2021

Telehealth During COVID-19: A Look at Healthcare Providers' Experiences

Sabrina Webb
swebb@rollins.edu

Abstract

Healthcare providers were placed under considerable strain during the COVID-19 pandemic. To exacerbate matters more, a sudden shift to telehealth became necessary to provide safe provider-patient visits. The increased strain created by the sudden need to implement a telehealth protocol is believed to have decreased workplace satisfaction. This study aims to investigate how the rapid shift to telehealth during the COVID-19 pandemic affected healthcare providers' workplace satisfaction, how virtual visits created challenges and opportunities for provider-patient communication, and how the use of telemedicine during the COVID-19 pandemic affected healthcare providers' capacity to engage in patient-centered communication. For this study, 15 primary healthcare providers were interviewed. Learning a new system and protocols in order to conduct virtual visits, as well as new obstacles that providers never encountered before, created a challenge for providers all over. A year after the World Health Organization declared COVID-19 a global pandemic, telehealth has demonstrated the benefits of permanently incorporating it as a tool for providers to utilize in the future of medicine.

Introduction

The rapid implementation of telemedicine during the coronavirus disease 2019 (COVID-19) pandemic placed the burden on providers to create a new way to practice medicine, but also solidified the need for telemedicine to be a permanent fixture of healthcare. Both telehealth and telemedicine were used prior to COVID, but they became the main form of doctor appointments at the beginning of the pandemic. This is because "the closure of clinics and hospitals during the early days of the lockdown, and the subsequent guidelines to avoid venturing out as much as possible, forced a massive shift to video consults" (Landro, 2021, para. 2). News Channel 20 also reported that Travis Dowell, the President and CEO of Memorial Physician Services told how he

is seeing more telehealth services available to their customers because of COVID. He also reported that their customers were utilizing those services and about 25% of the company's outpatient care was taking place online. Dowell went on to say that he believes telehealth will remain part of healthcare, particularly for appointments such as therapy, which can take place virtually (Dorner, 2021).

With these virtual appointment platforms available, patients were able to see doctors almost immediately. This was the case for Jack Crowe who started feeling ill and feared it might be COVID (Quraishi, 2021). He made "his first-ever" telehealth appointment and "about five minutes later, [he] was connected to a nurse practitioner" (Quraishi, 2021, para. 5). Nicole Marks, the nurse practitioner that met with Crowe, noticed red flags that meant Crowe needed "to be seen immediately and [couldn't] wait to be seen" and told him to call 911 immediately. "He was diagnosed with an aortic dissection... [where] forty percent of patients die almost instantly, and the risk of death increases by 3 to 4 percent every hour the condition is left untreated" (Quraishi, 2021, para. 10). This telemedicine appointment saved Crowe's life.

Crowe most likely would not have seen a health provider in time if it had not been for telemedicine. This was true for many patients, which was observed by mHealth saying "that the telehealth platform offered an ideal opportunity to access care for those who didn't want to risk an in-person visit or were too busy to schedule a visit. In that case, they might have skipped a doctor's visit altogether if not for the virtual visit" (Wicklund, 2021, para. 11). Telemedicine visits have also seen a "reduction in tests and prescriptions, when compared to patients who visited a doctor in person." (Wicklund, 2021, para. 4). However, this information could cast doubt on whether virtual care is advantageous or whether in-person care is too dependent on further, and expensive, services (Wicklund, 2021).

Therapy appointments have also been done on telemedicine platforms. These appointments have allowed telemedicine to not only be used as a diagnostic service but also as a long-distance healthcare and education tool that provides social support to the patient in need. Some therapists like doing telemedicine and telehealth visits because "virtual services have increased access for patients who would otherwise not be able to travel for treatment… [and] virtual care can also be more affordable than residential treatment programs" (Sole-Smith, 2021, para. 16). However, Lauren Muhlheim, a psychologist in private practice in Los Angeles, "said that she is also concerned about the loss of casual interactions that normally take place between participants in group treatment." This is because "you can only have one conversation at a time on Zoom… [and] you can't just pull someone over to chat, so you lose a lot of that connection" (Sole-Smith, 2021, para. 15). This statement is confirmed by "a recent survey of 63 eating disorder patients, 68 percent said they would not choose to continue with online therapy once in-person services resumed" (Sole-Smith, 2021, para. 15). Given the recent explosion of telemedicine and telehealth during the COVID-19 pandemic, it is important to study the impact that this transition has had on healthcare providers' work and their relationship with their patients. In the following section, I review a brief history of telemedicine, the providers' urgent transition to telehealth, and the impact of expanded telehealth services on healthcare providers and patients.

Literature Review

Telemedicine can be defined as medical information that is exchanged between different locations. Telemedicine can technically be divided into three modalities: remote monitoring, remote supervision of training or treatment, and remote consultation (Klassen et al., 2016). Remote monitoring would include medical devices that can be worn on or installed inside the

patient, such as a cardiac monitoring device. Remote supervision could include using an electronic application or a website-based to help the patient improve their health, such as Datos Health, an app, and a cloud-based system that helps provide remote care for patients in an out of hospital environment. It allows the patient to use a treatment protocol, access the patient, and detect irregular health symptoms (Siwicki, 2020). Remote consultation would include patient-provider meetings via virtual, verbal, or electronic mediums, such as a video conference, phone conversation, or store-and-forward consultation where patient information is captured, saved, and then forwarded to the physician for review (U. S. Office, 2019b).

"Telehealth is different from telemedicine because it refers to a broader scope of remote healthcare services than telemedicine. While telemedicine refers specifically to remote clinical services, telehealth can refer to remote non-clinical services, such as provider training, administrative meetings, and continuing medical education, in addition to clinical services" (U. S. Office, 2019a, para. 2). While this paper will use these terms interchangeably, the focus of this research is specifically on the clinical aspect of patient care between patient and provider, unless otherwise indicated. The WHO (World Health Organization) defined telehealth as "delivery of healthcare services, where patients and providers are separated by distance" (World Health Organization [WHO], 2016, para. 1). Telehealth uses information and communications technology (ICT) for transferring information regarding diagnosis and treatment of healthcare needs, and for the education of medical professionals. WHO has envisioned telehealth as a tool to help accomplish universal healthcare by reaching patients in rural and remote locations and to also help reduce the cost of healthcare (WHO, 2016).

