QUALITATIVE RESEARCH

Findings from A Qualitative Preceptor Development Needs Assessment to Inform Program Design and Effectiveness

Charlene R. Williams, PharmD,^a Michael D. Wolcott, PharmD, PhD,^{a,b} Lana M. Minshew, PhD, Med,^c Austin Bentley,^a Lorin Bell^a

^a The University of North Carolina, Eshelman School of Pharmacy, Asheville, North Carolina

^b The University of North Carolina, Adams School of Dentistry, Chapel Hill, North Carolina

^c The University of North Carolina, Eshelman School of Pharmacy, Chapel Hill, North Carolina

Corresponding Author: Charlene Williams, The University of North Carolina at Chapel Hill, UNC Eshelman School of Pharmacy, One University Heights, Asheville, NC 28804. Tel: 828-250-3906. Email: charlene_williams@unc.edu

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Objective. To describe preceptor teaching challenges and preceptor development programming design preferences through a qualitative needs assessment.

Methods. In 2018, 148 experiential education stakeholders across North Carolina (eg, preceptors, residency program directors, experiential faculty administrators, and practice site administrators) were invited to participate in 60-minute semi-structured interviews as part of a broad preceptor development needs assessment. Interview questions focused on: (1) precepting challenges, (2) positive and negative features of preceptor development programs and, (3) preferences of program design. Interview transcripts were coded using thematic analysis.

Results. Forty-two participants completed interviews, including preceptors from various rotation types, residency program directors, experiential faculty administrators, and institution administrators. Participants identified numerous teaching challenges related to learner, preceptor, and institutional levels. Example responses from these groups included challenging teaching and learning situations, difficulty self-assessing teaching ability, and increasing institutional demands, respectively. Participants often noted there was inadequate time, resources, and support to effectively teach. Desirable preceptor development program features included practical strategies, collaboration with preceptors, delivery by education and practice experts, and topics specific to precepting experience. Participants identified live, on-demand, and webinar formats as acceptable if collaboration and engagement were included. Participants also desired unique training opportunities such as online platforms, coaching programs, and simulated learning environments.

Conclusion. Preceptors face numerous teaching challenges and require sufficient time, support, and resources to develop their skills. Participants requested training that included on-demand, frequent sessions delivered through various modalities, collaboration opportunities, a choice in topics and delivery formats, and sessions from educational and practice experts.

Keywords: preceptor development, needs assessment, qualitative methods, experiential education, program evaluation

INTRODUCTION

Experiential curricula often comprise a significant proportion of Doctor of Pharmacy curricula as well as the majority of pharmacy resident training; therefore, it is essential to identify preceptors' needs and how to tailor development programs to achieve the desired outcomes. Programs should be designed by understanding the primary end users—volunteer and adjunct preceptors. Preceptors are faced with balancing practice site and precepting priorities, leaving little time to develop themselves as educators and mentors.¹ There is also an assumption that individuals with clinical expertise can readily assume and function effectively as preceptors; however, preceptors may lack foundational knowledge and skill sets related to clinical teaching and evidence-based pedagogical practices.^{1,2} Furthermore, preceptors who serve both student and resident programs may have unique development needs or additional time constraints, such as teaching different levels of learners, sometimes at the same time. These constraints are compounded by continued pressures health systems face to improve quality and reduce costs with existing resources.³

In addition to understanding the needs of preceptors, coordinators of preceptor development programs should seek and incorporate the advice of other pertinent stakeholders, including schools and colleges of pharmacy experiential education administrators and residency program directors (RPDs), who must maintain compliance with preceptor

development standards of accrediting bodies.⁴⁻⁶ Schools and colleges of pharmacy may lack necessary staff or other resources to develop and implement programming. They may also experience challenges ensuring participation in programming due to the often high number of volunteer preceptors utilized.¹ It is also critical to consider the perspectives of institutional administrators, such as pharmacy managers and directors of pharmacy, who influence the level of support provided for practitioner engagement in teaching and mentoring. Learning more about pertinent stakeholder perspectives may help direct the focus of scarce resources that align most with their needs.

