Resident as Preceptor: An Ambulatory Internal Medicine Curriculum for Third-Year Resident Precepting

Rachel Hilburg, MD*, Andrew Coyle, MD
*Corresponding Author: rachel.hilburg@gmail.com

Abstract

Introduction: The role of outpatient preceptor is a core component of many careers within internal medicine (both general internal medicine and subspecialty practice), yet opportunities to learn and practice this skill during residency training are limited. The purpose of this initiative was to introduce outpatient clinic precepting into the third-year ambulatory experience with a didactic and experiential curriculum. Methods: Internal medicine third-year residents received a 1-hour didactic on outpatient precepting and participated in a precepting session in their ambulatory block rotation during the 2017-2018 academic year. During this session, third-year residents precepted their first- and second-year colleagues in the residency clinic with faculty supervision. Residents were surveyed before the didactic and after the precepting experience to assess precepting comfort level, preparedness to supervise others, and satisfaction with the initiative in the ambulatory curriculum. Results: A total of 38 third-year residents were eligible to participate in the initiative, and 36 (94%) participated in the precepting session. Survey response rates were 76% and 78% for pre- and postsurveys, respectively. Resident survey scores of self-assessed teaching, precepting, and supervision skills increased from a mean of 25 out of 42 to 34 out of 42 ($p < .001$), with an average enjoyment score of 10.3 out of a possible 12, suggesting high learner satisfaction. Discussion: The introduction of outpatient clinic precepting into the third-year internal medicine residency ambulatory curriculum was met with high participation and satisfaction and can be a successful approach to augmenting the outpatient residency experience.

Keywords: Ambulatory Curriculum, Resident as Educator, Precepting, Clinical Teaching, Internal Medicine, Primary Care

Educational Objectives

By the end of this activity, learners will be able to:

1. Precept a variety of clinical cases in the outpatient setting.
2. Discuss basic clinical precepting skills and approaches.
3. Utilize basic teaching skills to educate effectively in the ambulatory clinic.
4. Report on the importance and applicability of clinical precepting skills.
5. Demonstrate leadership and teaching skills in the outpatient setting.

Introduction

Precepting is a method of supervising and teaching learners in ambulatory medicine while ensuring patient safety and high-quality care. Faculty preceptors are essential for the educational and clinical models used in primary care and subspecialty clinics in academic medicine. Despite this, ambulatory curricula in residency often focus on didactic learning and individual clinical skills, leaving precepting to be addressed in faculty development.

Anecdotally, some training programs have small precepting pilot experiences for their residents, but there was little to be found in the literature about creating these experiences or their educational effectiveness. While a small number of workshops have been implemented and studied for faculty clinician-educators, new conceptual models have not emerged. There is an absence of this type of innovation at the resident level, and the available literature lacks interventions that incorporate precepting of direct patient care.

This reflects a greater struggle for many internal medicine residency programs to facilitate growth in the outpatient realm. For residents in inpatient medicine, advancing seniority is often met with increased leadership and teaching opportunities. In
outpatient medicine in many programs, however, advancement simply means seeing more patients. While our internal medicine residency program had workshops on teaching skills\(^4\) and myriad didactic teaching opportunities (e.g., leading journal club or intern-level didactic sessions), we lacked a clear way for residents to exhibit leadership or teaching skills in the outpatient clinical domain.

General satisfaction with the educational and clinical quality of the ambulatory experience of our residency was high, but informal needs assessments through residency program town halls and graduating resident feedback sessions revealed a perceived dissatisfaction with the lack of leadership opportunities. We developed a program to incorporate a clinical precepting experience into the existing curriculum and teaching opportunities. We performed a single-center study to assess the effect of implementing this outpatient precepting program in the internal medicine residency curriculum for third-year residents. With its success, we aimed to significantly expand the program in subsequent academic years to create a more robust precepting experience for residents.