A History of Telemedicine and Telehealth

Telemedicine began as early as the 1920s with Australia's "Royal Flying Doctor" using radios for remote care. The reverend John Flynn began a program in Australia in 1928 to help people in rural and remote Australia to address medical needs. Flynn and his colleagues would send a flight team to remote Australian areas and use transmitter radios to communicate between the team on the ground and the team at a hospital to assess a patient's health prior to deciding a treatment plan ("Flying Doctors," 1927). In the 1960s, NASA was using one-way telemetry downlinks to monitor the heart rate, ECG, and respirations of astronauts during space flight (Cermack, 2006). Telehealth continued to expand to allow providers to deliver health care remotely to rural areas (Wijesooriya et al., 2020). In the 1970s, telemedicine was officially introduced as a new term to describe "healing at a distance," (Strehle & Shabde, 2006, p. 956). In 2010, The World Health Organization officially introduced the broader term of "telehealth" to recognize the ways in which ICTs might also facilitate non-clinical aspects of the healthcare field. With more recent technological advances including broadband Internet and high-resolution imaging, telemedicine has become a more common means of healthcare delivery.

Telemedicine has been used as a means to transfer medical information such as teleradiology to transmit radiological images from one place to another for the purpose of interpretation or consultation, or telepathology to transmit digital pathological images from one place to another for the purpose of interpretation or consultation, or cardiac monitoring for the purpose of monitoring heart activity in patients in nonhospital environments. Using technology as a means to share and transfer medical information has helped expedite the care and treatment of patients (WHO, 2010).

Telemedicine and Telehealth in the Time of COVID

On March 11, 2020, the World Health Organization declared COVID-19 a global pandemic. On March 13, 2020, President Trump declared COVID-19 a national emergency in the United States. On March 19, 2020, California became the first state to issue a stay-at-home order and required a stop to all non-essential medical visits. Most of the United States followed suit within the next two weeks (AJMC Staff, 2021). Healthcare providers had to quickly find a way to care for their patients while enforcing social distancing and without exposing them to the virus, to treat potential COVID-19 positive patients while isolating them from others, to adhere to the mandated shelter-in-place orders, to conserve personal protective equipment (PPE), and also to protect themselves from COVID-19 exposure. In order to accomplish those tasks, telemedicine became the best option for many patient-provider consultations. Providers that had no telemedicine protocol had to expedite finding a platform that would work with their patient population, be easy to learn, work with their electronic and non-electronic medical systems, and also be user friendly for their patients.

For much of the population, that rapid shift to telemedicine represented a departure from a typically in-person doctor-patient interaction (Zhang et al., 2021). Prior to the COVID-19 pandemic onset, only 14 percent of over 2000 surveyed adult Americans had participated in any form of telemedicine consultation. About 38 percent of over 100,00 surveyed healthcare providers reported telehealth skills, but not necessarily telemedicine skills (Doximity, 2020). In the United States, major hindrances for providers using telemedicine prior to 2020 were legal and regulatory issues and reimbursement concerns. Regulatory concerns involved cross-state licensure and liability issues involving HIPPA compliance. Providers had to be licensed in the specific state in which the patient was located in order to provide any medical care for that patient, including prescribing medication. If a patient traveled outside the provider's licensed

state, the patient would have to seek care from a different provider, licensed in their current location. HIPPA, the Health Insurance Portability and Accountability Act of 1996, is a federal law that protects patient health information from exposure without the patient's consent. Many telehealth visits could not guarantee HIPPA regulated privacy. Additionally, reimbursement for telehealth visits was not paid for by Medicare unless the patient went to a specific telehealth site, for a specific qualified reason, and lived in a designated underserved or rural location. However, non-Medicare companies or private insurance companies would sometimes cover telehealth visits, but each state and each company had varying rules and regulations, making it difficult to decipher whether a telehealth visit would be considered reimbursable (Fanburg & Walzman, 2018).

Challenges posed by the COVID-19 pandemic, however, placed pressure on the government to make telemedicine and telehealth more widely accessibility—particularly to assist patients who were under strict shelter-in-place orders far from their doctors or who had chronic conditions that put them at risk for severe complications from the virus. On March 6, 2020, the U.S. Department of Health and Human Services (HHS) issued The Coronavirus Preparedness and Response Supplemental Appropriations Act. The 1135 waiver authority removed many Medicare telehealth restrictions, allowing healthcare providers to interact with established patients and new patients via telehealth means. It also allowed for face-to-face video visits, telephone visits, virtual check-ins, online evaluation and management (E/M) services, and telephone E/M services. On March 17, 2020, the United States Centers for Medicare and Medicaid Services (CMS) stepped in and removed HIPPA rules that had complicated the progression of telehealth in the past in order to ensure all Americans had accessible healthcare that limited exposure to the COVID-19 virus (Centers for Medicare & Medicaid Services, 2020).

The Notification of Enforcement Discretion for Telehealth Remote Communications During the Covid-19 Nationwide Public Health Emergency bulletin allowed providers to communicate with patients and to provide healthcare services through remote communications means. HIPPA flexibility during COVID-19 allowed coverage for providers acting in good faith to utilize telehealth technologies including devices and apps such as Smart phones, laptop computers, Zoom, Skype, FaceTime, Facebook Messenger, or Google Hangouts (U. S. Department of Health & Human Services, 2020). Most private insurance companies followed suit by removing reimbursement restrictions on the use of telehealth services.

According to the FAIR Health National Private Insurance claims database, there was a 2,938 percent growth in telemedicine claims from November 2019 to November 2020 (Gelburd, 2021). Even though government officials were encouraging telehealth appointments when appropriate, insurance reimbursement still had varying policies that were inconsistent between states and insurers. During the onset of the pandemic, forty-seven states changed regulations involving telemedicine. Each state incorporated unique regulations specific to the state but companies within each state also adopted unique reimbursement guidelines. Some companies only expanded their telehealth reimbursement coverage until the end of the public health emergency, as Medicare did, while others, such as Blue Cross Blue Shield of Tennessee, permanently agreed to cover in-network virtual visits. Companies such as Aetna and Cigna waived co-payments, deductibles, and coinsurance for all telehealth appointments during state mandated shutdowns and some set the expiration date for September 30, 2020. Several states, such as New Hampshire, mandated complete telehealth coverage for COVID-19 related care while other states, such as Montana, mandated coverage at the same cost as in person visits. Reimbursement was constantly changing. Idaho later decided to permanently require insurers to

reimburse for telehealth visits the take place outside the state in which the provider is physically located (Olsen, 2020).

