Telehealth Educational Resources for Graduate Nurse Faculty

Katherine E. Chike-Harris, DNP, APRN, CPNP-PC, FNP, CNE; Kelli Garber, DNP, APRN, PPCNP-BC; and Anne Derouin, DNP, APRN, CPNP, PMHS, FAANP

ABSTRACT

Background: The rapid acceleration of virtual health care delivery, telehealth, has underlined the pressing need for graduate nursing students to gain skills and competencies that will ensure effective and efficient delivery of telehealth care in future generations. **Problem:** There is a need for graduate nursing students to be prepared to use telehealth, but few nursing programs offer this training. Barriers to this implementation may be due to lack of faculty knowledge, telehealth resources, or telehealth opportunities. **Solution:** Graduate nursing faculty should use resources and the wisdom of early adopters of telehealth to ensure adequate telehealth preparation is integrated into all graduate nursing programs.

Conclusion: This article describes emerging core competencies for telehealth education and offers guidance, resources, and activities for nurse educators who seek to prepare emerging advanced practice RNs to plan, deliver, and implement effective telehealth practices.

Keywords: advanced practice RNs, nurse practitioner programs, telehealth, telemedicine

Cite this article as: Chike-Harris KE, Garber K, Derouin A. Telehealth educational resources for graduate nurse faculty. *Nurse Educ*. 2021;46(5):295-299. doi: 10.1097/NNE.000000000001055

elehealth, the umbrella term used to describe electronic or virtual engagement between patients and health care providers (via videoconferencing, email, or telephone), has been an emerging innovation for health care delivery across the United States. The SARS-CoV-19 (COVID-19) pandemic rapidly accelerated the adoption of telehealth as providers sought to deliver continuity of services, ensure clinical staff safety using nonpatient contact, and remain viable via provision of telehealth care delivery, which was reimbursable by payers. The rapid acceleration of telehealth also underscored the lack of preparation among seasoned providers who struggled to adopt virtual modalities of health care delivery and the pressing need for emerging health care professionals such as students in advanced practice registered nurse (APRN) programs to gain skills and competencies to ensure effective and efficient delivery of telehealth care in future generations. This article

offers guidance and resources for graduate nurse educators who seek to prepare emerging APRNs to plan, deliver, and document clinical encounters via telehealth.

Although telehealth has rapidly expanded recently, a significant barrier to telehealth adoption among many seasoned health care providers is having never received formal education or training.^{2,3} Moreover, recent reviews reflect the scarcity of health professions programs that integrate telehealth education into their curricula.^{4,5} The American Medical Association recently suggested that telehealth become a core competency for medical students in the future,⁶ and several authors have provided recommendations for integration of telehealth competencies into undergraduate medical education curriculum.⁷⁻⁹ The Association of American Medical Colleges also recently released telehealth competencies intended to help educators design and deliver curricula and activities to enhance professional development in telehealth.¹⁰

Although there are currently no specific telehealth nursing certifications offered, nursing specialty organizations are actively incorporating telehealth into competency-based examinations and practice guidelines. The American Academy of Ambulatory Care Nursing has published the Scope and Standards of Practice for Professional Telehealth Nursing, which identifies 16 standards of practice for professional telehealth nursing. The first 6 refer to clinical practice standards common to nursing practice in the ambulatory care setting. The additional 10 are professional performance standards for telehealth

Author Affiliations: Assistant Professor (Dr Chike-Harris), Medical University of South Carolina College of Nursing; and Lead Advanced Practice Provider and Clinical Integration Specialist (Dr Garber), Medical University of South Carolina Center for Telehealth, Charleston; and Professor and Assistant Dean of MSN Program (Dr Derouin), Duke University School of Nursing, Durham, North Carolina.

The authors declare no conflicts of interest.

Correspondence: Dr Chike-Harris, Medical University of South Carolina College of Nursing, 99 Jonathan Lucas St, MSC#160, Charleston, SC 29407 (chikehar@musc.edu).

