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Teleprecepting: A timely approach to clinical education during COVID-19

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ABSTRACT

Clinical training is a key component of nurse practitioner (NP) education. The rapid shift to telehealth necessitated by the pandemic has also created a need for socially distanced education and precepting. This article presents teleprecepting as a modality for clinical opportunities and connecting students to previously limited experiences, such as training in small specialties, in rural areas, and with interdisciplinary teams. Precepting NP students using telehealth follows similar principles as in-person teaching, but some modifications and additional considerations are needed to transition to the virtual environment. At a time when many NPs have swiftly adapted to telehealth in practice, this article will offer a brief “how-to” for teleprecepting. Prior to COVID-19, teleprecepting was piloted with less than 2% of NP students in the school’s pilot teleprecepting project. Seven months after the initial surge of cases and restrictions, 72% of students ($n = 151$) in the family nurse practitioner, psychiatric mental health nurse practitioner, and pediatric nurse practitioner specialties had transitioned to teleprecepting. This project was implemented rapidly during the pandemic, and thus, evaluations comparing competency outcomes and experiences of students and preceptors are still in process. Additionally, feasibility of this educational model may change as telehealth regulations continue to evolve. COVID-19 poses challenges for both patient care and clinical training of NP students across specialties. With some adaptation, clinical placements can be transitioned to the virtual environment of telehealth. Future studies should examine student competencies based on teleprecepting experiences and preceptor training to support teleprecepting roles.

Keywords: Clinical education; COVID-19; education; preceptor; student; teleprecepting; training.

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Background

Clinical training is a key component of nurse practitioner (NP) education. Supervised patient care allows for

learning of practical skills and evaluation of competencies necessary for a student to transition successfully into practice. As the demand for NPs grows, securing clinical training sites has posed a significant challenge to increasing enrollment (Fitzgerald et al., 2011). The majority of nursing education programs report an insufficient pool of preceptors with rural areas having few providers and urban areas inundated with competing schools and professions (Drayton-Brooks et al., 2017). This project outlines teleprecepting as an alternative to traditional clinical rotations and as a means of continuing and growing training opportunities for NP students across multiple specialties.

The existing shortage of training sites collided in early 2020 with rapid shifts in practice necessitated by the COVID-19 pandemic. To reduce community spread, hospitals and clinics implemented social distancing policies. Health systems across the country adapted to the crisis by transitioning nonacute visits that were previously completed in person to a virtual format and restricting “nonessential personnel” access to emergency and

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intensive settings (Wosik et al., 2020). Amid the transition, NP students and educators were caught in a paradox between the goal of preparing qualified providers and the need for clinical precepting. Although students are rarely essential to patient care, their continued education and progression to licensed providers remains essential to the future of health care.

The solution to this paradox lies in using the same technology that allows for social distancing between patients and health care workers. Just as providers rapidly adopted telehealth to continue patient care, nursing educators and preceptors must adopt teleprecepting to continue clinical training.

Nurse practitioner training in telehealth has been discussed with increasing urgency in recent years as mounting evidence suggests that telehealth increases access to care with similar outcomes and satisfaction as in-person visits (Totten et al., 2016). However, research has focused on the importance of teaching telehealth as a distinct clinical tool with didactics and clinical experiences designed to increase competency in telehealth (Rutledge et al., 2017). Several programs have trialed telehealth clinical experiences with limitations, such as requirements that students should demonstrate a certain level of clinical competency before using telehealth or that a large proportion of clinical hours must still be in person (Gibson et al., 2020; Tyson et al., 2019).

The magnitude of the pandemic requires a shift in approach. For NP students and preceptors following social distancing guidelines, telehealth must serve as a vehicle for teaching a comprehensive range of clinical skills. Students may begin their NP training with remote clinical experiences before they have a chance to establish a baseline of competency in person. To differentiate this educational practice from telehealth, which typically describes clinically focused interactions between patients, providers, and staff, we encourage the term teleprecepting to describe the learning experience between preceptor and student occurring in parallel to clinical telehealth work (Johnson et al., 2020).

