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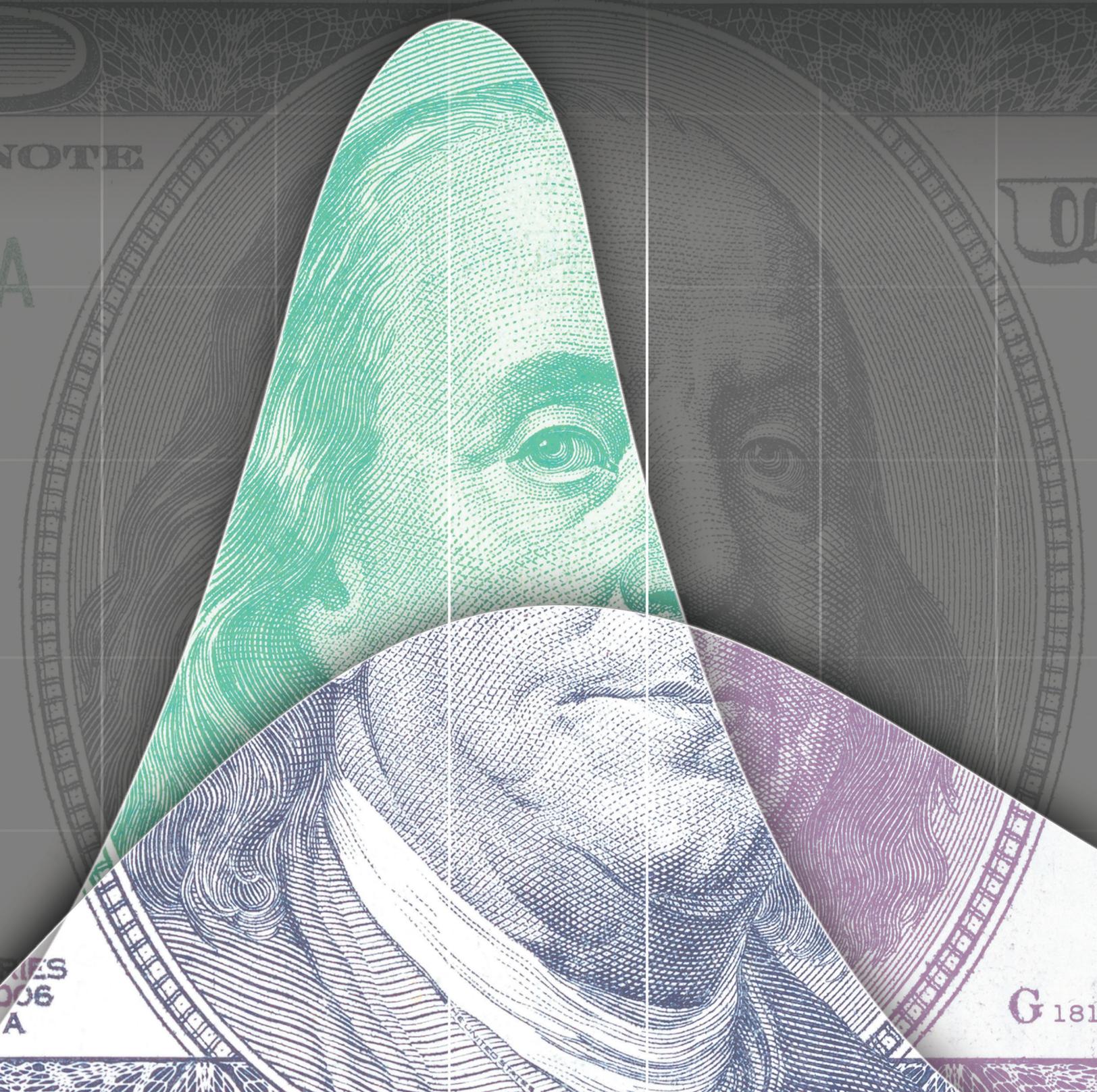
Valuation of Telemedicine: Introduction (Part I of V)

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Telemedicine has rapidly advanced over the past couple of decades, and its advancement has been significantly accelerated since the COVID-19 pandemic struck the U.S. These virtual services have the potential to allow greater access to, and quality of, care, while also resulting in significant cost savings. However, the technology also has numerous challenges, such as infrastructure gaps, capital requirements, and knowledge barriers among patients. The first installment in this five-part series on the valuation of telemedicine provides a description of telemedicine, an overview of its role during the COVID-19 public health emergency (PHE), and the potential challenges and opportunities it may face in the future.

