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Podiatrists' Experiences with Telemedicine During COVID-19

Jeavon Inniss
Walden University

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Walden University

College of Health Sciences and Public Policy

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Jeavon A. Inniss

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Review Committee

Dr. Cheryl Anderson, Committee Chairperson, Health Services Faculty
Dr. Earla White, Committee Member, Health Services Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2024

Abstract

Podiatrists' Experiences with Telemedicine During COVID-19

by

Jeavon A. Inniss

MHSA, Barry University, 2013

MPH, Barry University, 2013

BS, Barry University, 2009

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Services

Walden University

May 2024

Abstract

Telemedicine was one of the most beneficial technologies to improve patient access to care during the COVID-19 pandemic. Telemedicine has been well-researched in the hospital and primary care setting. There is a paucity of research that has focused on the experiences of specialty providers such as podiatrists. The purpose of this qualitative study was to understand podiatrists' perspectives on the value of telemedicine as a method of delivering care. The unified theory of acceptance and use of technology was used as a theoretical framework to aid in identifying which factors are necessary for acceptance and continued use of telemedicine in podiatric clinical practices. The research questions addressed what podiatrists' overall experiences with telemedicine were, perceived challenges identified after implementation, and perceived opportunities identified to promote continued use in the future. A total of 13 podiatrists who had experience implementing telemedicine at the onset of COVID-19 were interviewed using a semistructured format. The data collected were checked for accuracy and analyzed. The six themes that emerged from the data were new beginnings, learning process, human element, technological challenges, acceptance of technology, and collaborative care. Recommendations include interviewing a wider representation of podiatrists not limited to clinical practice to provide additional information on their acceptance and use of telemedicine in providing care for their patients. Implications for positive social change are improving access to podiatry patients, which can reduce the burden placed on the healthcare system, patients, and their physicians.

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Dedication

I dedicate this study to my Lord and Savior, Jesus Christ, and my parents. Thank you to my mother and father, for your love, support, and constant encouragement throughout this journey. I would not be where I am without you. Your unwavering belief in me and daily prayers made me strong and steadfast in completing this study. I am who I am today because of you, and I am forever indebted to the both of you. Jeremiah 29:11 is imprinted in my heart because of you. I love you, I love you deep, I love you with all my heart; thank you!

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I would first like to thank and acknowledge my family and friends for doing this thing called life with me. Thank you for standing side by side with me throughout this journey. It was a bumpy ride, but you helped me stay the course, push through obstacles, and see the white light at the end of tunnel. To my sisters, brothers, in-laws, nieces, nephews, and close friends, thank you for your support. I am truly blessed to have each one of you in my life. I thank God for placing you all in my life; you complete me in more ways than one. The love and support you have shown me throughout this journey have renewed my belief in unconditional love. I cannot say it enough, thank you from the bottom of my heart. Know that my heart is full because of you.

Next, I would like to take this opportunity to thank and acknowledge my dissertation chair, Dr. Cheryl Anderson, and my committee member, Dr. Earla White, for all their hard work during this process. I am eternally grateful for your constant push and belief in me during some of the toughest moments on this journey. You taught me to celebrate myself with each milestone I accomplished and to believe in myself. I would not be where I am without your patience, continuous support, and guidance. Thank you for staying the course with me in completing this achievement.

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Table of Contents

List of Tables	v
List of Figures	vi
Chapter 1: Introduction to the Study.....	1
Background.....	2
Problem Statement.....	5
Purpose of the Study	6
Research Questions	7
Theoretical Framework.....	7
Nature of the Study	8
Definitions.....	9
Assumptions.....	11
Scope and Delimitations	11
Limitations	12
Significance.....	13
Summary	14
Chapter 2: Literature Review.....	16
Introduction.....	16
Literature Search Strategy.....	17
Historical Literature: Evolution and Benefits of Telemedicine.....	19
Paradigm Shift With COVID-19 and Telemedicine.....	21
Telemedicine and Podiatry	23

Telemedicine in Orthopedics	25
Telemedicine in Primary Care	26
Telemedicine in Neurology.....	27
Continued Use of Telemedicine After COVID-19	28
Unified Theory of Acceptance and Use of Technology	30
Methodology Literature	35
Research Design Literature.....	37
Summary and Conclusion	40
Chapter 3: Research Method.....	42
Introduction.....	42
Research Design and Rationale	42
Role of the Researcher	43
Population and Sample	44
Data Collection	47
Data Analysis Plan.....	49
Issues of Trustworthiness.....	50
Ethical Procedures	51
Summary	52
Chapter 4: Results	53
Introduction.....	53
Setting of Study	53
Demographics	54

Data Collection	54
Data Analysis	57
Trustworthiness	61
Results	62
Theme 1: New Beginnings.....	62
Theme 2: Learning Process.....	65
Theme 3: Human Element	73
Theme 4: Technological Challenges.....	78
Theme 5: Acceptance of Technology	82
Theme 6: Collaborative Care	86
Summary	87
Chapter 5: Results	89
Introduction.....	89
Interpretations of the Findings	89
Theme 1: New Beginnings.....	89
Theme 2: Learning Process.....	91
Theme 3: Human Element	93
Theme 4: Technological Challenges.....	95
Theme 5: Acceptance of Technology	97
Theme 6: Collaborative Care	99
Theoretical Framework	100
Performance Expectancy	100

Effort Expectancy	101
Social Influence	102
Facilitating Conditions.....	102
Limitations of the Study.....	103
Recommendations.....	104
Implications.....	104
Conclusion	105
References.....	107
Appendix A: Interview Questions	136
Appendix B: Content Permission.....	138
Appendix C: Organization Collaboration Informal Agreement	139