The Impact of Expanded Telehealth Services on Healthcare Providers

The COVID-19 crisis rapidly changed how medical care was practiced and placed considerable strain on healthcare providers. Many providers suddenly had to implement a telehealth policy and incorporate telehealth into their practice (Boehm et al., 2020). Many providers chose specific programs because they were available, easy to use, or were recommended by a colleague for collaboration purposes (Ekbuli et al., 2020). The time crunch meant that healthcare providers had no time to set aside to dedicate to educational workshops or learning proper protocols, much less attending a dedicated meeting to systematically explore program options or telehealth protocols. The telehealth learning process also occurred during a time of increased healthcare demand due to the increased volume of sick patients. The demand for patient care and the need to explore and learn a new medical system placed an increased burden on healthcare providers, which created high stress levels, increased anxiety and depression (Elbay et al., 2020). As a result, this shift to virtual patient visits threatened healthcare providers' mental wellbeing and lead to lower workplace satisfaction. A study on workplace satisfaction during COVID-19 based workplace satisfaction on how much the participant found real enjoyment in the workplace and how enthusiastic the participant was about their work (Zhang et al., 2021).

Indeed, while telemedicine and telehealth may be convenient and necessary when patients cannot attend a face-to-face appointment, research suggests that healthcare providers have mixed perceptions of virtual patient interactions. A study conducted in 2016 reported healthcare providers were not satisfied with telehealth via videoconferencing compared to face-

to-face visits. The main reason for decreased satisfaction is most likely due to the inability to perform a physical examination (Zandbelt et al., 2016). A study done from March 2020 – April 2020 in Santiago, Chili, revealed that most providers interviewed had experienced less than 10 telehealth encounters with patients prior to the onset of the pandemic. Of the 263 clinicians interviewed, 244 (92.8%) reported satisfaction with telemedicine. In the same study, 61.8% of the providers felt telemedicine challenged their clinical skills, but found more challenges with telemedicine delivery, diagnostic process, and the relationship with their patients. Most challenges were associated with the delivery method, mostly with the platform used for patient-provider interaction, resources required for the visit, and scheduling. Interestingly, no issues were reported with patient treatment plan (Garcia-Huidobro et al., 2020).

A yearlong retrospective study concluded that healthcare providers are more satisfied with telemedicine when they are directly involved in the implementation of the telemedicine program, when they are supported by a network of telehealth advocates and have adequate resources to help ensure the success of patient encounters. Also, the study reported that how much providers found telehealth useful correlated to the likelihood of their desirability to use telehealth in the future (Nguyen et al., 2020). These findings supported a study done in 2013 that looked at physician satisfaction with telemedicine and the likelihood of telemedicine success based on the physician's acceptance of using telemedicine. At the time, physicians were found abandoning some telemedicine services due to issues such as accessibility, lack of support from management and vendors, and security and privacy issues (Kissi et al., 2019). Twenty-five providers were surveyed between April and July 2020, regarding satisfaction with telemedicine in Otolaryngology. The study revealed that providers were less satisfied with telehealth visits than with face-to-face patient visits. Providers felt using a telehealth platform did not affect their

decision-making but were more concerned about malpractice and misdiagnosis issues due to the inability to physically assess the patient (Riley et al., 2021).

Telehealth and the Digital Divide

Even as providers began to embrace this new approach to practicing medicine during the COVID-19 pandemic, patients themselves were often not equipped to handle telehealth visits. Many did not have electronic devices such as smartphone, tablets, or laptop computers that could work for a visit, found that their Internet reception was not capable of handling video meetings, or struggled to work electronic devices to engage in a telehealth visit (Calton et al., 2020). As such, the expansion of telehealth and telemedicine highlighted health inequities linked to the digital divide. In 2018, the UN secretary-general's High-level Panel on Digital Cooperation warned that as the digitalized world moves forward, marginalized people were at greater risk of getting left behind (Makri, 2019). The digital divide is not only a global issue, but also a problem in the United States, even in the year 2020. In rural North Carolina, Dr. Kim Schwartz, the CEO of Roanoke Chowan Health Center, reported that only fifty percent of her patients had access to broadband, which meant that she could only have telehealth visits with fifty percent of her patients during the pandemic. During the pandemic, government regulations did allow for telephone visits, which was a game changer for many rural patients, allowing them health care without having to leave home. However, because of the increased need for internet and electronic communications, the pandemic emphasized great health disparities that have existed for decades (Rafanelli, 2020).

Telehealth and Doctor-Patient Communication

The proliferation of telehealth also raises concerns about how virtual interactions shape the dynamics of provider-patient communication. For instance, healthcare providers have

expressed concern about encouraging patient compliance and ensuring their ability to enact a care plan (Zandbelt et al., 2016). In addition, in leu of being able to interact with a patient's body, healthcare providers must rely more heavily on patients' verbal descriptions of their symptoms—descriptions that may be inaccurate or incomplete. This requires communicating to develop the kind of trust and rapport inherent to patient-centered approaches to communication (Saha & Beach, 2011). Patient-centered communication involves patients actively participating in their healthcare decision making and treatment plans. Over the past few decades, a patient-centered approach to medical care, in which the provider listens to the patient, and incorporates the patient's story, expectations, feelings, and ideas are incorporated into the overall healthcare plan (Swenson et al., 2004). Studies have shown that patient-centered communication improves patient outcome as well as provider satisfaction (Saha & Beach, 2011). Providers do not desire to return to a traditional model of provider-patient communication, also known as biomedical approach, described as a provider-controlled visit conversation, with close-ended questions, solely determined diagnosis and treatment plan, with expected compliance of patient and the assumption of patient agreement, that granted all healthcare power to the provider (Vandeford et al., 2001). As a result of needing a patient-centered telehealth visit, reliance on virtual interactions may create or exacerbate opportunities for doctor-patient conflict.

