

Covid-19 Accelerates the Use of Telemedicine

History

Telemedicine dates back to the early 1900s. The history of it closely parallels the history of communication and information technologies. Telemedicine seeks to improve a patient's health by permitting two-way, real time interactive communication between the patient and the physician at a distant site.

Most are aware of telemedicine conceptually, but it has not been a popular means of seeking treatment. The type of telemedicine many are aware of, first appeared in the April 1924 issue of *Radio News* magazine.ⁱ The cover photo depicted using the television and a microphone for a patient to communicate with a doctor. The concept was an imagination of the future, as Americans did not yet have televisions in their homes, and radio adoption was just gaining steam.ⁱⁱ

Fast-forward to the rise of the Internet in the 1990s where endless amounts of information, including medical information, became readily available with a quick Google search. Many modern EMR (electronic medical record) vendors employ the Internet in order to provide access to medical information for medical providers and patients. Patient portals have become more common, allowing patients to look up their lab results, refill prescriptions, or send a secure message to their physician.ⁱⁱⁱ

Despite the globalization and growth of the Internet, telemedicine has still not been embraced by the American public. There have been pockets of growth with government-supported telemedicine initiatives to provide medical care in war zones and remote scientific labs. However, similar initiatives have not expanded to the public.

COVID-19

Since mid-March 2020, we have been living in a global health crisis caused by a recent outbreak of a respiratory illness called COVID-19.^{iv} With government officials telling people to stay home, patients previously reluctant to use technology are now using telemedicine to keep themselves and others safe.

The Trump administration recently announced an unprecedented expansion of telehealth services for seniors, an effort to prevent healthy and sick Americans alike from visiting doctor's offices in person and risk spreading or catching the novel coronavirus.

"Medicare patients can now visit any doctor by phone or videoconference at no additional cost, including with commonly used services like FaceTime and Skype," President Trump said during a White House press briefing.

The US Centers for Medicare and Medicaid Services (CMS) announced expanded Medicare telehealth coverage, waiving several restrictions for telehealth, and moved to reimburse for telehealth visits for Medicare patients during this emergency.^v

The CMS has published a Medicare Telemedicine Health Care Provider Fact Sheet laying out for health providers with billing practices and codes to properly get reimbursed for telemedicine services.^{vi} Notably, HIPAA compliance restrictions have been relaxed against health care providers that serve patients in good faith through everyday communications technologies, such as FaceTime or Skype, during the COVID-19 nationwide public health emergency.^{vii} Medical providers can use their own phones to speak to patients.

In New York, two health plans, CDPHP and MVP HealthCare, are offering members no-cost access to telemedicine services. “As the public contends with coronavirus COVID-19, it’s essential that communities and businesses like ours collaborate to tackle this issue in innovative ways,” said MVP HealthCare’s president and CEO, Christopher Del Vecchio, in a statement. “Together with CDPHP, we’re leveraging technology during a challenging time to support the health and safety of the communities we serve. This program is a game-changer for anyone in need of virtual ER triage.”^{viii}

Implementation of Telemedicine

Specialists offer more advanced care than primary care providers, but access was previously limited based on physician referral, geographic location, and insurance. Telemedicine allows specialists to be more accessible to patients. Telemedicine may involve videoconferencing, remote patient monitoring or image capturing.^{ix}

According to results from a nationally representative survey published in a recent issue of Health Affairs by the American Medical Association (AMA), radiologists (39.5%), psychiatrists (27.8%) and cardiologists (24.1%) had the highest use of telemedicine for patient interactions. For interactions with health care professionals, emergency medicine physicians (38.8%), pathologists (30.4%) and radiologists (25.5 %) used telemedicine most frequently.^x

Telemedicine services can range widely by specialty. A surgeon might use telemedicine to do post-operation check-ins with patients, to make sure their wound is not infected. A gynecologist might use a telemedicine solution to provide birth control counseling. An endocrinologist may do live videoconferencing with patients to discuss recent lab results and answer questions. A radiologist may consult on a patient’s x-rays remotely and be able to give a quick consult to a health care provider. An ophthalmologist can examine a patients’ eyes or treat an eye infection from a distance. Physical therapists are able to deliver rehab services remotely to their patients. Patients are able to send a photo of a rash, a mole or another skin anomaly to their dermatologist for remote diagnosis.

Telemedicine also allows a patient’s primary care doctor to treat common conditions. Some conditions include: allergies, arthritic pain, asthma, bronchitis, infections, pharyngitis, rashes, respiratory infections, sinusitis, skin inflammations, cellulitis, sore throats, sprains, bladder infections, and sports injuries.^{xi}

Telemedicine Studies

With the implementation of telemedicine to protect the most vulnerable, including the elderly, the question becomes how will they adapt to it? Since the COVID-19 pandemic is ongoing we are left to look at prior studies.

