

The Utilization of Technology and Telehealth to treat Mental Illnesses

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On my honor as a University Student, I have neither given nor received unauthorized aid
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Introduction

Mental Health Illness Rates

As our society continues to advance over time, the prevalence of mental health illnesses in our population has become more apparent. In 2001, the World Health Organization (WHO) estimated that around 25 percent of the world's population is affected by a mental health illness at some point in his or her life.¹ To put that into perspective, nearly 2 billion people will be affected by a mental health illness throughout one's life. In the United States alone, this number is just as astonishing with an estimated 57 million people affected by mental and behavioral health conditions.² Although numbers such as these highlight how common mental health illnesses are, it is a topic that has historically been disregarded. Millions of people around the world live with some form of mental illness, and addressing the elephant in the room has the potential to benefit billions of lives. By spreading awareness about the prevalence of mental health illnesses, our society can eliminate the stigma and utilize modern day technologies to treat people in ways that would have never seemed possible years ago.

Background

Stigma of Mental Health

Although mental health illnesses within the US and around the world are experienced at an alarmingly high rate, the stigma surrounding mental health remains. A study published in World Psychiatry, a journal of the World Psychiatric Association, looked to examine the stigma associated with those who have mental health illnesses. The paper emphasizes two major types of stigmas: public stigma and self-stigma.³ Public

stigma accounts for the stigma a general population or society has towards mental illnesses, whereas self-stigma accounts for people with mental illnesses who will “believe they are less valued because of their psychiatric disorder”.³ Both forms of stigma can have immense impacts on those living with mental health illnesses, and each can adversely affect peoples’ everyday lives.

Many additional studies have been conducted to demonstrate the stigma surrounding mental health illnesses. A paper published in the Journal of Youth and Adolescence referenced a study by the US Public Health Service in 2000 stating, “more than 70% of teens who require mental health care do not receive services”.⁴ This statistic is extremely high and points to the problem that individuals are reluctant to receive help. Societal and personal stigmas are likely to play a role in why those numbers are so high, and eliminating those stigmas could help millions of people who are in need of help, but do not end up receiving treatment.

There has been an increase in efforts in pop culture and entertainment to raise awareness about mental health illnesses. For example, one powerful song by the rapper Logic titled *I-800-273-8255* featuring other famous artists Alessia Cara and Khalid looks to bring attention to suicide rates in the US and around the world. The title of the song itself is the suicide hotline number in the United States, and it hopes to decrease the stigma and encourage people to call if necessary. A live performance of the song was done at the 2017 Video Music Awards, and the performance involved attempted suicide survivors that rang a powerful message around the world.⁵ Additionally, Kanye West, has frequently talked about his struggle with mental illnesses in interviews and through music, such as creating an album cover for his 2018 album *Ye* reading “I hate being Bi-

Polar its awesome”. Acts such as these shed light on the various types of mental illnesses experienced by people, and all try to spread the message that people struggling with mental illnesses are not alone.

Technology Changing Everyday Life

In practically every aspect of our lives, the advancement of technology has altered how we live. When it comes to treating mental health, and healthcare in general, the potential advancements made with greater technology integration are tremendous. In understanding how technology influences the healthcare market, it is important to recognize how drastically technology has changed the way we communicate with each other. Think of one of the world’s most popular smartphones on the market today, the iPhone. The iPhone drastically changed the mobile communication market and offered consumers the ability to browse the Internet from a mobile device. Although it is now difficult to imagine what the world was like without smartphones such as the iPhone, it was only thirteen years ago, in 2007, that the iPhone was released.⁶ Since then, the way we communicate has continued to rapidly evolve. For example, how we network with others and share information has radically changed in recent years. Social media continues to captivate users from all age demographics, and it has completely altered how people share information with each other. Facebook, now the world’s third most visited website behind Google and YouTube, now reports 2.41 billion active users, and it serves as just one of many platforms where users share information.⁷

With the ever-changing landscape of how we interact with technology, it is clear that technological developments will continue to alter the way we live on a daily basis.

Just like every other industry, healthcare is adapting to how people use technology. As defined by the Center for Connected Health Policy, telehealth is, “a collection of means or methods for enhancing health care, public health and health education delivery and support using telecommunications technology”.⁸ The use of telehealth is currently altering how people receive care, and its adoption provides a massive opportunity to treat mental health illnesses.