Literature is sparse regarding desirable pharmacy preceptor development program attributes from a comprehensive stakeholder perspective that includes preceptors, residency program directors, experiential education faculty, and institutional administrators. While limited literature is available regarding residency program and pharmacy education perspectives, the viewpoints of institutional administrators have not been adequately explored.⁷⁻¹¹ When surveyed, RPDs and health-system personnel identified a need for more resources for preceptor development.⁷ Additional teaching challenges include insufficient time, difficulty balancing precepting and workload responsibilities, inability to provide effective feedback and perform evaluations, and insufficient assistance to manage challenging learner situations.^{8,9} Learner issues, which require a significant time investment to address, have also been recognized as a challenge for experiential education administrators in addition to the concern of expanding administrative responsibilities.^{10,12-14} Therefore, identifying and addressing specific learner challenges may provide efficiencies that would benefit preceptors, organizations, and experiential administrators.

Of note, the Professional Affairs Standing Committee of The American Association of Colleges of Pharmacy (AACCP) recognized the importance of standardizing preceptor development in its 2016-2017 report.¹⁵ In addition, recommendations for the development of a national preceptor development prototype emerged from work of the Canadian Experiential Education Project for Pharmacy, providing guidance for others interested in designing preceptor development platforms.^{11,16} While development resources are available through other platforms, they may be more limited in delivery modalities or scope, have cost limitations, or solely have a clinical focus. As a comprehensive national preceptor development platform is not available at the time of this writing, and the ease and cost of preceptor access to such a platform is unknown, pharmacy programs must provide preceptor development resources to their preceptors. Therefore, the purpose of this study was to describe perceived challenges and preferences for preceptor development programming from a broad stakeholder group including preceptors, preceptors with administrative roles, and experiential faculty administrators. This expansive needs assessment was conducted to inform the design of preceptor development programming that would address reported needs.

METHODS

In 2018, 148 preceptors associated with the University of North Carolina (UNC) Eshelman School of Pharmacy were invited to participate in one-hour semi-structured interviews. Invited participants were identified as high performing preceptors (ie, recommended for student awards, high evaluation markings, and frequently requested rotation areas) at academic medical institutions and other partnership sites across seven geographic regions in the state of North Carolina. A sampling of high-quality preceptors was used to refine the sample size given the qualitative nature of the study and to help ensure feedback was from self-aware, engaged, and knowledgeable participants. Approximately 10 preceptors were initially recruited in each of the following categories: health-system administration, community pharmacy administration, health-system operations (eg, distribution), inpatient clinical (including a mix of general and specialty practice), ambulatory care, community pharmacy (eg, independent, chain, and other), non-direct patient care (eg, industry, managed care, informatics), experiential faculty administrators (eg, individuals involved in experiential administration and student scheduling across the state), and residency program directors. Additional participants were recruited with the same criteria if the number of volunteers per group was less than three. Invited preceptor participants excluded full-time faculty preceptors, who comprised approximately 0.01% of school preceptors, to capture more diverse perspectives than those closely associated within the school.

For reference, at the time of the study, preceptor resources provided by the school included: 1) eight, 15- minute online videos to orient preceptors to the school's mission, curriculum, experiential syllabi, and policies and procedures; 2) biannual one-hour preceptor development programs sponsored by the Office of Experiential Programs and an educational research center at the school; 3) annual, 15-30 min online operational/procedural preceptor training updates; 4) quarterly preceptor newsletters; 5) access to the university's digital library resources; 6) annual regional in-person preceptor recognition and continuing education events in collaboration with regions when requested; and 7) an experiential manual. Additional curriculum resources, such as a list of disease states and timing in the curriculum were available in the school's experiential management system. Preceptors also received annual access to their de-identified student evaluations if they precepted three or more students. Further, preceptors had access to an online referral system for academic, health/well-

being, professionalism, and discrimination/harassment concerns and access to a 24-hour on-call system to receive assistance for serious issues necessitating immediate school intervention. Faculty in the Office of Experiential Programs at the school aimed to meet with sites annually as feasible and with new sites during onboarding. Sites could be visited more frequently if significant concerns arose. Of note, the school underwent a curriculum change in two years prior that increased the number and length of early practice experiences, including the addition of an early direct patient care experience.