In a 2003 pilot study of telemedicine in home health services (HHS) for elderly patients, fifty patients were selected for the study. The study found that telemedicine was effective in terms of reducing the number of clinic visits and achieving patient satisfaction. “The average number of clinic visits per month was significantly decreased from 0.64 to 0.42 ($p<0.05$) after the use of telemedicine. 72% of patients were satisfied with telemedicine, but only patient location showed a significant difference for patient satisfaction ($p<0.05$). Patients in their homes (82%) were more satisfied than patients in nursing homes (50%). Of four types of services provided, medical consultation (100%) was the most highly satisfactory service with telemedicine, followed by physical therapy (83.3%).”^{xii}

Between July 2003 and December 2007, the Veterans Health Administration introduced a national home telehealth program, Care Coordination/Home Telehealth.^{xiii} Analysis showed the benefits of a 25% reduction in numbers of bed days of care, 19% reduction in numbers of hospital admissions, and average satisfaction score rating of 86% after enrolment into the program. The cost was \$1,600 per patient per year, substantially less than other NIC programs and nursing home care. The authors concluded that “Enterprise-wide home telehealth implementation is an appropriate and cost-effective way of managing chronic care patients in both urban and rural setting.”^{xiv}

A 2014 study reported that the lack of a physician present at a nursing home during off hours has been reported a possible factor in contributing to inappropriate hospitalizations. Hospitalizations of nursing home residents are frequent and result in complications and Medicare expenditures in the millions annually. The controlled study, held from 2009 to 2011, consisted of the introduction of telemedicine in a for-profit nursing home chain (eleven nursing homes in total). Findings from the study provided indications that switching from on-call to telemedicine physician coverage during off hours could reduce hospitalizations and therefore generate cost savings to Medicare in excess of the facility’s investment in the service.

Another telemedicine study, in 2019, used skilled homecare workers as stand-ins for doctors and was found to improve care and reduce costs.^{xv} The study consisted of 33 elderly patients who required in-home care.^{xvi} The study showed that patients reacted positively to the telehealth visit, with some reporting they were able to see a provider sooner through telemedicine than they could in person.

Benefits and Drawbacks

The benefits to telemedicine include, faster access to health professionals; increased convenience, and time saving for patients, access to specialists and information a patient might not readily have access to otherwise; improved access to information; provision of care not previously deliverable; improved access to services and increasing care delivery; improved professional education; quality control of screening programs; and reduced health-care costs.^{xvii}

There are also drawbacks to telemedicine including, certain types of illnesses and problems require a face-to-face physical assessment and cannot be diagnosed through telemedicine; a breakdown in the relationship between health professional and patient; issues concerning the quality of health information; and organizational and bureaucratic difficulties.^{xviii}

While a benefit of telemedicine is access to specialists a patient who might not readily have access to otherwise, that specialist may consequently face liability exposure in different venues as patients may choose or be required to file any malpractice lawsuit in their own states, where the relating specialist may not be licensed. Telemedicine poses unique issues as to licensing, differing standard of care and malpractice insurance.^{xix}

While implementation of telemedicine solutions are being encouraged and assisted by state and federal governments, to date there is no uniform legal approach to telemedicine. In one of the early cases addressing telemedicine, *Hageseth v. Superior Court of California*, a California court asserted jurisdiction over Dr. Hageseth, then a Colorado-licensed psychiatrist, and criminally charged him with practicing medicine without a license in California.^{xx} The doctor prescribed medication over the internet to a patient in California, who then committed suicide. After Dr. Hageseth's challenge to the court's jurisdiction failed, he pled guilty and was sentenced to 9 months in prison. The case demonstrates some of the complexities of telemedicine from a legal perspective and importance of physician education regarding license requirements for practicing telemedicine across states lines.

Conclusion

The national pandemic surrounding COVID-19 has forced telemedicine to the forefront of providing care for many Americans seemingly overnight. Dr. Joseph C. Kvedar, president-elect of the American Telemedicine Association and professor of dermatology at Harvard Medical School wrote in a recent Boston Globe article, how the increased use of telemedicine during COVID-19 will impact the American health care system as we know it:

“In the next several weeks, we will learn just how much our health care system can practically deliver via telehealth. Based on nearly 30 years of experience, I suspect it will be a lot. Patients will grow fond of the convenience of telehealth. Will we easily go back to the “pre-coronavirus” way of face-to-face visits at a hospital or doctor’s office to access routine care? Probably not. We will become used to a new reality. In this case, one that is more convenient.”^{xxi}

