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Research Proposal

Telehealth and Telemedicine vs. Traditional Care in the 21st Century

Mandy Chen, Jessica Kel, Krishneel Sen, and Zainah Najib
Healthcare Administration Graduate Students at California State University, East Bay

Abstract
Technological advances and the Coronavirus (COVID-19) pandemic has led to multiple innovations in healthcare. One of the innovations that was really enhanced is telehealth, which provided patients to be seen from home by their physicians, either through phone or video visits. The motivation for this study was to see how telehealth has affected patients and the healthcare system.

Key Words: Telehealth, telemedicine, COVID-19, and health care.

Introduction

Telehealth is a great resource to utilize for the current pandemic and any similar scenarios in the future. This will also lead to having healthier communities by protecting vulnerable patients and patients who have different medical conditions. With this proposal, we were also trying to determine if these patients' needs are being met. Telehealth is a resource that is provided to patients in order to save them time, money, and convenience. However, there are still gaps that exist within the literature, in regards to efficiencies and differences in payments that are correlated to telehealth.

Patients vs. Doctors

The main research question that is being addressed is: “Do doctors and/or patients prefer telehealth and telemedicine more than traditional treatment or vice versa?”. This problem is important because there are different patient populations with a variety of medical conditions and telehealth can lead to much more efficiency in the hospital setting. Because of the conveniences of telehealth, patients are not required to be physically present at their appointments. Consequently, patients can get their diagnosis from the convenience of their home. During their visits, we were also trying to ascertain if these patients are being properly diagnosed, as if they would be if they were to be seen in-person by their physician. Along with that, telehealth can also lead to patients having more privacy when discussing their health. With this, patients will not have to expose themselves to huge crowds, as well as discussing their medical history in front of other individuals. So, with the assistance of telehealth, patients will be able to talk about their medical concerns from the convenience and privacy of their own homes. Because of this, healthcare facilities will also experience the new changes that come with telehealth visits. This will consist of multiple workflows adjustments and advancement in technologies and understanding processes, to ensure the protection of patient health information and proper connections.

Both Sides Matter

Organizations that allow patients to utilize telehealth services are providing individuals with an alternative way to meet with their providers based on their convenience. This assists patients and the healthcare industry financially by saving patients money on travel and healthcare industries through the reduction of high-priced medical examinations and specialist visits. Telehealth has affected everyone differently, so understanding if patients are being taken care of

the same way or better as in-person care, is the purpose of our research. One of the main focuses for healthcare industries is to make certain that patients are being medically treated and all their needs are being met. Another aspect that we need to focus on is if telehealth will help providers become more efficient and effective with their daily workflows, or if it makes it more complex. We also need to make certain the providers are properly diagnosing their patients when using telehealth services, or if they even feel comfortable doing so.

Literature Review

Logistics

The overall literature and research points toward a varied answer that some patients prefer telehealth, and some doctors are against it. This can depend on demographics, how long the commute is to a local hospital, as well as other factors. In Rosen et al.'s (2021) case study research, we find that telemental health via video can be effective in certain areas and not in others. For example, studies have found that telemental health has helped those with depression, anxiety, and panic disorders, but not those with post-traumatic stress disorder. Part of the success of video meetings for treatment has been due to both doctors and patients coming to terms and at peace with this form of medical care. Patients were observed to think positively of telehealth due to it saving them time and money. Doctors, however, were hesitant due to bad connectivity, having to prepare paperwork before the meetings, and the low quality of sound and visual. Although, most of those concerns seemed to go away once doctors saw how many patients found telemedicine convenient and useful. "In summary, video- and telephone-based telemental health services are often as effective as in-person modalities for the treatment of several psychological conditions" (Rosen et al., 2021, p. 3). From this, we can conclude that doctors are weary of telehealth due to technical issues, but that patients liked the convenience of the services, and that

due to patients' optimisms and receptiveness of telehealth, doctors have become more comfortable with this new mode of communication for appointments.