Given the uncertainty of the current health care landscape and instability in clinical training sites, there is a need for immediate guidance on transitioning from in person precepting to teleprecepting. This project consolidates the recommendations and lessons learned from a large, graduate school of nursing into an accessible guide meant for preceptors and clinical sites who are new to remote clinical training. Our school of nursing was piloting teleprecepting in mental health before the onset of the pandemic, and other specialties transitioned rapidly to social distanced education and precepting. We sought input from directors of clinical placement across multiple specialties and experts in educational technology in compiling the following guide with the goal of maintaining standards of training and the pipeline of new

NPs during a national crisis. Teleprecepting may also serve to enhance telehealth training, provide clinical opportunities in rural and underserved areas, and connect students to previously limited experiences such as certain procedures or therapies within small specialties and interprofessional experiences (Gibson et al., 2020; Johnson et al., 2020; Winship et al., 2020; Wynn, 2019).

Methods

The National Organization of Nurse Practitioner Faculties and the American Association of Nurse Practitioners jointly published a checklist for faculty and preceptors for traditional in-person clinical training of NP students (Pitts et al., 2019). Precepting a NP student using telehealth should be parallel to in-clinic teaching with the same general process for patient care and learning transposed into the remote modality. As a clinical educator, the shift in interface from “three dimensional” to “two dimensional” can feel jarring, but teleprecepting can be smoothly implemented with effective planning and communication. Consider the following recommendations for before a student’s visit, during the visit, and debriefing afterward as a supplement to foundational onboarding and orientation (see Appendix A, Supplemental Digital Content 1, <http://links.lww.com/JAANP/A113>).

Before the visit

Introductions. Before the first day of teleprecepting, it is important to set the stage to ensure that your student integrates smoothly into your practice. Schedule an initial meeting to get to know the student. You may also choose to use a survey that the education program faculty and/or staff can share with your prospective NP student prior to the first meeting. Introductory questions may address previous rotations and/or experience, hopes and goals for the rotation, previous telehealth training, experience, and comfort/confidence.

Technical preparations. Teleprecepting begins with telehealth practice that is safe, Health Insurance Portability and Accountability Act (HIPAA) compliant, and meets federal, state, and agency practice guidelines. The U.S. Department of Health and Human Services (2020a) offers guidance for integrating telehealth services into practice. In addition, the National Consortium of Telehealth Resource Centers (NCTRC, 2020) offers training and practice guidelines that are relevant to each state and region. Only after telehealth has been adopted as a safe and effective practice, it is appropriate to include students.

Preceptors should also consider the planned locations of themselves, student, and patient (in-clinic or home), technology capacity for multiple participants, and accessibility of electronic health records (EHRs) before orienting students.

Location. Teleprecepting can be adapted to varied constellations of preceptor, student, and patient depending on social distancing needs or other factors such as

proximity of a specialist clinician to a rural patient. During the pandemic, all three participants may be separated in their own homes or in different rooms of a facility. If preceptor, student, and patient will be separated, test ahead of time whether telehealth video software can accommodate three active participants. Software embedded into clinic scheduling programs may require modification or upgrades. Alternate HIPAA-compliant software (e.g., Cisco WebEx, Zoom, etc.) typically allow for three or more participants and may be used in lieu of built-in EHR programs.

If the preceptor and student will be colocated while patients are remote, they can share one screen. If social distancing in one large room, a mounted camera and projector or conference room set up may be appropriate.

Alternately, in a remote region, a patient and student may be located together with an off-site telehealth preceptor. In this instance, a student may be integrated into standard clinic workflow. For instance, a medical assistant may typically obtain vital signs and orient the patient to telehealth for remote specialty visits, but an NP student colocated with the patients could take on this role provided that on-site administrative and clinical supervision are available. Allowing the student to conduct physical examinations under remote supervision has the potential to enhance patient experience, provide in-depth examination findings to the preceptor, and allow kinesthetic learning for the student.

Electronic health record. Access to the EHR must be considered in determining the best location for a student. Students working remotely should be able to review patient records and document assessment and treatment. If EHR access is restricted to the clinic location, then the student must be provided with office space even if the preceptor is located off-site. Additionally, a student must be oriented to the process for managing paper or electronic documents and signatures when working with patients remotely.

Communication. Preceptors should choose the method(s) of communication that suits their practice and inform the student of their preferred medium for various interactions, whether email, televideo, in-session “chat,” phone, text, or in-person. They may use multiple mediums for different interactions. For example, advise a student if they should email for nonurgent discussions versus text if it is urgent. In preparation for telehealth visits, it is particularly important to have a plan for preceptor consultation. This may be similar to in-person workflow or modified to adapt use of in-session chat if both preceptor and student are present throughout each session.

