



Tech Insight: Telehealth II

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In 2019, it's no surprise that technology has taken over the healthcare industry, and all eyes are on telehealth. Currently, telehealth is providing programs, hospitals, clinics, and all health facilities (including non-clinic) the ability to ensure their patients are receiving the best care possible, whether near or far. With the growing population and shortage of healthcare professionals, along with the struggle of affordable healthcare, telehealth offers easy, attainable health services for customers, and allows for innovative ways of connecting patients to professionals. In this *Tech Insight*, we'll revisit a 2015 *Tech Insight* on telehealth and discuss an updated overview, current examples and benefits, the future of telehealth, and how the Department of Veterans Affairs (VA) is leading the way.

Overview

According to the US Department of Health and Human Services (HHS), [telehealth is defined](#) as “the use of electronic information and telecommunications technologies to support and promote long-distance clinical healthcare, patient, and professional health-related education, public health, and health administration.” Telehealth applications (apps) can include live videoconferencing (synchronous): a two-way audiovisual link between patients and care providers; store-and-forward videoconferencing (asynchronous): a transmission of a recorded health history to a health practitioner; remote patient monitoring (RPM): the use of connected electronic tools to record personal health and medical data in one location for review by provider in another location; and mobile health (mHealth): healthcare and public health information provided through mobile devices.

Benefits and Examples

Telehealth services more often benefit the healthcare industry, especially when it comes to patients. Healthcare has become accessible to people living in rural or isolated communities

and allows for convenient and instant services. People have access to an incredible amount of resources and tools including medical records, health data, ability to order medications online, videos and apps, scheduling, test results, access to medical specialists, and of course, simpler areas such as email and text reminders. Not only does telehealth benefit patients, it has also changed the way providers and medical specialists communicate with each other or share patient information. A few [examples](#) of telehealth include:

- **Patient Portals:** a secure online tool to communicate with doctors, request prescription refills, review test results and visit summaries, and schedule appointments or request reminders
- **Virtual Appointments:** a videoconference appointment allowing patients to consult with doctors over video if an in-person visit isn't required or possible - such as [InstaDoc](#)
- **Remote Monitoring:** includes web-based or mobile apps that can be used to upload health information to your healthcare team or doctor or wearable devices that can measure and transmit information
- **Doctors Communicating with Doctors:** Doctors can use technology to provide better care to their patients through virtual consultation with specialists for input or if questions arise about diagnosis or treatment.
- **Personal Health Records (PHR):** a collection of information about your health that you control and maintain. A PHR app is accessible anytime on your devices.
- **Personal Health Apps:** There are a plethora of mobile apps for users to track their medical information, such as recording exercise, tracking calorie intake, record vital signs, schedule medication reminders, and more.

The high-level benefit of telehealth is that technology can be used to improve quality of healthcare and make it accessible to more people. It's allowed healthcare to become more efficient, better coordinated, and "closer to home," positively impacting quality, cost, and access. While there is value in telehealth, it does have its challenges. There can be gaps in care or even overuse and inappropriate use of medications. Additionally, many people do not have the same access as others to internet availability, mobile devices and computers, or costs.

Telehealth at VA

VA defines telehealth as technologies that provide clinical care in circumstances where distance separates those receiving services and those providing services, according to the VA's [telehealth website](#). Through both synchronous and asynchronous technologies, VA can link Veterans with specialists in real-time, even with interactive exams, as well as acquire Veteran medical data and transmit it to providers at their convenience, when needed. VA focuses on three areas of telehealth: Clinical Video Telehealth (CVT), Home Telehealth, and Store-and-Forward.

Clinical Video Telehealth (CVT)

While VA has created over 700 community-based outpatient clinics to bring healthcare closer to Veterans, these clinics do not always have the specialty services and staff needed to treat

Veterans. If Veterans need to be referred to the medical center, it's not always easy for them to travel there. VA's solution? [Clinical Video Telehealth \(CVT\)](#). CVT is providing the ability to make diagnoses, manage care, perform check-ups, and provide care to Veterans virtually.

As an example, through CVT, the Veterans Health Administration (VHA) is using information technology (IT) and telecommunication to augment care provided by its Mental Health clinicians to Veterans across the entire country. VHA TeleMental Health is delivering services by virtually linking its patients to Mental Health providers separated by distance or time. CVT is also offering a large amount of specialties including Telerehabilitation, Telecardiology, Teleneurology, and [many more](#). The capabilities CVT offers make it possible for Veterans to be almost anywhere and still connect with a specialist or practitioner.