List of Tables

Table 1. Literature Search Strategy	17
Table 2. Podiatrist Participant Demographics	54
Table 3. Examples of Formulated Meanings From Significant Statements	59
Table 4. Developing Clusters of Subthemes and Themes From Formulated Meanings ..	60
Table 5. Themes and Subthemes	60
Table 6. Foot Conditions Suited and Not Well Suited for Telemedicine	76

List of Figures

Figure 1	Modified Unified Theory of Acceptance and Use of Technology Model.....	31
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Chapter 1: Introduction to the Study

Telemedicine is a platform used by healthcare professionals to provide medical services to patients from a distance using real-time interactive audio and video technologies (Fix & Serper, 2020). Telemedicine, a term first introduced in the 1970s, is described as treatment delivered from a distant location using technology (Taha et al., 2021). Initially, only physicians provided telemedicine services in their practices, but as time went on, other health professionals started using it in their practice, creating the term *telehealth* (Taha et al., 2021). In the healthcare field, telehealth is oftentimes labeled as telemedicine (Kolltveit et al., 2017). Although telemedicine and telehealth can be used interchangeably in the medical field, telemedicine is the term used in this study.

Telemedicine is comprised of four basic principles: providing virtual clinical support, overcoming geographical barriers (individuals located anywhere in the world with access to necessary technologies can receive access to health services), using various modes of information and communication technologies for educational and consultation purposes, and improving health outcomes in patients (Taha et al., 2021). Telemedicine is a patient-focused service that saves costs for both patients and physicians, prevents virus exposure, and reduces the burden placed on healthcare systems (Haleem et al., 2021; Neville et al., 2020). The incorporation of telemedicine into the healthcare field has raised the standard of care provided to patients, particularly in emergencies.

The percentage of healthcare providers offering telemedicine services within their clinical practice changed from 14.1% to 37.1% at the beginning of COVID-19; a

noticeable 2.6 times increase, according to the National Center for Health Statistics (as cited in Centers for Disease Control and Prevention, 2020). A study within the field of podiatry showed an increase in telemedicine use among podiatric physicians at the beginning of COVID-19 (Neville et al., 2020). This increase was in response to limited guidance on implementation and less restrictive telemedicine regulations locally and nationwide (Neville et al., 2020). Some podiatrists quickly adopted telemedicine for continuity of patient care and diabetic foot management (a major component of podiatric medicine) while others remain adamant that there are obvious limitations to telemedicine services in a primarily hands-on specialty (Morrow, 2021; Terry, 2020). A plethora of research exists on how beneficial telemedicine has been in contributing to the healthcare field before and during COVID-19, but research on podiatrists' overall experience using telemedicine during COVID and their acceptance is limited.

The remaining sections of Chapter 1 include the background on the study topic and why this study was needed. This chapter also includes the problem statement, purpose statement, research questions, nature of the study, definitions, assumptions, scope and delimitations, and limitations. The next section of this chapter identifies the significance of this study and how it could potentially contribute to the field of podiatry. The last section summarizes the main points in this chapter and provides a transition to chapter 2.

Background

The COVID-19 pandemic has considerably impacted modern life and the delivery of healthcare services (Chadwick et al., 2020). On March 6, 2020, the Coronavirus

Preparedness and Response Supplemental Appropriations Act (H.R. 6074) was signed into law, providing waivers over the Centers for Medicare and Medicaid Services (CMS) regulations pertaining to telemedicine services during the COVID-19 pandemic (Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020). The bill waived rural area requirements, allowing patients to be anywhere (even their home) and receive telemedicine services while providers were compensated at the same rate as for in-person visits (Fix & Serper, 2020). On March 11, 2020, the WHO (2020) announced a national state of emergency due to the Coronavirus Disease 2019 (COVID-19) outbreak.

Healthcare workers were exhausted, resources were lacking, patients avoided visiting healthcare facilities in fear of contracting the virus, and healthcare providers placed limitations on patients in accessing services they provided (Taha et al., 2021). U.S. lawmakers removed barriers to telemedicine care such as technology requirements and improved reimbursement payments to increase the use of telemedicine and decrease burdens on the healthcare system (Fix & Serper, 2020). On March 17, 2020, the Health and Human Services (HHS) Office of Civil Rights stated that it would not apply any penalties to healthcare professionals if their technologies did not fully comply with HIPPA requirements (Office of Civil Rights, 2020).

Prior to the COVID-19 pandemic, CMS had a vast number of restrictions on telemedicine use, which caused a slow uptake in implementation (CMS, 2020). Recognizing the benefits of telemedicine to the healthcare system and patients, a substantial number of studies stressed the importance and urgent need for

implementation. Administrators within the healthcare field were urged to implement telemedicine services in preparation for a situation such a disease outbreak (Rockwell & Gilroy, 2020). In addition, the need for implementation and continued use of telemedicine services is pertinent in maintaining continuity of patient care in any circumstance (Rockwell & Gilroy, 2020). More specific to the field of podiatry, four conditions were identified that are needed to successfully implement telemedicine in diabetic foot care management (Kolltveit et al., 2017). The four conditions were a telemedicine champion in the workplace, support from leaders, effective communications at all organizational levels, and easy technology/training (Kolltveit et al., 2017).

