Challenges and benefits of telemedicine

Abstract

This paper explores research conducted on how telemedicine is changing the healthcare world. The research reviews different challenges, innovations, and technological advancements related to telemedicine in the past decade. According to the *Journal of American Health Information Management Association (AHIMA)* , telemedicine involves the use of electronic communications and software to provide clinical services to patients without an in-person visit. Telemedicine is becoming more common because not only is technology use on the rise, but also because of convenience for patients. An article from *AHIMA,* named *Regulating Telemedicine (Or Trying to)* says that, telemedicine is to say the least, " exploding"– both as a source of electronic health information and as a business model. Researchers say that it may just be the " commodity of the future" (*AHIMA*). This paper reviews six different research articles related to telemedicine. All six suggest that telemedicine has the chance to takeover the healthcare industry and that healthcare companies should look into investing in telemedicine at their organizations. Telemedicine may just be the trend of the future and it is definitely becoming more common throughout the healthcare industry.

Keywords: telemedicine, healthcare, technology, AHIMA

Challenges

Although telemedicine sounds like it would be perfect and not have many disadvantages, there are some things that are overlooked. Research articles had trends of three different challenges seen frequently. The three

challenges are, access to telemedicine, doctors being more interested in face-to-face visits, and coverage of telemedicine.

Access to Telemedicine. The access to telemedicine seems like it would be easy to reach. However because, telemedicine is a virtual engagement, according to the *Telemedicine Toolbook* from the *Journal of AHIMA* , there are encounters at the patient's home which is connected through the patient's Wi-Fi network where interface issues at the patient location may occur such as lagging video feed, low-quality video, or internet outages. Visiting with a patient virtually is easier but the internet can be a bigger issue sporadically. Another thing to consider is the comparison between a face to face visit and a virtual visit. As stated by the article *The Pros and Cons of getting ' App-y'* , patients like the convenience factor that other online activities offer even though they understand that face-to-face encounters aren't replaceable. Access to a virtual visit may be easier and more suitable, but a face-to-face encounter is typically more valuable. Lastly, when thinking about access to telemedicine, research done by *AHIMA* shown in the *Telemedicine Toolkit* , shows that the initial costs associated with the input of a telemedicine program can be expensive. Also, electronic systems can be costly to develop, implement, maintain, and purchase. Access to telemedicine can be a challenge for both the patient, and initially, the healthcare provider.

Doctors Being More Interested in Face-to-Face Visits. Doctors are still indecisive and in disagreement about whether telemedicine is a strong or weak idea. Some doctors believe it is the future of medicine, however some believe that a face-to-face visit is irreplaceable. According to the *Texas Medical Board* (Texas Board) *,* who is authorized to regulate the practice of

medicine in Texas, the state adopted a rule which requires a " face-to-face" visit before a physician can issue a prescription to a patient. The Texas Board believes that face-to-face visits are essential in truly learning the patients issues and identifying what is wrong. Other doctors also believe that without physically seeing the patient there is no way to fully assess them and prescribe medicine.

Coverage of Telemedicine. Telemedicine is still very new so the overall coverage can be overlooked in regards to not only insurance, but also the opportunity to use it. According to thearticle *The Pros and Cons of Getting '* *App-y'* , the problem is some mobile capabilities are advancing faster than the regulatory bodies that govern those technologies, which means to a large extent, many providers can't use all the data their patients bring them. This means that most patients are getting cared for but it is hurting the provider in the long run because they aren't collecting data to use and better themselves. Another point made by the *Telemedicine Toolkit* in *Journal of AHIMA* , is that a lot of work still has to be done before telemedicine becomes a part of all insurance providers' coverage, however the coverage is expanding. Telemedicine is still a new topic, therefore insurance companies don't know the full story and the insurance companies don't cover everyone. Coverage regarding telemedicine is a challenge that still has to be sorted out, but so far most healthcare companies like the idea of it.

Innovations

Telemedicine is still new and evolving, but there have been several innovations helping it to expand. An example is the development of apps

within telemedicine. Although telemedicine is an innovation in and of itself, there are small details that create it as a whole. The actual practice of telemedicine is an innovation because of all the use of technology involved.

Telemedicine Itself. On its own, telemedicine is an innovation. It is becoming the " new and timely method of delivering quality cost-efficient healthcare with " real time" assessments for patient care when patients are not physically present" (*Telemedicine Toolkit* , 2017). According to the *Telemedicine Toolkit* in the *Journal of AHIMA* , those who cannot drive or have a wheelchair can benefit from telemedicine the most, and could be used as a useful alternative. With all of the personal advantages for a patient listed above there is also the technological side of the advantage for a healthcare professional. As stated in *Lighting the Mobile Information FHIR: How FHIR Frame Could Dramatically Change HIM in the Process,* in the *Journal of AHIMA* , personal health devices and smartphones can encourage healthy behaviors to prevent or reduce health problems, wireless devices and sensors (such as personal health devices and smartphones), can support continuous health monitoring at both the individual and population level, support patient chronic disease health management, provide personalized and on-demand intervention, and enhance provider knowledge. All of those things are helping the patient to better themselves which may lead to fewer visits to a healthcare professional.