Semi-structured, open-ended interview questions were developed by the research team in collaboration with the Office of Experiential Programs to ensure the research questions were addressed based on gaps in the literature while accomplishing organizational understanding of preceptor challenges.^{9,15-17} The questions focused on: (1) teaching challenges encountered while precepting and barriers to preceptor development, (2) positive and negative features of attended preceptor development programs and, (3) preferences for preceptor development programming. Interview questions were broad and applied to any preceptor development programming a participant attended including those from schools of pharmacy, their institution, or a professional organization. An educational researcher specializing in qualitative methods served as an interviewer and provided training to the two additional interviewers. Training focused on the basics of conducting an interview, and how to avoid interrupting participants, asking follow-up questions for clarification, and maintaining a neutral, non-judgmental tone. Participant demographics collected were the number of years precepting, practice area, geographic region, and number and type of student and residents precepted. Sessions were held via video teleconference and audio recorded. Audio transcripts from Zoom were utilized and one research team member (CW) checked the de-identified transcripts for accuracy by listening to each recording.

One team member (CW) was responsible for the initial thematic analysis of the qualitative data and created a codebook using inductive coding of salient themes across transcripts. Themes were confirmed by other team members (AB, LB).^{18,19} To ensure coding was done consistently across team members, an inter-rater reliability (IRR) was calculated at the question level during the coding process. The IRR represents the percent agreement that coders identified the same codes when analyzing transcripts for a specific question posed to the participant.¹⁸ When the IRR for a section of data was below 80%, discrepancies were discussed and resolved prior to moving on to the next set of coding. The average IRR was 94.4%; all discrepancies were resolved among the team members.

Following the final coding, one team member (MW) consolidated coded data through a thematic analysis; these findings were confirmed by another research team member (CW). A summary of major ideas were shared with the team for review and approve the results—the goal was to identify a robust and succinct list of ideas that minimized duplication for ease of dissemination. Of note, the frequencies and prevalence of utterances were not tabulated as the research goal was exploratory and aimed for a broad perspective that could inform preceptor development programming design; in other words, the focus was on inclusivity of opinions rather than majority opinions. In addition, subgroup analyses based on participant practice, location, or region were not conducted due to the limited sample size per group to make generalizable claims. Descriptive statistics were used to analyze participant demographics using Microsoft Excel (Excel version 2007) and were reported as frequency (n), percent (%), and mean and standard deviation [M (SD)]. The study was submitted and considered exempt from review by the university's Institutional Review Board.

RESULTS

Forty-two participants from a variety of regions and practice areas in North Carolina participated in interviews (Table 1). The most frequent practice areas included health-system administrators (n = 7, 16.7%), inpatient clinical practitioners (n = 6, 14.3%), and experiential faculty administrators (n = 6, 14.3%). Participants had an average of 10.7 years (SD = 7) of precepting experience and have an average of 11 learners (SD = 7.9) on rotation per year. Results are reported to reflect the ideas expressed by the larger participant group, and not specific stakeholder groups due to the low number of participants in each group and the desire to gain holistic information from a range of participants, not to inform programs for specific groups.

Participants identified various challenges to precepting and participating in preceptor development, which referred to learner, preceptor, and institutional factors (Table 2). The following are a list of examples to provide more context about some of the themes identified. At the learner level, participants described inappropriate attitude or behaviors such as learners not being, “particularly motivated or engaged” or professionalism challenges with learners who, “do not communicate well or don’t collaborate well” or who are having, “issues transitioning from a student to a professional.” Concerns about learner knowledge deficits were shared such as, “they struggle with some of the mechanism of action and pharmacology of a lot of drugs they should know.” Well-being was also recognized as a growing concern: “student wellness is a really big issue... I try to look for signs of depression. I think that I am able to see signs of depression more

than I used to because I actually look for it. There was a lot of pressure when I was in school, but I get a sense that it pales in terms of the pressure [now].”

At the preceptor level, participants often discussed challenges in their ability to execute teaching requirements due to insufficient time to manage and teach learners. For example, “just to schedule their day-to-day schedule... it’s a time commitment that...is extraordinarily difficult because my calendar is double-booked and triple-booked every day” and, “a lot of us are taking students into our regular workflow and... finding the time to make sure you’re taking those just in time opportunities to teach skills while maintaining your own routine...your regular clinical activities and other administrative activities I think is the hardest part for me.” Participants also found it difficult to find time for preceptor development such as time to self-assess development needs, attend development, and implement new ideas. For example, a participant stated, “time to think about how I’m precepting whether or not I’m doing it the best way... it’s just not something I have a lot of time to sit and reflect on.” They also identified challenges accessing preceptor development resources and expressed a desire to have a central location for resources noting, “it would be nice if there was one central place where items were held.”