Telemedicine use increased with the onset of the COVID-19 pandemic. Less state and local regulations on telemedicine use made this method a possible alternative for face-to-face care. Throughout literature, there has been a significant amount of information shared among physicians encouraging telemedicine use and how to improve patient health outcomes in the process (Neville et al., 2020). For example, people with diabetes are a delicate patient population who require close monitoring for routine wound care management. People with diabetes are at a higher risk for infection, losing a limb/amputation, and increased chances of death (Neville et al., 2020). Recent studies noted that strategies for ideal podiatric care as diabetic foot care have customarily required more in-person visits (Shin et al., 2020). Podiatrists quickly adapted a new pandemic system of care by using a diabetic foot triage system through telemedicine (Rogers et al., 2020). Conducting evaluations through the foot triage system can help podiatrists decipher whether patients can be treated at home, in the office, or at the

hospital. Using telemedicine in such a unique way prevents overburdening the healthcare system (hospital emergency rooms and urgent care centers) and reduces deaths and amputations for people suffering from diabetes.

The goal of this qualitative, interpretive descriptive study was to explore the overall experiences of podiatrists who used telemedicine to deliver podiatric care services in clinical practice during COVID-19. The paradigm of medicine would dramatically change due to the COVID-19 pandemic, and telemedicine would have a lasting impact on all disciplines in the healthcare field (Neville et al., 2020). This study may contribute to informing strategies for continuity of care in treating acute to complex cases related to diabetes, as well as improve access to patients in remote areas who need podiatric services.

Problem Statement

An increase in telemedicine use in podiatric clinical practices was observed across the country due to the COVID-19 pandemic (Neville et al., 2020). Although telemedicine use increased in the podiatric field due to the pandemic, the problem remains of whether podiatrists accept it as a method for delivering podiatric care services to patients. At the onset of the COVID-19 pandemic, there were 2.1 million cases of the disease, with 116,862 deaths nationally and 8.2 million cases and 445,535 deaths globally, according to the National Center for Health Statistics (as cited in Centers for Disease Control and Prevention, 2020). Congress and the HHS removed federal and state regulations on telemedicine to encourage its use but failed to provide any guidelines or instructions on implementation for healthcare professionals (Office of Civil Rights, 2020)). The Health

Insurance Portability and Accountability Act (HIPAA) requirements were eased to allow the use of online communication platforms such as Zoom and Skype (Terry, 2020).

Podiatrists closed their offices and/or provided limited services to patients while others quickly implemented telemedicine services for continuity of care (Terry, 2020). Common practice had been in-person visits for treatments and consultations related to most foot issues, including care of feet for people with diabetes (Shin et al., 2020). Research on the overall experiences of podiatrists with telemedicine implementation and use during COVID-19 could potentially identify strategies for treating complex cases such as diabetes on this platform. Based on past and current usage, telemedicine has the greatest potential to improve access to patients in any geographical area and reduce the costs of healthcare (Fix & Serper, 2020).

Purpose of the Study

The purpose of this qualitative, interpretive descriptive study was to understand the experiences of podiatrists who used telemedicine to deliver podiatric care services to patients during COVID-19. Based on their overall experiences, this study examined whether telemedicine was a method of care podiatrists accepted in delivering podiatric care services in their clinical practice during COVID-19 in comparison to in-person care. This study assisted in informing intent for continued use in the future. Continued use of telemedicine reduces the burden placed on the healthcare system during cases of emergencies and provides safe and high-quality care for patients (Latifi & Doarn, 2020).

Research Questions

- RQ1: What were the overall experiences of podiatrists regarding the implementation of telemedicine to deliver podiatric care services in clinical practice during COVID-19?
- RQ2: What were the perceived challenges identified by podiatrists after implementation of telemedicine to deliver podiatric care services in clinical practice during COVID-19?
- RQ3: What are the perceived opportunities identified by podiatrists after implementation of telemedicine in clinical practice to promote continued use in the field of podiatry?

Theoretical Framework

A theoretical framework supports the theory of a given research study and provides an understanding of the topic. The unified theory of acceptance and use of technology (UTAUT) by Venkatesh et al. (2003) was used as a guiding theory for this study. The UTAUT implies that an individual's intention to use a new technology can be predicted by understanding four key factors (Venkatesh et al., 2003). Understanding the four factors provided an understanding on what led podiatrists to implement telemedicine and which factors were necessary for acceptance and continued use.

The UTAUT focuses on information systems usage intention and behavior. The UTAUT was originally intended for traditional business organizations utilizing information technology but has since been applied, integrated, and extended in clinical departments in hospitals, public agencies, universities, and government organizations

(Venkatesh et al., 2016). The UTAUT is comprised of four key factors (performance expectancy, effort expectancy, social influence, and facilitating conditions) used to predict behavioral intention to use a technology and actual usage (Venkatesh et al., 2016). According to the UTAUT, performance expectancy, effort expectancy, and social influence were found to influence an individual's plan to use a technology whilst facilitating conditions and behavioral intention determined the actual use of technology (Venkatesh et al., 2016). The UTAUT aided in identifying which factors are necessary for implementation of telemedicine, actual use of telemedicine, and continued use of telemedicine in the future by podiatrists.

Nature of the Study

The nature of this study was qualitative research with an interpretive descriptive approach. Qualitative methodology allows the researcher, who is the primary data-gathering instrument, to explore and build knowledge and understanding of a social problem (Issacs, 2014; Ramaraj & Nagammal, 2016). Qualitative methodology asks the “how,” “what,” or the “why” questions of a phenomenon, all while the researcher builds a holistic picture, analyzes the participants' words, and conducts the study in a natural and comfortable environment (Isaacs, 2014). An interpretive descriptive approach is based on knowledge development in relation to the actual phenomena while providing new insights and understandings to other healthcare professionals in the specified clinical field (Kolltveit et al., 2017). This design allowed podiatrists to express in their own words their overall experience using telemedicine in their clinical practice during COVID-19.