Accepted for publication: May 4, 2021 Published ahead of print: July 8, 2021 DOI: 10.1097/NNE.0000000000001055 nursing, which include a competency pertinent to the nurse's specific role. Furthermore, van Houwelingen et al¹³ identified 14 nursing telehealth entrustable professional activities requiring 1 or more core competencies including coaching skills, the ability to combine clinical experience with telehealth, communication skills, clinical knowledge, ethical awareness, and a supportive attitude. Entrustable professional activities include tasks or responsibilities to be entrusted to an unsupervised trainee once competence has been established.¹⁴

The National Organization of Nurse Practitioner Faculties¹⁵ (NONPF) supports the integration of telehealth into APRN graduate nursing education and has developed a suggested list of competencies, which include a common understanding of the benefits of telehealth combined with clear and thorough education on all facets of telehealth, including telehealth etiquette, privacy and security, program development, integration into practice, and documentation. Telehealth etiquette refers to the way in which the provider conducts themselves during a virtual encounter and includes security and privacy, professionalism, relationship-based communication skills, and environmental considerations.¹⁶

Rutledge et al¹⁷ have expanded upon the NONPF's telehealth competencies through the development of the Four Ps of Telehealth, which outlines standardized telehealth competencies needed for APRNs to be competent telehealth providers. The Four Ps of Telehealth framework divides these competencies into 4 phases: preparing, planning, providing, and performance evaluation. Within each of these phases, there are certain criteria that need to be taught to students to develop APRNs who are prepared not only to provide care using the health care modality but also on how to develop an effective and sustainable telehealth program. These skills contribute to improved provider adoption of telehealth, confidence and competence among users, and an enhanced telehealth experience among both patients and providers.

Arends et al¹⁸ have also developed 22 competencies that focus on providing telehealth care and cultivating learners' awareness of the benefits and limitations of telehealth. These competencies were developed as a result of a collaborative team of urban and rural providers, health insurance administrators, health care system regulators and leadership, and educators. Twelve student-learning outcomes stemmed from the competencies. These competencies and student-learning outcomes can assist faculty in developing and integrating telehealth into their curricula.

APRN Telehealth Education Integration Recommendations

Faculty can use various methods to infuse telehealth components within the APRN curriculum after first recognizing the needed competencies and considering how to blend them into their preexisting plans of study (Table). The multimodal framework was developed for the integration of telehealth education into the APRN curriculum and recommends telehealth introduction within each mode of pedagogy commonly used in graduate nursing education:

didactic, experiential, student projects, and clinical practice.²³ Didactic education includes an introduction to telehealth, its definitions, types of telehealth and their applications, identification of roles, equipment and information technology requirements, professionalism and etiquette, ethical practices, identification of appropriate patients or types of visits, security and privacy, telehealth specific laws, policies and regulations (both state and federal), billing and documentation, and credentialing and licensing requirements. Cross-state practice requirements must be addressed with regard to APRN practice because the patient location is considered the place of service. Many do not realize that they must be licensed in the state where the patient is located to extend care across state lines. Barring a state-specific exception, APRNs must meet established practice requirements in the state where the patient is located, even if the APRN is physically located in a full-practice authority state.

Experiential activities include simulated activities with or without standardized patients that reinforces telehealth knowledge and may incorporate interprofessional practices. Telehealth student projects focus on illustrating or demonstrating key elements of telehealth, bridging the knowledge obtained through both the didactic and experiential activities. The final step of telehealth integration includes applying skills in clinical practicums through telehealth-specific sites, solidifying key concepts, and increasing learner confidence and comfort with using telehealth.

Didactic

Basic telehealth elements may be presented to students in a variety of ways, ranging from 1 hour in length²² to a full day, ¹⁹ over several weeks, ²³ or scaffolded throughout the APRN plan of study. ²⁰ The necessary telehealth information can be presented to the students via in-person^{21,22} or remote, ^{17,20} using self-paced modules, ^{16,20,21,23} or via prerecorded narrative lectures by telehealth experts.²⁰ Telehealth didactic education can be implemented by aligning the content with the preestablished focus of a course. 16,20 For example, providing education regarding telehealth laws, policies, and legislation within a policy-based course, 20 or integrating telehealth etiquette training within an educational session focused on communication and team development. 16 Once the mode and duration of telehealth education are decided on, the content should then be outlined to include an introduction of basic telehealth topics, ^{18,23} such as history of telehealth, definitions, benefits and barriers, types of telehealth and corresponding equipment, and telehealth etiquette. 16 Literature has demonstrated that telehealth education, regardless of introduction or modality type, increases student knowledge and comfort with telehealth.²⁴

