This handout accompanies the “Teaching During Telehealth” ECHO conference and is meant to provide support to Upstate preceptors who are learning and developing their skills in teaching while providing telehealth services to patients.

Facilitators and Panelists:

- Barbara Feuerstein, MD -- Clinical Associate Professor, Internal Medicine; Adult Endocrinologist
- Jenica O’Malley, DO -- Assistant Professor of Pediatrics, General Pediatrician
- Scott Wiener, MD -- Assistant Professor of Urology
- Tammy Austin-Ketch, PhD, FNP, BC, FAAN -- Dean, Professor, College of Nursing
- Theresa Parascandola -- MS IV, College of Medicine
- Aarani Kandeepan, MD -- Pediatric Resident, PGY2

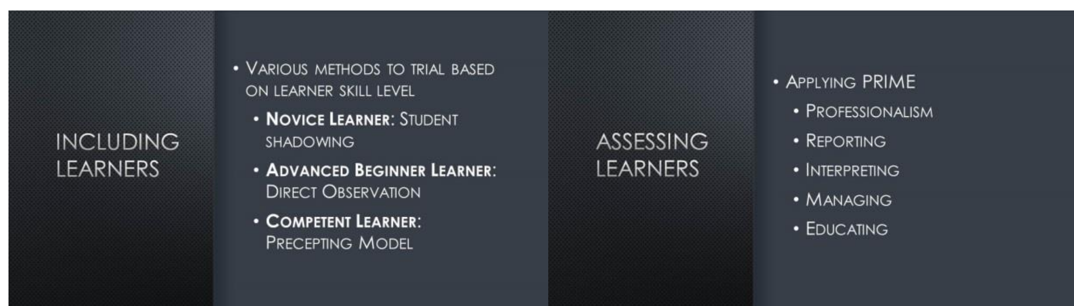
Objectives:

1. Review and discuss telehealth entrustable professional activities (COM) and other health professions student learning objectives
2. Review methods and structure to include learners in telehealth models
3. Develop techniques to assess student learning via telehealth

Introduction: Dr. Bonville

WebEx:
Affiliation with Upstate: Login already exists for providers
Runs best on downloaded application for both provider and patient
Patient requires email address invitation to join meeting
May be marked as spam
Can invite multiple people (all anonymously)

Doximity:
Must create own Doximity account
Only requires an app for the person initiating the call (provider or student)
Patient requires phone number with text message capabilities (plans for desktop app currently in beta)
Number can be made to appear as clinic phone number to avoid confusion for patient
Can also invite multiple people (patient anonymously through the app, other provider/student via text



Learners:
Novice Learner: An experienced resident/attending provider performing video call in person or via secure app
Advanced Beginner: Student conducting telemedicine encounter on their own while being directly observed by an experienced resident/attending provider who offers "on the fly" assistance
Competent Learner: Student conducting telemedicine encounter on their own. They then precept with any attending over video or in person. They then conclude the encounter on their own via telemedicine or as a group telemedicine encounter with student/supervisor/patient

Assessing Learners by Applying PRIME:
Professionalism: Attitude toward tasks/Patient encounters, Completion of tasks
Reporting: Ability to gather and share pertinent information
Interpreting: Capable of determining possible underlying pathophysiology and coming up with a differential of illness scripts that fit the presentation
Managing: Providing patients with treatment plans based on interpretation, including future f/u
Educating: Including clinical pearls or updates to practice guidelines in decision making

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Questions to panelists and notes summarizing answers:

1. **What do learners need to understand about the capabilities and limitations of telemedicine in the provision of health care? What types of encounters are you having your residents/students perform in the office via telemedicine?**

Dr. Wiener:

- Flexibility: We have had to be flexible in how we approach patient care and what we consider to be standard and acceptable care.
- Recognizing new value: There is potentially other information we can get from telemedicine that we might not be able to get from an in-person visit.
- Example: The Urology office needed to figure out a way to see surgical patients post-operatively. The attending physician could evaluate in a telemedicine platform, then refer to an Urgent care setting. A resident there could examine while on video with an attending-- direct supervision with video.

2. **How do you prepare a student for participation in a telemedicine visit? What expectations should be set prior to the visit to ensure success?**

a. Professionalism and confidentiality
b. Level of participation
c. Time management and structure of visit
d. Communication skills (bedside vs webside manner)
e. Providing counseling
f. Documentation

Dr. Feuerstein:

- Learning the technology: Telehealth can be challenging for people/faculty who are not used to using technology. The pandemic gave us no choice. Utilizing people with experience in telehealth was very helpful, although it took a longer time than expected be able to use Doximity. WebEx seemed challenging at the beginning but then became easier.
- Student experience: Students need EPIC access to write notes (not just read only).
- Preparing students: Look at the patient schedule a day ahead; consider who would be appropriate for a student, text patient info to student so they can call the day ahead. Advise students, "Barbara Feuerstein told her to call." Students can call patients on her own time.
- Set expectations: During the telehealth visit, the student can give the history to the attending with the patient listening. Thee patient could add information. Discuss the assessment and make a plan together while on the video or phone visit. The students need to understand to treat patients with respect in a video visit is the same as in the room with them. With EPIC (not 'read only'), students can write notes. Students have said they like getting guidelines about patients they are going to see. For example, ADA guidelines, transgender guidelines, etc.
- Lessons learned: One of the biggest challenges is diabetes technology. If giving patients with insulin pumps to students, they need more of a heads up.