Clearly, while the COVID-19 may have been a temporary challenge for healthcare delivery, telehealth has begun to have a permanent place in health care. As such, the purpose of this study is to address three primary research questions:

RQ1: In what ways has the rapid shift to telemedicine and telehealth during the COVID-19 pandemic affected healthcare providers' workplace satisfaction?

RQ2: How does the reliance of virtual visits create challenges or opportunities for doctor-patient communication?

RQ3: In what ways has the use of telemedicine during the COVID-19 pandemic affected healthcare providers' capacity to engage in patient-centered communication?

Methods

Participants

In order to address the above research questions, I interviewed 15 healthcare providers about their experiences of shifting to telemedicine during the COVID-19 pandemic. Participants were selected through convenience and snowball sampling. The first step of recruitment consisted of sending a recruitment email to providers that I knew, inviting them to participate and encourage them to forward a digital recruitment flyer to anyone that they knew, or thought, would be willing to participate in the interview study. In doing so, 15 providers were recruited of varying genders, specialties, and years in the field. Of those recruited providers, 80% were female and 20% were male. In relation to specialties, 6.7% of providers were midwives, 6.7% were physician assistants, 26.7% were doctors, and 60% were nurse practitioners. In relation to experience, 6.3% had worked for less than 1 year, 31.3% had worked for 1-10 years, 37.5% had worked for 11-20 years, and 25% had worked for 21-30 years.

Procedures

Interviews were completed using a semi-structured interview guide. It began with general background questions, such as "how long have you been in practice?" and "what specialty of medical practice do you have?" The opening inquiries then delve into questions that would answer my research topic. Questions such as "how would you describe the quality of your virtual visits compared to face to face?" were used to assess satisfaction with telehealth interactions.

Questions like “how do you establish a quality communication rapport with patients?” and “how, if at all, is this different than your in-person visits?” evaluated doctor-patient rapport. Workplace satisfaction and burnout were also explored with questions such as “how, if at all, has telemedicine made your work environment more frustrating or stressful?” and “give me an example of a challenge that you have experienced in conducting a virtual visit.” All participants were given the option of conducting the interview over a phone call or Zoom. With these options 11 participants chose to have the interview over the phone and 4 chose to have it over Zoom. Interviews lasted 30 minutes on average and produced 116 pages of transcripts.

Data Analysis

This study employed a thematic analysis. Thematic Analysis uses the “detailed observations of people, actions, and settings that reveal visibly *telling* and *consequential* scenes and actions” to code interviews line-by-line (Charmaz, 2006, p. 50). This process involved multiple stages of coding. The initial coding used open coding where the “goal is to remain open to all possible theoretical directions indicated by your readings of the data” (Charmaz, 2006, p. 46). Some examples of the initial open codes were “following protocols” and “focusing on the patient.” Next, focused coding was used in order to “pinpoint and develop the most salient categories in large batches of data” (Charmaz, 2006, p. 46). From this I found two overall themes of challenges and benefits of telehealth and telemedicine. By examining these specific themes, I developed subthemes that would allow for further analysis of the main themes that I had originally found. “Challenges following protocol” and “benefits of convenience” were just two of the six subthemes that I concentrated on in the challenges and benefits themes.

Findings

These interviews with 15 healthcare providers of various specialties and geographical locations in the United States made clear that the COVID-19 pandemic has changed the face of provider-patient visits. Providers reported that they needed to quickly find a way to interact with their patients via technological means. Few practitioners had an existing telemedicine system in place prior to January 2020. These systems created both challenges and benefits for the providers.

Challenges of Telemedicine

Providers faced unexpected challenges during the first phase of the pandemic. Patients were afraid to leave their homes to address healthcare needs, healthcare workers were short of personal protective equipment (PPE), and providers were not fully equipped to begin taking care of patients virtually. Providers were challenged to quickly find a way to address the needs of taking care of their patients while also protecting their staff and themselves from exposure to COVID-19. More specifically, interviews with providers revealed several themes in the types of challenges they experienced, including (a) challenges learning and navigating the system and technology (b) challenges interacting with patients and (c) challenges following protocols.

Challenges Learning and Navigating the System and Tech

Of the 15 practitioners interviewed, only 1 had a functioning system in place within their practice prior to the pandemic. Practitioners that desired to continue seeing patients during the pandemic began to try to build a functioning telehealth option within their practice. Amber Queen, a physician assistant in pulmonary critical care and sleep medicine, discussed how her work “adopted a new electronic medical record system in June of last year, and so we have been using the telemed through them ...[and] that's the platform we have been using and continue to use now.” The system that Queen was talking about is Medent. Other systems that were tried by

providers included Doximity, Zoom, Teams, FaceTime, and, as a last resort, personal telephone calls.

Providers swiftly became frustrated with attempts to connect with their patients during scheduled appointments. Connection issues affected 100% of the providers interviewed. In many cases, more time was spent trying to make a quality virtual visit than was spent with the patient. Oftentimes, the provider would ask the patient to finish their healthcare visit via telephone just so that they could communicate with each other. Dr. Gisela Wagner, an Ear Nose and Throat (ENT) doctor, explains "Some of them are like, oh, I forgot about the meeting or some of them are like, oh, I can't log on... depending on their age or...[how] they feel like about technology," which proses as a challenge. Technology and internet connections consumed a great amount of valuable patient care time during the onset of virtual visits and was quite frustrating. However, in order to rectify the issue Dr. Wagner elaborates that "I can switch over to Doximity and try to do face-to-face or I'll ask them if they got an iPhone, then I'll switch to FaceTime or [we] will just do it over the phone…" With more options for telehealth the lines between personal and professional blur through the technology available. Dr. Wagner expands on this by saying "I try not to… [use my personal phone] like if I'm in the office it's great so I can use my office phone. If I'm home doing virtual visits…all I've got is my personal phone," thus providing another obstacle. Frustration from technological challenges made it much more difficult for patients and providers to engage in a meaningful healthcare visit.