Participants also described challenges of knowing how to teach learners at different levels. For example, “...every student is so different and some students come in and they excel in counseling but they can’t formulate a SOAP note or vice versa... and in the short amount of time that we have ... identifying their weak areas and then having time to dedicate to that throughout the course of the month to make sure we improve whatever their weak areas has been kind of difficult for me.” Participants also noted a lack of knowledge of and understanding the school’s curriculum. One shared, “we don’t understand what a learner knows or what we think they know...we’ve made assumptions about some of the training they had received in previous years.” Other preceptors described the desire to better understand what is happening in the didactic setting after curriculum change noting, “[I am] used to them [students] having the entire curriculum before they got to me and I didn’t really need to know a ton about the order of the curriculum and now that’s no longer true...our preceptors are needing to engage more in understanding what happens in the classroom so that we can emphasize the things...taught in the classroom.”

Participants also shared that receiving mentoring from others is a significant challenge as there are barriers to accessing perspectives from other preceptors or from experts in educational practices. For example, one participant noted, “I don’t have a lot of people evaluating me besides learners who don’t necessarily have the same perspective as a preceptor which is appropriate... but it’s not always best to get all your evaluation from students... it would be good to get some preceptor evaluation or... the ability to talk with a more knowledgeable preceptor.”

At an institutional level, participants cited concerns about institutional support and work culture. They shared they do not have, “support from the site to spend adequate time with students” and that “more and more preceptors... are being pushed to do more with less, fit more into time...I think it’s become really hard for preceptors to insert time for dedicated teaching.” Moreover, one participant shared, “as institutions we’ve got to tackle the problem of assigning value to education, putting clear value on it and demonstrate to the preceptor that we value the time they spend having dedicated time to teaching.” Participants also described barriers to accessing preceptor development resources citing a lack of site support from a financial, staffing, and value perspective. For example, a participant shared, “I’ve expressed interest in wanting to go before [to a national meeting] and that takes funding and time off the schedule.” They voiced, “not having support from the site/institution to participate in CE activities”, and that “the value of preceptor training at some organizations may not be seen.”

Participants also described positive and negative features of previously attended preceptor development programming from any source (Table 3). Participants identified the following useful features: opportunities for interaction and collaboration with other preceptors, a variety of delivery formats that included continuing education credit, and topics that addressed novice and expert needs. For example, a participant described the value of learning with and from other preceptors, noting, “there can be a lot of power in talking to other people and understanding their experiences.” Participants suggested multiple delivery formats due to logistical challenges; “as much as live training programs sound good, it logistically doesn’t work easily because people can’t get to places... and we need to have a very timely component to it, so that’s where I think the module or webinar-based or self-directed learning [comes in].” Participants also appreciated programming that identified resources and support for preceptors. In addition, they shared the desire to have programming with topic experts—“we’re big fans of [programming sponsored by the school] ... you have experts talking about it.”

Less desirable preceptor development program features included those that had more lecture focus or were more theory rather than application. For example, a participant shared, “a seminar I went to several years ago... I found it to be very lecture and not case-based...[instead] if you had a slide that says here are the points-bam bam bam but here [are] situations that others have seen that you’re going to face that links back to those specific points.” Participants also

struggled with programming that was not designed for seasoned preceptors and shared concerns that, “a lot of preceptor development is geared at new preceptors and that’s not as relevant to me” or that some programming is, “redundant”. Further, participants find recorded modules challenging due to the inability to share ideas such that, “you’re not engaged because you’re doing other things” and, “as a learner [it is] hard to stay focused on that thing for so long.” Moreover, participants did not like short notice of programs, infrequent availability, required training without a choice of options, limited offerings, outdated information, or delivery formats that did not support interaction.

Lastly, participant suggested design features for preceptor development programming design (Table 4). In general, participants identified electronic delivery methods (eg, webinars, websites, and podcasts) as viable options; other requests were for live preceptor development sessions at respective practice sites. The emphasis was on interactive and on-demand resources that could be readily accessible to meet individual preceptor needs. Participant suggestions for program frequency was highly variable ranging from weekly to every three years; the desired frequency was often linked to the program type (eg, annual in-person, required programs versus quarterly, online optional programs). Participants shared that emails, online calendars, websites, and social media were effective notification strategies. Unique design suggestions included a comprehensive online portal or mobile application with preceptor development resources, online preceptor forums to exchange ideas, Objective Structured Teaching Experiences (OSTEs), as well as a preceptor mentoring or coaching program. Suggested topics were diverse and related to multiple aspects of teaching practices (Table 4).