Dr. Tammy Austin-Ketch:

- Background: Involved in telehealth and telemedicine since 2010, starting with rudimentary systems in kiosks. Was an academic at UB and worked with FNP, wrote several grants for telehealth education, working with predominantly underserved populations. Worked with Native American populations (clan mothers and tribal chiefs), with students and faculty from UB. Also served underserved in Niagara Falls, including dental telehealth, in conjunction with dental health curriculum.
- Cultural and social determinants of health: Students need to be prepared to work with the population to provide cultural sensitivity and appropriate care. Clan mothers were interested in the educational aspects for the population and learners.
- Organization: In Buffalo, multiple learning modules were created to address professionalism and confidentiality. This is very important to the Native American culture. In Syracuse, the CON FNPs were incorporated as "receivers of information." Learners teach learners as well. Novice students sit with the faculty member to see what the encounter looks like. The experienced (finishing) student can work with a novice student on how to use the technology, and troubleshoot. The students participate in a lecture series on how to use telehealth and then do simulated experiences on one another and a standardized telehealth encounter, receiving feedback throughout.
- Precepting: Students use a direct precepting model. It is all synchronous, hearing the same thing as the student asking questions, so that there is not the glitch of having to go back in and ask questions and observations are in real time. For working with various levels, some students are

shadowing, others are actively engaged. They can have 25-50 hours of training to complete modules and training. Students can struggle with time management, seeing patient from Dr. AK schedule and may not appreciate the hand on the doorknob situation and that it is time to leave, as it is enjoyable to talk to the patients.

3. **How do you provide learners with independence in a telemedicine environment while still adequately supervising patient care? Give an example.**

Dr. Feuerstein:

- Including students in learning: In July, working with Internal Medicine students, we've heard it is hard to get students involved in outpatient settings and therefore they are now being included in the endocrine elective. If fellows and residents are already working in the clinical setting, then attendings are already overseeing resident and fellow and it does not add any more time, necessarily, to your day.

Dr. Wiener:

- Flexible and creative solutions: Over time we have had challenging scenarios (depending on the platforms). For example, Doxyme is easy for patients, but harder for learners. Moving toward seeing patients in person and intermixing telemedicine with in person. Can sit in background and listen and let the patient and resident talk and then provide feedback on the interaction later. It's important to teach trainees the difference between synchronous and asynchronous care. For example, you can ask if a patient is short of breath, and a diet history, and with telehealth, can look inside their refrigerator and see what they are really eating.

Dr. Aarani Kandeepan:

- Supervision: Attendings can watch "from a distance" and give feedback later. Behavioral health and weight checks are good encounters for telehealth that residents may be able to see on their own. More sensitive issues, like depression & anxiety, might be better to have the supervisor there. Precepting after every encounter (a few minutes to tie up encounter with the supervisor) and doing the wrap up and the follow up together will help to balance supervision and autonomy.

4. **What methods may be used to assess a student's communication skills? Medical knowledge? Clinical reasoning? Professionalism? …during telemedicine visits? Give an example of a time when you were able to assess a student well and a time when you were not. What worked/didn't work?**

Dr. O'Malley:

- General approach: Especially with learners, think about telemedicine as an enhancement, not a barrier. It is an opportunity to expand learners' experiences. It is probably going to be here to stay.
- The history is the most important aspect: One of the episodes on 99% invisible is about the stethoscope (https://99percentinvisible.org/episode/the-stethoscope/). The stethoscope was not used regularly until the 1800s and everything relied on the history. The correct diagnosis is often based on the history and this is a good opportunity to focus on that aspect again – coming

full circle in the history of medicine. Medicine used to take place in people's home. Telemedicine provides an opportunity to see the home, teach students and residents to have different glimpse of the patient's homes. Patient concerns might make more sense and this is an opportunity to discuss these aspects with students.
- Assessments of students: Direct observation is done a lot more freely in telemedicine. You can be a silent observer in the patient-student encounter. You do not have to keep your video on. It removes some of the anxiety without physically being the same space. Some might say is a barrier, but you can say it is an enhancement as well.
- There is an opportunity to include more learners than you might in the office. You can be in a room with a parent, three kids, three learners, and the attending. You can do that with telemedicine and might not be able to (all be present) otherwise.

