COMMENTARY

The Need to Educate Pharmacy Students in Telepharmacy and Telehealth

Jeanne Frenzel, PharmD, PhD,[a,c] Andrea Porter, PharmD[b,c]

[a] North Dakota State University, School of Pharmacy, Fargo, North Dakota
[b] University of Wisconsin - Madison, School of Pharmacy, Madison, Wisconsin
[c] Editorial Board Member, *American Journal of Pharmaceutical Education*, Arlington, Virginia

The global pandemic has dramatically impacted how pharmacists connect with patients. Telepharmacy and telehealth technologies are being used by pharmacists in a multitude of settings to positively influence the health and wellbeing of patients. Having pharmacists that are prepared to deliver services using telepharmacy and telehealth necessitates that Doctor of Pharmacy (PharmD) students receive tele-education. Tele-education topics may include telepharmacy and telehealth, audio and visual technologies, etiquette, law, reimbursement, and privacy and confidentiality. In many cases, the pandemic has required pharmacy programs to incorporate tele-education into curriculums quickly, resulting in limited and underdeveloped experiences for students. Tele-education should be purposefully incorporated into curriculums through a combination of didactic, simulation, and experiential training. Programs should evaluate how tele-education is taught within their curriculum and share those experiences with the Academy as pharmacy graduates will likely be providing patient care services using telepharmacy and telehealth.

Keywords: telepharmacy, telehealth, tele-education, audio-visual technologies, etiquette

INTRODUCTION

The global pandemic has changed how pharmacists and other health care providers connect with patients.[1] These changes may not be temporary.[1] Pharmacists must consider how to equip themselves to deliver services by quickly adopting telepharmacy and telehealth technologies that will positively impact the health and wellbeing of their patients.[1]

DISCUSSION

Telepharmacy is defined by the Model State Pharmacy Act and Model Rules of the National Association of Boards of Pharmacy as "the provision of pharmacist care by registered pharmacies and pharmacists located within the United States jurisdictions through the use of telecommunications or other technologies to patients or their agents at distances that are located within United States jurisdictions."[2] Telepharmacy services span from dispensing of medications and patient consultation to medication therapy management and disease-state specific clinical consultation.[2] Telepharmacy can benefit patient care in medically underserved rural and urban areas and in a variety of pharmacy settings, including community, ambulatory care, and inpatient pharmacy.[2]

Telehealth is broader than telepharmacy, is often multidisciplinary, and defined by the Health Resources and Services Administration of the United States Department of Health and Human Services as "the use of electronic information and telecommunications technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health and health administration."[3] Through telehealth, pharmacists have been involved in providing patient management services for diabetes, hypertension, lipid disorders, anticoagulation, geriatrics, human immunodeficiency virus, and hepatitis C.[4-8] In the inpatient setting, critical care pharmacists have provided patient care remotely through antimicrobial stewardship programs and to multiple intensive care units in the same health system.[9,10] Despite the advantages of telehealth, which include convenience, access, decreased costs, and reduced exposure to disease, health care providers have been slow to adopt telehealth services.[11] This may be due to their limited awareness of or training in telehealth.[11]

Ensuring pharmacists are telepharmacy and telehealth ready requires tele-education to be included in

Corresponding Author: Jeanne E. Frenzel, North Dakota State University, School of Pharmacy, Sudro Hall, 1401 Albrecht Blvd., Fargo, ND 58102. Tel: 701-231-8546. Email: jeanne.frenzel@ndsu.edu

pharmacy training, which would prepare graduates to provide these services in practice.[11] Graduates need to recognize that telepharmacy and telehealth should be a standard of care, care that expands beyond the pharmacy walls to include new patient populations with different needs.[4,11] An analysis of approximately 1,629,000 telehealth interactions from January 2020 to March 2020 found that telehealth visits increased by 50% compared to the same timeframe in 2019.[12] Most visits were not for COVID-19 related issues; however, there was a significant increase in COVID-19 related visits to pharmacists during March 2020.[12] Health care leaders believe that this increase in the use of telehealth accompanied by regulatory changes will lead to long-term adoption of telehealth to increase patient access to care after the pandemic.[12] Pharmacy graduates will need to be able to use telecommunication technologies, excel in patient-centered care and communication, learn acceptable telehealth professional conduct, and develop a multidisciplinary provider network to deliver and be reimbursed for telehealth services.[4]

Published articles documenting tele-education for pharmacy students are limited to descriptions of simulations and focus on student perceptions of the use of video to improve communication skills or their ability to collaborate with other health professions students.[13-15] These studies were not designed with student training in telehealth as the main focus. In 2016, the American Medical Association called for the development of core competencies in telemedicine to guide the tele-education and tele-precepting of medical students.[16] Tele-education programs often include a combination of didactic education, simulation, and experiential training.[17] Tele-education topics may include developing an understanding of telepharmacy and telehealth, technologies, telepharmacy and telehealth etiquette, laws governing practices, reimbursement, and guidelines for privacy and confidentiality.[17]

Pharmacy programs teach students many practice skills, including how to verify a prescription or medication order, provide patient consultation and education, conduct interprofessional interactions, and use electronic health records. These skills are needed to provide effective patient care in all in-person practice settings and, now more than ever, using telepharmacy and telehealth to facilitate remote patient and provider interactions. Foundational skills must be adapted to these new ways of practice.

