Virtual Care, Telemedicine Visits, and Real Connection in the Era of COVID-19
Unforeseen Opportunity in the Face of Adversity

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It is a truism in health care that reimbursement shapes practice. The coronavirus disease 2019 (COVID-19) pandemic in its early months has been an exception. Health care shifted substantially and fairly suddenly to virtual visits to meet the needs of patients without compromising their safety during a shutdown, while reimbursement was still uncertain.[1,2] Recently, the Centers for Medicare & Medicaid Services reported that between mid-March and mid-October 2020, more than 24.5 million of 63 million eligible patients received a telemedicine service covered by Medicare.[3]

Multimedia

While telemedicine trends have plateaued in many settings, patients and many clinicians clearly have an appetite to continue virtual care in some form once the pandemic is under control. For certain conditions such as those treated through mental health counseling, virtual care could be as effective as in-person visits[4] (although robust studies for most other conditions are lacking). For many patients, a hybrid of in-person and virtual care could be envisioned, guided by the nature of their condition, the care that is required, and the patient's needs and preferences.[5] The benefits of virtual care include convenience and improved access for individuals in remote locations and those with intense work or caregiving demands. But the risks include overutilizing costly tests in the absence of physical examination data, reductions in guideline-recommended preventive care when telemedicine supplants in-person visits, and potential exacerbations in health disparities due to inequity in telemedicine access.

In this issue of *JAMA*, 2 articles discuss critical issues that will shape the future of virtual care after the pandemic: Mehrotra et al[6] address the dilemma of how governments and insurance companies will fund such care going forward; Herzer and Pronovost[7] focus on the challenges of ensuring quality.

Although short-term funding became available at the start of the COVID-19 pandemic in response to the urgent need, the issue is what happens when the need subsides. Mehrotra et al[6] suggest that funding decisions should be based on value, which they define as improvements in care outcomes or access for a given cost. At present, sufficient data are lacking to inform these decisions, which may lead to a scenario in which payments tied to arbitrarily defined parameters will influence clinician practices. Fortunately, a substantial body of evidence is likely to emerge from research that was jumpstarted by the pandemic.

Herzer and Pronovost[7] offer a complementary perspective, focusing on quality of care, a critical component of the value equation. They present 3 guiding principles for telemedicine implementation, arguing that virtual care should achieve safety and effectiveness that is comparable to traditional care, improve efficiency without increasing costs, and respect patient preferences and values without exacerbating health care disparities. These practical suggestions will be particularly helpful as payers and systems identify specific services that achieve concrete outcomes (eg, medication refills, behavioral health counseling) and can be implemented virtually with minimal complexity and at low risk to patients and clinicians. The more challenging scenarios will require individualized decision-making to determine if a given patient with complex medical or social needs will derive greater benefit (in terms of short- and long-term clinical outcomes, as well as safety, efficiency, and experience) from an in-person or virtual appointment.

Although the quality and cost of virtual care are certain to drive the future scale and spread of telemedicine, a third domain that merits study is the way in which virtual care influences human connection, the bond that is built during a visit between patient and clinician. The shift in care from in-person to virtual encounters risks jeopardizing the human interaction that is pivotal to effective clinical care and that is deeply meaningful to both patients and clinicians. Little is known about the effects of removing physical presence and contact from conversations that often include personal, emotional, and stressful content.

A number of humanistic practices may help clinicians foster meaningful connections with patients during telemedicine visits.[8,9] For example, during a video visit, clinicians can adopt nonverbal communication strategies that accommodate limitations in audio or video quality, such as sitting up and leaning forward, using heightened facial expressions and head gestures, and optimizing eye contact by gazing into the web camera. Similarly, given that the phone or a small video screen might obscure emotional cues such as a patient's closed body posture, nervous toe-tapping, or wringing hands, clinicians need to pay closer attention to a patient's tone and volume of speech and should consider using intentional words and gestures, such as putting a hand over the heart, to help convey emotion.[9] The Academy of Communication in Healthcare has developed training videos with practical tips for telemedicine visits, offering strategies to be present, identify a patient's needs, listen, respond with empathy, and share information.[10]

The major limitation of virtual care is the difficulty of extracting phenotypic information ranging from vital signs to significant findings on the physical examination that can be of consequence. In addition to the risk of delayed or missed diagnosis of readily recognizable disease, the skilled physical examination represents an important ritual for the patient-clinician relationship, one that can have a salutary effect.[11] The future of telemedicine will depend in part on the adaptation of some aspects of the physical examination to virtual modalities. Medical societies are identifying opportunities to integrate self-examination maneuvers into video visits to aid in diagnosis.[12] With appropriate equipment, many patients can measure and transmit information about their blood pressure, oxygen saturation, and other vital signs. While these steps address a few diagnostic features of the in-person examination, they do not replace it, nor do they make up for the ritual of the physical examination with its attendant benefits. Future research and innovation might allow the patient's home to function as an extension of the clinic, with simple and reliable tools of visualization, monitoring, and measurement to maximize the virtual examination.[13]

