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Telehealth Is Having a Moment



Will it Last?

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The past few months of the coronavirus disease-2019 (COVID-19) outbreak have brought seismic shifts in the fabric of our lives and in medicine. As clinicians, health care systems and communities have risen to the challenge of providing care in the era of a pandemic, and “care as usual” has been upended and reinvented. Amid social distancing and stay-at-home directives, something remarkable has happened to the practice of medicine. Spurred by necessity and supported by urgent regulatory changes, the door has opened for telehealth as a primary mode of outpatient care delivery.

Across the United States—and globally—people with outpatient care needs, ranging from preventive care to routine visits to advanced disease management, are not being seen in person. Unfortunately, some are simply waiting it out, meaning that appropriate prevention and optimized care are not happening. For others, telehealth is emerging as a viable (and for some, the only viable) way to get care. After more than a decade of painfully slow adoption, telehealth is now a household word.

In response to COVID-19, U.S. clinical practices rapidly adopted some form of telehealth as a primary way of providing outpatient care, dramatically reducing or eliminating office presence. Concurrent regulatory changes supported by the American College of Cardiology’s (ACC’s) Health Affairs Committee, such as relaxation of state-line telehealth restrictions and shifting reimbursement to

equivalence with in-person visits, have also spurred the uptake of telehealth. A MedAxiom survey of cardiology practices found that 75% of all outpatient encounters moved to telehealth as of March 30, 2020; a remarkable shift within just 2 weeks (1).

WILL THIS MOMENT LAST?

It can and it must. This moment of telehealth use and acceptance can last, because we have shown that patients and providers rapidly adjust to telehealth. It can last because we have the technology to meet patients where they are and to do so with efficiency and cultural sensitivity. It can last because lawmakers have urged parity of payments for telehealth visits to protect patients and health care workers. And, it must last because it is a method to reduce health disparities and improve health equity by decreasing barriers and increasing access.

Telehealth gives options to meet all patients’ needs, particularly those in rural or remote areas, those with limited mobility or financially constrained time, and/or those with limited access to reliable transportation. Telehealth can allow patients to remotely access services, to seek expert advice and second opinions—without the stress and opportunity cost of travel—and to actively engage and manage their care. Telehealth must last because it can allow for a more comprehensive team-based approach to maintain wellness with data at patients’ fingertips, thereby increasing their engagement, autonomy, and agency.

WHAT IS THE FUTURE OF TELEHEALTH? THE MOVE TO VIRTUAL CARE

Telehealth, or telemedicine, can be defined as the use of electronic information and telecommunications technologies to support remote clinical services (2). At its simplest, telehealth is communication between patients and clinicians using audiovisual means. It can be as simple as a phone call or video call and implies nothing specific about the type of care being delivered or the specific platform being used to have the communication.

However, telehealth can also be true virtual care, where communication is enhanced by clinical data to inform clinical decisions. True virtual care is clinical management in addition to communication. This implies diagnostics, management plans, and therapeutics; it is everything we think of as the practice of cardiovascular care, but without the requirement of physical care.

There is clear value in simple audio or video visits—especially compared with no care interactions at all. Yet, “next-generation” telehealth can include key clinical data akin to what would be available in an in-person visit. For example, during a telehealth visit with a patient with hypertension and atrial fibrillation, digital tools (e.g., Bluetooth blood pressure cuff; wearable electrocardiography monitor) can provide directly measured blood pressure and heart rate and rhythm to inform clinical decision-making in real time.

True virtual care can also leverage remote monitoring data captured between visits to better inform decision making and optimize care. This data can then be reviewed during a telehealth visit or can trigger proaction by the care team between visits (based on changes in symptoms or functional status, changes in blood pressure, changes in heart rate and rhythm, and so on). The U.S. Food and Drug Administration recently provided guidance for the use of consumer digital health products (e.g., wearable sensors) to encourage patient monitoring during the COVID-19 public health emergency (3). This can support a “bring your own device” approach to enhance telehealth visits, in addition to any specifically prescribed digital health tools or remote monitoring platforms by clinicians.

Taken a step further, virtual care can add 3 things to telehealth: data, remote patient monitoring, and outcome tracking. Data in this context means capturing physiological or other health measures and synthesizing them so that they are in one place and are easily presentable to both patient and provider to

inform shared decision-making. Remote patient monitoring means deploying digital technologies (mobile, biosensor, voice, and so on) to inform prevention, care management, and health promotion. Remote monitoring can supplement in-person diagnostic evaluation, when necessary, and track ongoing health status. Such digital technologies (e.g., wearables) have evolved rapidly over the last 5 to 10 years and are now widely available; COVID-19 is a catalyst to push remote patient monitoring into the virtual care workflow.