5. What approaches have you used to provide feedback or debriefing after a telemedicine visit? What worked best and why?

a. Self-reflection on performance
b. Engaging the learner over distance
c. Discussing areas for improvement and setting goals

Dr. Tammy Austin-Ketch:

- Bedside vs website manner is important and is not always the same. You might not see the nervous energy and you can help the students to focus their camera so that you can see more. Global med telemed system provides an otoscope, ophthalmoscope, EKG equipment, PFT equipment, pulse ox, and other, all in one unit and learners take it with them. It can be taken to tribal elder homes where a home visit takes place. Without good cell service you might need to attach a "mefi."
- Students need to be prepared for the cultural issues. You can provide counseling to the students before and after encounter, or a larger debriefing at the end of the day where all students participate. Ask what went well, what they would like to do for next time. Typically go over the next day's schedule before they see the patient so that they can study up before seeing the patient. Students self-reflect as part of their evaluation and part of the debriefing at the end of the day.
- Patient feedback/satisfaction surveys over 4 years note that patients prefer students/learners and provider offer services together (all at once) and ratings have been 5 stars.
- If the institution (not Upstate) does not give students access to EMR, they need to use a separate system and be graded separately.
- Feedback specifics: Students need to figure out where they can improve. Preceptor also needs to look at where they can improve. Sometimes we drop into the middle of the conversation (without giving students enough time) and students might prefer curbing enthusiasm and ask questions later.

6. Many traditional environments for medical education are able to meet the needs of multiple levels of learners simultaneously with tiered systems of responsibility. What strategies are needed to successfully meet the educational needs of learners at different stages of training when telemedicine provides the learning environment? For example, how do you work with students who are still developing physical exam or communication skills? How do you work with multiple (potentially interprofessional) learners?

Dr. O'Malley:

- You are teaching completely different skills and not teaching them how to do a physical exam. You are going to teach them more about direct observation. Can you tell via telehealth if the patient is in pain, trouble breathing? Ask a family member to palpate the abdomen? Ask the parent (or another person in the patient's home) to help you. You are teaching learners how to do a different type of exam. We (attendings) may not yet have the skills for this, some is common sense for how to do it and coach other people through it. We are all learning a different type of physical exam and set of observational skills.

Ms. Parascandola (MSIV):

- Meeting various skills levels: Set expectations early and right before a visit re: who would be asking questions. Utilize simultaneous note writing (resident could write as student asks questions and vice versa). Decide ahead of time to get the most out of the visit (for efficiency too).
- As a learner: On second rotation in telemedicine, able to see traditional and telehealth simultaneously throughout the day. In the office, precepting model as a team (resident and student together as a team and then return to discuss with attending before seeing patient together). The same level student can do shadowing with new consults, direct observation with a resident who filled in questions, and also precepting model (choosing the format based on the patient and student needs as well as other learner availability).

7. Give an example of a patient situation where there were challenges (technological or other) with involving the resident or student. What worked/what did not work? For student/residents answering this question, what are some common challenges faced by students/residents when being precepted using telehealth?

Ms. Parascandola (MSIV):

- In some situations, all the providers and learner were in the same room at the same time (same office space). This could be a challenge due to internet connectivity, and in some cases needing the attending to take over. There was feedback on devices in the office, and sticking with audio and mike on one device led to difficulty with the patient hearing people who were on another computer. Need to be flexible.

Dr. Aarani Kandeepan:

- Examples: A patient who came for a headache prior to the pandemic, was very engaged and then had to switch to telehealth during the pandemic. Mom was frustrated by the telemedicine aspect for the encounter. The patient took a nap during the encounter, and having the control and rapport was challenging. Another example, kept calling a mom for an encounter and she was in Walmart when she responded, making it more challenging.
- Prepping the family beforehand about what they will be going through, what the encounter will entail, that they will go away and get precepted and come back.

Dr. Bennett: Summary

- We are entering a new frontier of healthcare. Telehealth has been underutilized for patient care and as a learning tool. We need to be sure our learners are prepared to take on this way of caring for patients
- Many panelists have provided examples of how telehealth and precepting has worked for them
- Some have mentioned health equity and being able to reach out to person's home to provide care in a different way. Taking a telehealth history may provide new insights for students and preceptors
- Setting expectations as educators is always important and, for telehealth visits, may include web etiquette, confidentiality, and other new expectations
- There is a need to prepare patients not just learners
- Suggestions for providing feedback such as after observing in a synchronous fashion provides benefits to faculty and learners to be able to not step on toes and to supervise more directly than when alone in the room with a patient
- Telehealth should be viewed not as a loss, but a gain for how we can learn about our patients and a gain in opportunities for teaching.

Link to webpage with ECHO Telehealth Conference:
https://upstate.edu/facultydev/fac_dev/educator-support.php