Training. After getting to know your student and assessing readiness for teleprecepting, the student must be provided with minimal requirements and resources for the clinic technology used for telehealth. Once access is provided to the video conferencing software and EHR,

equipment must be tested and ideally practiced before clinical use. It is also important to establish a contingency plan for connectivity issues (e.g., use of personal hotspot or alternate location), ensuring privacy (alternate location if office or home space is restricted) and communication with patients who are unable to access telehealth (e.g., phone or alternative platform). The preceptor and student must have secondary communication plans (e.g., phone or intercom) if an alternative method is used for patient visits.

Set expectations. Clearly defined expectations can prevent misunderstanding and a myriad of problems. Educators, students, preceptors, and clinic managers may all have different views on the optimal training outcomes. It is important to ensure an opportunity to learn what is expected by the faculty and student in terms of learning objectives, evaluation measures, and clinical experience. Perhaps, even more importantly, the clinic site and preceptor’s expectations must be clearly communicated to educators and students to support successful outcomes.

Foundationally, all training required for in-person visits should be provided to the faculty and students as a baseline for teleprecepting. Students should be oriented to all relevant policies and procedures of the clinical site during initial onboarding. Ideally, agency expectations for NP students (e.g., appropriate attire, lines of communication, charting timeliness and detail, and other standards of professionalism defined by the agency) are available in written or electronic format prior to meeting with the preceptor.

Expectations specific to teleprecepting warrant additional discussion between preceptor and student. At a minimum, this should include a discussion of telehealth etiquette (professionalism standards), safety measures, charting, and preceptor supervision. Other expectations may include clear delineation regarding mask use and physical distancing (particularly in light of COVID-19), student preparation for clinical practice, and resources they are expected to have on hand, particularly when both preceptor and student are remote, telehealth etiquette, and safety measures.

Telehealth etiquette and safety. As a preceptor or clinic, it may help to adopt telehealth training content as a requirement for students to review prior to orientation. Once the student has reviewed the material, a brief discussion can ensure their understanding of the expectations regarding etiquette and safety measures. One option is to assign review of relevant clinical practice guidelines and a telehealth etiquette video (see Appendix B, Supplemental Digital Content 1, <http://links.lww.com/JAANP/A113>).

Charting expectations. Clinical practice guidelines and telehealth videos should address general principles of documentation. Regulations vary widely across the United States (Center for Connected Health Policy, 2020, p. 10). The COVID-19 pandemic has led to temporary waivers,

exceptions and changes to telehealth policy across the country (U.S. Department of Health & Human Services, 2020b). Although regulations are currently more lenient, providers should be prepared to adopt standard regulations if temporary waivers are lifted. Evolving changes in laws, regulations, and policies make it essential to maintain current knowledge and orient students to state regulations regarding documentation of patient consent for telehealth.

Clinical documentation of the telehealth encounter should reflect actual assessment and include descriptions of any necessary modifications from in-person clinical visits (California Telehealth Resource Center, n.d.).

Amount of time with preceptor. Expectations regarding supervision, consultation, and time usage should be discussed prior to the first patient visit. Students should be advised of the plan for time management and process for consulting regarding assessment, treatment planning, and interventions. In most cases, the amount of direct supervision will inversely correlate with a student's clinical competency.

A preceptor must expect to provide direct supervision and training until the student has demonstrated competency or core entrustable professional activities (EPAs) (Obeso et al., 2017). In many cases, this observation can be achieved even more readily using teleprecepting than in the in-person clinical setting. The preceptor may observe a student throughout an entire patient encounter, while discreetly providing real-time feedback and guidance using the platform chat function. Once the preceptor has determined that a student has demonstrated core EPA and is able to manage a patient encounter with consultation changes in the supervisory process can be implemented, with expectations clearly articulated to the student.

“Just-in-time” dry run. A good deal of planning and preparation has been invested by the first day of teleprecepting. For optimal return on the investment, it is advisable to spend a few minutes for a “dry run” rehearsal prior to patient care. This is a good time to involve any other practice partners who will be involved in the patient care process in addition to the student and preceptor. Administrative staff, medical assistants, and other potential preceptors may help to identify and resolve any unforeseen technical or process glitches before the first clinical encounter.

Once the “just-in-time” dry run is completed, the preceptor, student, and practice partners may be ready to initiate well-coordinated and effective telehealth. The most important individuals are patients who seek treatment. If the preceptor has knowledge of the patients, it is advisable to select a stable and established patient for the first teleprecepting encounter.