Defining Telemedicine and Telehealth

The National Institutes of Health (NIH) broadly defines telehealth as the "use of communications technologies to provide health care at a distance."[1] Telehealth can be used to describe the monitoring of medical devices, health status data collection and analysis via smart devices, or virtual visits between physicians and patients.[2] The World Health Organization (WHO) defines telemedicine as "the delivery of health care services, where distance is a critical factor… using information and communication technologies…for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers."[3]

The terms "telehealth" and "telemedicine" are distinguished by some in the healthcare industry. The WHO, for example, differentiates telemedicine, which is limited to services administered by physicians, from telehealth, which describes services administered by nurses, pharmacists, or other healthcare professionals.[4] In contrast, the American Telemedicine Association (ATA) considers the terms to be synonymous and largely interchangeable.[5] For purposes of this series, the terms will be considered synonymous, with the term "telemedicine" used for the sake of consistency.

The three main forms of telemedicine are:

1. Store-and-forward or "asynchronous" telemedicine, where information—such as medical histories, reports, or other data—is sent to a specialist for diagnosis and treatment;
2. Remote patient monitoring, where a patient's clinical status is evaluated continuously through video monitoring, images, or remotely reviewing tests; and
3. Real-time or "synchronous" telemedicine, which consists of a live conversation between the patient and provider.[6]

The Rise of Telemedicine

Although utilization of telemedicine technology has been relatively low historically, provider use of telemedicine services has grown considerably in recent years as the technology

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1   "Telehealth," National Institutes of Health, accessed June 1, 2021, https://www.nibib.nih.gov/science-education/science-topics/telehealth.
2   Ibid.
3   Nicol Turner Lee, Jack Karsten, and Jordan Roberts, *Removing regulatory barriers to telehealth before and after COVID-19*, Brookings Institution, May 6, 2020, https://www.brookings.edu/research/removing-regulatory-barriers-to-telehealth-before-and-after-covid-19/, 4–5.

4   Ibid., 5.
5   Ibid., 5.
6   Oren Mechanic, Yudy Persaud, and Alexa Kimball, *Telehealth Systems*, StatPearls, September 18, 2020, https://www.ncbi.nlm.nih.gov/books/NBK459384/.

This technology means that healthcare services can be delivered either at a closer facility or in the comfort of the patient's home.

becomes more readily available and affordable.[7] Advancements in telemedicine technology and its infrastructure have allowed otherwise unserved or underserved patients to receive healthcare services. Payors and providers (including physician practices and hospitals) alike have been adopting telemedicine technologies at a rapid pace in an attempt to reduce avoidable hospitalizations, improve in-facility care, and decrease costs.[8] As healthcare reimbursement has continued to shift from volume-based to value-based, healthcare providers have increasingly looked to telemedicine to expand their services and better support patients before and after their visits.[9] Telemedicine can also be a more appealing option for patients who face difficulty accessing care or leaving their residences. This technology means that healthcare services can be delivered either at a closer facility or in the comfort of the patient's home.[10] While telemedicine utilization has been on the rise over the past decade, it was not until the 2020 COVID-19 PHE that the technology became widely adopted and utilized by a variety of patients and providers.