Methods

In this single-center study, we assessed baseline satisfaction with educational and leadership opportunities in the clinic, implemented a pilot resident-as-preceptor program for third-year residents, and assessed changes with a postprecepting survey. Our residency program had 38 third-year residents during the 2017-2018 academic year. Among these residents, six were members of the primary care track, eight participated in a medical education track for individuals interested in careers as clinician-educators, and six were members of a health care leadership track. Approximately 80% of our residents go into subspecialty training. All residents in the program cared for ambulatory patients at the Internal Medicine Associates, a safety-net primary care clinic, where they rotated for 2 out of every 8 weeks in a 6+2 model. Each ambulatory block, residents saw patients in parallel with the same group of coresidents on their team and always worked with one of their two team attending preceptors.\(^5\) Residents participated in a longitudinal ambulatory care curriculum with educational half-days during the block.

In the second half of the 2017-2018 academic year, each group of third-year residents participated in the resident-as-preceptor pilot program during their ambulatory block. The complete program included a presurvey, introductory workshop, precepting experience, and postsurvey with enjoyment scale. Surveys and the enjoyment scale were created by the authors and were not previously validated. The anonymous presurvey (Appendix A) consisted of seven questions to assess residents’ comfort level with precepting, teaching, and mentoring in the outpatient setting, as well as their level of interest in outpatient precepting. Presurveys were scored out of 42 points, utilizing a 6-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree) on each of the seven questions.

Didactic Workshop

A 1-hour didactic session was integrated into the third-year ambulatory curriculum. Chief residents led the sessions, which included a PowerPoint slide presentation (Appendix B, with presenter notes) with facilitated discussion and guided role-play (Appendix C facilitator guide, Appendix D resident roles). Based on the 6+2 model, this session was held a total of four times with approximately eight to 10 residents per session. All sessions were held in a conference room with a computer and projector to show the presentation slides as well as space to spread out for role-play.

The core didactic served to introduce the precepting experience and review basic teaching skills, including the five microskills and potential precepting models.\(^6-8\) Facilitated discussion occurred throughout the workshop, prompting residents to reflect on their own experience as preceptees, identify common pitfalls, and brainstorm strategies to optimize the precepting encounter. Workshop leaders utilized the discussion points available in the slide presentation notes. This session also served to outline program logistics, including the precepting schedule and expectations for feedback from faculty, as well as to answer any questions. This portion of the workshop lasted approximately 25-30 minutes.

Role-play was incorporated to practice the reviewed microskills and promote discussion. We divided residents into groups of two or three and guided them through three distinct role-play scenarios (Appendices C and D), which consisted of potential precepting cases including both acute complaints and chronic disease management. We emphasized the safety of the workshop learning environment to encourage nonjudgmental, active participation. The workshop leader set up the role-play by distributing a case to one of the learners and giving them time to read the scenario without showing their partner. Next, 5-7 minutes were allotted for the learner to present and their partner to practice precepting (with the third person observing, if present). Each scenario was scripted to highlight common obstacles and practice the various microskills. After each role-play, the group debriefed, utilizing questions provided in the
facilitator’s role-play guide (Appendix C). Residents subsequently switched/rotated roles with their partner(s) to ensure each participant had the opportunity to precept at least once with a unique case.

A 15-minute faculty development session was also held with the supervising faculty at a department meeting. This included a brief review of precepting models and feedback skills, an outline of the initiative and our expectations of faculty, and time for questions and discussion.

Precepting Session
Precepting sessions were scheduled for the ambulatory block following the didactic. A reminder email was sent to faculty the week prior to the precepting session, and a similar email was sent to each resident along with an additional handout (Appendix E) summarizing key teaching skills. We scheduled residents to precept with their own team, and they were supervised by one of their two attending faculty members. The third-year ambulatory block comprised a variety of sessions including continuity clinic (in which residents saw their own panel of patients), urgent visits, specialty clinics, administrative time, and 2 educational half-days. To accommodate one precepting session for each PGY 3, a coverage system was created for their urgent visit session or they were excused from one specialty clinic (where they were not needed for workflow). As such, there was no impact on patient volume, access, or clinical productivity, and no decrease in dedicated resident educational or administrative time.