During the visit

Flow. During the visit, the logistics of technology must be considered. It is useful to think of how you and a learner

would normally enter a normal patient room to translate that to a telehealth visit. As with in person precepting, the learner level will determine how much of the visit to supervise and who initiates the telehealth visit (preceptor or learner). If you are teleprecepting, it saves time if the individual confirming appointments also asks permission for a student prior to the visit. Although ideal, this is not required and the patient can be asked in real time. For a new NP learner, the student will observe for the first few patient visits, allowing you to model best practices in telehealth. As the student progresses, the student will lead the visit and the preceptor will observe. The intermediate and advanced student will initiate the visits and bring the preceptor in later. See **Table 1** for logistics of the visit based on learner level.

It is important that a communication method for during the visit should be established prior. Will the preceptor interrupt to correct the student? Or will they use the chat feature to redirect or correct them. Preceptors and learners may choose to use text messages for this type of communication. Another important consideration for during the visit is whether or not the student will present to the preceptor alone, the traditional model. Or an alternate model is to have the student present in front of the patient. There are some benefits to presenting in front of the patient. It can save time, allowing the preceptor to directly ask any necessary questions to the patient in the moment. It allows the patient to be empowered and included in the learning experience offering them the opportunity to correct any misinformation. Presenting in front of the patient should not be done if there is a translator as it adds a significant amount of time. Additionally, if there are confidential concerns the student wishes to discuss with the preceptor, they should present the case privately. The preceptor must always be present for some portion of the patient visit.

During the visit, use existing teaching tools. The One Minute Preceptor is a tool that allows for a better assessment of the learners clinical reasoning and ensures feedback (Gatewood & De Gagne, 2019). This tool includes five steps which include 1) get a commitment, 2) probe for supporting evidence, 3) teach a general rule, 4) reinforce what was done well, and 5) correct errors (Neher et al., 1992). Another tool is the SNAPPS model. SNAPPS is an acronym for summarize the history and findings, narrow the differential, analyze the differential, probe the preceptor, plan, and select a case-related learning activity. This is a student-driven model that supports clinical reasoning and diagnostic questioning (Jain et al., 2018). Using existing teaching models can ensure that the learner is getting excellent training.

After the visit

Feedback. As with in-person precepting, the preceptor and student relationship depend on open feedback to support continuous learning and improvement for both

Table 1. Student and preceptor role during the visit

| Learner Level | Who Initiates the Visit | Learner Role | Logistics |
|---------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Early | Preceptor | <ul style="list-style-type: none"> • Observes the preceptor initially • May transition to having the preceptor observe their visit | <ul style="list-style-type: none"> • Preceptor calls or starts the video visit • If permission for a student has been approved prior, the student can be on the call/video when it is started. • Alternatively, after getting patient permission, the preceptor dials in the student or admits them from the waiting room |
| Intermediate | Student | <ul style="list-style-type: none"> • Initiates the call/video • Gathers the subjective and physical findings • Presents the case and develops a management plan in collaboration with the preceptor • May provide the plan together with the preceptor to the patient | <ul style="list-style-type: none"> • Student completes the first portion of the visit, including history taking and physical examination • Communicates with the preceptor when they are ready (via text, Zoom chat, electronic health record [EHR] chat) • If presenting the case in front of the patient, the student brings the preceptor into the visit • If presenting the case away from the patient, the student puts the patient in the waiting room or on hold, while presenting and discussing the case with the preceptor • Returns to the patient and brings the preceptor into the call/video • Student and preceptor provide management plan and education |
| Advanced | Student | <ul style="list-style-type: none"> • Initiates the call/video • Gathers the subjective and physical findings • Presents the case and proposed management plan to the preceptor • Provides the plan and education to the patient in front of the preceptor | <ul style="list-style-type: none"> • Student completes the first portion of the visit, including history taking and physical examination • Communicates with the preceptor when they are ready (via text, Zoom chat, EHR chat) • If presenting the case in front of the patient, the student brings the preceptor into the visit • If presenting the case away from the patient, the student puts the patient in the waiting room or on hold, while presenting and discussing the case with the preceptor • Returns to the patient and brings the preceptor into the call/video • Student provides the management plan and education |

the preceptor and student (Myers & Chou, 2016; Pitts et al., 2019). The preceptor and student will frame the feedback around previously determined goals and expectations for the visit or rotation and use the specific behaviors that the preceptor observed during the televisit for the feedback session (Myers & Chou, 2016). To provide timely feedback following the televisit, preceptor and student may choose to stay in the virtual environment right after the visit to wrap up or schedule a time in the near future to discuss further.