Challenges Interacting with Patients

Another issue that was addressed involved patients' availability during the scheduled visit. Providers reported that patients would answer the meeting call while driving down the road, if they even answered at all. It was not even uncommon for the patient to tell the provider

that it was not a good time to talk because they were busy with other activities. Each provider experienced negative patient-centered communication with many patients. Often, the patients that suffered the most from bad virtual visits were the elderly or underserved patients. The elderly had a difficult time utilizing technology. Many people did not own a computer with a camera, tablet, or a phone with a camera, and if they did, often they did not know how to operate the device. All providers reported that as time passed during the pandemic, some of the quirks with technology began to improve. Broadband access providing quality internet connection is still reported to be a big hindrance for telehealth, especially in rural communities.

Another issue that providers had with patients is that providers aren't able to interact with the patient's body. Cathy Chapman, a family nurse practitioner who is currently working in internal medicine, said that "you can't really touch to see if they have abdominal pain, and they can tell you they have abdominal pain, and you can't really touch them. It's hard to see skin, hard to see wounds. If the old people don't know how to manipulate the phone or manipulate their computer to show you something, it's very difficult." Dr. Wagner also expressed similar experiences about virtual patient visits, explaining,

> "You're not going to be able to remove earwax over a phone… [or have] an in-depth cancer evaluation or biopsies over the phone. So, you know, you have to look at it, either bringing those in despite telehealth or figuring out something else."

This wasn't just an issue for Dr. Wagner's patients with severe problems, but also true for her patients that deal with allergies or recurrent sinus issues. Providers found telehealth visits particularly challenging because they had to rely more heavily on patients to provide greater detailed descriptions of their symptoms and medical concerns, including specific types of pain

such as throbbing pain, dull achy pain, burning sensation, prickly needles sensations, or trying to describe a cough as dry and hacky or loose and wet, and what their secretions may look like in color, consistency, and texture. Providers described a myriad of specific ways in which the patient had to be more in tuned and involved with their body and their health in order to help the provider obtain a complete picture of medical concerns to help develop a treatment plan.

Challenges Following Protocols

According to the study participants, the main cause for not implementing a virtual patient care program prior to the COVID-19 pandemic was reported to be from government red tape. All 15 providers interviewed reported that government rules and regulations had kept them from fully considering utilizing a virtual patient care protocol prior to the pandemic. Medicare and insurance companies would not reimburse for telehealth visits in most cases, providers had to be licensed in the state in which the patient was physically existing at the time of the visit, and there were issues with privacy rules and regulations that prohibited healthcare discussions to take place via electronic means. Dr. Robin Corbett, a nurse practitioner, discussed how "guidelines for treatment have changed. One morning when I was treating patients, the guidelines for treating patients with STDs changed three times based upon guidelines from the state... So, the process this week is one thing, the process next week is another thing." Providers were extremely frustrated by the constant changing rules and regulations. Often, they were paralyzed by the bureaucracy yet had the need to push forward for the wellbeing of their patients. Dr. Corbett expressed that her frustration level was so high some days that she was almost ready to "throw in the towel."

When the State of Emergency was declared, the government allowed reimbursement for telehealth visits, relaxed privacy regulations, and allowed providers to care for patients across

state lines. Many practitioners had decided to care for their patients regardless of reimbursement, but others were in fear of their practice closing if funding was not approved to keep their business operational. Dr. John McPherson, a cardiologist, discussed how he has patients that he sees that are “from Kentucky, from Alabama, from Mississippi and even Missouri and Arkansas” and "when you bill for the telehealth visit, they have to be physically in a state where you have a license to practice medicine.” Due to this regulation with telehealth, Dr. McPherson "had to get temporary licenses in Alabama and in Kentucky and in Mississippi so that [he] could continue to see these patients.”

Some of Dr. McPherson’s patients were vacationing in Florida, where he doesn’t have a temporary (virtual visit) license and he “couldn't see them because they were physically in Florida.” He and his patients were very discouraged and felt trapped because of the shelter in place mandate and regulations preventing them from having healthcare needs addressed. He also explained that

> “there was a big plea about a year ago, right when this all came out for the government to step in and say we're going to temporarily give all doctors, or all practitioners, temporary licenses for all 50 states. And that never happened.”

This made it even more difficult for providers to potentially see their patients virtually. Even though the practitioners and providers faced many challenges with telemedicine, there are benefits for both providers and patients as well.

Benefits of Telemedicine

While adapting to telemedicine during the pandemic was a challenging necessity, many providers noted that this experience revealed the possibilities and benefits of telehealth. In some

cases, the possibility of digital visits platform allowed for better communication and a better relationship between patients and their providers. Many rural healthcare providers had investigated telehealth as an option for remote and rural patients prior to the pandemic, but the convenience that telehealth brought to urban and suburban areas have helped slingshot the desire to make telehealth a permanent option into a reality. In the following sections, I discuss the benefits that participants ascribed to telemedicine, including (a) benefits of convenience, (b) benefits of creating rapport, and (c) benefits of preparing for the future.

Benefits of Convenience

Telemedicine visits also make appointments easier and more convenient for patients. Dr. Spector tells us that "for some simple things, telemedicine is very good." He elaborates that he "can give [a patient] a prescription for a mild infection" or he can give advice for preventing injuries while training for marathons during a telemedicine visit. Dr. Spector explains that this can be more convenient because he has "patients from all over the place." He explained, "Sometimes they'll drive an hour to get to me. So, you know, they save their day, they don't take off work, they call me, it's 15 minutes. It's very efficient."

Transportation in general can be an issue for patients. Dr. McPherson explains that telehealth has "allowed for better access, particularly older patients that don't want to drive and people that live in rural communities." He then mentions that they had an ice storm in Nashville, where he lives and works, for a week and they "had ice and snow on the ground…And so instead of canceling visits, we converted more to telehealth. It allowed us to still see patients even when the weather was terrible." Due to COVID-19, and the relaxation of regulations regarding telehealth, Dr. McPherson had the ability to conduct patient consultations even though weather did not permit safe transportation to the clinic.

Benefits of Creating Rapport

The relationship between the provider and patient is an important factor for how an appointment goes. If there isn't trust or ease between them then there could be important information that the patient doesn't tell their provider for fear of judgement or they're just not comfortable saying it. Telemedicine has allowed for patients to be "more comfortable and...at ease from their home" according to Alexandra Roberts, a nurse practitioner in pulmonology.