DISCUSSION

The study purpose was to describe stakeholder perceptions of teaching challenges and preferences for preceptor development programming. The goal was to conduct a broad needs assessment that could inform future preceptor development program design. This is one of the first studies to include perspectives from multiple stakeholders, including preceptors from a range of practice sites, various years of practice experience, administrators, experiential faculty administrators, and residency program directors. The results demonstrate that preceptors in this study faced numerous challenges while managing their learners, themselves, and their institutions and had creative ideas on how to improve their experiences as end users of programming.

Regarding preceptor development program content, there was substantial variability in topic interest; therefore, soliciting local preceptor needs and interests may be most helpful. Adult learning theory and motivation learning models endorse providing relevant content based on learner needs and a choice of options to increase motivation.^{20,21} Participants in this study and other studies frequently identified addressing difficult teaching and learning situations as a desirable focus (eg, learner well-being, knowledge deficits, and attitude issues).^{1,16,22,23} The topic ideas listed in Table 4 can be used as a starting point for preceptor development programming. Moreover, programming content should integrate explicit strategies, evidence, and samples to emphasize the relevance and application in clinical teaching.²⁴

Another finding from the study about content was that schools and colleges of pharmacy should ensure they provide preceptors with sufficient resources about their curricular structures and expectations of learners, which is also a requirement of ACPE.⁵ Experiential educational administrators, when surveyed about preceptor training and development programs by O’Sullivan and colleagues, agreed that, “going over where students learn knowledge and skills in the curriculum and what to expect an IPPE [introductory pharmacy practice experience] or APPE [advanced pharmacy practice experience] student to be able to do” is an attribute of successful preceptor development programs.¹ Though curriculum resources were available, preceptors in this study indicated a desire to have additional information than was available. Factors that may have influenced preceptors’ opinions include recent major experiential curricular changes and/or the lack of awareness of existing resources. Providing preceptors access to resources that provide granular details about the curriculum can help them know what to reinforce and build upon in experiential settings. While this effort may be time-intensive and difficult to create, involving preceptors in the design of these tools may help ensure their usability and success. This may be especially important during times of curricular change. One strategy to accomplish this to using an experiential advisory committee comprised of various stakeholders who could inform the content and format of curriculum resources and vet the tools once created.

In addition to the above content considerations, study findings indicate that it is important to provide development resources at different training levels along the continuum of novice to expert. This ensures that new preceptors have access to the fundamental components to precepting while seasoned preceptors have the opportunity to be engaged with advanced or novel techniques. Partnering with divisions or centers at schools focused on evidence-based education approaches to teaching is one approach UNC has utilized to help identify new teaching strategies in a variety of modalities appropriate for preceptors’ level of experience. This is supported by Steinert and colleagues’ systematic reviews that identified “evidence-informed educational design” and a “diversity of educational methods” as some of the essential

features of faculty development programs.^{24,25} Incorporating motivational theory constructs of autonomy/choice and task value/importance in development offerings may encourage participation.²⁶ For example, acknowledging the target audience of a session, identifying the benefits for novice and veteran preceptors, and allowing preceptors to decide whether or not they want to attend may help them prioritize programming that best fit their needs. Furthermore, creating mentorship programs in which expert preceptors provide guidance to more novice preceptors could help provide a clearer delineation between novice and expert preceptors.

The delivery of programming is another important factor. This study supports using educational experts and seasoned preceptors to help facilitate programming, which confirms residency program directors' and health-system personnel's perspectives that education experts would be beneficial in pharmacy education models.⁷ Access to and funding for educational experts may be limited; one option is a "train the trainer" model where a group of professionals develop educational expertise through faculty development workshops.²⁷ The goal is these individuals become well-versed in education theory and evidence-based techniques to be applied in clinical settings.²⁴ Another option is to form shared collaborations wherein identified experts join a pool of speakers to share resources at all participating schools and organizations.¹