Apps. Apps are another piece of the puzzle that is creating a successful innovation for telemedicine. Apps could be very beneficial if built and used correctly. Telemedicine is the practice of virtual visits with patients so having an app would only make sense. According to the article, *The Pros and Cons*

of Getting ' App-y' in the *Journal of AHIMA* , these days, patients with insight are accessing their healthcare information through their smartphones and their computers at home. Apps only make it easier to have telemedicine grow and become even bigger. Since telemedicine is already being practiced in the healthcare field there are examples of how apps work. According to the article previously stated, " once a physician has connected with a patient through their portal– even if it's a smartphone app connected to the portal– the physician can push out educational materials and helpful tips to the patients, thereby increasing patient engagement" (Pros and Cons of Getting ' App-y'). Apps could be a significant part in the usage of telemedicine.

Practice of Telemedicine. The practice of telemedicine is already taking place and so far there have been several benefits. One of the biggest benefits being timeliness. As stated by the *Journal of AHIMA* , the timeliness of patient care plays a huge part in the overall patient satisfaction and the quality of healthcare. Considering this, the *Telemedicine Toolkit* from the *Journal of AHIMA* says that, telemedicine is perfect as it is predominant among many specialties to broaden enhance access to care and their patient reach. For example, it can be used in hospitals, emergency departments, physician practices, rehabilitation facilities, skilled nursing facilities, and correctional facilities. All of those healthcare related facilities are already using telemedicine to connect with their patients and it is successful. According to the article previously stated, using telemedicine is timely and simple, and the timeliness that telemedicine provides can lead to higher-quality and more efficient care leading to higher patient engagement and contentment and better patient outcomes.

Technological Advancements

Telemedicine alone is a technological advancement and everything involved with telemedicine is technological. However there are specific devices that are being used in telemedicine such as drones and mobile health. Telemedicine has several cost saving advantages and insurance is beginning to cover some of the innovations.

Cost Savings and Insurance. According to the *Telemedicine Toolkit* in the *Journal of AHIMA* , in regards to the telemedicine organization itself, cost savings will be an important factor to monitor as a way to offset the initial implementation costs of the program, track progress, identify areas of opportunity for providers, determine resource allocations, and find areas of opportunity of reimbursement. The companies that will implement telemedicine in the future will benefit from all of the above examples. Having an easier way to access healthcare that is cheaper and easier to engage in could be the answer to better healthcare in the future. According to Dr. Schneider of *Mayo Clinic* , the option to go online for a medical consultant is especially appealing for poorer patients who can't afford to take off from work to go to the doctor's office. Being able to access healthcare virtually is way faster and saves money in ways like not using gas money to drive to the doctor's office.

Drones. Another technological advancement is the usage of drones. According to the article, *Send in (Potentially Life-Saving) Drones* , from the *Journal of AHIMA* , in summer of 2015, *Health Wagon* gained approval to test the delivery of medications using a six-rotor drone, which flew packaged

medications to a rural outreach clinic. From there pharmacists were able to distribute the medications to the patients who needed them. *Health Wagon* states that, the idea of using drones in order to get to hard to reach areas is a huge technological advancement in telemedicine. The article stated above, explained that Tessa Gardner detailed the test run in the publication *Clinical Advisor* , and stressed the importance of delivering critical medications to hard to reach areas. Tessa also said that in an attempt to bring cutting edge healthcare to these remote areas, *Health Wagon* serves this community through mobile health clinics and two stationary clinics in a six county area where 43 percent on the population is below the federal poverty level. Being able to access these places through telemedicine is a huge advancement in healthcare and could lead to a great future.

Mobile Health. The last technological advancement is mobile health. According to the article, *Lighting the Mobile Information FHIR: How FHIR Frame Could Dramatically Change HIM in the Process,* in the *Journal of AHIMA* , mobile health applications have the potential to promote wellness, manage chronic health conditions, and reduce healthcare costs. Like the other technologies previously mentioned, mobile health is another technological advancement. As stated by the article above, mobile health applications are currently being evaluated and developed in a variety of healthcare areas, including, diabetes, asthma, obesity, smoking cessation, stress management, and depression treatment. All of the above are need areas of ways that telemedicine could help healthcare. The future is bright with the technological advancements of mobile health and telemedicine.

Conclusion

Telemedicine is changing the healthcare industry and creating an easier, more cost effective, option for patients and the healthcare industry. According to the *Telemedicine Toolkit* from the *Journal of AHIMA* , telemedicine has evolved into a " hot topic" in the healthcare industry and is spreading at a rapid rate. With continuous advancements and adoption, telemedicine could change the healthcare landscape. What was once a dream too many, is quickly becoming a reality. As the technology becomes more integrated into the healthcare world telemedicine is becoming much more mainstream and commonplace. In this fast changing industry it won't be long before telemedicine isn't the future, but the present.

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