In the article by Shah et al. (2018), a study was done to see if virtual visits would cause overall visit counts to go down. However, patients who were part of the study tended to be younger, English-speaking, and intellectually literate, insured, and resided further from the hospital. Virtual care visits cost less than in-person treatments and it gives easier access to those living in the countryside or those who may not have time to drive to a local hospital. Timing is an important factor, so treatment that is indirect may still be effective and vital in some circumstances. Research from the study shows that in-person visits went down, but overall access to virtual and in-person visits went up. For every 3.5 virtual visits, one in-person visit was eliminated. In the first quarter, virtual visits went up, but later in-person visits increased, and virtual visits declined. From this information, we can conclude that patients liked easier accessibility and timing. In the end, people still preferred in-person visits, which could be due to easier understanding through facial expressions and tell-tale signs of body language.

Virtual Community Setbacks

In some areas of the healthcare field, there are virtual communities that exist, which is similar to group therapy, where individuals can lean on one another for support as they go through similar health issues. In another article, it is found that "Weak ties are social ties or acquaintances that can function as an important source for diversified experiential information and emotional support, reducing stigma and providing a sense of belonging" (Zigron & Bronstein, 2018, p. 130). Zigron & Bronstein (2018) says virtual health communities may constitute a significant source for retrieving medical information and support, especially for chronically ill users. These virtual communities are easy to participate in since patients can

remain anonymous, while still seeking assistance without the worry of being judged or discriminated against. They also can control how much or little they want to share. The downside of this is that weak ties can cause those participating to divulge inferior information. Along with that, it can also be hard to maintain these casual and loose relationships since everything is virtual.

Virtual communities provide support through suffering and a network of opportunities to socialize since there is a community of relatedness. While there is commonality, there are quite a bit of differences, such as the way these patients carry on in different areas of their lives. Clients, through this portal, are able to extract needed information, temporary solutions to their discomfort, and patients like having more support virtually without having to reveal oneself too much. However, loose or casual relationships can reveal negative information or details since it can be hard to detach from and form meaningful relationships.

Downsides and Upsides

In the writing by Snoswell et al. (2020), there was discussion about the cost of healthcare and if it is lowered by telehealth. There was a study done where data from the focus group was compared to previous literature. Ultimately, it was discovered that although telehealth had many benefits, the cost was higher than what was expected, compared to conventional care. Therefore, telehealth is lacking in this area. “One study reported that teleconsultations may take more time than in-person appointments in cases such as assessing injuries by video as opposed to on-site” (Snoswell et al., 2020, p. 12). Furthermore, the article states that some studies show an increase in cost-saving outcomes for telehealth, while other studies show an increase in fees, even though these increases have been accompanied by general improvement in overall medical care. The

article also implies that productivity of doctors and hospital services were elevated due to telehealth. As it can be seen, there are many advantages and disadvantages to telehealth, and it is an ongoing phenomenon.

Gajarawala and Pelkowski (2020) suggests that there are many pros and cons regarding telehealth. First, it can improve efficiency by shortening wait times, eliminating commute times, and decreasing the misuse of tools and drugs. It can also prevent unnecessary hospital visits or unnecessary extended stay and care. Patients do not have to pay for gas for the car ride. They do not have to spend time in the waiting room. They can be dressed as casual as they want and not have to worry about wearing suitable clothes for the weather or visit. The cons to telehealth are the lack of personal contact and present examination. Patients might not feel as cared for, or personally looked after with the virtual visits. They are not as in the moment with their caregiver or care team. The treatment received is more impersonal and there can be security sensitivity, liability issues, disclosure forms that need to be filled out, etc. Being seen online can present itself as potentially dangerous with security breaches and less safety procedures. Protocols and technicalities have yet to be fully founded because the term “standard of care” is yet to be defined in this situation.

Bagayoko et al. (2014) did an experiment to see the effects of telehealth on obstetrics and cardiology in Mali. They used the Likert-scale as a questionnaire and discovered that costs were lessened, and diagnosis processes and attendance were improved. Another component to telehealth is its configurations, or how easy it is to use. There is a generational gap between the older generation and the younger. In the article by Chun and Patterson (2012), we find that younger patients are able to maneuver more around telehealth websites, setting up or cancelling

appointments, viewing their test results, etc. While the older adults have a harder time getting used to the different configurations, location of buttons, background, and settings.