The population for this study was identified as podiatrists who implemented telemedicine in their clinical practice at the onset of COVID-19 and were currently using it to deliver podiatric care services in a southeastern state. The sample size for this study was 13 podiatrists. Boddy (2016) mentioned that in qualitative research, data saturation is reliant on sample size, and what represents an appropriate sample size is dependent on the aim of a study and its framework. Semistructured interviews were conducted on a virtual platform (Zoom). Semistructured interviews facilitate the exploration of participants' views and experiences and potentially disclose in-depth insights into a phenomenon (Bleiker et al., 2019; Taylor et al., 2021). Thematic analysis was guided by a modified version of Colaizzi's seven-step method along with the NVivo analytic software for coding and categorizing the collected data. Further clarification of the study population and modified Colaizzi's seven-step method appear in Chapter 3.

Definitions

Terms that are operationalized by this study include the following:

Continuity of care: The American Academy of Family Physicians (2020) defines continuity of care as the process by which both the patient and the physician cooperatively work together to ensure continuing medical care management; they share a goal of cost-effective and high-quality care. Continuity of care reduces disruption of care while improving the patient's overall quality of care (The American Academy of Family Physicians, 2020). Continuity of care not only enhances the safety of the patient, but also the provider and patient experience with care (Lemire, 2021). According to Hopstaken et

al. (2021), continuity of care increases patient satisfaction, decreases use of hospital services, and reduces the number of deaths.

COVID-19: According to the WHO (2020), COVID-19 (coronavirus disease) is an infectious disease caused by the SARS-CoV-2 virus. Individuals infected with this virus typically experience mild to moderate symptoms and recover without treatment. Some individuals can become seriously ill and will require medical attention/special treatment. The coronavirus disease spreads through an infected individual's mouth or nose in small liquid particles when they breathe, speak, sneeze, or cough.

Podiatrist: A healthcare specialist who diagnoses and treats conditions and injuries pertaining to the feet (Eske, 2020). Podiatrists diagnose and treat a wide array of conditions such as foot injuries, foot pain, diabetic foot disorders (infections, ulcers, and neuropathy), foot abnormalities, skin conditions, nails conditions, and heel pain (also referred to as *plantar fasciitis*; Eske, 2020). Some podiatrists just treat general foot conditions, while others specialize in wound care or sports medicine. Additionally, podiatric surgeons perform surgical procedures to remove tumors and bunions, set broken bones, debride infected or damaged tissue, treat inflamed ligaments and tendons, and correct abnormalities such as flat feet and hammertoes (Eske, 2020).

Telemedicine: This term is interchangeable with *telehealth*, *telecare*, *technology-enabled health*, *digital health*, and *m-health* (Westwood, 2021). It carries the same definition as telemedicine by the WHO. The European Code of Practice for Telehealth Services developed a more recent definition of telehealth. Telehealth is the use of technologies to provide health and well-being services to people irrespective of their

location (Westwood, 2021). Telehealth can be delivered through asynchronous modes (systems where patients' medication information is stored and reviewed later by a medical provider) and synchronous modes—live interactive consultations where physician and patients communicate remotely in real time (Westwood, 2021).

Assumptions

The following assumptions were critical to the meaningfulness of the study. The primary assumption was that podiatrists participating in this study implemented telemedicine in their clinical practice during COVID-19 and would provide unbiased responses regarding their experiences. A secondary assumption was that podiatrists would be open and honest about their overall experiences and not say what they think the researcher wants to hear. A third assumption was that the podiatrists were willing to be interviewed for the study and that I would find enough willing participants to help saturate the data.

Scope and Delimitations

The focus of this study was to explore the overall experiences of podiatrists residing within a southeastern state who implemented telemedicine in their clinical practice during COVID-19. Based on the podiatrists' experiences, this study examined whether telemedicine was a method of care they accepted in delivering podiatric care services in clinical practice in comparison to in-person care. The study included podiatrists with telemedicine experience in a clinical practice. Podiatrists in clinical practices have experience diagnosing and treating foot conditions.

Delimitations are essentially in the researcher's control. Delimitations are limitations intentionally set by the researchers themselves (Theofanidis & Fountouki, 2018). According to Theofanidis and Fountouki (2018), delimitations pertain not to "why I did this" but to "why I did not do it like this." The delimitation for this study was that participants were only English speakers and the podiatrists who participated were practicing in clinical practices within a southeastern state. The podiatrists who participated in this study did not represent all podiatrists in the state.

Limitations

This qualitative study was limited to podiatrists in clinical practice residing within one southeastern state. The podiatrists who participated in the study do not represent all podiatrists within a southeastern state. The study also focused primarily on podiatrists in clinical practice, which cannot be generalized to other clinical settings such as wound care centers or outpatient centers. Additionally, due to the ongoing COVID-19 pandemic and the scope of the study area, interviews were limited to Zoom (a virtual platform) only.

This study was also limited by the sample size, purposive sampling technique, and lack of triangulation from multiple methods to address credibility. The sample size for the study was between 10 and 30 participants. Only 13 podiatrists were interviewed for the study, which may limit the ability to generalize it to a wider population. The podiatrists interviewed for this study implemented telemedicine at the onset of COVID; therefore, this study cannot be generalized to all podiatrists who implemented telemedicine at any point and time during COVID. Finally, this study was limited due to lack of multiple

methods in addressing credibility. The last step of Colaizzi's analytic method, returning to participants for validation, was omitted from this study due to the busy schedules of the podiatrists in the study.

