpatient setting exemplifies this tension between appropriate supervision and preserved autonomy with Medicare's Primary Care Exception Rule (PCER). Preceptors may bill without interacting directly with the patient—an extraordinary display of trust toward interns only 6 months into their training.[62] Overreliance on PCER may undermine the principles of "deliberate practice," which asserts that competence can only be achieved by repeated direct observations with feedback that is timely, specific, and actionable.[63] Precepting that occurs exclusively in the conference room is unlikely to foster deliberate practice, and likely fails to unlock the full potential of trainees.

While use of PCER may be appropriate at times, we suggest faculty should maximize opportunities for observation and feedback. One well-studied approach is to promote "Precepting in the Presence of the Patient."[64,65] With this approach, residents or medical students briefly outline for their attending the agenda items of the visit, sensitive issues, and areas of uncertainty *outside* of the room. The trainee and preceptor enter the room and the trainee, using patient-centered language, presents the case to the attending. In this way, trainees practice and elicit feedback on patient-centered communication, physical diagnosis, and patient-assessment skills. This approach has been well received by students, residents, faculty, and patients alike.[64,66-68]

DISCUSSION

Fostering a high-quality ambulatory experience for our trainees is critical for their professional development and the patients they serve. Numerous studies have evaluated important elements to crafting a well-organized educational experience, such as optimizing the EHR, arranging schedules to ensure continuity and team-based care, supporting the clinic with appropriate resources, and encouraging a well-trained faculty.[6,7] However, most studies addressed specific challenges within a single institution and were of small scale and short duration. Generalizing such findings to other residency programs is difficult. We believe that this review, informed by both literature and collective experience, serves as a helpful roadmap for other institutions.

We have categorized our 10 recommendations into 3 overarching themes—institutional, residency program, and faculty commitment. While some recommendations may belong in more than one category, we believe these 3 themes effectively incorporate the essential elements for a high-quality educational experience.

Limitations should be recognized. It is possible we overlooked a key study that could have informed findings. Likewise, we augmented the findings of a literature review with our own expert opinion and acknowledge the possibility of selection bias. However, while the authors represent a single institution, we care for diverse patients in 4 different primary care settings within a large academic medical center. Although we assert our recommendations are generalizable to a wide variety of clinic settings, we recognize they may be best suited for academic medical centers. We also acknowledge that our perspective as general internists and pediatricians may neglect some factors particular to family medicine residency training.

CONCLUSION

A high-quality learning climate within ambulatory training sites shows promise to inspire the next generation of physicians to pursue primary care. Institutional support, residency program commitment, and engaged, expert faculty are all required to make it a reality. When elements are missing, the clinical and educational enterprise will struggle. This review highlights the creativity and leadership of many clinician educators who have made important strides in improving ambulatory education.

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