Because telemedicine occurs in patients' homes, it offers providers new strategies for building rapport with patients. Dr. McPherson explained that "With the in-person visit, you can really establish a rapport with a lot of nonverbal communication, pre-COVID shaking somebody's hand and addressing everybody in the room and all of that and gestures. And I'm always cognizant of that when I'm in the room and you can't do that with virtual. So, the way you get around that…[if] I don't think it's going to make them feel strange… I might comment on their house or their room." He then went on to talk about how he has "one patient who is a huge Chicago Bears fan and he's got all the Bears set up on his walls and we would talk about stuff like that to establish rapport." Dr. McPherson would never have seen the extent of his patient's love for the Chicago Bears and wouldn't have started the same conversation with his patient if he hadn't seen this wall in his home. And, as Dr. McPherson says, it's "a really good way to sort of break the ice" with a patient at the beginning of an appointment.

While previous research suggested that providers often have a negative or mixed perception of telemedicine participants in this research suggested that telemedicine visits can be even more satisfying to patients than in person visits (Zandbelt et al., 2016). For instance, Dr. Adam Spector, a podiatrist, explained that his visits with patients are really good on telemedicine platforms because they "were able to have an uninterrupted visit, which often times was…even

more than [he] would get if [he] had" and in-person visit with the patient. Additionally, while telemedicine made some aspects of diagnosis more difficult, it also gave access to new sources of information. For instance, patients also don't always know what medication they're taking. However, Dr. Balaji, an internal medicine physician, noted that with telemedicine visits patients "can go and look at the medications, they can sometimes show me what medications they're taking, that way we don't miss anything." This allows the patients to have a better and more satisfying appointment than if it was in person. Providers expressed that if the patients feel they are working with the provider to develop a healthcare plan, by contributing to the conversation and providing quality input, the patient is more likely to follow through with their care plan and ultimately feel more satisfied with their quality of care.

Benefits of Preparing for the Future

Even though telehealth visits have been an option for provider-patient consultations for decades, virtual visits have not been implemented as a patient care tool until the COVID-19 pandemic. Though telehealth was internationally used because of COVID Roberts says that

> "It seems like the rest of the world is kind of moving to easier access of stuff with telemedicine and then like even unrelated, like grocery delivery and medication delivery, like everything is just basically like a push of a button. And so, I feel like medicine is probably going to head that way too just for easier access for people."

Though telehealth might not be the definitive mode of appointments after COVID has subsided more, it's staying and will be an option because as Dr. Wagner noted, "I think we've opened Pandora's box and it's here to stay."

Discussion

In this study I have attempted to highlight the impact that the sudden implementation of telehealth and telemedicine had on healthcare, particularly pertaining to provider-patient visits, during the COVID-19 pandemic. The findings help to illuminate how the use of telemedicine affected providers' workplace satisfaction and their ability to engage in patient-centered communication.

Theoretical Implications

Workplace Satisfaction

Workplace satisfaction can be described by how content one is with their workplace, or how satisfied one is with their job. As literature showed, over the past couple of decades, providers have not been fully satisfied with telehealth visits. The reason for dissatisfaction has been primarily directed towards the providers' lack of face-to-face interpersonal communications with their patients and inability to fully assess the physical aspect of the patient (Zandbelt et al., 2016). When providers were faced with the sudden need to inject a telehealth component into provider-patients visits during a heightened time of healthcare demand due to the COVID-19 pandemic, many frustrations were encountered. Providers battled personal internal frustrations and conflict during the onset of the COVID-19 pandemic. The need to safely and legally care for their patients during a time of constantly changing guidelines made day to day work even more challenging. Until the National Emergency was declared, telehealth was not a typical tool in a provider's practice. However, as the COVID-19 virus began to spread throughout the country, providers felt the need to incorporate it into their practice for the health and safety of patients, staff, and providers. Due to regulatory and reimbursement restrictions that had obstructed to implementation of telehealth into patient visits, little research had been done by most providers for telehealth resources. Many providers had to blindly seek a virtual healthcare platform while

others followed suit of colleagues. Even as providers found their way to various forms of telehealth applications, providers were still paralyzed in their efforts to care for their patients regarding HIPPA privacy issues and facing conducting telehealth visits knowing that they may not receive reimbursement for their services.

Just days prior to the World Health Organization declaring COVID-19 a global pandemic, Medicare reimbursement guidelines began to endorse telehealth visits and many private insurance companies began to remove co-pays, deductibles, and coinsurance fees. As state mandatory stay-at-home orders began to spread through the United States, legislature granted relaxed HIPPA guidelines to help promote safe patient care through telehealth. To confuse matters even more, each state and each insurance company constantly updated regulations pertaining to telehealth visits. Restrictions changed regarding virtual visits, locations in which virtual visits could take place, electronic means by which a visit could take place, and telephone visits. Daily, and sometimes hourly, rules, regulations, and even intraoffice protocols constantly changed in efforts to best provide care for patients.

Patient-Centered Communication

Once telehealth was established as an acceptable and encouraged means for provider-patient visits, it became evident that patients were not fully prepared to become a patient via virtual means. The lack of Internet infrastructure was illuminated by the need for people throughout the country to have access to healthcare via broadband and fiberoptic options. Even when patients had adequate internet services, often time they did not have the technical skill to operate electronic devices competently enough to engage in a virtual visit. Providers spent valuable patientcare time trying to assist patients in connection issues in order to accomplish a

quality provider-patient visit. Often time, the visit would finally commence via a telephone conversation.

Providers found frustration in not having the ability to have a hands-on examination of the patient. They often found it difficult to take care of minor office issues that required the physical touch or task required of physical manipulation. Even taking routine vital signs were difficult to obtain from patients that had devices in their homes to provide the information. Providers also found it more difficult to accomplish genuine engagement from the patient via telehealth means. They missed the interpersonal communication that is achieved from a face-to-face visit. On the other hand, providers were able to sometime see where and how the patient lived or picked up on other cues that could be seen on a video conference visit.

The World Health Organization established the void that telehealth could fill decades ago. However, it was placed on the backburner because of privacy regulatory guidelines and reimbursement deficits. It was particularly pointed out as a way for people in rural and remote locations to receive quality care without having to travel great distances. The rapid implementation of telehealth during COVID-19 pandemic has verified the system can and does work.

