

Challenges for advancing telehealth



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BACKGROUND & INTRODUCTION

Telehealth is the use of electronic and telecommunications technology to deliver healthcare and medical services to support patients remotely connected and to provide professional healthcare education, public health and health administration. Telehealth includes a broad range of technology enabled health care services. These services range from synchronized video chat between a patient and a doctor, to conferencing between healthcare providers, to conferencing between providers and allied health professionals such as nutritionists or physiotherapists, to providing live or recorded presentations to groups of patients who are geographically remotely connected.

The American Telemedicine Association (ATA) defines telemedicine as the use of medical information transmitted from one site to another through electronic communications to improve a patient's health. Telemedicine includes a variety of applications and services such as two-way video, smart devices, wireless tools and other forms of telecommunications technology. Starting about forty years ago with exhibition of hospitals providing services to patients in remote areas, the use of telemedicine today has spread rapidly and is now becoming integrated into the ongoing operations of hospitals, specialty care centers, home health agencies, private clinics, as well as patients' homes and workplaces [1]

The terms Telehealth and Telemedicine are used interchangeably, and often are used to describe similar type of services. But the term Telemedicine commonly refers to bilateral, interactive health-related interactions between

clinicians, for example, video conferenced Grand Rounds, x-rays transmitted between radiologists or consultations where a remote provider presents patients to a specialist. Telehealth incorporates what is defined as Telemedicine along with direct, electronic patient-to-provider interactions and the use of medical devices such as smartphone applications, health related activity trackers, automated reminders, blood glucose monitors, etc. to collect and transmit health information, with the intent to monitor or help to manage chronic conditions [2]

The basic modalities or services currently provided by Telehealth are:

1. Live (synchronous) videoconferencing: A two-way live interaction between a patient, caretaker or a provider and a provider using AV telecommunication technology. Historically these audiovisual conferences happened exclusively between providers, but nowadays companies such as Teladoc and LiveHealth Online are providing direct videoconferencing between patients and clinicians on daily basis.
2. Store-and-forward (asynchronous) videoconferencing: Transmission of digital images such as x-rays and other medical imaging files through a safe and secure electronic communication system. Unlike the synchronous videoconferencing, this service provides access to patient data after it has been collected. This provides a more convenient method as compared to a “ real-time” visit. Data such as diagnostic information (e. g., x-rays, CT scans, EEG printouts) are collected at the patients’ site of care and transmitted to a specialist in another location. SFT (Store and forward transmission) Is often referred as “ asynchronous” as this process causes a lag or a delay between the

time diagnostic information is sent and when it is interpreted by a specialist.

3. Remote patient monitoring (RPM): Collection of personal health and medical data using connected electronic devices from a patient in one location and transmission of this data to a provider at a different location, usually at different time. This method is primarily used to manage chronic illness, using devices such as Holter monitors to transmit information including vital statistics (e. g., blood pressure, blood oxygen levels) to clinicians.
4. Mobile health (mHealth): Mobile applications used to aid health and well-being. These applications range from apps that help to send targeted text messages aimed at encouraging healthy behaviors to alerts about disease outbreaks to programs or apps that help patients with reminders to adhere to specific care regimens. Nowadays these devices also make use of cameras, microphones, or other sensors or transducers to capture vital signs for input to apps and bridging into RPM.

The term “ e-health” is used in the broader sense to describe a wide array of digital information tools, ranging from electronic health records (EHRs), which facilitate the exchange of patient data between healthcare professionals to computerized physician order entry mechanisms, e-prescribing, and clinical decision support tools, which provide information electronically to providers about protocols and standards to help in diagnosing and treating patients.

ORIGINS & HISTORY

The use of Telemedicine can be tracked back to late 19th century where one of the first published material occurring in the early 20th century when electrocardiograph data (ECG) were transmitted over the phone lines. In the 1960s, the military and space programs sectors used Telemedicine, in its current form. This included the use of televisions to aid consultations between specialists at a psychiatric institute and general doctors at a state mental hospital, and the provision of expert medical advice from a major teaching hospital to an airport medical center.

