



2021



# What Is Telehealth?

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Telehealth is a way to receive healthcare services remotely through various communication technologies. The American Telemedicine Association (ATA) defines telehealth as “the use of medical information exchanged from one site to another via electronic communications to improve a patient’s clinical health status.”<sup>1</sup>

How and why you use telehealth will depend on your health needs and goals, specific conditions, and physician’s office protocols. You may engage in telehealth using secure video conferencing, live streaming, telephone calls, storing or sending text or photographs, and more.

Websites, applications, and tools—such as your phone, computer, or tablet—can be used for telehealth services. Telehealth offers a remote form of health care that, for many people, may feel more convenient and accessible.

Due to the COVID-19 pandemic, telehealth has become more valued and utilized than ever before, as people seek health services in a way that prevents possible disease transmission.

Telehealth may also be referred to as:

- Telecare
- Telemedicine
- Virtual health

## What Does Telehealth Mean?

Telehealth is a broad term that encompasses a variety of methods of virtual healthcare delivery. Traditionally, the term telehealth might bring to mind synchronous, two-way video visits between a healthcare professional and patient.

But telehealth includes more than these “e-visits.” It can include telephone calls, remote patient monitoring, or asynchronous store-and-forward messages of questions, photographs, test results, and moreover secure applications.

Telehealth as we know it today began over 50 years ago when NASA developed telehealth services for astronauts on long-duration missions. It became clear that this would have implications for healthcare delivery on earth, as well.

In the 1970s and '80s, NASA funded multiple telehealth research projects across remote populations, such as the Papago Indian Reservation and the Soviet Republic of Armenia. The ATA was developed in 1993 and has been promoting the adoption of telehealth using a variety of methods that have evolved.

What began in the '70s and '80s as using radios for remote health communication, developed into telephone use in the '90s.<sup>3</sup> As technology has developed, so have telehealth methods, which now include synchronous and asynchronous videos, secure messaging over applications, remote patient monitoring, and more.

The COVID-19 pandemic has also contributed to the evolution of telehealth due to the necessity for social distancing. A 2020 systematic review found that telehealth has improved the delivery of healthcare services during the pandemic, minimizing COVID-19 transmission and reducing morbidity and mortality.

## What Can Telehealth Treat?

For those accustomed to in-person health care, it may be difficult to imagine the breadth of telehealth. Yet, a huge variety of conditions, types of visits, and areas of medicine are represented in telehealth. Areas of medicine appropriate for telehealth include primary care, dermatology, dietetics, mental health, cardiology, and endocrinology.

Many of these might not immediately seem possible for telehealth. However, due to advances in video technology and creativity on behalf of practitioners and patients, these and many other areas of medicine are now accessible via telehealth.

Common ailments or symptoms treated via telehealth include:

- Headaches
- Skin conditions such as acne or rashes
- Musculoskeletal conditions such as backaches
- Mental health such as anxiety or depression
- Gastrointestinal symptoms such as constipation
- Chronic conditions such as diabetes

Types of visits appropriate for telehealth include:

- Wellness visits
- Nutrition counseling
- Psychotherapy, such as cognitive-behavioral therapy (CBT)
- Physical or occupational therapy
- Some urgent or emergent care
- Obtaining referrals or prescriptions
- Fertility counseling

A 2016 survey, reported in 2018 by the American Medical Association, was the first nationally representative survey in the United States to look at physicians' use of telehealth. The survey found that physician specialty highly influenced engagement in telehealth.

In the survey, the top three specialties engaging in telehealth were radiologists (39.5%), psychiatrists (27.8%), and cardiologists (24.1%). Specialties that used telehealth the least were allergists (6.1%), gastroenterologists (7.9%), and OB/GYNs (9.3%). Larger, non-physician-owned practices were more likely to use telehealth.

## Benefits of Telehealth

There are many benefits to telehealth for people in a variety of situations and with varying health needs.