Finally, virtual care implies outcome tracking, not just “one-off” or “cross-sectional” visits. This means adding longitudinal care and engagement as part of clinical practice, following patient data, and using it to demonstrate short-term outcomes, long-term adverse events, and care efficiency over time. Two points to emphasize: first, outcome tracking is best done digitally because it allows us to harness the computing capacity to analyze and display (also compare and predict) data in a far faster and superior way than what we can do by individual analysis of episodic care. Second, outcome tracking is necessary to show evidence-based value—just like any other intervention—to demonstrate the effectiveness of a virtual care model to improve a particular outcome for a particular population. Examples of telehealth improving quality of care and outcomes come from work in heart failure, including a meta-analysis showing that telehealth can reduce mortality and heart failure readmissions (4).

There are certainly challenges to the adoption of virtual care, above and beyond simple audio or video visits. Virtual care requires not just video visit capability, but also associated digital health platform capabilities, with associated support, education, and guidance for patients and families as well as clinicians on how best to use digital health technologies. There will be challenges in adopting this new way of delivering care, ranging from matching technology to specific patients (e.g., for some, simple audio visits may be desired and adequate), in implementation and optimization of clinical workflow, and in aligning regulatory and payment models. Digital health will likely never replace all physical care requirements for patients and their families, but can augment and extend care.

Now is the time for a new normal in health care delivery. The technology to support true virtual care exists, the opportunity is ripe, and the promise is great. We believe that cardiovascular clinicians can and should lead the virtual care era. The ACC strives

to lead the transformation of cardiovascular care, with an increasing focus on virtual care. Indeed, one of the authors (J.W.), while at Columbia University, felt so strongly about this vision that he founded Heartbeat Health to deliver a virtual care platform for cardiovascular care.

The ACC is working with a number of technology partners, including Heartbeat Health, to transform care delivery for patients and cardiovascular clinicians. Both the ACC Innovation Program and ACC Healthcare Innovation Member Section have identified virtual care and remote monitoring as priorities for the future of cardiovascular health and health care (5,6). Other aspects of the ACC are increasingly focused on it as well, ranging from Education, Science and Quality, Advocacy, Publishing, and MedAxiom (7).

Telehealth is in some ways a return to the days of personal home visits. It is not just for tech-savvy hipsters in large cities. Elderly patients, those with low health literacy, or those with limited access to technology can be provided tools and teaching to adapt. It is a tactic to help eliminate barriers and increase access. Telehealth has the potential to make health care more personalized, efficient, and coordinated; it has the potential to improve efficiency, patient and clinician satisfaction, and health outcomes. It is the ultimate value proposition.

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REFERENCES

1. MedAxiom. Reinventing cardiovascular care in two weeks: an industry adapts to a pandemic. April 9, 2020. Available at: <https://www.medaxiom.com/resource-center/clinical-strategy-and-care-delivery/re-inventing-cardiovascular-care-in-two-weeks-an-industry-adapts-to-a-pandemic/?back=ResourceCenter&lpct=MjYuYS4yMDIwLTAOLTMw>. Accessed April 15, 2020.
2. Health Resources Services Administration. What is telehealth? How is telehealth different from telemedicine?. Available at: <https://www.healthit.gov/faq/what-telehealth-how-telehealth-different-telemedicine>. Accessed April 18, 2020.
3. U.S. Food and Drug Administration. Enforcement policy for non-invasive remote monitoring devices used to support patient monitoring during the coronavirus disease-2019 (COVID-19) public health emergency: guidance for industry and Food and Drug Administration staff. Available at: <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/enforcement-policy-non-invasive-remote-monitoring-devices-used-support-patient-monitoring-during>. Accessed April 18, 2020.
4. Clark RA. Telehealth in the elderly with chronic heart failure: what is the evidence? *Stud Health Technol Inform* 2018;246:18-23.
5. American College of Cardiology. What is the ACC innovation program? Available at: <https://www.acc.org/about-acc/innovation>. Accessed May 1, 2020.
6. American College of Cardiology. Welcome to the ACC Health Care Innovation Section. Available at: <https://www.acc.org/membership/sections-and-councils/health-care-innovation-section>. Accessed May 1, 2020.
7. MedAxiom. Available at: <http://www.medaxiom.com>. Accessed May 7, 2020.