The movement from analogue means communication to digital forms combined with affordability of ICTs (Information and communication technologies), in its various forms has sparked huge interest in application of Telehealth among Healthcare providers, driving them to envision and implement newer and more efficient ways to provide a better care. The introduction and popularization of the Internet has further accelerated the pace of ICT advancements, expanding the scope of telemedicine to encompass Web-based applications such as electronic mail, teleconsultations and conferences using the Internet and multimedia approaches such as digital imagery and video. These advancements have led to the creation of a rich tapestry of popular telemedicine applications that the world is coming to use [3]

CURRENT POLICY CHALLENGES

At the meeting of Office of the National Coordinator for Health Information Technology in April 2016, the opportunities for Telehealth and Telemedicine, the deployment and use of various modalities were discussed by healthcare

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industry executives, government officials and other medical professionals. There was a unanimous agreement among the participants that there should be a payment reformation; Medicare should get a better comprehensive coverage; the issues with license barriers which hinders the enthusiasm healthcare providers have about Telehealth; and high-speed broadband connectivity problems in rural hospitals and clinics despite the tremendous growth we see in the telecommunication technology. These issues along with Privileging and Credentialing, are the key policy challenges [4].

1. Coverage and Reimbursement: Coverage and payment are important pieces for all the parties involved in Telehealth. There are concerns involved about adequate payment for Telehealth services provided to patients remotely connected and lack of payment would affect their ability to invest in newer technologies [5]. Coverage for Telehealth services has not been even across all the payers, due to the lack of certainty regarding the actual values of these services. In Medicare fee-for-service program, payment goes primarily to the consulting provider with a small facility fee paid to the patient's site where a live video link between the patient and the physician is provided. In case of Federal demonstration programs in Alaska and Hawaii, Medicare pays for "store-and-forward" services i. e. sending diagnostic information for later clinical review. The reimbursement amount for telehealth services in this program has been relatively small. Medicare spent approximately \$14.4 million on Telehealth services delivered in 2015, or less than 0.01 percent of the total spending that's spent on healthcare services.

Centers for Medicare & Medicaid Services (CMS) is currently testing a more expansive coverage for Telehealth with the help of the Center for Medicare and Medicaid Innovation's Next Generation ACO Demonstration. Current regulations limit the use of these services to rural Health Professional Shortage Areas (HPSAs) and require the patient to be located in outpatient clinics, hospitals and other health centers. Next Generation ACO allows patients to receive Telehealth services from their home regardless of whether they stay at a rural area. The MACRA legislation enacted in 2015 includes several telehealth provisions. It offers additional rewards to providers who coordinate care using Telehealth modalities, even when a direct reimbursement for this activity is not available.

MACRA also allows for many Telehealth services irrespective of where the patient or the clinician is physically located. Another provision gives CMS the authority to reimburse providers participating in Advanced Alternative Payment Models for telehealth services.

Currently, 48 state Medicaid programs provide some level of telehealth coverage. Twenty-two percent of large employers in 2014 covered telemedicine consultations and over 68 percent planned to do so by 2017[6]. Thirty-two states have parity laws which requires private insurers to reimburse Telehealth services at the same cost as that of in-person consultations. After July 1, 2016, CMS allows for replacing " face-to-face" home health encounters with video-calling/-conferencing apps such as Skype™ or FaceTime® or Google Hangouts™.

2. Licensure: Licensure is an important issue for anyone looking to provide Telehealth services beyond their state borders, as each state has independent authority to regulate medical practice within its boundaries. This can hinder the use of Telehealth when states require to provide services to a patient in a state different from the state where clinician practices [7]. Although it is not uncommon in places like Philadelphia for providers to have licenses in multiple states (e. g., PA, NJ, DE) d, the administrative burden associated with licensure laws may nevertheless deter physicians from utilizing telehealth modalities, especially if telehealth consults would represent a relatively small portion of their overall business.