Body

Use of Telemedicine to Treat Mental Health Illnesses

With such high rates of mental illnesses around the world, the question still remains: how should we treat this growing population of patients? Utilizing technology is one method, particularly through the rising emergence of telehealth and telepsychiatry. As defined by the American Psychiatric Association’s website, telepsychiatry is, “a subset of telemedicine...can involve providing a range of services including psychiatric evaluations, therapy (individual therapy, group therapy, family therapy), patient education and medication management”.⁹ This branch of telehealth has become increasingly popular in the age of advanced technology, and it has become a critical part of peoples’ mental healthcare routine. Physicians are able to see patients virtually and complete everything they would through an in-person screening with videos, web conferencing, and other methods. Although this is quite different than the traditional doctor-patient setting, the potential benefits are incredible.

Benefits of Telemedicine

Now more than ever, the need and desire for telehealth mental health treatment is vital. Within the United States, almost every state has required “social distancing” as a method to halt the spread of COVID-19, and people are at home more than ever. While it can be beneficial to hinder the spread of COVID-19, the increase in social isolation and overall distress throughout the nation has highlighted the need for telehealth mental healthcare.¹⁰ It is in times such as these that people understand the importance of mental health, and the opportunity to help millions of people through integrating mental health care and technology has never been so apparent.

One major benefit in using telehealth to treat mental health illnesses is the ability for patients to receive care if he or she may not be able to in person. This could be beneficial for millions of people, and it could provide resources for those who may find it difficult to receive in-person care, such as those living in rural areas lacking mental health clinics. Having the ability to call a physician without having to travel hours for care is critical for some people, and could be the difference between receiving care and not receiving care. Thus, an increased implementation of telehealth could expand the scope of those receiving mental health care and help people who previously never had the opportunity to seek care.

Another glaring benefit of virtual mental healthcare is that it has the potential to save both patients and providers a lot of money. A report issued by J.D. Power estimated that for every 1% decrease in Emergency Room visits, up to \$176 million could be

saved.^{11,17} Doctors have the opportunity to save large sums of money due to lower operating costs with telemedicine, and patients could save money by receiving consultation without having to travel to a doctor's office, or take significant time off work to visit a physician. In addition, for both patients and doctors convenience of telehealth serves as a major benefit. If a patient has an urgent concern and wants to consult a doctor before making the decision to head to an emergency room, a patient could quickly video call a doctor and ask for advice. In such a scenario, the patient could get a real-time recommendation on whether or not to receive further treatment, and the doctor benefits from helping the patient before it could be too late. This aspect not only has the potential to help patients receiving mental health care, but it also could tremendously help those with physical illnesses.

Aside from general telehealth, virtual mental health treatment is fascinating in the sense that it could benefit more from telehealth compared to treating a physical ailment. Rather than physically examining say a broken arm virtually, mental health treatment could benefit more since many of the treatment options translate easier virtually. Examples such as therapy sessions for patients with anxiety and depression could easily be transitioned to a video call session with a physician, and patients could feel more at ease receiving treatment from the comforts of their home. Also, as mentioned previously, the stigma behind receiving mental health care often serves as a primary reason of why patients do not seek out treatment. If a patient is comfortable speaking with a physician over a video call, he or she could receive care in his or her bedroom rather than going to a clinic, thus having the potential to increase treatment retention rates. The mentioned

benefits highlight a few aspects of telehealth and mental health treatment, and these methods could become more popular in the coming years.

Drawbacks of Telemedicine

While there are many benefits that could arise from the adoption of telehealth in treating mental health illnesses, it does not come without its challenges. In many developed countries such as the United States, the technological capability of adopting telehealth is not of question. Many technologies to communicate with patients exist and could be used with relative ease, so the question still remains: why has telehealth not been broadly adopted yet? A survey conducted by Avizia, a telehealth provider in Reston, VA, showed that 82% of all patients stated they did not use a service by telemedicine.¹³ While the exact answer to this question may be subjective, the main reasons are as follows: information security, and doctor-patient interactions.

Regarding patient information security, a major reason telehealth is not used more widespread now is because of concerns over privacy of sensitive information. Especially with sensitive medical information, patients may be more hesitant to transition to a complete online platform if security is not prioritized. Particularly for mental health illnesses, patients using telehealth would be talking about extremely personal and sensitive information over video conferencing third parties. While video conferencing platforms are a great way to communicate with others from anywhere around the world, they can be subject to cyber threats and result in information breaches. One example seen recently pertains to Zoom, a video conferencing company founded in 2011. Due to social distancing mandates for COVID-19, the platform has gained immense popularity for

connecting classrooms, meetings, or just every-day calls. However, in early April, thousands of Zoom recordings were posted to a public Amazon Web Services bucket that theoretically anyone with an internet connection could view.¹⁴ Clearly, if a patient was discussing an extremely sensitive topic with a physician, he or she would not want a recording of the session to be available for the whole world to see. Even if the probability of a patient's session being leaked to the world is low, it is often a chance people are not willing to take and make them hesitant to transition to telehealth.

