



Mind Your Webside Manners: Telehealth Foundations & Role in Health Equity



Tiffany Flood DNP, APRN, FNP-BC, AGACNP-BC, CNE

Disclosures

- I have no financial or organizational relationships to disclose.

Objectives

1. Identify the appropriate use of telehealth delivery methods by understanding the foundational concepts of telehealth
2. Characterize the framework of telehealth equity
3. Translate advances into the practice of telehealth as a pathway to increased access to healthcare and health equity

The History of Telehealth and Telemedicine



Global outbreak: COVID-19 spreading easily across boarders leads to increased utilization of telehealth

2020

The COVID-19 pandemic pushes telehealth to the forefront.

Thrust to the forefront, telehealth quickly entered high demand and was forced into handling mass amounts of patients. Thankfully, decades of research helped with preparedness. The president signs multiple executive orders into effect that increased telehealth coverage by reducing barriers and restrictions to better provide care virtually to patients during the public health emergency. Bills are currently being introduced by Congress to extend and make many of these changes for telehealth permanent going forward.

2009

American Recovery and Reinvestment Act promotes health's greater connection online across medical technologies.

Following the recession in 2008, the government aimed to stimulate growth and economic stability with the American Recovery and Reinvestment Act. This act allocated an exuberant amount of funds into healthcare with the bill directing over \$25 billion for advancements in digital healthcare and technology for improving health. Telehealth faced the challenge of inter-technology communication between health systems and providers. The bill also helped to establish more universal and easier connectivity.

1983

The Internet is Born: computer networks establish a universal communication standard

Dr. Jay Sanders

Received a doctorate from Harvard and in 1970 went on to form the first division of general medicine in the country at the University of Miami. Served as Chief of Medicine at Jackson Memorial Hospital. In 1991 he developed the first statewide telemedicine system in the state of Georgia. Also created the first correctional telemedicine program and the first tele-homecare technology that was named "The Electronic House Call." Founder of the American Telemedicine Association and served as president for three years. Has worked as a consultant for NASA and the DOD and is currently the CEO of The Global Telemedicine Group.

1960s

Nebraska Psychiatry Institute performs psychiatric consultations with a closed-circuit TV.

The television, much like the radio and telephone, was changing the ways people send and receive information. The Nebraska Psychiatry Institute become the first to perform what is now known as a telemedicine appointment using the television. Broadcasting live, psychiatrists were able to interact with patients while they were a long distance from each other.

1967

University and local fire services partner to provide emergency medical assistance.

The University of Miami School of Medicine teamed up with the local fire department to transmit electrocardiographic rhythms over radio to Jackson Memorial Hospital in rescue situations.

1948

The first radiological images are sent via telephone.

The telephone was shown to not only be useful for connecting households across the country, but also allowed doctors to use this new technology to send radiological images to other specialists, which helped to speed up data transfer.

500 B.C.E.

Historical recordings show the Greek and Romans used fires and light signals to send messages about the spread of plagues

1924

Radio News Magazine depicts the future of healthcare.

Radio began to change the way communication is done and Radio News Magazine depicted the idea of a doctor attending to a patient via video call long before televisions were common and video communication was possible.



Challacombe, B., & Wheatstone, S. (2010). Telemessaging and Telebots in Urological Surgery. Current Urology Reports, 11, 22-28.

1959

University of Nebraska transmits neurological examinations with telehealth.

This was the first recorded use of the telephone by healthcare workers to send medical documents back and forth with each other across the country.

1961

NASA becomes a major pioneer in moving forward the research and development of telehealth in the 60s and 70s

1970s



Simpson, A., & Baldwin, C. (2018). A brief history of NASA's contributions to telemedicine. Retrieved from: nasa.gov.

Dr. Rashid Bashshur

Received a PhD from and was a professor at the University of Michigan until 2016. Organized the first two conferences on Telemedicine and published the conferences in 1975. He was also a co-founder of the Telemedicine Journal in 1994 and served two years as president of the American Telemedicine Association at the turn of the century. He has received numerous awards and honors recognizing his work and served as senior editor on three telemedicine reports sent to congress.

Space Technology Applied to Rural Papago Advanced Health Care (STARPAPHC)

Indian Health Services, with NASA, developed the STARPAPHC project, which aimed to provide better medical care access to local Native Americans in Arizona on the Papago Reservation, and the astronauts NASA sends to space. Various forms of medical information including electrocardiographs and X-rays were sent back and forth with the Public Health Service hospital by way of microwaves. This project and many others similar in nature, designed by NASA, generated interest and sparked more research in the area of health care communication and medical engineering. This began the foundation for telehealth that would be expanded upon by numerous entities over the next several decades.

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1993

American Telemedicine Association is founded.

The internet up and running, potential begins to be realized by those in the healthcare field. The non-profit organization was created to promote and increase the usage of telehealth to improve the reach of healthcare to more patients and those who struggle to access it. They aim to educate both patients and providers by staying up on advances in technology and care.