These results were evaluated after both groups were given eight tasks to do online, where the younger generation outperformed the older. So, this gap in usability may prove to be a slight challenge for the future of telehealth. However, the research did show that at times, younger users made some mistakes, possibly due to their speed of completing the tasks individually, while the older users were more careful and took their time to ensure they were taking the correct steps before making a decision. Either way, both young and older groups did say that the interface needed to be improved upon hierarchically to make the process clearer.

It's Partially Psychological

Bauer (2018) explains the numerous benefits that are associated with having telehealth services. There is more empowerment for patients since they are more involved in their own care and the ongoing communication makes the process run smoothly. Patients are streamlining their own path to recovery with the help of their physicians and care teams. The patients are more proactive about their bodies, what is going on, and explaining it to their doctors and nurses. Bauer (2018) states, “Seventy-six percent of patients are interested in using digital communications with their providers” (p. 253). Additionally, “Fifty percent of patient appointment no-shows are the result of ineffective engagement” (Bauer, 2018, p. 253). This shows that telehealth’s quality is dependent on the patient and the doctor’s willingness to engage.

Allen and Hayes (1994) researched interactive televideo communications technology (IATV) and rural residents were given a chance to receive treatment with the help of this technology. The patients were tested to see the effects of this change, as well as exploring their demographics and the statistical data of the patients were also gathered. The outcome concluded

that circumstances affected a patients' satisfaction. Women were more likely to feel self-conscious during their video visits and missing out on the sense of touch which could have helped reassure their concerns. However, oncology patients reported that they would rather see their doctor on TV than wait days to meet with them in person. Even the physician's demeanor and how they perform on the telehealth platform helped determine a patient's response and attitude towards virtual treatment. But more research is needed to see long-term reactions and satisfaction on a bigger population of patients.

We Just Need Trust and Funding

Kimball and Morgan (2021) contend that it may be hard to have trust in your physician or care team when you do not see them face-to-face and do not exchange eye contact. It may also be harder for the physician to reciprocate the actions or try to earn their patient's trust since it is hard to form connections without seeing each other's body language or hearing the exact tone of one's voice, and not just through one's computer screen. Kimball and Morgan (2021) state "Even if you've done your best to present yourself well over a video call, the technology itself works to undermine a physician's credibility" (p. 2). There may be technical difficulties such as a delay in sound, or loss of connection. To add on, there might be misunderstandings that can occur when using virtual visits since we are not able to use our five senses to express a first impression and to perceive it from the other person. The gage at how far a person is from us when talking to them can cause minor distress due to proprioception, which is the perception of space where a person is in comparison to us. So, although telehealth is useful to some, for most of us, it will always be a bit different and harder to adjust to.

Through Gilman and Stenslan's (2013) study, we see that telehealth reduces travel time for those living in rural areas, helping them reach specialists that are not in their local region, or

are far away. One interesting fact is that Medicare covers live video visits for its patients. So, Medicare is taking on a new and innovative perspective to the latest way of providing medical care to patients. Due to the many changes where money is going toward Medicare coverage now, physicians are also reducing their qualifications for new patients. According to Gilman and Stensland (2013), it has been declared that video visits work well for those who do not require a physical exam, but can be assessed verbally like mental health or neurology.

Lastly, in Grube et al.'s (2016) research, we find that the idea of telehealth can lower medical costs, while maintaining high-quality communication that can solve or monitor a problem that has been reported. Although the amount to start a prospect has a high cost in the beginning, the positives outweigh the negative. With this in mind, we see how telehealth can be suitable for certain types of health-related services. There could be a hybrid schedule of being seen in-person, as well as being assessed virtually when needed. To illustrate this, "In a recent survey of primary care physicians, more than 70 percent of respondents identified virtual visits as appropriate for medication management and prescription renewal, minor urgent care, birth control counseling, chronic condition management, behavioral health, and follow up after hospital discharge" (Grube et al., 2016, p. 48). This means that telehealth is a new mode of communication that is flexible and can be used sparingly or in its entirety.