Additionally, a qualm of many to use telehealth rather than an in-person visit to a physician is the lack of relationship between the patient and physician. The relationship between a patient and physician could be damaged in multiple ways with the rise in telehealth. First, the lack of being in the physical presence of a physician could damage the relationship as people feel more connected with a physician when they feel like the physician knows them and can be counted on.¹⁵ Not only is this relationship important on a personal level, but also as described in the Indian Journal of Psychiatry, “a bond between doctor and patient that is based on trust has been an integral part of patient care and has been described to promote recovery, reduce relapse, and enhance treatment adherence”.¹⁶ So, not only is the relationship between the patient and doctor important for personal reasons, but it can actually benefit the patient's outcome. In this sense, telehealth and the use virtual treatment for mental health illnesses could prove to be harmful to patients, and thus it should definitely be considered in the adaptation of telehealth. Like many new technologies, telehealth will most likely be subject to a transition period where patients and physicians adapt to this new form of relationship.

Future of Telemedicine

However, whether it is a concern for data privacy or a lack of a patient-doctor relationship in a virtual setting, a common theme among patients is that they want a relationship built on trust. While this seems like a straightforward request, it could be more difficult to develop a trusting relationship between a patient and doctor through telehealth compared to in-person visits. As humans, our relationships are built through connections and experiences with others, and these experiences may be more difficult to have through online interactions. In a survey conducted by J.D. Power, a patient stated that, “It’s hard enough to get a doctor to listen to you when you’re sitting in front of them. I’m sure they would be even more distracted online”.^{11,17} This highlights the stark difference between meeting with a physician in person versus online, and points to the challenges that will arise when adopting this new methodology of healthcare. If patients do not feel they can trust their physician meeting virtually, the adoption period for telehealth could be much longer than expected.

Overall, it is clear that telemedicine has a potential to change how people with mental health illnesses receive medical care. While it may take some time to adapt to the differences of telemedicine, the invested time and money could help millions of people. For the time being, patients could decide whether or not telehealth fits their personal mental health needs while understanding the potential risks, and proceed as they desire. As technology continues to advance and people become more comfortable with the idea of telehealth, we could see the surge in telemedicine in the coming years.

Additionally, while technology continues to advance, new technologies may become available that change the landscape of telehealth. Further integration of

technologies such as Virtual Reality could have a major impact on how patients receive mental health care, and new platforms to communicate with physicians could change the overall perception of telehealth.

Utilization of STS Frameworks

In evaluating the system of technology and those with mental health illnesses, it is useful to utilize STS frameworks. One valuable framework in particular is Actor Network Theory. When examining mental health illnesses in our modern day society, there are so many components to evaluate in the network. Of course, the interaction between those who struggle with mental health illnesses and society cannot be ignored. As mentioned above, society plays a major role in determining whether or not people seek out treatment, and many do not search for treatment options because of the stigma placed on patients with mental health illnesses.

In addition, Actor Network Theory can be utilized to evaluate the relationships between patients and physicians. While technology used for telehealth continues to develop, understanding how patients and physicians communicate will become increasingly important. Also, it is crucial that patients trust the technologies which they will receive mental health care. New technologies and platforms may change the way patients receive care, and recognizing how patients will interact with emerging technologies could define the future of telehealth.

Furthermore, the collaboration of trading zones and telehealth could be life changing for those who would not originally have access to mental health care. From a technology standpoint, it is easy to think that a transition to telehealth should be seamless

so long as physicians have access to the correct resources. However, as demonstrated by examples in this paper, it will not be simply a matter of setting up the right technology. The human interaction side of meeting with patients remains immensely important, and understanding how to interact with people on the same level in a completely different environment could be a skill doctors did not acquire through traditional training. For this reason, it is imperative that people from different disciplines share their expertise and continue to revolutionize how telehealth can interact in patient's lives.

Conclusion

As discussed throughout this paper, telehealth has the potential to impact millions if not billions of lives in the future. While there are clear benefits for those who wish to receive mental health care, it will not come without its challenges. Although stigmas in society still exist, spreading awareness about mental health illnesses in collaboration with utilizing technology to treat mental health illnesses will serve as a step forward in the right direction. Furthermore, recognizing the challenges in adopting new technologies will be critical to the successful adoption of telemedicine. Integrating STS Frameworks and other methodologies will greatly ease the challenges ahead, and may be the difference between success and failure. Telehealth has the opportunity to reshape the healthcare industry completely, and through calculated technology utilization, society will be one step closer to making sure anyone who seeks mental health care can access it.

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