



# Leveraging Telehealth to Improve Diabetes Care

## Preface

Josh Brown, Guest Editor

In today's health care environment, the use of digital health—including mobile health (mHealth), health information technology, wearable devices, telehealth, telemedicine, and personalized medicine—is here to stay (Figure 1) (1). The broadest category of digital health is often referred to as “eHealth” and encompasses any electronically delivered health promotion. For example, an internet search of symptoms leverages eHealth. Within the broad eHealth category is mHealth, which is simply the exercise of eHealth using a mobile device such as would occur with the use of mobile health applications (apps) on a smartphone or similar device. Since the onset of the coronavirus disease 2019 (COVID-19) pandemic, there are probably very few health care providers (HCPs) or patients who remain unfamiliar with the concept of telehealth. The terms “telehealth” and “telemedicine” are often used interchangeably despite technically meaning different things. Telehealth is the broader of the two terms and encompasses a wide range of telecommunication technologies and services that can support the remote delivery of health and medical care; telemedicine refers more specifically to the direct delivery of health care to a patient by an HCP remotely via telehealth technologies and platforms (2). This *Diabetes Spectrum* From Research to Practice section focuses on the broader concept of telehealth, which allows us adequate bandwidth to discuss a broad array of technologies, their uses in clinical practice, and their potential benefits to people with diabetes.

The pace of growth in telehealth since the start of the COVID-19 pandemic in early 2020 has been nothing short of breathtaking. For example, one analysis reported a 71-fold increase in the number of telehealth visits from February 2020 to April 2020 (3), and a recent J.D. Power report found that the percentage of patients who used telehealth increased fourfold from 9% in 2020 to 36% in 2021 (4).

What was the major impetus for this rapid expansion? Necessity. As the proverb tells us, “Necessity is the mother of invention,” and with clinics limiting their in-person accessibility during the pandemic, HCPs and patients found themselves backed into the corners of the figurative box that represented the

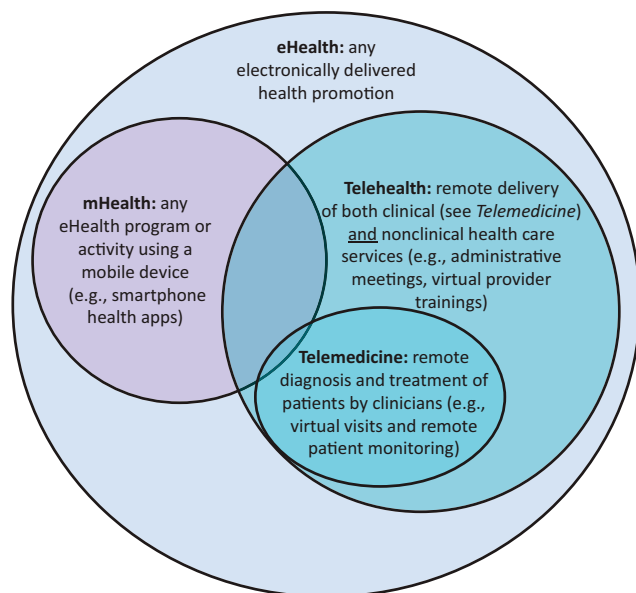
traditional, in-person health care delivery model. To great credit—and let us pause here to sincerely recognize the bravery involved—HCPs broke out of that familiar and comfortable box to meet their patients' needs, with many implementing telehealth services for the first time and with very little time to climb the learning curve.

This is not to say that health care went on as usual without any hiccups; it most certainly did not. Data show that there was a significant decrease in the number of health care visits overall in the United States during the height of the pandemic. For example, data from the U.S. Department of Veterans Affairs show a reduction of 30% in the total number of outpatient visits (in-person and telehealth combined) between the first 10 weeks and the second 10 weeks of 2020 (5). We also know that telehealth has regrettably not been an equal-opportunity proposition, with certain patient populations having inadequate access to the technologies required to continue their health care in a telehealth-based environment (6).