Significance

This qualitative study was significant in that it addressed the lack of knowledge regarding podiatrists' overall experiences in delivering podiatric care services through telemedicine in their clinical practices during COVID-19. Additionally, it highlighted the significance of telemedicine in the delivery of podiatric care services in podiatry.

Furthermore, understanding podiatrists' experiences in the implementation and delivery of podiatric care services through telemedicine could bring about potential strategies for continuity of patient care for acute and complex foot conditions. Understanding their experiences could also improve access to patients in the field of podiatry. Improving access to patients due to telemedicine usage could reduce the financial burden placed on the healthcare system and to patient and physician (Fix & Serper, 2020).

The dissemination of the study findings informed best practices to podiatrists in clinical practices on how to deliver podiatric care services on a nontraditional platform (telemedicine) in a nontraditional setting (patient's home). Patients who extend access to their provider from the comfort of their home are more inclined to feel committed to their treatment plan; there is some value in observing the living environment of patients (Morrow, 2021). More so, patients could potentially have a better understanding of the factors that contribute to their overall health and well-being from the provider's viewpoint of their home environment (Morrow, 2021).

Summary

Telemedicine has significantly impacted the way in which care is delivered to patients due to the COVID-19 pandemic. This pandemic created the need to provide care in a different manner that would not only reduce the risk of transmitting COVID-19, but also protect healthcare providers. Telemedicine was not a new technology platform in the healthcare field, but due to its limited use before the pandemic, it was new to many healthcare providers. Physicians quickly adopted telemedicine and developed a “new normal” in delivering health services to patients. This aided in reducing the burden placed on hospital emergency rooms and expanded access to remote patients.

Despite its benefits and the government loosening regulatory policies for reimbursement and use, not all podiatrists were hurried to implement telemedicine at the onset of the COVID-19 pandemic. Some podiatrists expressed that the field is too “hands-on” to fully utilize telemedicine, while others quickly adapted and implemented it for continuity of patient care. Telemedicine has emerged as an important technology in continuing patient care during natural disasters and disease outbreaks. Identifying and understanding podiatrists’ experiences in the implementation and delivery of podiatric care services through telemedicine are vital in determining their acceptance. Acceptance of telemedicine as a method of care in delivering podiatric care services could potentially inform continued use in the sustainable future.

In Chapter 2, I will present a detailed review of various research findings of physicians’ experiences and perspectives from other specialties toward telemedicine

implementation in their clinical practice during COVID-19. Chapter 2 will also highlight the current literature related to this study. Chapter 3 will present the methodology.

Chapter 2: Literature Review

Introduction

Chapter 2, the review of current literature, presents an exhaustive investigation into the peer-reviewed articles available surrounding telemedicine use and podiatry, telemedicine and COVID-19, and telemedicine use and acceptance in similar fields. The first section of this chapter presents the strategy used to secure the needed articles. The second section presents the historical context that was foundational to this study. The third section provides the underpinnings of how telemedicine was used by podiatrists and similar specialists at the onset of COVID-19. The last section presents the conceptual framework, methodology, and research design of the study.

At the onset of the COVID-19 pandemic, CMS encouraged the use of telemedicine by easing restrictions on federal and state laws (CMS, 2020). CMS also increased reimbursement payments and temporarily removed HIPAA restrictions so that platforms such as Zoom and Skype could be used to diagnose and treat patients (CMS, 2020). Telemedicine quickly developed as a vital tool in providing medical care to patients while reducing the transmission of COVID-19 among patients, clinicians, and staff (Latifi & Doarn, 2020). While CMS did not provide any guidelines or instructions on implementation for healthcare professionals, an increase in telemedicine usage was observed across the country in podiatric care clinical practices (Neville et al., 2020). While some podiatrists remained steadfast in their view that podiatry is a hands-on specialty, others quickly implemented telemedicine for continuity of care, prevention of virus exposure, and reduction on the burden placed on the healthcare system by the

pandemic (Terry, 2020). This study explored the experiences of podiatrists who used telemedicine during COVID-19 and examined whether telemedicine was a method of care they accepted in delivering podiatric care services.

Literature Search Strategy

Table 1

Literature Search Strategy

Database	Key terms	Number of articles found/used
EBSCO Discovery Science Walden University Database	Telemedicine, telemedicine & benefits, telemedicine & podiatry, telemedicine & COVID-19, telemedicine & physicians experiences, podiatry & COVID-19, Unified Theory of Acceptance and Use of Technology	72/65
Google Scholar	Telemedicine, telemedicine & benefits, telemedicine & podiatry, telemedicine & COVID-19, telemedicine & specialties, telemedicine & physician experiences, podiatry & COVID-19	12/12
ProQuest Central ProQuest Health	COVID-19 & podiatry, COVID-19 & orthopedics, telemedicine & orthopedics, telemedicine & podiatry, telemedicine & primary care physicians	10/10
SAGE Journals	Telemedicine & orthopedics	10/5
Science Direct	Telemedicine, COVID-19, physicians	5/5

The initial search was conducted on Walden University's library database (EBSCO Discovery Science), specifically, the "Health Professions" subject search. The first term searched was *telemedicine* and focused on peer-reviewed journals and articles from 2016–2023. This database had a wide variety of articles regarding telemedicine, so most of the research was searched on this platform. Coupled terms were used to yield specific journal articles in the EBSCO database: *telemedicine and benefits*, *telemedicine and podiatry*, *telemedicine and specialties*, *telemedicine and clinical practice*, *telemedicine and physician experiences*, *COVID-19 and telemedicine*, *COVID-19 and podiatry*, *COVID-19 and surgery*, and *COVID-19 and physicians and telemedicine*. On a few occasions, it was noted that a selection of articles on EBSCO were not available through the "find at Walden" link option. This pertained to the following key terms where access was obtained to those specific articles via the ProQuest Central, ProQuest Health, and SAGE Journals database: *COVID-19 and podiatry*, *COVID-19 and orthopedics*, *telemedicine and orthopedics*, *telemedicine and surgery*, and *telemedicine and primary care physicians*.