Telemedicine and the COVID-19 PHE

Since the beginning of the COVID-19 PHE in March 2020, all states and medical specialties have seen unprecedented increases in telemedicine utilization.[11] Several policies and developments have jump-started this rapid expansion. Following the declaration of COVID-19 as a PHE, the Centers for Medicare & Medicaid Services (CMS) announced a number of relaxations and flexibilities for telemedicine reimbursement and coverage. This emergency declaration allowed beneficiaries to receive care wherever they were located—even from out-of-state providers—and did not penalize providers who, while acting in good faith, violated the Health Insurance Portability and Accountability Act (HIPAA) by using unencrypted video programs, such as Skype or FaceTime, to conduct telemedicine visits during the COVID-19 PHE.[12] These measures represented dramatic changes from previous policies, which only covered telemedicine for rural patients and had stringent restrictions on the originating site for the care and only allowed physicians to care for established patients in the same state in which they were licensed.

7   Kathleen Klink et al., *Family Physicians and Telehealth: Findings from a National Survey* (Washington, DC: Robert Graham Center, 2015), 3–4, https://www.graham-center.org/content/dam/rgc/documents/publications-reports/reports/RGC%202015%20Telehealth%20Report.pdf.

8   "What Are the Advantages of Telehealth Nursing," Telemedicine Blog, AMD Global Telemedicine, October 1, 2019, http://www.amdtelemedicine.com/blog/article/telemedicine-skilled-nursing-facilities-benefits; Garrison Nord et al., "On-demand synchronous audio video telemedicine visits are cost effective," *The American Journal of Emergency Medicine* 37, no. 5 (August 2018): 890; Nnenaya Q. Agochukwu, Ted A. Skolarus, and Daniela Wittmann, "Telemedicine and prostate cancer survivorship: a narrative review," *Mhealth* 4, no. 45 (October 2018): 1, 7–8.

9   Brian Eastwood, *Telehealth 2018: Vendor Assessment and Market Outlook* (Boston: Chilmark Research, 2018), 15–17, https://www.chilmarkresearch.com/chilmark_report/telehealth-2018-vendor-assessment-and-market-outlook/.

10   Nnenaya Q. Agochukwu, Ted A. Skolarus, and Daniela Wittmann, "Telemedicine and prostate cancer survivorship: a narrative review," Mhealth 4, no. 45 (October 2018): 1, 7–8.

11   "HHS Issues New Report Highlighting Dramatic Trends in Medicare Beneficiary Telehealth Utilization amid COVID-19," U.S. Department of Health & Human Services, July 28, 2020, https://www.hhs.gov/about/news/2020/07/28/hhs-issues-new-report-highlighting-dramatic-trends-in-medicare-beneficiary-telehealth-utilization-amid-covid-19.html.

12   "Notification of Enforcement Discretion for Telehealth Remote Communications During the COVID-19 Nationwide Public Health Emergency," U.S. Department of Health & Human Services, January 20, 2021, https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html.

In addition to relaxing the originating site requirements, CMS also expanded the number of services that could be provided through telemedicine. An additional 144 services, including emergency department visits, were added to the list of covered (and thus reimbursable) services for Medicare beneficiaries.[13] While all of these flexibilities and expansions were originally only valid for the length of the PHE, CMS has been looking to extend some expansions in covered services and reimbursement semi-permanently or permanently. For example, CMS's 2021 Medicare Physician Fee Schedule (MPFS) proposed rule included expansions to reimbursement for telemedicine services, and these expansions were included in the final rule.[14] This final rule permanently implemented and/or expanded coverage for several telemedicine services.[15] Services such as evaluation and management (E/M) and some visits for patients with cognitive impairment were finalized to be permanently covered for telemedicine.[16] CMS also finalized the continued reimbursement for some telemedicine services, such as emergency department visits, only temporarily, until the end of the calendar year in which the COVID-19 PHE officially ends.[17] Under the final rule, seven telemedicine service codes would remain covered permanently, 12 would remain covered temporarily, and 74 would be removed immediately after the PHE ends.[18]

Rural providers, as evidenced by their lower rates of telemedicine usage, have not been able to take advantage of the opportunities provided by telemedicine to the same extent as urban providers.[19] However, an executive order issued by President

An additional 144 services, including emergency department visits, were added to the list of covered (and thus reimbursable) services for Medicare beneficiaries.