If necessity was a primary factor, it was certainly not the only factor that produced the recent explosion in telehealth. The image that comes to mind is of an Olympic curler hurdling the handled stone down the ice. Necessity was the teammate who started the stone in motion, but the twin sweepers of regulatory easing and reimbursement expansion vigorously smoothed away many of the barriers that have historically impeded the growth of telehealth. Moving away from this perhaps labored metaphor, the landscape around telehealth changed dramatically and quickly in the first few months of the pandemic. Federal and state legislatures declared states of public health emergency in the face of COVID-19, and as a result of these declarations, some of the regulations around telehealth were relaxed. For example, the U.S. Department of Health and Human Services suspended, and has kept in suspension, its enforcement of the Health Insurance Portability and Accountability Act (HIPAA) when covered entities, acting in good faith, use communication technologies that may not be certified HIPAA-compliant to continue caring for their patients (7). For states' part, many temporarily suspended licensure requirements for out-of-state HCPs,

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**FIGURE 1** Graphic depiction of digital health, including telehealth and telemedicine services.

effectively allowing duly licensed practitioners from other states to conduct telehealth visits with their residents without penalty. These were helpful measures that expanded health care access during the worst of the pandemic, although many states have now resumed some manner of licensure requirements for out-of-state providers (8).

On the reimbursement side, payers dramatically expanded their lists of clinical services that would be reimbursed when delivered via telehealth. Payment parity was also increased so that the amounts reimbursed for services delivered via telehealth were on par with payments for services delivered in person. Relatedly, most payers dropped their previous requirements that telehealth-based encounters include real-time video, instead agreeing to pay the same for audio-only visits. Finally, but certainly not of least significance, payers also suspended geographical restrictions and their requirement that patients be located in an approved originating site at the time of their telehealth visits. Before this public health emergency, patients generally had to live in rural areas that had documented health care shortages, and they had to participate in virtual visits while being physically located in an approved health care facility and were thus not able to receive telehealth services while at home, work, or some other location.

Where do these relaxed regulations and expanded reimbursement policies stand now that it appears the pandemic may finally be waning? Will they continue or revert back to their pre-pandemic incarnations? Although there is a great deal of uncertainty around these issues, there is also good reason to

be optimistic. For all of the substantial havoc and human tragedy COVID-19 has wrought, I would assert that the expansion in telehealth has been a real silver lining. After languishing for years in the wings, telehealth has now made its grand entrance to center stage. It may not always deliver a perfect performance, and it certainly cannot carry the show alone in overcoming the limitations of our health care system. Still, telehealth has gained many new fans who can now advocate from a position of strength to make permanent many of the regulatory and reimbursement changes that facilitated its growth throughout the past 2 years.

There are signs that this is happening already. The federal Centers for Medicare & Medicaid Services has permanently added coverage for a number of telehealth services in the past year (9,10); more states have relaxed interstate licensure requirements (11), and changes to Medicaid and private payer policies have improved access to telehealth (11). Exactly where telehealth will be a year from now is not yet clear, but it seems that the COVID-19 pandemic has allowed it to leapfrog far ahead of where it otherwise would have been.

The application of telehealth to diabetes care is certainly not new, although like all other uses of telehealth, it has greatly expanded recently. Although the very first use of telehealth for diabetes is difficult to pinpoint, the practice seems to date back the better part of three decades, as indicated by early systematic reviews (12,13). Writing in 2006 and 2009, respectively, the authors of these reviews concluded that telehealth significantly improved glycemic control in people with diabetes and decreased diabetes-related complications, including reducing the number of hospitalizations.

We have come a long way since then. The four articles that make up this From Research to Practice section review the current landscape of both telehealth and diabetes management technologies and provide practical guidance for leveraging these advancements to optimize diabetes care and improve patient outcomes. Our first article, by Chinenye O. Usoh et al. (p. 8), reviews the specific telehealth modalities and technologies that can be applied to diabetes care, as well as their substantial potential benefits. Next, Nancy A. Allen et al. (p. 16) present their original research examining the utility and feasibility of *SHARE plus*, a telehealth intervention using continuous glucose monitoring and a data-sharing app to facilitate shared diabetes management and support for older adults with type 1 diabetes and their care partners. In our third article (p. 26), Reena Titoria et al. explore the world of digital peer support interventions, including some using social media, for pediatric patients with type 1 diabetes.