Key terms similar to those used on the EBSCO database were used on the Google Scholar database. As with the Walden University library database (EBSCO Discovery Science), referenced articles were searched between 2016 and 2021 to provide a more current literature review. Similar articles found on EBSCO were found on Google Scholar with links to the Walden University Library. On the Science Direct database (accessed through the Walden University library database), the following terms were coupled to provide a wider scope of articles: *telemedicine*, *COVID-19*, and *physicians*.

Information from official government agencies' websites were searched regarding telemedicine, federal and state regulations from the CMS and HHS, and COVID-19.

Historical Literature: Evolution and Benefits of Telemedicine

Telemedicine delivers medical treatment over the internet, through real-time video chat. Telemedicine was achievable due to a sequence of technological innovations over the past two centuries and their applications in medical treatment (Jagarapu & Savani, 2021). One of its earliest uses involved an article from 1879 detailing the use of telecommunications between patients and physicians to avoid unnecessary travel for in-office visits (Neville et al., 2020). Some would say that telemedicine has technically been around since the invention of the telephone (Kumar et al., 2021). From its first use, telemedicine has significantly evolved and thrived in the healthcare industry as a means of delivering health services remotely; it not only eliminates distance barriers, but also improves access for both acute and chronic conditions (Aafies-van Doorn et al., 2021). Telemedicine is one of the most beneficial technologies that can increase patients' access to preventative treatments and aid in improving their long-term health (Haleem et al., 2021).

Telemedicine has the potential to address disparities in underserved populations and remote/rural areas, and workforce shortages in the primary and specialty provider sectors, according to the National Center for State, Tribal, Local, and Territorial Public Health Infrastructure and Workforce (as cited in Centers for Disease Control and Prevention, 2020; Schroeder, 2018). Within the past few years, telemedicine has been accepted and present in more than 125 countries, even though it has its challenges (Latifi

et al., 2020). Telemedicine's widespread acceptance is due to its increasing popularity as a recognized standard of care, improving patient-provider relationships, and potentially reducing the burden on the healthcare system by saving billions of dollars on expenditures, according to the National Center for State, Tribal, Local, and Territorial Public Health Infrastructure and Workforce (as cited in Centers for Disease Control and Prevention, 2020). The National Center for Health Statistics (as cited in Centers for Disease Control and Prevention, 2020) projected that the utilization of telemedicine would increase by \$20.4 billion dollars in the healthcare market by 2020. This is significant as telemedicine not only benefits patients but the economy as well.

With its acceptance across countries, telemedicine can not only enhance, but also support team-based care between providers, foster collaboration, and assist in exchanging vital patient healthcare information (Ittipong et al., 2019). Telemedicine has the potential to make healthcare more organized, effective, available, and accessible from anywhere in the world (Fix & Serper, 2020; Haleem et al., 2021; LoPresti et al., 2020). The American Telemedicine Association stressed how more than 70% of "urgent" illnesses or conditions can be addressed with the help of telemedicine (Morrow, 2020).

Before telemedicine's widespread acceptance in the United States, utilization was low across all sectors of the medical field due to strict federal and state regulations imposed by CMS and the HHS HIPAA compliant audiovisual equipment requirements (CMS, 2022). Until recently, CMS only provided reimbursements to providers for services delivered to patients in remote/rural areas at a designated site outside of their homes (LoPresti et al., 2020). More specifically, CMS required the following: Only

established patients could use telemedicine services; patients residing in rural areas could use telemedicine services, but they needed to travel to a local medical facility (hospital, doctors office, skilled nursing facility) to access the remote visit; and video conferencing technology needed to be available at the local medical facility (Perisetti & Goyal, 2021). Reimbursement for telemedicine services was minimal; telemedicine services were being reimbursed at a lower rate than in-person services (Greiwe, 2022).

The Office of Inspector General issued a report in April 2018 showing that close to 30% of Medicare claims for telemedicine services did not meet the requirements and were therefore denied (Alam et al., 2021; Albarrak et al., 2021)). Reimbursements for telemedicine services for private insurers mimicked those of CMS, and providers were paid very minimally for video encounters (Albarrak et al., 2021). CMS also placed limitations on the type of provider who could offer telemedicine services and restricted payment to a concise list of covered codes that has slowly been updated/grown since 2003 (Gelburd, 2020). Technology, reimbursement, regulatory policies, and physicians' comfort were a few of the barriers identified in past research. Many of the barriers previously mentioned were either removed or modified during the COVID-19 pandemic due to CMS and governmental changes.

Paradigm Shift With COVID-19 and Telemedicine

The WHO announced a global pandemic on March 11, 2020, due to the COVID-19 virus (Cucinotta & Vanelli, 2020). Numerous states issued social distancing and stay-at-home orders to decrease the spread of the virus and maintain care at a safe distance (Day et al., 2021; Dempsey et al., 2022; Qian et al., 2022). COVID-19 significantly

impacted and changed the way medicine is practiced across the entire healthcare field (Latifi & Doarn, 2020). Many people believe that COVID-19 was the catalyst for telemedicine's widespread usage and acceptance across the world (Morrow, 2020; Qian et al., 2022). In response to the COVID-19 pandemic, CMS and lawmakers waived its stringent requirements for telemedicine usage.