### Accessibility

Telehealth is particularly beneficial for people who live in rural or isolated locations. In fact, this is why telehealth was originally created and expanded by NASA in the '70s, with the goal to address health disparities in rural locations.

For example, someone who lives in a rural area in Alaska may have to take multiple days off work and drive hours to the closest healthcare facility, just for a simple wellness checkup.

Due to financial need, or inconvenience, over time they may attend fewer health appointments, and their health may suffer as a result. In comparison, a one-hour telehealth appointment, accessible on their phone or computer, may lead to more healthcare interactions and better outcomes.

In addition to location, telehealth is more accessible for people who have mobility impairments that make getting into a vehicle or driving to a health appointment taxing and complicated. It is also more accessible for people with mental health barriers to leaving home for appointments, such as conditions like agoraphobia or social anxiety.

### Reduced Hospitalizations

Another benefit of telehealth is that it may lead to reduced hospitalizations among patients who receive telehealth services. A 2015 study of patients who'd had a cardiovascular event found that there was a 31% lower hospital admission rate throughout the year in the group that participated in telehealth services.

A 2019 comparative study in Australia looked at hospital admissions among a geriatric population receiving telehealth versus in-person services. While both groups had similar hospitalization rates, the telehealth service had a broader geographical reach, a higher patient capacity, and better waitlist management.

The benefit of reduced hospitalizations is particularly notable in the context of the COVID-19 pandemic, when limiting hospital admissions and preserving ICU beds for COVID patients has been so important.<sup>4</sup>

## Cost-Effective

Telehealth is also a very cost-effective form of delivering health care. This is particularly true for populations with various chronic conditions who may need repeated, regular appointments.

A 2017 systematic review of telehealth services in rheumatology found that telehealth was cost-effective in all included studies that examined cost-effectiveness. A 2020 systematic review of telehealth screening for diabetic retinopathy found that it was more cost-effective than in-person screening.

While telehealth may have associated costs with setting up the service—for example, purchasing tablets or developing applications—research indicates that this cost is mitigated by other cost-saving factors such as:

- Increased independent living ability
- Increased quality of life
- Increased working ability and hours
- Reduced childcare costs
- Reduced travel expenses

## COVID-19 Pandemic

Undoubtedly, telehealth has had its benefits throughout the COVID-19 pandemic. A 2020 systematic review named telehealth the safest option for continuous treatment throughout the pandemic.

With social distancing paramount for preventing the spread of the virus, this created challenges for people seeking both routine and emergent in-person health care.

In response, the Department of Health & Human Services altered its policies to allow more health providers to bill for telehealth services. Specifically, this included expanding Medicaid and Medicare coverage for telehealth for emergency department visits, initial nursing facility and discharge visits, home visits, and therapy services.

Telehealth has been an accessible way to receive healthcare services and avoid virus exposure. It has been particularly beneficial for people who are at higher risk of adverse effects of COVID-19 and also for people currently COVID-positive for whom attending in-person appointments is contraindicated.

We don't yet know for sure how and to what extent telehealth has impacted and was impacted by the pandemic. Studies do indicate, however, a significant increase in usage of telehealth services. For instance, in March 2020 compared to March 2019, there was a 154% increase in telehealth usage.

## Limitations

While telehealth may be more accessible for many people, including those with mobility impairments or who live in rural areas, it is also less accessible to some.

Telehealth requires a certain level of technological literacy. Older populations, and those with cognitive deficits, may require a caregiver to assist them with accessing telehealth services.

Telehealth also often requires the use of a personal electronic device such as a computer or smartphone and internet access. Socioeconomic disparities may mean a portion of the population is left out.

For instance, a 2021 study examined racial and socioeconomic disparities among telehealth users with liver disease during the COVID-19 pandemic. The study found that disparities and suboptimal telehealth use remained, particularly among patients who were older, non-Hispanic Black, or had Medicare/Medicaid health insurance.