Finally, Stephanie S. Crossen et al. (p. 33) send us back into our clinics with a sense of tempered optimism with their review of the opportunities afforded by telehealth, albeit with an appropriate and realistic nod to the challenges associated with leveraging telehealth for diabetes care.

I would like to thank the editorial team at *Diabetes Spectrum* for entrusting me to serve as guest editor of such an important and timely special-topic collection. Furthermore, I know the editorial team joins me in thanking the many experts who have authored and reviewed the articles we present in this issue. Our collective hope is that this special section confirms, enhances, or inspires: confirms how you are already using telehealth, enhances your continued use of telehealth moving forward, or inspires you to add telehealth to your current clinical practice to provide even better care for your patients with diabetes.

#### REFERENCES

1. U.S. Food and Drug Administration. What is digital health? Available from <https://www.fda.gov/medical-devices/digital-health-center-excellence/what-digital-health>. Accessed 12 November 2021
2. American Academy of Family Physicians. Telemedicine and telehealth. Available from <https://www.aafp.org/about/policies/all/telehealth-telemedicine.html>. Accessed 12 November 2021
3. McKinsey and Company. Telehealth: a quarter-trillion-dollar post-COVID-19 reality? Available from <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality>. Accessed 12 November 2021
4. J.D. Power. Telehealth usage surging but service issues and barriers to access strain patient experience, J.D. Power finds. Available from <https://www.jdpower.com/business/press-releases/2021-us-telehealth-satisfaction-study>. Accessed 12 November 2021
5. Baum A, Kaboli PJ, Schwartz MD. Reduced in-person and increased telehealth outpatient visits during the COVID-19 pandemic. *Ann Intern Med* 2021;174:129–131
6. Gray DM, Joseph JJ, Olayiwola N. Strategies for digital care of vulnerable patients in a COVID-19 world: keeping in touch. *JAMA Health Forum* 2020;1:e200734
7. U.S. Department of Health and Human Services. Notification of enforcement discretion for telehealth remote communications during the COVID-19 nationwide public health emergency. Available from <https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html>. Accessed 12 November 2021
8. Federation of State Medical Boards. U.S. states and territories modifying requirements for telehealth in response to COVID-19. Available from <https://www.fsmb.org/siteassets/advocacy/pdf/states-waiving-licensure-requirements-for-telehealth-in-response-to-covid-19.pdf>. Accessed 12 November 2021
9. Centers for Medicare & Medicaid Services. Final policy, payment, and quality provisions changes to the Medicare physician fee schedule for calendar year 2021. Available from <https://www.cms.gov/newsroom/fact-sheets/final-policy-payment-and-quality-provisions-changes-medicare-physician-fee-schedule-calendar-year-1>. Accessed 12 November 2021
10. Centers for Medicare & Medicaid Services. CMS physician payment rule promotes greater access to telehealth services, diabetes prevention programs. Available from <https://www.cms.gov/newsroom/press-releases/cms-physician-payment-rule-promotes-greater-access-telehealth-services-diabetes-prevention-programs>. Accessed 12 November 2021
11. Center for Connected Health Policy. State telehealth laws and reimbursement policies report, fall 2021. Available from <https://www.cchpca.org/resources/state-telehealth-laws-and-reimbursement-policies-report-fall-2021>. Accessed 12 November 2021
12. Jaana M, Paré G. Home telemonitoring of patients with diabetes: a systematic assessment of observed effects. *J Eval Clin Pract* 2007;13:242–253
13. Polisena J, Tran K, Cimon K, Hutton B, McGill S, Palmer K. Home telehealth for diabetes management: a systematic review and meta-analysis. *Diabetes Obes Metab* 2009;11:913–930