Study findings suggest that other design features should include high levels of interaction and collaborative learning from other preceptors and educational experts. Self-study or written resources that lack preceptor engagement may be less appealing to preceptors. This aligns with adult learning theory and social theories of learning that emphasize active learning and communities of practice and highlights a need of how to best notify preceptors about relevant and applicable resources and materials.^{20,21,24} Of note, live, in-person programming to facilitate engagement may be challenging due to limited resources of institutions and schools as well as accessibility concerns of preceptors. Offering development on site, such as, "moving the workshops to the workplace" is one way to increase accessibility of programming and engagement.^{24,25} Previous research revealed preceptors find networking opportunities through online and in-person communities valuable.¹⁶ Peer support and sharing experiences were also deemed beneficial by rural preceptors participating in virtual educational forums.²⁸ While use of virtual technologies can help overcome barriers to access, this study emphasized the importance of preceptor perspective in design. If on-demand or recorded modules are used, preceptor development program designers should incorporate cases, online preceptor forums, or question and answer sessions to support discussion and learning from others.

Other delivery elements include choice of formats (ie, virtual or on-site programs). Currently, there is limited data to suggest one delivery format or access method leads to better outcomes beyond participant satisfaction or preference.^{16,29} Schools and colleges of pharmacy may differ in their ability to provide preceptor development in different formats. A 2017 survey found that experiential education programs with more than \$10,000 per year investment in preceptor development offered a variety of delivery formats more frequently.¹ The study authors suggested collaborations within experiential consortia, professional organizations, and other health professions schools as a way to overcome resource barriers.¹ Preceptor development program designs should consider collaborations with others who build both student and resident preceptor training and departments or groups within organizations that manage educational and technological resources to reduce costs. Programs should also develop a consistent notification strategy (eg, email listserv, online calendar, multiple notifications) that provides sufficient notice of offerings. Listservs have been suggested as a delivery mode in other literature describing preceptor development programs.¹⁶

Another key finding from this study was that participants desire more unique opportunities for preceptor development such as the aforementioned preceptor mentoring/coaching programs, comprehensive online portals, mobile applications, and OSTEs (Objective Structured Teaching Examinations). These opportunities, however, may require expansive resources and have limited research to support their utility and feasibility. As such, there are few published examples of formal preceptor coaching or mentoring programs.^{16,30,31} Some preceptor training programs integrate coaching, such as participants receiving feedback from a coach who observes an interaction with a learner. Others connect the new preceptor with a mentor who provides teaching strategies, problem-solving strategies, and assists with planning.³⁰ Challenges with this approach included time and coordinating sessions with the coach; again, sufficient operating resources and support are necessary for implementation.³¹ Use of assessment tools such as the Habits of Preceptors Rubric that help identify effective preceptor skills and behaviors, construct development plans, and assess change after participation could be considered to reduce the administrative burden of coaching programs.³² Identifying expert and available coaches and mentors for coaching programs may require some initial logistical effort; however once implemented, graduates of such programs could serve as future mentors.

Additional research is needed to explore the utility and feasibility of offering OSTEs. OSTEs—similar to Objective Structured Clinical Examinations (OSCEs)—use a standardized encounter where a preceptor interacting with a learner is observed, evaluated, and offered feedback to improve teaching skills.³³ Available evidence on OSTEs in medical

education is generally favorable, but more research is needed on the design, rating instruments, and outcomes.^{33–35} Collaboration with faculty who organize OSCEs may support OSTE design, and clear frameworks of competencies to be assessed should be considered for evaluation.^{32,36} Literature on peer assessment of experiential teaching suggests that peer observation with formative feedback may be beneficial to preceptors.^{37,38} Useful aspects of the peer review process as identified by clinical faculty participating in the process included peer observation, self-reflection, and meeting with an education expert.³⁷ Challenges included observation anxiety, the demands of pre-work, and scheduling logistics.³⁷ Preceptor input in the development of the assessment instrument was deemed critical for success by Cox and colleagues.³⁸ Given the extensive resources required to launch these unique preceptor development opportunities, it may be prudent to consider collaborating and combining resources with other health professions programs whose preceptors could also benefit from training.

In regard to the need for a comprehensive online portal, a prototype for an online preceptor development portal has been published, which includes self-assessment strategies, mentorship opportunities, as well as feedback and networking; work of this scope requires numerous resources and collaborations.¹¹ To accomplish this at a single institution would be challenging, therefore, access to a national platform could help meet the comprehensive needs of their preceptors. In the interim, the present study suggests that providing all preceptor resources in a central location could reduce some of the barriers that preceptors face in resource access and use.