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13   "Trump Administration Finalizes Permanent Expansion of Medicare Telehealth Services and Improved Payment for Time Doctors Spend with Patients," Centers for Medicare & Medicaid Services, December 1, 2020, https://www.cms.gov/newsroom/press-releases/trump-administration-finalizes-permanent-expansion-medicare-telehealth-services-and-improved-payment.
14   "Proposed Policy, Payment, and Quality Provisions Changes to the Medicare Physician Fee Schedule for Calendar Year 2021," Centers for Medicare & Medicaid Services, August 3, 2020, https://www.cms.gov/newsroom/fact-sheets/proposed-policy-payment-and-quality-provisions-changes-medicare-physician-fee-schedule-calendar-year-4; "Final Policy, Payment, and Quality Provisions Changes to the Medicare Physician Fee Schedule for Calendar Year 2021," Centers for Medicare & Medicaid Services, December 1, 2020, https://www.cms.gov/newsroom/fact-sheets/final-policy-payment-and-quality-provisions-changes-medicare-physician-fee-schedule-calendar-year-1.
15   "Final Policy, Payment, and Quality Provisions Changes to the Medicare Physician Fee Schedule for Calendar Year 2021," Centers for Medicare & Medicaid Services, December 1, 2020, https://www.cms.gov/newsroom/fact-sheets/final-policy-payment-and-quality-provisions-changes-medicare-physician-fee-schedule-calendar-year-1.
16   Ibid.
17   Ibid.
18   Rachel B. Goodman and Nathanial M. Lacktman, "COVID-19: Here's What CMS Will Do With the Temporary Telemedicine Codes When the PHE Ends," Foley & Lardner LLP, August 12, 2020, https://www.foley.com/en/insights/publications/2020/08/covid-19-cms-temporary-telehealth-codes-phe-ends; "Final Policy, Payment, and Quality Provisions Changes to the Medicare Physician Fee Schedule for Calendar Year 2021," Centers for Medicare & Medicaid Services, December 1, 2020, https://www.cms.gov/newsroom/fact-sheets/final-policy-payment-and-quality-provisions-changes-medicare-physician-fee-schedule-calendar-year-1.
19   "HHS Issues New Report Highlighting Dramatic Trends in Medicare Beneficiary Telehealth Utilization amid COVID-19," Department of Health & Human Services, July 28, 2020, https://www.hhs.gov/about/news/2020/07/28/hhs-issues-new-report-highlighting-dramatic-trends-in-medicare-beneficiary-telehealth-utilization-amid-covid-19.html.

Trump on August 3, 2020, calls for dramatic functional and reimbursement changes for these rural providers specifically.[20] The executive order also directs CMS to review the 135 services that it originally waived on a temporary basis in March 2020, and orders certain services to be permanently delivered via telemedicine technology going forward.[21]

Future Challenges to Implementation

Telemedicine's significant potential to increase quality and access to care and its exponentially expanded popularity during the COVID-19 PHE is countered by a few major barriers experienced by providers seeking to implement and expand telemedicine into their practices. One of the greatest challenges for telemedicine is the limited reimbursement for its services. High up-front technology, administration, and setup costs, without the guarantee of permanent reimbursement (comparable to in-person services), may deter some (and particularly small) providers. In fact, larger organizations of 100 or more clinicians were able to shift an average of 16 percent of their pre-pandemic visits to telemedicine, compared to only about 8 percent for smaller organizations.[22] From the abrupt spike in use through March and April 2020, volume has apparently been decreasing, with the volume of telemedicine visits during the week of June 14, 2020, nearly a third less than in early April.[23] Additionally, there is a lack of integration and interoperability among healthcare organizations' various electronic health record (EHR) systems, which platforms also may not coordinate with the telemedicine platform. These issues facing the telemedicine industry may result in the provision of costly and inefficient care, and many providers seem to be wary of fully adopting the technology without plans in place for long-term viability.