The stunning, pandemic-related expansion of virtual care has also had the unexpected consequence of offering clinicians humbling insights into the lives of patients. Many clinicians schooled in the social determinants of health are getting their first real glimpse into their patients' homes, their living conditions, their food and medication security, the numbers of family members restricted to one space, as well as their extant support systems—none of which are easily grasped when patients sit in paper gowns, stripped of much of their personal identity, in a sterile examination room. Learning that a patient is calling into their visit from a car for privacy reasons or because of an absence of reliable internet connection is telling. Being introduced to a cherished family member or pet, or viewing possessions that are important to a patient's identity, is both rewarding and helpful in making recommendations that are tailored to the individual.[9] The family history and social history in the electronic health record (EHR) of even an established patient struggles to be as rich as these glimpses into the patient's actual world.

Five years ago, we wrote in *JAMA*[14] about the ways in which technology in medicine—most notably the EHR—detracts from a clinician's ability to be present and to connect with patients. Cost and quality were the drivers for adoption of the EHR, while the patient-clinician relationship took a backseat. One of the ironies of the COVID-19 pandemic is that technologies that could potentially challenge human connection in medicine are the very ones that have kept clinicians, patients, and their caregivers connected amid social distancing, travel bans, and lockdowns. It is imperative to preserve beneficial elements of this new means of connection, while ensuring that it fulfills metrics of cost-effectiveness and quality.

ARTICLE INFORMATION

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REFERENCES

1. Hollander JE, Carr BG. Virtually perfect? telemedicine for Covid-19. *N Engl J Med*. 2020;382 (18):1679-1681. doi:10.1056/NEJMp2003539

2. Patel SY, Mehrotra A, Huskamp HA, Uscher-Pines L, Ganguli I, Barnett ML. Trends in outpatient care delivery and telemedicine during the COVID-19 pandemic in the US. *JAMA Intern Med*. 2020. doi:10.1001/jamainternmed.2020.5928

3. Centers for Medicare & Medicaid Services. Trump administration finalizes permanent expansion of Medicare telehealth services and improved payment for time doctors spend with patients. Published December 1, 2020. Accessed December 28, 2020. https://www.cms.gov/newsroom/press-releases/trump-administration-finalizes-permanent-expansion-medicare-telehealth-services-and-improved-payment

4. Rosen CS, Morland LA, Glassman LH, et al. Virtual mental health care in the Veterans Health Administration's immediate response to coronavirus disease-19. *Am Psychol*. Published online October 29, 2020. doi:10.1037/amp0000751

5. Hunt TL II, Hooten WM. The effects of COVID-19 on telemedicine could outlive the virus. *Mayo Clin Proc Innov Qual Outcomes*. 2020;4(5):583-585. doi:10.1016/j.mayocpiqo.2020.07.001

6. Mehrotra A, Bhatia RS, Snoswell CL. Paying for telemedicine after the pandemic. *JAMA*. Published February 2, 2021. doi:10.1001/jama.2020.25706

7. Herzer KR, Pronovost PJ. Ensuring quality in the era of virtual care. *JAMA*. Published February 2, 2021. doi:10.1001/jama.2020.24955

8. Cooley L. Fostering human connection in the Covid-19 virtual health care realm. NEJM Catalyst website. Published May 20, 2020. Accessed December 28, 2020. https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0166

9. Shankar M, Fischer M, Brown-Johnson CG, Safaeinili N, Haverfield MC, Shaw JG, Verghese A, Zulman DM. Humanism in telemedicine: connecting through virtual visits during the COVID-19 pandemic. Annals of Family Medicine COVID-19 Collection. Published April 12, 2020. Accessed December 28, 2020. http://hdl.handle.net/2027.42/154738

10. Academy of Communication in Healthcare. Telehealth communication: quick tips. Accessed December 28, 2020. http://www.achonline.org/Telehealth

11. Verghese A, Brady E, Kapur CC, Horwitz RI. The bedside evaluation: ritual and reason. *Ann Intern Med*. 2011;155(8):550-553. doi:10.7326/0003-4819-155-8-201110180-00013

12. Society of Bedside Medicine. Telemedicine five minute moments. Accessed December 28, 2020. https://bedsidemedicine.org/telemedicine-5m2

13. Blandford A, Wesson J, Amalberti R, AlHazme R, Allwihan R. Opportunities and challenges for telehealth within, and beyond, a pandemic. *Lancet Glob Health*. 2020;8(11):e1364-e1365. doi:10.1016/S2214-109X(20)30362-4

14. Zulman DM, Shah NH, Verghese A. Evolutionary pressures on the electronic health record: caring for complexity. *JAMA*. 2016;316(9):923-924. doi:10.1001/jama.2016.9538