Successful provider-patient visits have taken place with many miles separating them via telehealth means. Elderly and vulnerable patients have been able to remain safely in their homes without potential exposure to COVID-19 virus. Sick patients have been able to stay in bed without having to drive to a clinic for evaluation. People in rural and remote locations have been able to save transportation costs by visiting their provider virtually. People in the workforce have been able to save travel time and time off work. All telehealth patients have been able to remain

out of congested waiting rooms and wait in the comfort of their environment when engaging in a provider-patient visit. There are many benefits to telehealth visits.

Practical Implications

As this research has suggested, the lack of competent internet access and technical skills of some populations has further highlighted the digital divide in regards to healthcare. There needs to be greater resources dedicated to the improvement of telecommunication access in order for people in rural and remote locations to have equal access to quality healthcare. Advancements in educational opportunities need to reach populations that have not been exposed to the use of technology such as iPad, tablets, and smartphone applications. Patients need to have access to educational opportunities to ensure comfortable use of telehealth avenues. Providers need dedicated time and resources to be given to workshops and seminars so that they can more efficiently conduct telehealth visits.

In addition to directing resources to the advancement of telehealth, government rules and regulations regarding privacy issues, such as HIPPA, that resolutely allow telehealth visits to need to be made permanent. Standard rules and regulations regarding telehealth need to be established at the federal level to cover uniformity in every state. A basic national registry of approved medical licensed healthcare providers should be created to allow across-state-lines telehealth opportunities. Medicare, Medicaid, and Insurance companies need to commit to reimbursement for telehealth visits and communication with patients via remote means.

Limitations

This study was not without limitations. Though using a convenience and snowball sample resulted in acquiring 15 providers to participate in interviews, it also resulted in a lack of diverse representation between providers. Women were overrepresented in this study while men were

underrepresented. There were significantly more nurse practitioners than any other specialty due to the fact that the nurse practitioners forwarded the interview recruitment flier more than the other specialties. Another limitation was that the question of age and race were not asked of the participants, thus restricting the knowledge about their backgrounds besides medical field history.

Future Directions

These limitations and findings presented in this research suggest that there are several different paths for potential future research. First, ask all participants their gender, age, race, field, and years in the field. This will allow for more accurate and in-depth demographics when analyzing the effect of telemedicine on providers. Second, asking providers about past experiences with technology and how that may have affected their experience using telemedicine. Third, interviewing providers more than once, possibly over a period of time, would allow for more stories and experiences to be used in the research. Finally, conduct a random interview in order to get a better understanding of the general provider populations' experiences with telemedicine.

Conclusion

As literature and historical events had already demonstrated, telehealth, as a healthcare tool, works very well in certain applications. However, when frustration levels increased with the urgent and frenzied commencement of telehealth visits during the COVID-19 pandemic, workplace satisfaction declined, and the future of telehealth post pandemic looked bleak. Fortunately, as telehealth progressed and comfort levels improved, the positive use of telehealth visits became a more accepted way to conduct patient visits. A year after the World Health Organization declared COVID-19 and global pandemic; telemedicine has solidified its place in

healthcare despite the frantic switch from traditional face-to-face medical visits to an ill prepared telehealth environment that damaged workplace satisfaction for healthcare providers.

References

AJMC Staff. (2021, January 1). *A Timeline of COVID-19 Developments in 2020*. AJMC. https://www.ajmc.com/view/a-timeline-of-covid19-developments-in-2020.

Boehm, K., Zieweres, S., Brandt, M. P., Sparwasser, P., Haack, M., Willems, F., Thomas, A., Dotzauer, R., Hofner, T., Tsau, I., Haferkamp, A., & Borgmann, H. (2020). Telemedicine online visits in urology during the COVID-19 pandemic-potential, risk factors, and patients' perspective. *European urology, 78*(1), 16-10. https://doi.org/10.1016/j.eururo.2020.04.055.

Calton, B., Abedini, N., & Fratkin, M. (2020). Telemedicine in the time of coronavirus. *Journal of Pain and Symptom Management, 60*(1), e12-14. https://doi.org/10.1016/j.jpainsymman.2020.03.019.

Centers for Medicare & Medicaid Services. (2020, March 17). *Medicare Telemedicine Health Care Provider Fact Sheet*. CMS.gov. https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet.

Cermack, M. (2006). Monitoring and telemedicine support in remote environments and in human space flight. *British Journal of Anaesthesia, 97*(1), 107-114. https://doi.org/10.1093/bja/ael132.

Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis.* http://www.sxf.uevora.pt/wp-content/uploads/2013/03/Charmaz_2006.pdf

Dorner, S. (2021, March 28). *Telemedicine crucial for many during pandemic*. New Channel 20 Illinois. https://newschannel20.com/news/local/telemedicine-crucial-for-many-during-pandemic.

Doximity. (2020). *2020 State of Telemedicine Report.* https://c8y.doxcdn.com/image/upload/Press%20Blog/Research%20Reports/2020-state-telemedicine-report.pdf

Elbay, R. Y., Kurtulmuş, A., Arpacıoğlu, S., & Karadere, E. (2020). Depression, anxiety, stress levels of physicians and associated factors in Covid-19 pandemics. *Psychiatry Research, 290*, 113- 130. https://doi.org/10.1016/j.psychres.2020.113130.

Elkbuli, A., Ehrlich, H., & McKenney, M. (2020). The effective use of telemedicine to save lives and maintain structure in a healthcare system: Current response to COVID-19. *The American Journal of Emergency Medicine*, S0735-6757(20)30231-X. https://doi.org/10.1016/j.ajem.2020.04.003.

Fanburg, J. D. & Walzman J. J. (2018). Telehealth and the law: The challenge of reimbursement. *Psychiatric Times, 35*(10), 12. https://www.medicaleconomics.com/view/telehealth-and-law-challenge-reimbursement.

Flying Doctors. (1927, November 2). *The Brisbane Courier*. https://trove.nla.gov.au/newspaper/article/21189888.

Garcia-Huidobro, D., Rivera, S., Valderrama Chang, S., Braco, P., & Capurro, D. (2020). System-wide accelerated implementation of telemedicine in response to COVID-19: Mixed methods evaluation. *Journal of Medical Internet Research, 22*(10), e22146. https://doi.org/10.2196/22146.