Experiential

Although didactic education provides a basic knowledge of telehealth, telehealth-specific experiential activities reinforce lessons learned much like APRN simulated activities enhance APRN core knowledge. Telehealth experiential activities can range from being as simple as an introduction to

Table. Summary of Telehealth Components and Corresponding Learning Activities		
Telehealth Component	Topic/Activity	Mode
Didactic		
Telehealth overview	Definitions ¹⁸⁻²¹ Modalities ¹⁸⁻²¹ Telehealth etiquette ¹⁶⁻²¹ Interprofessional collaboration ^{16,21} Laws and regulation ^{18-20,22} Licensing and credentialing ¹⁸⁻²¹ Security and privacy ^{19,22}	Self-paced online modules ^{16,20,21} Online discussions ^{20,21} Prerecorded narrative lectures/videos ^{20,21} In-person lectures ^{16,19}
Experiential		
Equipment and simulations	Equipment introduction ^{18,20,22} In-person standardized patient interactions ^{16,21,23} Remote standardized patient interaction ^{16,20,21,23}	Remote education/demonstration ²² Mock visits with/without peripherals Asynchronous telehealth ¹⁸
Student projects		
Student assignments	Benefits and barriers ²³ Fluidity of laws and regulations ²¹ Site (hub and spoke) roles ²³ Implementation of telehealth programs ²³	Presentations ^{16,21} Paper ²³ Self-reflections ¹⁸
Clinical practice		
Clinical experiences	4-h clinical practicum (ambulatory or acute care) ²⁰ 3-way clinical experience ²² Student selected 8-h clinical practicums (various sites) ²³ School-based telemedicine clinics ²⁰	Telehealth roles: Provider Consultant Telepresenter
Evaluation		
Student evaluations Preceptor evaluations	Standardized patient debriefing ^{16,23} Student satisfaction surveys ^{20,21,23} Student performance evaluations ¹⁸ Preceptors' performance evaluations ¹⁸	Likert scale Open-ended questions Anonymous surveys

a telehealth cart and its peripherals^{18-20,22} to more complicated stimulated telehealth visits using standardized patients. ^{16,18-20,22} Experiential activities are important to increasing students' comfort with the telehealth platform, ¹⁹ telehealth etiquette, ^{16,18-20} and performing a patient assessment. ^{16,18-20,22}

Student Projects

Telehealth-specific projects assist students with solidifying concepts learned in the didactic, experiential, or clinical experiences. Student projects can focus on identifying benefits and barriers of telehealth based on population type^{18,23} or identifying steps in the development and implementation of telehealth programs.²³ Projects can also involve the development of websites or applications (apps) that can assist certain patient populations¹⁶ or integrate students' knowledge gained through didactic and experiential activities that cultivate appreciation of telehealth benefits, especially among those who reside in rural and remote areas of the United States.²³ These student projects can consist of self-reflections,¹⁸ presentations,^{16,21} papers,^{20,23} development of apps or websites,²¹ and proposals of telehealth

interventions.²³ These projects not only strengthen telehealth knowledge but also better prepare the students to implement and lead telehealth within their practice settings.

Clinical Practice

Student clinical telehealth simulation and preceptor-facilitated practicums reinforce the skills and knowledge gained from didactic or experiential activities. Through clinical experiences, students have the opportunity to observe and participate in a telehealth visit in a variety of roles such as provider, telepresenter, and consultant. ^{20,22,23,25} Evaluations can be conducted of the student's telehealth performance in the clinical setting, as well as that of the preceptor's and their use of telehealth competencies. ²⁵

Finding telehealth clinical sites was difficult for most health professional programs before the COVID-19 pandemic, but the recent environment increased the utilization of telehealth significantly. The Centers for Disease Control and Prevention's COVID-19 surveillance program showed a 154% increase in the use of telehealth during March 2020 when compared with March 2019. Most clinical sites currently maintain continuity of care for their

patient populations through the use of a direct-to-consumer asynchronous platform or a synchronous Health Insurance Portability and Accountability Act secured videoconferencing platform.²⁷ Because of this increased utilization, more telehealth-related clinical opportunities should be available for students.