In 1986, Congress passed the Emergency Medical Treatment and Labor Act (EMTALA; CMS, 2022). This act guaranteed public access to emergency services for individuals regardless of their ability to pay. In response to the pandemic, CMS implemented waivers that allowed expansion of telemedicine, off-campus screenings, faster physician privileges, telemedicine being reimbursed at comparable rates to in-person visits, and physicians being allowed to provide health services across state lines without having to apply for additional licensures in that state (CMS, 2022). More importantly, these waivers from CMS allowed for specialty physicians to provide services that were not reimbursable in the past (Haque, 2021).

The Coronavirus Preparedness and Response Supplemental Appropriations Act (H.R. 6074) was signed into law by U.S. lawmakers on March 6, 2020 (Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020). The bill waived location requirements, allowing patients to be in any geographical area, even their home, to receive telemedicine services (Gelburd, 2020). Providers were also permitted to deliver telemedicine services from their home. The bill allotted that telemedicine services are paid out at the same rate as in-person services. The Health and Human Services Office of Civil Rights removed penalties so that technologies used do not have to fully comply

with HIPAA audiovisual equipment requirements (Drake et al., 2021; Fix & Serper, 2020; Gelburd, 2020).

With loosened restrictions and improved reimbursement rates, telemedicine reached a critical point at the onset of COVID-19. Approximately 48% of all physicians were actively using telemedicine to communicate and deliver health services (Kumar et al., 2021). Koonin et al. (2020) noted a 50% increase in telemedicine use during the first quarter of 2020 in comparison to telemedicine use in the first quarter of 2019. With its widespread use, telemedicine has been used in a multitude of disciplines and used to treat several clinical conditions in areas such as dermatology, podiatry, orthopedics, cancer patients, the elderly population, and many more during the COVID-19 pandemic (Latifi & Doarn, 2020; Neville et al., 2020). Moreover, telemedicine has provided relief to healthcare workers in hospitals, protected patients and clinical staff from virus exposure, and allowed clinicians who were COVID-19 positive/asymptomatic in quarantine to continue providing health services to patients (Latifi & Doarn, 2020).

Telemedicine and Podiatry

Podiatry primarily encompasses the treatment and prevention of diabetes-related foot and ankle conditions, foot abnormalities, nail conditions, foot injuries, and foot pain (Block, 2021; Eske, 2020). Due to their expertise in diabetes, podiatrists have been placed on the front lines on care coordination teams to assist in preventing, managing, and treating this common condition (Block, 2021). Among people with diabetes, complications with the diabetic foot such as foot ulcers are the most common reason for hospital admissions due to increased risk for amputations, infections, and death (Rogers

et al., 2020; Shin et al., 2020). Although there are evident limits to telemedicine services in a more hands-on specialty such as podiatry, it should not deter podiatrists from reconsidering the way care has always been delivered (Morrow, 2020). Telemedicine can augment the quality of care given in podiatric clinical practices by increasing patients' understanding of factors that contribute to their overall well-being from the podiatrists' actual viewpoint (Morrow, 2020). Moreover, telemedicine use can cultivate a "new normal" that benefits physicians, patients, and healthcare services (Bowen et al., 2021).

Prior to the COVID-19 pandemic, telemedicine use was slowly expanding (Kumar et al., 2021; Schroeder, 2018). A previous study utilizing a qualitative inquiry and an interpretive description approach identified conditions that were needed to successfully introduce telemedicine in diabetic foot care (Kolltveit et al., 2017). The study findings yielded four key conditions (user-friendly technology and training, telemedicine champion in the workplace, effective communication at all organizational levels, and support from leaders) that were congruent to the four key factors discussed in Venkatesh et al.'s (2003) UTAUT (Kolltveit et al., 2017). A previous study, utilizing an interpretive description approach, found that using telemedicine services empowered podiatrists to approach patients with diabetic foot ulcers with added knowledge, enhanced confidence, and improved wound assessment skills (Kolltveit et al., 2016).

At the onset of the COVID-19 pandemic, telemedicine use increased in clinical care practices in podiatry (Neville et al., 2020; Terry, 2020). Rogers et al. (2020) noted that the role of podiatrists during the pandemic should be reducing the burden on the healthcare system by safely managing patients with diabetic foot issues and keeping them

at home. A similar study conducted by Kavitha (2020) mentioned how telemedicine can be used as a screening tool for diagnosing and managing patients with diabetic foot problems and creating a triaging system that aids in deciding on hospitalizations. Podiatrists showed their adaptability by embracing telemedicine to ensure that patients had access to podiatric care services, thereby reducing risk of infections, amputations, ulcerations, and hospitalizations (Chadwick et al., 2020, Shin et al., 2020). Podiatrists across the country reported that telemedicine was most effective for dermatological issues and prescribing medications and was least effective for foot trauma (Neville et al., 2020).

In contrast, while some podiatrists quickly learned the intricacies of telemedicine and implemented services in their clinical practices for continuity of patient care, others remained adamant that podiatry is a hands-on specialty (Haspel, 2020). A practicing podiatrist in Washington echoed his disinclination for telemedicine as it does not allow for a thorough examination; he implemented telemedicine as an option for patients who did not desire to come into the office as he remained opened for in-person care during the pandemic (Terry, 2020).