The Federation of State Medical Boards (FSMB) allows a credentialing verification service where a clinician can seek license in more than one state. FSMB has also received a grant from Health Resources and Services Administration (HRSA) to develop a model interstate licensure where state medical boards can retain their disciplinary authority, and offer contoured licensing process for physicians interested in practicing medicine in more than one state.

Project ECHO(Extension for community Healthcare Outcomes) is a project that began in New Mexico to increase the capacity of providers in the rural and underserved regions. The weekly TeleECHO clinics has a specialty care team give support and advice to providers based out in the rural areas. This model reduces isolation of such patients as well as the providers, increases their satisfaction, expands patient access, and has shown to achieve care as

good as if not better to that delivered in a specialty clinic. There are 39 TeleECHO projects running actively in 22 states [4].

3. **Credentialing and Privileging:** Another challenging policy for uptake of Telehealth is the hospital's or Healthcare facilities responsibility to verify the qualifications of providers and defining the scope of services they can offer in the facility. This is called as Credentialing and Privileging respectively. This could pose issues when a provider wants to practice at a different facility via Telehealth as this would require Credentialing and Privileging at every facility the provider treats patients through Telehealth. Often hospitals allow Credentialing and Privileging by proxy, trusting the decisions made by other facilities, but this is independently decided by the facilities themselves. CMS and Joint Commission have allowed the facility where the patient is located to make the ultimate decision about privileging for the purposes of delivering services via Telehealth. In some cases, States have gotten involved to solve this issue, for example in Oregon a legislation was passed in 2013 which allowed Oregon Health Authority to adopt uniform documentation requirements for credentialing providers using telehealth [4]. While this has removed an organizational hurdle to connected care, there are some concerns that continue to linger about telehealth among providers who object to an originating site having the ability to constrain their authority or scope of practice.
4. **Technology:** Accessibility and Affordability of broadband is another constraint for Telehealth. There are still some areas in United States that do not have access to broadband speeds that's required for

advanced Telehealth applications. Even though Broadband deployment in the rural areas is catching up, might not keep pace with increasing bandwidth demands of today's high-quality video, graphics and data offerings. The Federal Communications Commission (FCC) reports that fifty-three percent of rural Americans (22 million people) lack access to benchmark service (25 Mbps/3 Mbps) [8].

Another disadvantage to this is the price of broadband services can be three times higher in rural areas as compared to urban areas. The FCC and the U. S. Department of Agriculture are working on supporting broadband deployment in rural areas and reduce costs. Partnering with FCC to benefit Telehealth is going to be a complex process and challenging cost sharing mechanisms. It is also important to note that in addition to geographic variation in access to and affordability of broadband services, a sizable percentage (approximately 40 percent in 2015) of older Americans do not use the Internet [9].

FEDERAL EFFORTS TO ADVANCE TELEHEALTH

1. Department of Health and Human Services: The largest investment from HHS is in the form of health services through Medicare, Medicaid and Indian Health Services. There are other divisions of HHS that support Telehealth advancements, development of mobile technologies such as remote sensors, or research that assesses the effectivity of care delivered to remote areas.
- Health Resources and Services Administration's (HRSA) administers Telehealth programs, which includes funds in the form of telehealth

network grants, for national network of telehealth resource centers, and grants for veterans' telehealth, telehealth research and to address issues with licensure challenges across states. In addition to this, HRSA awards teaching health centers which provides training in the use of telemedicine for primary care