Faculty Telehealth Resources

To provide telehealth education to students, faculty need to become familiar with the modality, available through professional conference attendance, collaboration with telehealth organizations or other schools or colleges of nursing, and research. There are several websites that provide telehealth information, such as the Center for Connected Health Policy (CCHP), ²⁸ American Telemedicine Association, 29 National Consortium of Telehealth Resource Centers (TRC),³⁰ and Center for Telehealth and e-Health Law. 31 The American Telemedicine Association is an organization whose main focus is on the adoption of telehealth through providing members with the most current federal and state legislation, monitoring market trends, and providing resources and tools such as current telehealth practice guidelines, webinars, and conferences.²⁹ The organization has several special interest groups, regional chapters, and state forums where members can participate in strategic brainstorming and policy discussions.

Telehealth resource centers consist of 12 regional and 2 national centers that assist in the education, implementation, and program development of telehealth, focusing on rural communities.³⁰ Telehealth resource centers offer telehealth education for students and practicing providers through live, interactive training sessions free of charge that meet the NONPF telehealth competencies. The Center for Connected Health Policy, a branch of the TRC, is a nonprofit, nonpartisan organization that provides information regarding telehealth laws and policies at the state and federal levels. ²⁸ Faculty and practicing providers can easily access state-specific telehealth information through the website. Information provided includes eligible telehealth providers, reimbursement policies, what type of telehealth services are covered by Medicare and Medicaid, remote patient monitoring policies, and a listing of state laws that govern telehealth practice. Telehealth laws and policies are constantly evolving, and monitoring this site is an effortless way to stay current with telehealth-related policy free of charge. In addition, faculty should encourage students to review advisory opinions, position statements, and executive orders at the state level because these may or may not be reflected on the CCHP website. The Center for Telehealth and e-Health Law is another resource for telehealth legal and regulatory information.

For nursing programs that do not have telehealth experts or equipment to provide education to their students, collaboration with a school that does have these resources is a feasible option. The C-TIER³² is based at Old Dominion University and provides telehealth education to educators, students, and practicing providers. The C-TIER offers

several open-access videos on a variety of telehealth topics, such as telehealth etiquette and telehealth examination techniques without peripherals. The program also offers telehealth certification through its 2-week self-paced, interactive telehealth program. The C-TIER website includes a comprehensive faculty telehealth toolkit for the purpose of providing faculty with the essential information (basic telehealth education, case studies, evaluations, etc) to integrate telehealth within their APRN programs.

Conclusion

The emerging telehealth innovations throughout health care arenas in the United States demand education, training, and preparation of APRN students who will serve as future providers. Graduate nursing faculty should use resources and the wisdom of early adopters of telehealth to ensure adequate telehealth preparation becomes integrated into all graduate nursing programs. Using the national resources currently available and participating in ongoing education, innovation and evaluation of best practices will ensure APRNs are confident to deliver quality health care that is accessible, safe, and reliable. Graduate nursing faculty are encouraged to proactively integrate telehealth education and competencies into APRN curriculum, ensuring future APRNs will be poised, self-assured, and skilled in smoothly transitioning to practice using both in-person and telehealth delivery of care.

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TEACHING TIP

The Medicine Cabinet as a Strategy to Lead a Zoom Class in Pharmacology

To meet COVID-19 guidelines, a didactic on-campus course was transitioned to a Zoom class. To engage students in the prelicensure pharmacology course, an on-campus strategy was adapted for a synchronous Zoom class. The pharmacology topic for this strategy was aspirin, acetaminophen, and nonsteroidal anti-inflammatory drugs. A narrated voice-over PowerPoint was posted in the online Learning Management System prior to class. To introduce the next pharmacology content, students were instructed to search their home medicine cabinet for one of the medications to be discussed in the next Zoom class. Each student was directed to report on the action, use, recommended dosage, adverse effects, directions, and black-box warnings. As students joined the Zoom class, they posted their findings on information provided by the manufacturers to consumers on the labels in the chat feature of the Zoom class. After the faculty-led lecture on these medications, the class was divided into small groups of 3 to 4 in a Zoom breakout session. Students were provided with a Word document that included 6 patient-based scenarios on the medications. The students were to determine if the medication taken by the patient was a safe dosage in 3 scenarios and if a medication error by the nurse occurred in another 3 scenarios. A debriefing was led by the nurse educator. This adapted activity for a Zoom class proved to connect learning of common medications found in a medicine cabinet with pharmacology content.

By **Patricia Pence**, EdD, MSN, RN, Mennonite College of Nursing, Illinois State University, Normal, IL (plpence@ilstu.edu). DOI: 10.1097/NNE.00000000000000980