Patient satisfaction with telemedicine services seems to be high, but research also indicates that certain patient populations may not be able to take full advantage of these virtual visits. On one hand, those who have been able to utilize telemedicine and virtual visits seem to be satisfied, with one survey indicating that 96 percent of patients found arranging virtual visits to be either extremely or somewhat easy, and 96 percent were satisfied with the virtual care they received (with 77 percent being

> **One of the greatest challenges for telemedicine is the limited reimbursement for its services.**

20   "Improving Rural Health and Telehealth Access," Exec. Order No. 13941, 85 Fed. Reg. 47881 (August 6, 2020), https://www.federalregister.gov/documents/2020/08/06/2020-17364/improving-rural-health-and-telehealth-access.

21   Jack O'Brien, "President Trump Signs Executive Order to Permanently Expand Telehealth Benefits for Medicare Recipients," *HealthLeaders*, August 4, 2020, https://www.healthleadersmedia.com/innovation/president-trump-signs-executive-order-permanently-expand-telehealth-benefits-medicare.

22   Ateev Mehrotra, David Linetsky, and Hilary Hatch, "This is supposed to be telemedicine's time to shine. Why are doctors abandoning it?," *STAT News*, June 25, 2020, https://www.statnews.com/2020/06/25/telemedicine-time-to-shine-doctors-abandoning-it/.

23   Ibid. In addition, during the weeks ending June 26–November 6, 2020, the overall percentage of weekly healthcare visits conducted via telemedicine declined by 25 percent, from 35.8 percent to 26.9 percent. *See* Hanna B. Demeke, et al., "Trends in Use of Telehealth Among Health Centers During the COVID-19 Pandemic—United States, June 26–November 6, 2020," Centers for Disease Control and Prevention, February 19, 2021, https://www.cdc.gov/mmwr/volumes/70/wr/mm7007a3.htm.

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completely or very satisfied).[24] Importantly, 86 percent of the surveyed patients were likely to recommend virtual care to others.[25] Another survey found that 83 percent of patients were likely to use telemedicine after the COVID-19 PHE.[26] Other studies examining the ease of telemedicine use for older adults indicate less promising statistics. An August 2020 study found that, across more than 4,500 adults aged 65 or older, over 70 percent showed signs of unreadiness, including difficulty hearing or communicating or inexperience with the technology required.[27] Another study, using pre-COVID-19 data, similarly showed that older age was strongly associated with lower telemedicine utilization.[28] Because these older adults account for approximately 25 percent of all physician office visits, their inability (or unwillingness) to utilize telemedicine could slow the technology's adoption rate in the near future.[29] However, the quick expansion of telemedicine over the past few years, even before COVID-19, indicates that this technology will continue to expand as usage and adoption rates by physicians and patients alike increase in the future. One way to accomplish this, it seems, is through expanded reimbursement coverage past the COVID-19 PHE. In Part II of this five-part series, we will cover the past, current, and future state of telemedicine reimbursement. VE

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24   Jeff Bendix, "Survey: Most patients satisfied with virtual care," *Medical Economics*, September 14, 2020, https://www.medicaleconomics.com/view/survey-most-patients-satisfied-with-virtual-care.
25   Ibid.
26   "Telemedicine Adoption in the Age of COVID-19 and Beyond," Doctor.com, accessed June 1, 2021, https://cdn2.hubspot.net/hubfs/3053445/Doctor_Telemedicine_Survey_Infografic.pdf.
27   Kenneth Lam, et al., "Assessing Telemedicine Unreadiness Among Older Adults in the United States During the COVID-19 Pandemic," *Journal of the American Medical Association* (August 3, 2020), https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2768772.
28   Mary Reed, et al., "Patient Characteristics Associated With Choosing a Telemedicine Visit vs Office Visit With the Same Primary Care Clinicians," *Journal of the American Medical Association* (June 17, 2020), https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2767244.
29   Kenneth Lam, et al., "Assessing Telemedicine Unreadiness Among Older Adults in the United States During the COVID-19 Pandemic," *Journal of the American Medical Association* (August 3, 2020), https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2768772.