Centers for Medicare and Medicaid Services determines what are meaningful uses of electronic health records.

After the ARRA was passed, the CMS issued a ruling on what would be considered proper and meaningful ways to use electronic health records (EHR), or electronic medical records (EMR). The reasoning was to increase and maintain the privacy of patient records in the modern era of technology. Meaningfulness was defined as "the use of certified EHR technology in a meaningful manner, such as prescribing medication and improving the quality of care."

2016

The Health Resources and Services Administration Receives Funding to Expand the Use of Telehealth in Rural Areas

HRSA received and distributed \$16 million to expand rural access to healthcare through the use of telehealth. It has been shown that one of the populations that benefit the most from telehealth is the rural community. Finding ways to serve the rural community and underserved communities is a driver of healthcare, and telehealth looks to fill these voids.

2010



(National Consortium of Telehealth Resource Centers, 2021)



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Telehealth or Telemedicine

- Telehealth¹
 - Live videoconferencing (Synchronous): Real-time, two-way, technology-enabled interaction between a patient and a provider
 - Store-and-forward (asynchronous): Electronic transmission of recorded patient health history to a practitioner, who uses it to provide a service outside of real-time patient interaction (e.g. e-consults)
 - Remote patient monitoring (RPM): Using electronically transmitted medical data to help patients track chronic conditions, learn about treatment options, and take a more active role in treatment (e.g. TeleICU)
 - Mobile health: Health care and public health education via mobile communication devices such as cell phones or tablets
 - Peripherals: physical attachments that can be used
- Telemedicine is a subcategory of telehealth that refers to the remote delivery of care and clinical services that providers give to patients at a distance via phone, video, or an online connection¹

Why Telehealth?

Advance New Models

Increase Patient Engagement

Expands Healthcare Access

Improve Clinical Workflow

Enhance Quality of Care

Increase Practice Revenue²

Telehealth Utilization

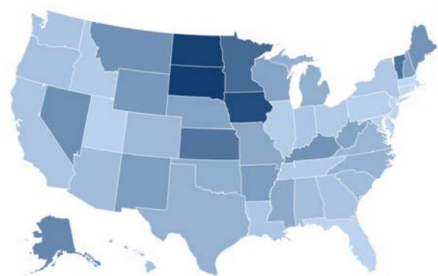
Pre-Pandemic, Before 2020

- 92% of Medicare beneficiaries received telehealth visits from their home, which was NOT permissible prior to 2020³

Post-Pandemic, After 2020

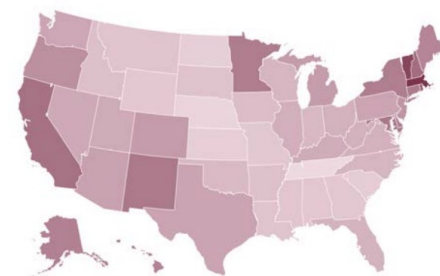
- Medicare Fee-For-Service beneficiary telehealth visits increased **63-fold**, from ~840,000 to 52.7 million in 2020³

Figure 6. Medicare FFS Telehealth Use by State, 2019 and 2020, % of Total Medicare FFS Part B Visits



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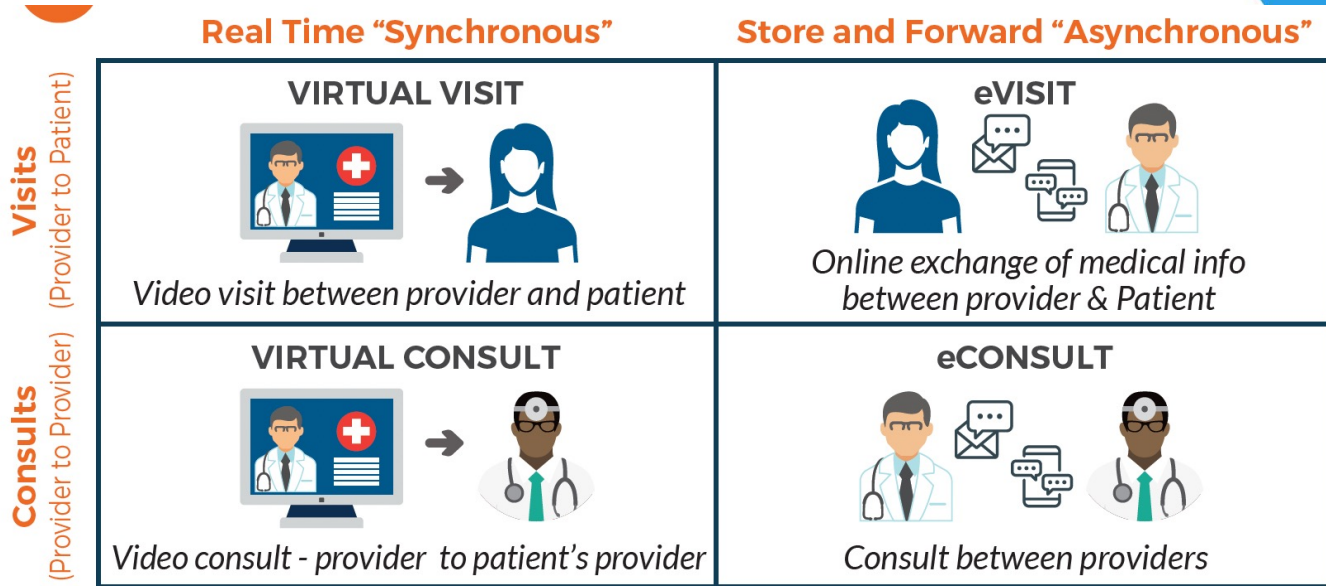
2019
0.0% 0.4%