Preceptors can use the “Ask, Respond, Tell” method for feedback: *Ask* the learner how they feel they performed, then *Respond* with the preceptor’s observation, followed by one element of *Teaching* point (Myers & Chou, 2016). The general content of the feedback includes “Keep, Stop, Start”, highlighting 1–2 things that was done well and that

the learner would like to KEEP doing in future virtual visits, then 1–2 things that may not have gone well and the learner ought to STOP doing in the future, as well as recommendations for 1–2 things to START doing in the future for improvement (Lefroy et al., 2015; Myers & Chou, 2016). To enhance the teaching in the virtual environment, preceptors can share charts, imaging, articles, or resources from their screens. The white board can be used to illustrate teaching points.

Feedback categories for televisit may fall within three categories: 1) technical portion of running the televisit, 2) clinical care of the patient, and 3) communication and role development. The technical component of running a televisit includes how the learner effectively managed the use of the application that hosts the televisit, as well as being able to bring patient in from the waiting room

and/or patching in the interpreter for the visit. For the clinical care component, the preceptor would provide feedback to the learner on all aspects related to clinical care, including use of the One Minute Preceptor feedback if not done previously, as appropriate for the learner's level. Finally, communication skills are even more crucial in a virtual environment, and thus the preceptor would provide feedback related to how the learner established rapport with the patient and supported the patient within the virtual environment. Advanced learners will also need to build on their role transition competencies, which can be done in the virtual environment. The preceptor, in turn, would also seek feedback from the learner of the quality of teleprecepting received and ways to further support the student's learning and development in the virtual environment. This feedback cycle will repeat again with the subsequent televisits throughout the rotation.

Charting. Another essential component of the televisit includes the actual charting within the EHR. The preceptor will review the learner's charting and use similar feedback cycle to help the learner improve on their documentation of the televisit. If this cannot be done immediately following the televisit, the preceptor can set expectation of when the learner would need to complete their charting for preceptor's review, attestation, and feedback.

Goals for next session

The preceptor and student will close out their teleprecepting session by setting specific goal(s) for the next teleprecepting session. This should be first generated by the learner, and the preceptor can also add their goal(s) for the learner to scaffold the learner's learning. This may need to be adjusted based on the learner's progress and revisited at the next teleprecepting session (Lefroy et al., 2015; Myers & Chou, 2016).

Results

Prior to COVID, teleprecepting was piloted with less than 2% of NP students in the university and only within the PMHNP specialty. As early cases of the coronavirus were reported and concern for patient and health care worker safety grew, most specialty programs were able to implement short-term teleprecepting rotations. The described method of transitioning in person to teleprecepting, modified through trial and error, allowed for completion of student hours for graduation and continuing clinical training at safe distance. The short-term emergency placements had included acute care and neonatal specialties; however, primary care and mental health specialties were most likely to maintain longer-term teleprecepting rotations. At the time of submission, 7 months after the initial surge of cases and restrictions, 85% of family nurse practitioner ($n = 63$), 69% of psychiatric mental health nurse practitioner ($n = 61$), and 44% of

pediatric nurse practitioner ($n = 27$) students in our NP program had transitioned to teleprecepting.

Limitations

One limitation of this project is that it was implemented in response to a pandemic, and thus, current clinical evaluations of students do not include specific questions related to telehealth competencies. Also, evaluations of preceptors do not include questions related to the teleprecepting skills. In the future, these questions will be revised to reflect the modality of the clinical learning environment. Another limitation is that telehealth regulations are constantly evolving and could limit the feasibility of this educational model in the future.

Conclusions/recommendations

Although COVID-19 poses challenges for both patient care and NP education, this project demonstrates that teleprecepting is a feasible method of clinical teaching for NP students across a variety of specialties. Minor adaptations and considerations are needed to transition the teaching from in-person to virtual environment. Much of the work depends on preparation with the student and setting clear expectations, as well as a "Just-In-Time" dry run to help the session run smoothly. Feedback is equally important in teleprecepting as with in-person precepting, with the addition of feedback around the technical portion and telehealth etiquette. Future studies will need to examine student competencies based on teleprecepting experiences and preceptor training to support teleprecepting roles.

Take home messages

- Preparation ahead of time is the key to success.
- Use existing teaching and evaluation tools.
- Teleprecepting is a feasible method for clinical training of NP students.

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Competing interests: The authors report no conflicts of interest.

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