



MEDICAL FEATURES

The Doctor Will FaceTime You Now

As a global pandemic has the health care industry reimagining how to see patients safely, telemedicine—once thought to be years away from widespread use—is quickly becoming commonplace.

≡ **By David Hodes** | February 16, 2021

If you are looking for good news during this pandemic—and by this time, aren't we all? — it comes in the form of an evolving, profound shift in the way that health care providers work with patients that is revolutionizing the entire health care industry.

It's telemedicine, or telehealth (telemedicine is the service; telehealth is the technology used), and it's thriving during this pandemic, in part because of more user-friendly communications technology but mostly because patients and doctors alike are looking for a safer way of conducting the business of health care.

Clinicians can use the telehealth technology to reimagine health care, which started with COVID itself, according to Ann Mond Johnson, CEO of the Arlington-based American Telemedicine Association.

“What we have seen with the pandemic is that a lot of organizations use telemedicine tools to help patients figure out if they have symptoms of COVID and how they should self-manage, which can help mitigate the surge of COVID.”

One of the first things that the University of Virginia Health System did when the pandemic began this year was get tablets out to nursing homes, according to David Cattell-Gordon, director of the nationally recognized telemedicine program for the UVA health system. “When there were outbreaks of COVID, we were able to see patients quickly using a peripheral device where you can hear chest sounds, and a pulmonologist could make a quick determination that that patient needed to come in and be tested or stay at home and be monitored.”

Cattell-Gordon says that UVA health system did around 20,000 patient telehealth interactions in 2019 in over 60 different specialties, reaching people in clinics, homes and other hospitals.

Between March and June of 2020, those interactions jumped to 90,000 across the health system as ambulatory centers were shut down or limited because of COVID. “The fast push for telemedicine during the pandemic came from physicians who said that they needed to see their patients,” he says. “And what we have found out with COVID-19 is that if the patient’s experience is convenient, if they are getting quality care, if they are developing relationships with their provider and they stay safe, then there is a lot of support for telehealth.”

Telehealth in terms of video-based interaction wasn’t happening much at Inova until the pandemic hit its stride around March, according to Neeta Goel, a primary care physician with Inova Loudoun. “We started rescheduling all of the patients who needed to come in for anything routine. We immediately saw great adoption by the patients. They expressed all of the anxiety they had about COVID during these video interactions. In fact, anxiety was the No. 1 diagnosis.”

So is there a silver lining in the COVID cloud as it relates to telehealth? “There are a lot of naysayers who were reluctant to take up the tool and have now taken up the tool and see its value,” Cattell-Gordon says. “So we will see a great increase in people being able to be reached in their home, maybe getting health care earlier, and managing a pandemic better.”



The Technological Bump

Today, video software platforms like Zoom and FaceTime, which can easily be downloaded on nearly every smartphone, are becoming commonplace for patient-doctor telehealth interaction. Wearable devices like Fitbits are collecting health data to share with doctors and nurses via a simple download or a Bluetooth send. But that’s just the tip of the iceberg.

There is another wearable device, the EmotiBit, that tracks a wearer’s emotional and physiological data (such as heart rate, oxygen saturation, perspiration, body temperature and electrodermal activity) then wirelessly streams that to any health platform.

Other apps are pushing the boundaries of possibilities, such as a face-scanning device that can read and analyze certain genetic conditions and even outperformed expert clinicians in syndrome identification experiments, according to an article in the peer-reviewed medical journal Nature Medicine.

And Cattell-Gordon says that there’s more to come: “We are coming to the point where, for instance, an EMS worker will come to your home if alerted that you may be having a stroke, and they are going to be able to put a phone up to your face and scan your face. There are algorithms that are going to read that and are going to give you a pretty definitive decision about whether or not this person is actually experiencing a stroke.”

Telehealth apps are the focus of the ATA, which announced in October a partnership with the Organization for the Review of Care and Health Apps to develop a review process.

Dr. William Anderson, president of the Virginia Hospital Center Physician Group, points to a pilot program that VHC is working on with the Mayo Clinic called OB Connect, combining traditional prenatal care office visits online with obstetrics nurses, where a patient purchases an approved blood pressure cuff and other devices and relays that information online.