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2020
2.7% 10.6%

Telehealth Framework



(National Consortium of Telehealth Resource Centers, 2021)

Pearls for Telemedicine Appointment

Identify barriers⁴

- Location
- Language
- Cognitive or Developmental Impairment
- Prior missed telehealth visits

Environment⁴

- Quiet and private space
- Avoid accidental interruptions
- Avoid rooms with windows to prevent backlighting

Self⁴

- Wear what you would wear for an in-person visit – e.g., white coat
- Wear a name tag or hospital/clinic branded clothing
- Silence phones, smartwatches, etc...

Technology⁴

- Have all applications open and prepared to document
- Assist patients with technology issues. (This usually requires familiarity with the patient user interface.)
- Be prepared to have backup methods to help patients access the telehealth platform, including telephone, email, or texting
- Consider alternate telehealth platforms if the patient cannot access the primary platform, including telephone, approved alternative video platforms

Provider-Guided Physical Assessment



(Stanford Medicine,2020)

Mind Your Webside Manners

The interpersonal aspect of patient care that translates standards, professionalism, and ethics in the form of verbal and non-verbal cues that impact patient outcomes⁵

- Surroundings
- Lightings
- Camera
- Provider Appearance
- Verbal & Nonverbal Communication
- Privacy & Confidentiality
- Technology Troubleshooting

Health Equity in Telehealth

“Health equity in telehealth is the opportunity for **everyone** to receive the health care they need and deserve, regardless of social or economic status. Providing health equity in telehealth means making changes in digital literacy, technology, and analytics.” (HRSA, 2022)

- *Often affects:*
 - *Low resource communities*
 - *Rural communities*
 - *People of color*
 - *Immigrants*
 - *people who identify as LGBTQ*
 - *People who are under or uninsured*

Health Equity in Telehealth

- Gallegos-Rejas et al. (2023) highlighted a substantial telehealth access gap that shows contributing factors include not being a native English speaker, needing an interpreter, and having a low socioeconomic background.
- Myers et al. (2021) showed that augmenting care with telehealth improved outcomes in underrepresented groups with diabetes
- SDOH: Housing
 - Adams et al. (2021) showed that homelessness and housing instability are not directly related to inadequate access to technology
- “While telehealth does have some challenges, it can help to improve access and communication, and may increase patient satisfaction for children who require multidisciplinary care for their pediatric feeding disorder” (Fleet et al., 2022)
- Growth in direct-to-consumer (DTC) Telemedicine Practices
 - Eliminating insurance barriers
- What is Telehealth Equity?

Nondiscrimination in Telehealth

- People with Disability

“Reasonable Modifications for People with Disabilities. Healthcare providers must make reasonable changes to their policies, practices, or procedures, which may include providing additional support to patients when needed before, during, and after a virtual visit, to avoid discriminating on the basis of disability.”

- Healthcare providers should make reasonable modifications to telehealth visits
 - Intellectual disability
 - Extending time allowed for visit
 - Allow a support person to be present and log in from a different location from the patient
 - Communication disability
 - Deaf or hard of hearing
 - Sign language interpreter
 - Real-time captioning
 - Blind or visual disability
 - Written recommendations should be screen reader-compatible
 - Audio descriptions

- People with Limited English Proficiency

Telehealth and the Older Adult

- Walk through their home setup
- Review technology basics
- Audio-only and phone-based telehealth appointments
- Enlist additional help from a caregiver or family member

What is the APRNs role in Telehealth Equity?



Use images for patients with
low literacy



Make materials accessible
in multiple lang. &
formats.

Do they need assistive
devices in virtual visits?



Allow extra time to
address connectivity
issues



Use tech with speech
recognition & health
prediction outcomes

Resources

- National
 - National Consortium of Telehealth Resource Centers
 - National Policy Center: Center for Connected Health Policy
 - National Technology Center: Telehealth Technology Assessment Resource Center
- American Telemedicine Association (ATA)
- C-TIER: the Center for Telehealth Innovation, Education, and Research at Old Dominion University

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