Home Telehealth

For some Veterans, health issues make it difficult for them to live alone at home. Many may be in a nursing home or a facility to ensure they are getting the care they need. However, with new technologies, their symptoms and vital signs can be tracked from home through VA's [Home Telehealth](#). While VA notes this type of care is not suitable for everyone, for those who do qualify, Home Telehealth gives them the gift of living at home, independently. VA provides the technology needed, assigns a care coordinator, and provides training to Veterans and their caregivers on how to use the home telehealth devices.

Store-and-Forward

[Store-and-Forward](#) involves storing clinical information that is forwarded to another site for evaluation. Store-and-Forward programs have been providing consultation to VHA sites that need expertise from specialists. For example, VHA's first national Store-and-Forward program was a primary care-based model that screens Veterans with diabetes for retinopathy using teleretinal imaging that expedite referral for treatment and provide information. This ability of being able to store and forward digital images for reporting is a major area of healthcare development within VHA. VA's patient record, the Veterans Information Systems and Technology Architecture (VistA), has its own component – VistA Imaging – which enables communication of clinical images throughout VA.

With VA as [the largest integrated healthcare](#) system in the US, it is no surprise that the Department is leading the nation in new technologies in healthcare. "The value VA derives from telehealth is not in implementing telehealth technologies alone, but how VA uses health informatics, disease management, care/case management and telehealth technologies to facilitate access to care and improve the health of Veterans with the intent to provide the right care in the right place at the right time."

The Future of Telehealth

Ultimately, convenience, accessibility, and consumerism are the driving forces behind telehealth. From seniors, to parents, to millennials, the ease and quality of telehealth tools,

such as virtual appointments, have become a popular option. Due to the growing acceptance of telehealth tools, there is hope that we will continue to see licensing and reimbursement challenges soon diminish as well, which will [spur growth](#) in virtual care. In 2018, the CHRONIC Care Act was passed as well as new billing codes from the Centers for Medicare and Medicaid Services (CMS). These new billing codes will most likely inspire others to embark on telehealth efforts, and with Medicare Advantage plans and penalties for readmissions from skilled nursing facilities (SNFs), new opportunities will be created.

It's also predicted that telehealth trends will expand beyond DTC models. "2019 will be the year of telehealth, not because of technological changes, but rather a more transparent business model. Much of the confusion has been related to the direct-to-consumer market (DTC) that has dominated investment in the space. Yes, customer service via online access is great, but the real opportunity is leveraging telehealth to deal with chronic illness, mental health and the opiate crisis," says Alan Pitt, MD, professor at [Barrow Neurological Institute](#). Management of chronic illness as well as mental health are key areas of growth when it comes to telehealth solutions. In terms of mental health, which is finally losing its reputation of being taboo, having immediate access to care and help is a huge deal.

Of course, none of this would be possible without the use of advanced technology. Industry leaders expect that as more data feeds into artificial intelligence (AI) and machine learning systems, further advances can be made toward a goal of seamless care. Additionally, a more rapid scale of solutions could be made across the healthcare enterprise. There's a shift toward using connected devices for patient care and health tracking; think wearable or home-based diagnostic devices that can easily transmit data between patients and providers. Chief Medical Officer, Caesar Djavaheerian, of [Carbon Health](#) states, "In 2019, telemedicine will go from the superficial to the deep. Through AI and machine learning, patients will go from virtual care to physical clinics without losing a step, since these systems will all be integrated to coordinate the care. Patients will be able to get the right care at the right time and at the right price."

Conclusion

The past few years have marked a significant turning point in the way telehealth is used and perceived. There's been a great shift in consumer acceptance and legislation, and it could be said that telehealth is now an essential component to the healthcare industry. Telehealth has proved itself in reducing costs and providing quality, and who can argue with instant access to healthcare? While some may prefer in-person care, it's inevitable that our world is moving toward a technology-focused society. We are having to embrace modern culture and digital care. The healthcare industry is changing rapidly with physicians and patients continuing to use telehealth more often to communicate on simpler illnesses and treatments to more complex areas such as cancer, behavioral health, surgery recovery, and more. With AI and machine learning directly impacting the growth and effects of telehealth, it will be interesting to follow these trends and see where the future of telehealth will lead.

The Tech Insight Series

The monthly Tech Insight series aims to help readers make better decisions and be more informed customers of OIT products and services by providing them with high-level overviews of technologies that impact or will impact VA's IT environment. Tech Insights introduce topics in an easily digestible fashion by presenting background information on the topic, clearly explaining its importance within VA, and providing recommendations for success from OIT. All Tech Insights are available [here](#).

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