During the precepting session, the third-year residents precepted patient encounters with the first- and second-year residents. Faculty members observed and could provide any additional teaching or guidance. Depending upon the number of clinicians and patient show-rate, each resident precepted approximately seven to 12 patient encounters. The third-year residents wrote a brief attestation for each patient encounter, but all orders and charts were cosigned by the faculty member in the electronic medical record. Faculty were asked to provide verbal feedback following the session and were also provided with a feedback card (Appendix F, also introduced in the didactic presentation) to capture written feedback and guide discussion. This feedback card was developed by the authors and was not previously validated. Competencies were adapted from faculty evaluation rubrics traditionally completed by residents to evaluate their own preceptors, with space for additional comments.

Approximately 1 week following the precepting session, the third-year residents were asked to complete an anonymous postsurvey (Appendix G). This included the same seven assessment questions as the presurvey, as well as two additional questions to assess resident satisfaction with the precepting experience and an area for additional comments. Average survey scores before and after the program were calculated and analyzed using t tests. The Icahn School of Medicine at Mount Sinai Institutional Review Board declared this study exempt (PD18-01315).

Results
Of the 38 residents in the third-year class, 36 (94%) were able to participate in the initiative. The two residents who were unable to complete the precepting session were absent from clinic due to family emergencies. All residents were supervised by a faculty member and precepted PGY 1 and/or PGY 2 residents.

The presurvey response rate was 29 of 38 (76%), and the postsurvey response rate was 28 of 36 (78%). Results of the pre- and postsurveys showed improvement in trainees’ agreement with all seven statements, as seen in Table 1. Participants reported an increase in self-assessed skills, specifically teaching, precepting, and supervising in the outpatient setting. Average total survey scores out of 42 showed a statistically significant improvement from 25 on presurvey to 34 on postsurvey ($p < .001$). An average enjoyment score of 10.3 out of 12 (Table 2) based on the two additional postsurvey questions suggested high learner satisfaction. There were no differences in results between categorical residents and those in specific tracks, nor between those pursuing general medicine versus those pursuing fellowship. Responses were variable as to whether

| Statement                                                                 | Average Score* | p     |
|--------------------------------------------------------------------------|----------------|-------|
| 1. I am comfortable precepting in the outpatient setting.                | 3.2            | 4.6   |
| 2. I have the skills to teach in the outpatient setting.                 | 3.6            | 4.6   |
| 3. I feel prepared to supervise physicians in training in the outpatient setting. | 3.2            | 4.4   |
| 4. I provide mentoring to the interns and junior residents on my outpatient team. | 3.8            | 4.3   |
| 5. The current outpatient structure allows me opportunities to teach.    | 2.8            | 3.6   |
| 6. I would be interested in doing more outpatient precepting in the future. | 4.2            | 5.1   |
| 7. Outpatient precepting would be a valuable part of the residency curriculum. | 4.7            | 5.3   |
| Total                                                                    | 25.3           | 34.2  |

*pSurveys scored out of 42 points total, utilizing a 6-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree) for each of seven questions.
the resident received verbal and/or written feedback from the supervising faculty.

There was a strong preference toward including this initiative in the residency curriculum, and several postsurvey comments advocated for augmenting the experience with additional precepting sessions. While not objectively measured, there was high reported faculty satisfaction with these sessions as well. We debriefed in a department meeting following the intervention, and multiple faculty members noted appreciation for the experience and hoped it would continue in the future.

In the 2018-2019 academic year, we increased the number of precepting sessions from one to three for each resident, one per ambulatory block in the second half of the year. We included the resident-as-preceptor program in the 2018-2019 end-of-year residency survey (PGY 3 response rate: 29 out of 40, or 73%) assessing components of all rotations and received a satisfaction score of 4.8 out of 5. We continued to receive an enthusiastic response although we have not formally surveyed future classes.