Patients get instruction from OB practitioners about how to use these devices and record their blood pressure and their baby's heart rate. "So we can substitute an in-person visit with a telehealth kit, and then use the data that is correct for their treatment," Anderson says. "We are hopeful that this will really take off."

Changing Patient-Doctor Interaction

Telemedicine appointments may virtually eliminate travel and waiting times, dramatically increasing the proportion of patients' face-to-face time with their physicians.

According to a study published in *Family Medicine and Community Health*, a peer-reviewed family medicine journal, between travel time to health care facilities, waiting room time and time actually obtaining medical care, Americans spend an average of 123 minutes per visit, with an average face-to-face time with a physician of 20.5 minutes.

Physicians will admit that there is a certain element missing with telemedicine—they can't see your body language, they may not be able to sense your mood, or there may be other nonverbal sorts of communication that a good doctor has been trained to observe firsthand, in person.

At Inova, doctors were evenly split about the benefits of using telemedicine this year, Goel says. “There were almost two groups. One group was very happy, and the other group took a while to get used to it.” She says that they have found that telemedicine works better for certain specialties, such as endocrinology and neurology, where there has been about a 70% adoption of telemedicine usage.

In light of that reality, the rise of telemedicine may require a new sort of learning for incoming doctors, Anderson says, recalling his days as a medical school junior associate dean. “We were constantly pushing the leading edge of technology at the school,” he says. “We pushed the edge with ultrasound in our training. It was the stethoscope 100 years ago. Now, the next thing is finding out how we do more with telehealth where appropriate, and with these new devices, to provide care for the patient.”

A patient in the office has always known that they have a limited time slot, Goel says. But with telemedicine, it’s been hard for doctors to adjust to patients who are now sitting comfortably in their homes and just want to keep talking.

“It’s a learning process about using telemedicine that is still needed on both sides,” she says. “Patients need to remember that doctors have a schedule and can’t simply sit around and talk about everything.”

Telemedicine is creating a need for physicians to evolve from a bedside manner to a “web-side” manner. According to Neal Sikka, the chief of the innovative practice and telemedicine section in the Department of Emergency Medicine at George Washington University, with a Zoom call, the doctor needs to remember that he can do things like ask you to walk so he can see your gait or your balance. “He can direct you to do a number of different physical exam maneuvers to help him gather more information,” Sikka says. “Doctors can also take advantage of family caregivers who are there during the telehealth visit so that your visit is not just you and your doctor. Now, the home caregiver can be a tele-presenter, who the doctor can instruct to help get more information.”

Patient Feedback

Anderson says that having a telemedicine virtual visit is not exactly the same as sitting across from a patient in an exam room—but it's pretty close. “A patient can show me a rash or I can tell whether they are short of breath or nervous,” he says. “What it boils down to is that we don't have all of the information we get from an in-person visit, like blood pressure or EKG or other point-of-care testing that we might do. But there is a lot we can do.”

What they are finding, he says, is that there are more and more situations that lend themselves to video telehealth. “It's enhanced our ability to deliver care dramatically.”

One Northern Virginia resident using telemedicine to communicate with her doctor is Jen (who asked that we not use her last name), wife and mother of a child with special needs. The McLean resident recently used telemedicine to discuss where she was in the process to prepare for her upcoming surgery.

“My doctor has been my doctor for 20 years now, so we already have a pretty strong relationship,” Jen says. “I have been able to get across what I need to get across to her during the telehealth visit without actually going to the office, and that makes me feel more secure. I have to work with my son's schedule and coordinate with my husband. But with telemedicine, I don't have to worry about leaving home.”

Another Northern Virginia resident, Sarah (who also asked that we not use her last name), who lives in Vienna, followed up with her doctor after a medical scare sent her to the emergency room. “The nurse called me and confirmed I would be ready for the appointment,” she says. “And 15 minutes before the meeting, they texted me a link, and the link opened up a special doctor website. You click that, and it tells you that you are in the waiting room. They click in and talk, and it's just like a regular visit. I felt like I got more attention because I wasn't just sitting there waiting and waiting.”

Sarah's brother has spina bifida and some learning disabilities. When he checks in with his doctor, he struggles to find the words to describe how he is feeling, she says, so she jumps in to help.