Providing quality programming that takes into consideration stakeholder needs does not ensure that preceptors will participate in training and development. Preceptors may have challenges accessing training and teaching learners due to time constraints. The findings from this study underscore a need to determine institutional value of preceptor time required for teaching and personal development. Multiple studies cite the value learners bring to institutions such as practice model and pharmacy services improvement, increased scholarly dissemination, cost avoidance and savings.^{39–43} However, little is known regarding the impact of precepting behaviors and time spent teaching on patient care and institutional outcomes. Maximizing preceptor time is a complex issue that may require multiple solutions in collaboration with sites. One way that schools and colleges of pharmacy can help with teaching efficiency is to align preceptor and student expectations and to provide strategies for self-directed learning among trainees.

Of note, the results of this study should be interpreted with caution due to several limitations. First, the study represents finding from preceptors associated with one school; however, the study included broad perspectives from participants across North Carolina from various practice settings and years of experience. These individuals may precept from other schools and serve as preceptors for residency programs. While similar numbers of stakeholders from all practice settings were invited to participate in interviews, some groups had higher representation such as health-system administration. Therefore, the results could favor the needs of more represented groups and not all preceptors generally. However, the data are analyzed and reported as a large whole as opposed to practice area or category. Furthermore, the large number of stakeholders in the inpatient setting (40.5%) represented in this study is similar to the largest category of pharmacy preceptors at UNC in 2018–2019 (approximately 42%) and nationally based on respondents to the 2018 AACP National Preceptor Survey (34.9%).⁴⁴ Future studies should include more stakeholders from all categories including full-time faculty preceptors whose perspectives may differ. Another limitation is that the views of high-quality preceptors sought in this study may not represent those of all preceptors. However, individuals consistently rated lower in evaluations may be unaware of needing assistance (ie, Dunning-Kruger effect) and inviting all participants could have introduced a limitation of including the perspectives of only those who wanted to engage.⁴⁵ In addition, the interviews were conducted prior to the COVID-19 pandemic and recent sociopolitical shifts (ie, Black Lives Matter)—it is posited preceptors face newer challenges such as engaging learners in virtual or telemedicine environments, shifting responsibilities within their institutions, and overall impacts on their ability to effectively conduct educational activities in inclusive learning environments. Additional research is warranted to understand preceptor challenges and needs in the evolving pandemic and sociocultural climate.

Due to the exploratory and qualitative focus of the study, the aim was to develop a comprehensive list of preceptor challenges and ideas for programming rather than consensus on which challenges are most frequent or need immediate attention. Next steps should include the design of a survey (eg, a Delphi study) to evaluate the incidence of these challenges and those that should be prioritized; this should also evaluate the generalizability of the findings and whether challenges may be more impactful in specific experiential education settings (eg, inpatient, ambulatory care, community, etc.). Moreover, the survey could confirm design principles that can inform how individuals prefer preceptor development programming to be developed and implemented. Additional research can establish an agenda for local and national preceptor development programming initiatives that are broadly applicable. The focus of future research could also include comparing the study findings to preceptor self-assessments and student evaluations of experiences in order to support the findings and provide additional insight into the development needs of preceptors.

CONCLUSION

Results from this qualitative, exploratory needs assessment showcase the various teaching challenges preceptors face at the learner, preceptor, and institutional levels. Preceptors identified optimal preceptor development programming should include on-demand and frequent sessions delivered through various modalities such as webinars, websites, podcasts, and live sessions at practice sites. In addition, preceptors prefer opportunities to collaborate with others, choice in topics and delivery formats, and learning from educational and practice experts. Preceptors expressed desire to integrate new technologies into training as well as coaching and assessment programs. The results of this study, in conjunction with adult learning pedagogy, can inform the design of future preceptor development programs.