There are also limitations of telehealth that are purely due to the nature of receiving virtual services. Some health appointments necessitate an in-person visit and can't be replicated virtually. These include appointments for:

- Blood tests
- X-rays
- Physical diagnostic tests
- Physical examinations
- Shots, vaccinations, or other injections
- Contraception placements
- Surgery
- Physical manipulation, such as some physical therapy or chiropractic care

Emergency situations including chest pain, one-sided face drooping, and broken bones require an in-person appointment.

# Telehealth Technology

Telehealth does not refer to one singular technology but rather encompasses various technologies that can be used for health communication purposes.

Live, synchronous, audiovisual technologies may be used for patient-physician appointments or for physicians to consult with each other.

Store-and-forward technology is also used for clinicians to record notes, share test results with patients, and for patients to send messages, photographs, questions, referral requests, prescription refill requests, and more to their physicians.

There are many HIPAA-compliant applications available for telehealth which are accessible on tablets, computers, or phones. These applications include practice-specific patient portals, Doxy.me, SimplePractice, and private services such as Teladoc, Doctor on Demand, Amwell, MDLive, and UnityPoint.

Some hospitals and practices may also provide tablets to patients, specifically for telehealth services.

During the COVID-19 pandemic, the Department of Health & Human Services has adjusted its telehealth policy for HIPAA flexibility. Currently, HIPAA-covered clinicians are permitted to use a variety of common-use communication technologies and applications, including:

- FaceTime
- Google Hangouts
- Zoom
- Skype
- Facebook Messenger

Public-facing applications that are not permitted for telehealth use include:

- Facebook Live
- Twitch
- TikTok

Remote patient monitoring is another area of telehealth where a physician monitors vital signs or other clinical information from a distance. For example, someone with diabetes may have their blood sugar monitored by their physician, or a person recovering from COVID-19 may have their oxygen saturation monitored remotely.

This may be done through a technology that automatically reports readings to a physician or through technologies like an electronic blood pressure cuff, pulse oximeter, or glucose meter that a patient uses and records for their physician.

# How to Use Telehealth

How to use telehealth will differ based on your personal healthcare provider's practice. While many practices use similar technologies or applications, each one will be unique in its protocols.

Some healthcare providers may have their own dedicated application that you will need to download and log into. Others may provide you with your own tablet, and yet others may text you a link prior to your appointment or call you over FaceTime.

The options may seem endless, particularly throughout the COVID-19 pandemic as telehealth is growing enormously. If you are interested in telehealth, the best thing to do is contact your healthcare provider to inquire about their offerings.

Before your telehealth appointment, you should also make sure that you have the proper environment to get the most out of your session. You should have a stable internet connection and a place to put your camera that offers an unobstructed view.

Also bear in mind that you may be sharing private details, whether that's during a wellness check with your primary care doctor or a psychotherapy session. If you live in a shared house, find a private place you can call from without interruptions. You may also want to use a fan or noise machine for added privacy.

Prior to your telehealth appointment, you should also check your insurance coverage to be sure that telehealth is covered. Currently, the Department of Health & Human Services has a waiver that makes it simpler for people with Medicare, Medicaid, and the Children's Health Insurance Program (CHIP) to receive telehealth services.

If you are uninsured, it is still possible for you to receive telehealth services. There are many new, private businesses that offer telehealth services in dermatology, psychotherapy, and more, and are very affordable.

## The Future of Telehealth

Telehealth is rapidly expanding and evolving, becoming a household term and a common way to seek health care. Additionally, the COVID-19 pandemic has exponentially increased telehealth across the globe.

A report from The Ohio State University's Wexner Medical Center found that in February 2020, there were 96 telehealth visits, compared to 202,900 telehealth visits from March–July 2020, after the pandemic began.



Temporary changes in insurance coverage to allow for telehealth services contributed to this increase but will need to be finalized or revoked at some point in the near future.

As the world reckons with the fallout from the COVID-19 pandemic, there is still much work needed to improve telehealth care. New technologies, particularly those that preserve security, are needed.

Telehealth disparities due to race, insurance, and socioeconomic status also need to be addressed if telehealth is to continue to grow as a viable healthcare option.