Typically, students are first taught how to counsel patients in a community pharmacy setting. After time and practice, students learn to adapt their counseling skills to the inpatient setting, which may involve counseling patients receiving more medications for more complex problems. When community and inpatient skills are taught with a telehealth focus, they may include training in the use of technology and in speaking with family members and providers during the same telehealth encounter. Students should be taught how to adapt the skills they have already learned so that these services can be provided using telecommunication technologies when they cannot be performed face-to-face. Patient and provider encounters using telecommunication technologies require the student to heavily focus on communication skills and nonverbal cues to ensure, for example, that those being counseled understand how to use medications and instructions for follow-up.

Different considerations must be made when the provider and patient are in the same room compared to when telecommunication technologies are used. Although the advantages of telepharmacy and telehealth services are many, including patient accessibility, reduced patient travel time, and cost savings, there are also disadvantages that students and pharmacists must be equipped to navigate.[12] For example, telepharmacy and telehealth technology is costly and may provide operational challenges that pharmacy graduates must be prepared to navigate.[18] There may also be a subset of patients who prefer in-person health care services, may be hesitant to use technology to access pharmacy services, or simply do not understand how to use these new services.[18,19] Thus, students must be provided with experiential opportunities to grow their skills sets to address the nuances of providing remote pharmacy services.

Haney and colleagues outline four steps leading to a successful telehealth encounter, which can easily be adapted to pharmacy student training.[20] In the first phase, the provider should prepare for the encounter by checking and practicing with equipment, procuring a quiet place for the encounter to occur, and choosing a wardrobe appropriate for videoconferencing (ie, avoid prints, bright colors, ill-fitting clothing, and distracting jewelry).[20] During the second phase, termed beginning, the provider should make sure the encounter space private, comfortable, and free from distractions. The provider should ask the patient for permission to conduct the encounter and introduce all those involved in the experience.[20] During the third phase, termed conducting, the provider should ensure that all participants involved in the teleconference can be seen and heard. It is important for the provider to act as they would during a face-to-face encounter. Eye contact is important as looking at notes or away from the camera may be perceived by the patient as lack of interest in or engagement with them.[20] In the fourth and final phase, the provider should summarize the telehealth encounter verbally and through written documentation, and a follow-up plan, if needed, should be determined.

With the pandemic, many pharmacy programs have implemented telepharmacy and telehealth simulations out of necessity rather than through normal curriculum change processes in which it would have undergone thoughtful curriculum design and review. Training in telepharmacy and telehealth should be purposefully incorporated throughout the curriculum and should include didactic, skills-based laboratory simulation, and experiential opportunities for students to learn how to improve patient outcomes through virtual interactions. These opportunities are likely to be spread across multiple courses and years of a curriculum. For example, many components of tele-education fit nicely into the didactic social and administrative pharmacy and pharmacy practice curriculum, especially telehealth topics related to reimbursement, policies, and communication. However, in order for students to feel comfortable with telepharmacy and telehealth, hands-on practice through simulation is needed. Finally, it is important for students to experience telepharmacy and telehealth in pharmacy practice through introductory and/or advanced experiential learning. Intentional coordination with an institution's curriculum committee or a taskforce should be undertaken to ensure that knowledge and skills are taught in a purposeful, longitudinal, and progressive manner.

CONCLUSION

There is a paucity of evidence regarding how to best incorporate tele-education into a curriculum. The pandemic has forced pharmacy programs to incorporate tele-education into curriculums rapidly. Tele-education should be purposefully and thoroughly incorporated into pharmacy curriculums through didactic, simulation, and experiential training. Topics may include use of telecommunication technologies, patient and provider communication, reimbursement for services, policies, and preparation of both the patient and the pharmacists for remote encounters. Pharmacy programs should evaluate what tele-education focused knowledge and skills they are teaching and where those skills are located within the curriculum. Programs should identify and fill any gaps in the curriculum with robust and well-designed student experiences in telehealth. In addition, programs should share their development and assessment of these experiences to determine best practices across the Academy. After the pandemic is over, pharmacists will likely be providing patient care services through telepharmacy and telehealth; thus, pharmacy graduates need to be prepared to practice in these settings.

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