Gelburd, R. (2021, February 2). Telehealth claim lines rise 2,938 percent from November 2019 to November 2020. *American Journal of Managed Care*.

https://www.ajmc.com/view/telehealth-claim-lines-rise-2-938-percent-from-november-2019-to-november-2020.

Kissi, J., Dai, B., Dogbe, C. S., Banahene, J., & Ernest, O. (2019). Predictive factors of physicians' satisfaction with telemedicine services acceptance. *Health Informatics Journal, 26*(3), 1866-1880. https://doi.org/10.1177/1460458219892162.

Klassen, B., van Beijnum, B. J. F., & Hermens, H. J. (2016). Usability in telemedicine systems: A literature survey. *International Journal of Medical Informatics, 93*, 57-69. https://doi.org/10.1016/j.ijmedinf.2016.06.004.

Landro, L. (2021, March 28). *What covid-19 taught us about telemedicine*. Wall Street Journal. https://www.wsj.com/articles/what-covid-19-taught-us-about-telemedicine-11616932803.

Makri, A. (2019). Bridging the digital divide in health care. *The Lancet, 1*(5), e204-e205. https://doi.org/10.1016/S2589-7500(19)30111-6.

Nguyen, M., Waller, M., Pandya, A., & Portnoy, J. (2020). A review of patient and provider satisfaction with telemedicine. *Current Allergy and Asthma Reports, 20*(11), 72. https://doi.org/10.1007/s11882-020-00969-7.

Olsen, D. P. (2020, August 31). *Private insurers expand telehealth coverage*. AARP. https://www.aarp.org/health/conditions-treatments/info-2020/telehealth-private-insurance-coverage.html.

Quraishi, A. (2021, April 9). *Telehealth appointment saves man's life*. The Denver Channel 7. https://www.thedenverchannel.com/news/national/telehealth-appointment-saves-mans-life.

Rafanelli, A. (Transcriber). (2020, May 5). Covid-19 exposes digital divide in healthcare [Audio podcast episode]. In *Direct Relief News.* Direct Relief. https://www.directrelief.org/2020/05/covid-19-exposes-digital-divide-in-healthcare/.

Riley, P. E., Fischer, J. L., Nagy, R. E., Watson, N. L., McCoul, E. D., Tolisano, A. M., & Riley, C. A. (2021). Patient and provider satisfaction with telemedicine in otolaryngology. *OTO Open, 5*(1), digital. https://doi.org/10.1177/2473974X20981838.

Saha, S. & Beach, M. C. (2011). The impact of patient-centered communication on patients' decision making and evaluations of physicians: a randomized study using video vignettes. *Patient education and counseling, 84*(3), 386-392. https://doi.org/10.1016/j.pec.2011.04.023.

Siwicki, B. (2020, May 6). *A guide to connected health device and remote patient monitoring vendors*. Healthcare IT News. https://www.healthcareitnews.com/news/guide-connected-health-device-and-remote-patient-monitoring-vendors.

Sole-Smith, V. (2021, March 31). *Trapped in the house with an eating disorder*. New York Times. https://www.nytimes.com/2021/03/31/well/mind/covid-eating-disorders.html.

Strehle, E. M., & Shabde, N. (2006). One hundred years of telemedicine: Does this new technology have a place in pediatrics?. *Archives of Disease in Childhood, 91*(12), 956-959. https://doi.org/10.1136/adc.2006.099622.

Swenson, S. L., Buell, S., Zettle, P., White, M., Ruston, D. C., & Lo, B. (2004). Patient-centered communication: do patients really prefer it?. *Journal of general internal medicine, 19*(11), 1069-1079. https://doi.org/10.1111/j.1525-1497.2004.30384.x.

U. S. Department of Health & Human Services. (2020, July 15). *Telehealth: Delivering care safely during COVID-19.* HHS. https://www.hhs.gov/coronavirus/telehealth/index.html.

U. S. Office of the National Coordinator for Health Information Technology. (2019, October 17). *What is telehealth? How is telehealth different from telemedicine?* HealthIt. https://www.healthit.gov/faq/what-telehealth-how-telehealth-different-telemedicine.

U. S. Office of the National Coordinator for Health Information Technology. (2019, April 15). *What types of telehealth services can I offer?* HealthIt. https://www.healthit.gov/faq/what-types-telehealth-services-can-i-offer.

Vanderford, M. L., Stein, T., Sheeler, R., & Skochelak, S. (2001). Communication challenges for experienced clinicians: topics for an advanced communication curriculum. *Health Communication, 13*(3), 261-284. https://doi.org/10.1207/S15327027HC1303_3.

Wijesooriya, N. R., Mishra, V., Brand, P. L. P., & Rubin, B. K. (2020). COVID-19 and telehealth, education, and research adaptations. *Pediatric Respiratory Reviews, 35*, 38-42. https://doi.org/10.1016/j.prrv.2020.06.009.

Wicklund, E. (2021, April 6). *Telehealth becoming preferred platform for cardiovascular care*. mHealth Intelligence. https://mhealthintelligence.com/news/telehealth-becoming-a-preferred-platform-for-cardiovascular-care.

World Health Organization. (2010). *Telemedicine: Opportunities and developments in member states*. https://www.who.int/goe/publications/goe_telemedicine_2010.pdf.

World Health Organization. (2016). *Analysis of third global survey on eHealth based on the reported data by countries, 2016*. Global Health Observatory Data. https://www.who.int/gho/goe/telehealth/en/.

Zandbelt, L. C., de Kanter, F. E., & Ubbink, D. T. (2016). E-consulting in a medical specialist setting: Medicine of the future? *Patient Education and Counseling*, *99*(5), 689-705. https://doi.org/10.1016/j.pec.2015.11.005.

Zhang, S. X., Chen, J., Afshar Jahanshahi, A., Alvarez-Risco, A., Dai, H., Li, J., & Patty-Tito, R. M. (2021). Succumbing to the COVID-19 pandemic-healthcare workers not satisfied and intend to leave their jobs. *International Journal of Mental Health and Addiction.* 2021 Jan 7, 1-10. https://doi: 10.1007/s11469-020-00418-6.