**Written By: Neil S. Kornfeld, Esq.
Desiree Jamasbi, Esq.**

ⁱ FIPS, “The Radio Doctor–Maybe,” *Radio News*, p. 1406+, Apr 1924, <http://www.americanradiohistory.com/Archive-Radio-News/20s/Radio-News-1924-04-R.pdf>

ⁱⁱ History of Telemedicine. (2015, September 25). Retrieved from <http://mdportal.com/education/history-of-telemedicine/#ref2>

ⁱⁱⁱ History of Telemedicine. (2015, September 25). Retrieved from <http://mdportal.com/education/history-of-telemedicine/#ref2>

^{iv} Sauer, L. M. (n.d.). What Is Coronavirus? Retrieved from <https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus>

^v “President Trump Expands Telehealth Benefits for Medicare Beneficiaries during COVID-19 Outbreak” *Centers for Medicare & Medicaid Services*, 17 Mar. 2020, <https://www.cms.gov/newsroom/press-releases/president-trump-expands-telehealth-benefits-medicare-beneficiaries-during-covid-19-outbreak>. Press Release.

^{vi} Medicare Telemedicine Health Care Provider Fact Sheet. (n.d.). Retrieved from <https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet>

^{vii} U.S. Department of Health & Human Services. (2020, March 27). Emergency Response. Retrieved from <https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/index.html>

^{viii} CDPHP, MVP Health Care Partner to Expand Access to Critical Health Care Services. (n.d.). Retrieved from <https://www.cdphp.com/newsroom/2020/03/03-16-cdphp-mvp-partnership>

^{ix} Ackerman, B. G. (n.d.). Is the Doctor In? Medical Malpractice Issues in the Age of Telemedicine. Retrieved from <https://www.natlawreview.com/article/doctor-medical-malpractice-issues-age-telemedicine>

^x The Use of Telemedicine by Physicians: Still the Exception Rather Than the Rule. Carol K. Kane and Kurt Gillis *Health Affairs* 2018 37:12, 1923-1930

^{xi} The Use of Telemedicine by Physicians: Still the Exception Rather Than the Rule. Carol K. Kane and Kurt Gillis *Health Affairs* 2018 37:12, 1923-1930

^{xii} Chae, Y. M., Lee, J. H., Ho, S. H., Kim, H. J., Jun, K. H., & Won, J. U. (2001). Patient satisfaction with telemedicine in home health services for the elderly. *International Journal of Medical Informatics*, 61(2-3), 167–173. Retrieved from <https://www.sciencedirect.com/science/article/abs/pii/S1386505601001393?via=ihub>

^{xiii} Darkins A, Ryan P, Kobb R, Foster L, Edmonson E, Wakefield B, Lancaster AE. *Telemed J E Health*. 2008 Dec; 14(10):1118-26. doi: 10.1089/tmj.2008.0021.

^{xiv} Darkins A, Ryan P, Kobb R, Foster L, Edmonson E, Wakefield B, Lancaster AE. *Telemed J E Health*. 2008 Dec; 14(10):1118-26. doi: 10.1089/tmj.2008.0021.

^{xv} Helpers, S. (2019, July 18). Senior Helpers, Curavi Health, and Capital Coordinated Medicine Announce Results of Telemedicine Pilot Study. Retrieved from <https://www.prnewswire.com/news-releases/senior-helpers-curavi-health-and-capital-coordinated-medicine-announce-results-of-telemedicine-pilot-study-300887133.html>

^{xvi} Helpers, S. (2019, July 18). Senior Helpers, Curavi Health, and Capital Coordinated Medicine Announce Results of Telemedicine Pilot Study. Retrieved from <https://www.prnewswire.com/news-releases/senior-helpers-curavi-health-and-capital-coordinated-medicine-announce-results-of-telemedicine-pilot-study-300887133.html>

^{xvii} Benefits and drawbacks of telemedicine. (2005). *Journal of Telemedicine and Telecare*, 11(2), 60–70. <https://doi.org/10.1258/1357633053499886>

^{xviii} Benefits and drawbacks of telemedicine. (2005). *Journal of Telemedicine and Telecare*, 11(2), 60–70. <https://doi.org/10.1258/1357633053499886>

^{xix} Ackerman, B. G. (n.d.). Is the Doctor In? Medical Malpractice Issues in the Age of Telemedicine. Retrieved from <https://www.natlawreview.com/article/doctor-medical-malpractice-issues-age-telemedicine>

^{xx} *Hageseth v Superior Court of San Mateo County*, 58 Cal Rptr 3d 385 (Cal Ct App 2007).

^{xxi} Kvedar, J. C. (2020, March 26). Could the coronavirus push telehealth to the forefront of medical care? *The Boston Globe*. Retrieved from <https://www.bostonglobe.com/2020/03/26/opinion/could-coronavirus-push-telehealth-forefront-medical-care/>