Discussion

This resident-as-preceptor pilot was successfully implemented in the third-year ambulatory curriculum. Residents were both willing and able to participate, and enjoyment scores were suggestive of high learner satisfaction. There appeared to be potential benefit regardless of a resident’s future plans or specific areas of interest.

The resident-matched preceptor model in our clinic with consistent resident-preceptor pairing likely increased confidence in the residents’ skills and faculty willingness to provide autonomy in the experience. In our pilot, the PGY 3s were also able to integrate into the preceptor role without disruption to the clinic schedule or patient care. This pilot may be more difficult to implement in a program where residents do not work consistently with the same outpatient faculty members, though this could be overcome with appropriate preparation and faculty development.

Limitations

There were limits to short-term, self-reported outcomes at the process and satisfaction levels, particularly with a small sample size such as ours. While attempts were made to match pre- and postsurveys with anonymous identifiers, slight variations made this matching unreliable, and therefore, it could not be used in our analysis. The inability to confirm survey responders were the same in the pre- and postgroup makes drawing conclusions difficult, particularly with a small sample size. In the future, more reliable identifiers and the use of a secure survey application will be more effective.

As is true with most survey-based evaluations, we also struggled to achieve a high survey response rate despite multiple opportunities for residents to complete the surveys. Additional modalities such as a focus group or an anonymous discussion board may have enabled more well-rounded feedback. These surveys did not achieve higher-level evaluation such as the intervention’s effect on residents’ clinical skills or direct impact on patient care. Incorporating direct observation or an objective structured clinical examination or soliciting patient feedback are potential opportunities for the future.

Our formal surveys were also limited to the third-year resident participants. We relied on thoughts and reactions from faculty, whereas formal solicited feedback could have been more informative and reliable. While we encouraged verbal feedback from faculty and completion of the feedback card, this was done inconsistently. We also lacked formal input from the learners—the interns and junior residents being precepted in clinic—who could provide a unique perspective on the program as well as useful feedback for their senior residents.

Future Directions

Despite the pilot’s limitations, its results were promising as a way to expand the outpatient resident experience. The resident-as-preceptor experience has been successfully integrated into the ambulatory curriculum for future academic years in our residency program. We hope multiple precepting sessions will create the opportunity for longitudinal growth. Future goals include ensuring participants receive feedback on their precepting as well as more formally assessing the supervising faculty and junior resident experience.

While this pilot was limited to an internal medicine training program, significant opportunity exists to expand educational precepting experiences across all spheres of ambulatory training, given the similarities in precepting models across many disciplines. With further expansion and study, this type of program has the potential to grow the resident outpatient teaching role, increase leadership opportunities in clinic, and improve readiness for clinician-educator careers.

| Statement                                      | Average Score |
|------------------------------------------------|---------------|
| I enjoyed precepting in clinic.                | 5.1           |
| Precepting in clinic was a valuable experience. | 5.1           |
| Total                                          | 10.3          |

*aSurvey scored out of 12 points, utilizing a 6-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree) for each of two questions.
Appendices

A. Presurvey.docx
B. Didactic PowerPoint.pptx
C. Role-Play Faculty.docx
D. Role-Play Resident.docx
E. Handout.docx
F. Faculty Feedback Card.docx
G. Postsurvey.docx

All appendices are peer reviewed as integral parts of the Original Publication.

Rachel Hilburg, MD: Assistant Professor of Clinical Medicine, Renal Electrolyte and Hypertension Division, Department of Medicine, Perelman School of Medicine at the University of Pennsylvania; ORCID: https://orcid.org/0000-0002-6575-4765

Andrew Coyle, MD: Assistant Professor of Medicine and Medical Education, Department of Medicine, Icahn School of Medicine at Mount Sinai

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Ethical Approval
The Icahn School of Medicine at Mount Sinai Institutional Review Board approved this study.

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