- Substance Abuse and Mental Health Services Administration (SAMHSA) sanctions grants to support behavioral telehealth and care coordination, the agency also funds to develop a guide on financial strategies to develop behavioral telehealth
- Centers for Disease Control and Prevention (CDC) funds for ePathology and advanced diagnostics programs to facilitate consultations for infectious diseases
- CMS innovation center is engaged in telehealth activities through the Health Care Innovation Awards (HCIA) and the State Innovation Models (SIMs) initiative. HCIA has various projects focusing on chronic care management, remote patient monitoring, E-ICU services, and post-hospitalization care.
- National Institute of health (NIH) supports several extramural and intramural research projects that develop and evaluate telehealth modalities
- FedTel, The Federal Telemedicine Working Group, established in April 2011 to facilitate telehealth education and information sharing amongst its members, and summarize key telehealth activities of the participants. It was established by HRSA, where its responsibilities lie in fund sharing, research and planning activities throughout the federal government

VETERANS HEALTH ADMINISTRATION

U. S. Department of Veteran Affairs (VA) is currently the largest provider of telehealth services. VA started setting up Telehealth at 30 medical centers in 1994, by 2014 VA reported about two million telehealth encounters of which 45 percent visits involving veterans from rural areas [8]. VA's Telehealth programs provide access to 44 different clinical specialties such as neurology, psychiatry and endocrinology. VA also provides emergency care, ICU services and emergency amputation care through Telehealth modalities. VA invests heavily in developing the infrastructure of the following three national Telehealth platforms [9]:

- Clinical Video Telehealth (CVT) provides a real time video conferencing services with peripheral technologies to help assess and treat patients located remotely
- Home Telehealth (HT) applies management strategies to coordinate Telehealth services using Health informatics, and uses home remote monitoring technologies to manage chronic illness like diabetes, cardiovascular disease, hypertension, obesity, and traumatic head injuries.
- Store and Forward Telehealth (SFT) helps store clinical information such as data, image or video that is forwarded to specialists at a distant location for clinical evaluation.

The VA is a closed system with a limited and defined patient population and physicians are salaried employees. This structure promotes cooperation, coordination, and interoperability which makes it a better system in terms of communication and continuity of care and program integrity concerns that <https://assignbuster.com/challenges-for-advancing-telehealth/>

usually occurs in a fee-for-service type of settings. Another advantage of VA being a closed system is that unlike non-VA physicians who face issues with licensure, VA doctors are allowed to maintain just one license in order to practice in any VA facility in the states or the territories.

DEPARTMENT’S CURRENT LEGISLATIVE PROPOSAL

Department of Health and Human services coordinates policy for a variety of topical areas through the Department’s annual legislative proposal development process. Medicare fee-for-service program covers telehealth services for a defined number of services and requires these services to be provided to patients located in rural areas via a video link. The Department is working on widening the services delivered by expanding the ability of Medicare Advantage organizations at the Secretary’s discretion, via telehealth by eliminating restrictions such as coverage of services provided exclusively through face-to-face visits.

IMPORTANCE OF TELEHEALTH

Telehealth technologies help to achieve healthcare’s triple aim, to improve quality, accessibility and cost savings, developed by The Institute for Health Improvement. Telehealth provides tools that help improve patient outcomes and access to care, and make health care delivery systems more efficient and cost-effective. Telehealth can provide services without the restriction of barriers time, distance, and provider scarcities in areas which are remotely located and underserved urban communities.

Some of Successful examples of Telehealth services are:

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- eEmergency, a service of Avera eCare, which supports rural clinicians in the central US, including Iowa, Minnesota, Nebraska, North Dakota, South Dakota has served around 15, 000 patients at 70 locations through two-way video interaction. It has saved more than 15 million dollars in transfer costs by helping treat patients in their own communities via Telehealth [10]
- The Carolina HealthCare system has reduced the number of readmissions for heart failure patients by using video conferencing and peripheral technologies as part of their program to make it easy for patients living far from the hospital necessitating significant travel for follow-up. The 30-day all cause readmission rate at the hospital has decreased from 19. 39 percent in 2010 to 9. 82 percent in 2013[11]

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