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Table 1: Demographics of Preceptor Participants in a Preceptor Development Needs Assessment

	Value
Primary practice area, n (%)	
Health-system administration	7 (16.7)
Inpatient clinical	6 (14.3)
Experiential faculty administrators ^a	6 (14.3)
Community administration	4 (9.5)
Health system distribution	4 (9.5)
Community pharmacy	4 (9.5)
Non-direct patient care	4 (9.5)
Residency program director	4 (9.5)
Ambulatory care	3 (7.1)
Geographic region, n (%)	
Asheville, NC	10 (23.9)
Chapel Hill, NC	8 (19.4)
Raleigh, NC	7 (16.7)
Charlotte, NC	5 (11.9)
Durham, NC	5 (11.9)
Greensboro, NC	3 (7.1)
Greenville, NC	3 (7.1)
Virtual rotation (any location)	1 (2.4)
Precepting experience, mean (SD)	
Number of years precepting	10.7 (7)
Number of IPPE learners per year	2.6 (3.6)
Number of APPE learners per year	5.5 (4.9)
Total numbers of students per year	8.1 (6.9)
Number of PGY1 residents per year	1.9 (2.4)
Number of PGY2 residents per year	1 (1.3)
Total number of residents per year	3 (2.9)
Total number of learners per year	11.1 (7.9)

^a Experiential faculty administrators= individuals involved experiential administration and student scheduling across North Carolina

APPE=Advanced Pharmacy Practice Experience

IPPE=Introductory Pharmacy Practice Experience

NC=North Carolina

PGY1=Post-graduate Year 1

PGY2=Post-graduate Year 2

SD=Standard Deviation

Table 2: Challenges Identified at the Learner, Preceptor, and Institutional Levels^a

Learner Challenges	Preceptor Challenges	Institution Challenges
Learner presence (tardiness, absence, distractions)	Insufficient time to manage & teach learners	Mismatch with learner personality traits
Inappropriate attire	Setting expectations & holding learners accountable	Engaging learners remotely
Unpreparedness & missing deadlines	Making rotation experiences & activities applicable	Personal wellbeing & work-life balance
Inappropriate attitude or behaviors (confidence)	Ensuring learners are sufficiently challenged	Difficulty accessing preceptor resources
Well-being, mental health, or substance abuse concerns	Assessing learner knowledge & ability	Minimal tools to (self-) assess teaching abilities
Difficult transitioning to experiential education	Delivering effective & constructive feedback	Inexperience with evidence-based teaching practices
Commitments outside of rotation (school, personal)	Barriers to & hesitation with failing a learner	No opportunities for mentoring and assessment from other preceptors
Knowledge or skill deficits	Inadequate learner interactions & direct observations	Differentiating requirements from multiple schools
Unrealistic expectations	Implementing effective layered learning practices	Confusion on how to use assessment tools
Inflexibility or resistance to adapt or changes	Teaching learners at different skill or training levels	Lack of knowledge about school curriculum
	Insufficient time for preceptor development	

^aTopics are grouped by similarities and not by frequency

Table 3. Positive and Negative Features of Preceptor Development Programming that Participants Have Previously Attended

Positive Feature	Negative Features
Included resources & support from the school about learner expectations	Programming that does not have explicit strategies for application
Interaction, collaboration, & learning from other preceptors	Short notice or infrequent availability of programming
Choice of delivery formats (i.e., virtual or on-site) with education credit	Requiring training that may be misaligned with individual needs
Choice of topics related to level of experience (i.e., novice to expert)	Information that is outdated or does not have clear supporting evidence
Integration of experts in the practice or educational topic	Delivery formats that prevent interaction & engagement

Table 4. Participant Suggestions for Preceptor Development Program Design Including Topic Suggestions, Delivery Methods, Frequency, Notification Strategies, and Novel Opportunities

Preceptor Development Programming Design	Topic Suggestions
Delivery Methods	Setting expectations & goals with learners
Webinar	Tailoring rotation experiences to learner needs & ability
Website	Effective assessment of learning ability
Podcast	Teaching strategies & learning activities to challenge learners
Live at practice sites	Enhancing learner motivation & autonomy
Frequency	Implementing layered learning & peer teaching
Prefer on-debate	Delivering feedback & difficult conversations
Monthly to twice a year	Creating inclusive learning environments
Notification	Strategies for remote & distance teaching
Email	Promoting learner wellbeing & resilience
Online calendar	Building connections with learners
Website	Addressing performance & behavioral issues
Social media	Managing & aiding learner failure
Opportunities	Supporting learner job / residency placement
Online resources	School curricular requirements & structure
OSTEs	Coaching & mentoring others
Mentoring	Conducting self-assessment of teaching
Online forums	
Mobile applications	

OSTE= Objectives Structured Teaching Exercises