Sarah has been seeing a psychiatrist via telemedicine recently. "I would not have done that over the phone or in person," she says. "Taking that step to go into someone's office would be very stressful for me. So being able to just click in and I'm there, it was like. 'Oh, OK, I can do this.' I have found that to be very successful."

Both patients and providers are finding out that telemedicine is the wave of the future of better health care. The ATA reports that telemedicine offers a number of advantages from the health care provider's perspective. Through monitoring patients in their home environments, physicians may be provided with deeper insights into patients' social determinants of health. This may be through exposure to the patients' family dynamics, economic barriers and safety of living environments.

But, Johnson cautions, telehealth is not a panacea. "It's not for all patients and all situations," she says. "It's an important modality of care."

Telehealth after the Pandemic

After the pandemic, will telehealth stay as popular as it is now? "Consumers have really appreciated their physicians meeting them where they are. That has been a real important turning point in creating more of a patient-focused system," Johnson says. "So it will be much more of a hybrid (telehealth/in person) that will vary by specialty, by patient population and by geography. What is clear in our country today is that telehealth and telemedicine is very much a bipartisan issue, and we are excited that it will be embraced across the board."

Post-pandemic, Sikka says, doctors and health care givers hope to better understand the optimal ways to use telehealth as part of getting the right care at the right time in the way that patients want it. "I think you are going to see some disruption in the way we traditionally think about getting health care," he says.

“You will see a growth in the point-of-care tests, like over-the-counter kits, and wearable technologies, which will give us a sense of your health over time.”

There is nothing that fully replaces being able to be in the same space with your doctor and having meaningful conversations, Cattell-Gordon says. “But we are not going all the way back to not using telehealth post-pandemic,” he says. “We are going to realize that people’s convenience is important, too.

“Say you’re a patient doing a follow-up on gallbladder surgery,” he says. “Wouldn’t it be a lot easier from your home to hold the camera on your incision and have the doc say ‘Looking good, come and see me in a month’?”

“The one thing I would say is that we need to control technology and not let technology control us,” Cattell-Gordon says. “We don’t want to let algorithms and artificial intelligence be the lead. They are a supporting tool. Telehealth is a tool. It is not medicine. So we have to have those critical sort of moral and ethical discussions about the value of telehealth and the way that it affects our lives.”

Did You Know?

NASA and Telemedicine



The National Aeronautics and Space Administration played a major role in the development of telemedicine. The need for medical care during space travel allowed physicians to monitor the vital signs of astronauts during flights, as well as provide diagnostics and treatment in-flight. NASA also helped provide telemedicine services to various rural locations in states such as Minnesota, New Hampshire, Maine, Alaska, Arizona and Washington during the 1970s and 1980s.

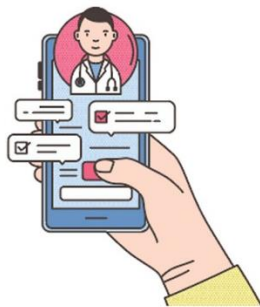
Cost Savings through Telemedicine



- Appropriate remote monitoring of patients' well-being and chronic medical conditions can help patients avoid costly emergency department visits or hospitalizations.

Telemedicine has been found to save patients an average of \$19-\$121 per visit, with savings primarily generated by avoidance of emergency department visits.

- Telemedicine may enhance provider productivity and provide new revenue streams by expanding a practice's reach into new communities without the need to move locations.
- The option of telemedicine services within a practice may attract new consumers who would otherwise be unwilling to seek medical care.
- Telemedicine may further ease strain on the health care system by managing capacity and cutting down on health care costs. One study estimates that reducing 1% of emergency department visits through the use of telemedicine could result in an annual savings of \$101,920,000 in the U.S.



Telehealth Modalities

Synchronous: This includes real-time telephone or live audio-video interaction typically with a patient using a smartphone, tablet or computer. In some cases, peripheral medical equipment (such as digital stethoscopes, otoscopes or ultrasounds) can be used by another nurse or medical assistant who is physically with the patient, while the consulting medical provider conducts a remote evaluation.

Asynchronous: This includes “store and forward” technology where messages, images or data are collected at one point in time and interpreted or responded to later. Patient portals can facilitate this type of communication between provider and patient through secure messaging.

Remote patient monitoring: This allows direct transmission of a patient's clinical measurements from a distance (that may or may not be in real time) to their health care provider.

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