Methodology

The Reasoning

Telehealth has become a rising method of care that has been adapted to many providers' offices and patients' quality of care. This was especially prominent during the rise of the COVID-19 pandemic that caused many to shelter-into-place and look for alternative care with their doctors, such as virtual visits. With this service, patients had the opportunity of accessible

medical care with their healthcare providers within the safety and comfort of their homes, so the question of whether or not doctors and/or patients prefer telehealth and telemedicine more than the traditional treatment or vice versa was explored to assess the best method. This was researched because of the growing use of technology and changing environmental factors that provided doctors and patients with different services to give and receive medical care.

The Method

The population that was examined for this proposal were Kaiser Permanente patients and doctors. This proposal has both a quantitative and qualitative approach as it focuses on both collected data, as well as the opinions from patients and doctors. To do so, we asked for participation from doctors and patients at Kaiser to engage in our five-question survey that has been geared to their particular groups (patient vs. doctor) to provide feedback as to which method of care is preferred. This specific methodology was chosen because it was quick for both groups to take part in and can effectively provide the necessary statistical data for our research as it will evaluate patients' and doctors' opinions about telehealth vs. traditional in-person care. With the surveys, we were also exploring the reasons for the visits in both patient and provider groups, to determine if the decision was based on generational knowledge, simple convenience, or both. To obtain accurate results, we aimed for a total of 300 participants from both doctors and patients to complete our survey in full. This results in obtaining 150 completed surveys from doctors and 150 from patients. This number of specific participants was chosen to ensure that sufficient data was being obtained and supported, to ensure that the number of errors and completeness was examined, in the case that many may not answer truthfully or entirely. From this methodology, we are able to understand why patients and doctors preferred in-person or

virtual care visits through statistics, as well as personal feelings that were formulated from their survey answers.

Data Collection

The study will be based on doctors or patients preferring telehealth more than the traditional treatment. It will testify if patients prefer the usage of practicing medicine through the use of technology at a distance or in-clinic services. Telehealth offers remote monitoring, and talking to their doctor over the phone or by video chat. There will be a survey provided for patients in a hospital environment at Kaiser. Patients and doctors would need to be involved in order to complete the data collection. The doctors/providers will also receive a survey to complete. The survey will include questions regarding telehealth technology, preferences, expectations, and overall care. It will be collected from patients and doctors after the survey is complete. It will remark whether doctors and patients are satisfied with telehealth or not. The resources that will be needed are Kaiser Permanente cards, surveys, and one will not need to travel to participate in the survey.

The survey can be done either online or in-person. This will allow accessibility to those who cannot come in-person or live-in rural areas. Virtual healthcare tools can shorten the wait time for an appointment. Once the survey is completed, it will be collected in-person and a drop box located near the exit door will be provided. For those who complete the survey online, it will be collected through the hospital's website, beneath the "after appointment survey section". In addition, those who participate in the survey will earn a raffle ticket to win a round-trip plane ticket to anywhere in the world of their choosing. This will take place at Kaiser Permanente, and a survey will be given right after their appointment. All genders, ethnicity, and ages are allowed to participate in the survey as well. The limitation to the study is that it will only take place in

clinics or hospital environments with a large capacity of more than 300 participants. An example of the given survey will include the following questions:

1. I look forward to my visits by telehealth technology.
   - Always
   - Often
   - Sometimes
   - Never

2. The use of telehealth technology is a convenient way to receive care.
   - Always
   - Often
   - Sometimes
   - Never

3. I'm satisfied with the care I received through the use of telehealth technology.
   - Always
   - Often
   - Sometimes
   - Never

4. I prefer the use of telehealth over face-to-face visits.
   - Always
   - Often
   - Sometimes
   - Never

5. I prefer trips to the clinic.
   - Always
   - Often
   - Sometimes
   - Never

1. Did the ability to use telehealth with your patient meet your expectations?

- Very Dissatisfied
- Dissatisfied
- Very satisfied
- Satisfied

2. Were you able to examine the patient adequately to meet your needs of the visit?

- Very Dissatisfied
- Dissatisfied
- Very satisfied
- Satisfied

3. Were you able to speak freely during the telehealth visit?

- Very Dissatisfied
- Dissatisfied
- Very satisfied
- Satisfied

4. Please rate the quality of the visual image?

- Very Dissatisfied
- Dissatisfied
- Very satisfied
- Satisfied

5. Overall quality of care provided?

- Very Dissatisfied
- Dissatisfied
- Very satisfied
- Satisfied

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