Telemedicine in Orthopedics

Orthopedists and podiatrists treat and manage many of same foot and ankle conditions (Burton, 2021). Prior to the COVID-19 pandemic, telemedicine use was minimal by orthopedic physicians (Kolin et al., 2021). As in many fields, the pandemic forced orthopedic physicians to quickly adapt and implement telemedicine (Ferorelli et al., 2022). An increase was specifically noted in orthopedics and trauma surgery during

the years 2020–2021 (Ferorelli et al., 2022). An initial study assessing the experiences of 36 orthopedic physicians from the Johns Hopkins University School of Medicine at the beginning of the pandemic was very promising (Loeb et al. 2020). Telemedicine was instrumental in providing safe and effective continuity of orthopedic care to patients. Patients' opinions were very favorable toward telemedicine as it was convenient and time saving (Lawrenz et al., 2021). However, as with all new technology, some orthopedists expressed their disapproval due to the limitations, difficulties, and challenges of implementing telemedicine in their practice. The inability to examine patients was challenging and problematic and negatively affected the orthopedists' overall experience (Kolin et al., 2021). Approximately 43% of orthopedic physicians did not have any intentions to use telemedicine after the pandemic, while 59% of orthopedic physicians were willing to offer only annual visits after the COVID-19 pandemic (Kolin et al., 2021).

Telemedicine in Primary Care

Nationally, the prevalence of diabetes has progressively increased over the past decade (Johnson et al., 2019). The number of individuals being diagnosed with diabetes is exponentially increasing in comparison to the number of primary care physicians entering the field in the United States (Johnson et al., 2019). Primary care physicians diagnose, manage, and treat patients with diabetes in clinical practice; a major component of this field (Alruthia et al., 2019; Kavitha et al., 2020). Research on primary care physicians' intentions to use telemedicine was sparse pre-pandemic (Pikkemaat et al., 2021). Although opportunities have existed for telemedicine use, it remained limited

among primary care physicians (Gomez et al., 2021). However, at the onset of the COVID-19 pandemic, primary care physicians quickly moved towards incorporating telemedicine into their practice despite the difficulties they encountered (Gomez et al., 2021; Pikkemaat et al., 2021).

Although primary care physicians faced challenges and limitations with telemedicine, it was viewed as essential in maintaining patient continuity of care and limiting the spread of COVID-19. Primary care physicians expressed mixed opinions as telemedicine can be beneficial to the patient but an inconvenience to them. Telemedicine improved patients access to care and the visits offered more time for patient counseling however, physicians expressed the lack of physical examination adversely affecting the personal connections and touch shared between them (Breton et al., 2021; Gomez et al., 2021). Some primary care physicians found telemedicine to be more difficult in communicating and treating patients than in-person (Pogorzelska et al., 2023). While high satisfaction was reported among primary care physicians during their first month of using telemedicine visits, disappointingly, video visits were shorter than that of in-person visits which was of great concern for many physicians (Gold et al., 2021). Despite these challenges, primary care physicians accept the benefits of telemedicine in treating patients and would consider using it after the pandemic (McAlearney et al., 2022).

Telemedicine in Neurology

Conditions affecting an individual's feet can be indicative of a neurologic issue. The International Diabetes Federation suggests 628 million will be diagnosed with Diabetes by 2045 (Iqbal et al., 2018). Diabetic Peripheral Neuropathy (DPN) is the most

common cause of neuropathy around the world; it affects approximately half of the people diagnosed with diabetes (Iqbal et al., 2018). Like podiatrists, neurologist diagnose, treat, and manage patients with diabetes with DPN. The reliance on telemedicine is new for many neurologists in clinical practice (Ryu et al., 2021). Neurologists rely heavily on physical examinations findings and detailed discussions with patients in managing their neurological pathologies (Ryu et al., 2021). While there are limitations of telemedicine during neurological exams, the American Academy of Neurology provided advice on how to alter common exam techniques to combat those limitations (Algahtani & Shirah, 2022). Telemedicine experts within the field of neurology even suggested using family members as assistants during the visit to carry out remote instructions by the neurologist (Algahtani & Shirah, 2022). With guidance and strategies on how to combat limitations during exams, telemedicine systems are a great benefit to neurologist. Patients suffering from a stroke, headaches, dementia, even epilepsy have been shown to benefit greatly from telemedicine care (Aquino & Suffert, 2022). Telemedicine has not only allowed continuity of care for neurological patients, but it also allowed continued communication between neurologists and patients residing outside the city of the clinic which prevented worsening of current conditions (Celik et al., 2021).

Continued Use of Telemedicine After COVID-19

The government enacted preventative measures to stop the spread of COVID-19 and changed regulations to allow the use of telemedicine with appropriate reimbursement to physicians. These changes enabled physicians and stakeholders in the medical field to quickly implement telemedicine to provide continuity of care (Greiwe, 2022). Using

telemedicine during the COVID-19 pandemic has clear advantages such as protecting the healthcare workers and reducing the risk of exposure to vulnerable patients, clinic staff, and physicians (Qian et al., 2022). Many providers that implemented telemedicine during the pandemic expressed willingness for continued use to provide services to patients. Patients also reported satisfaction with telemedicine visits especially in primary care settings. Vosburg and Robinson (2021) noted that both patients and providers has a desire for continued use of telemedicine after the pandemic. Providers recognized the importance and value of telemedicine during the pandemic and patients reported positive experiences in the quality of care they received through telemedicine (Busso et al., 2022; Wilhite et al., 2022). The use of telemedicine after the COVID-19 pandemic holds a variety of opportunities for patients and providers.

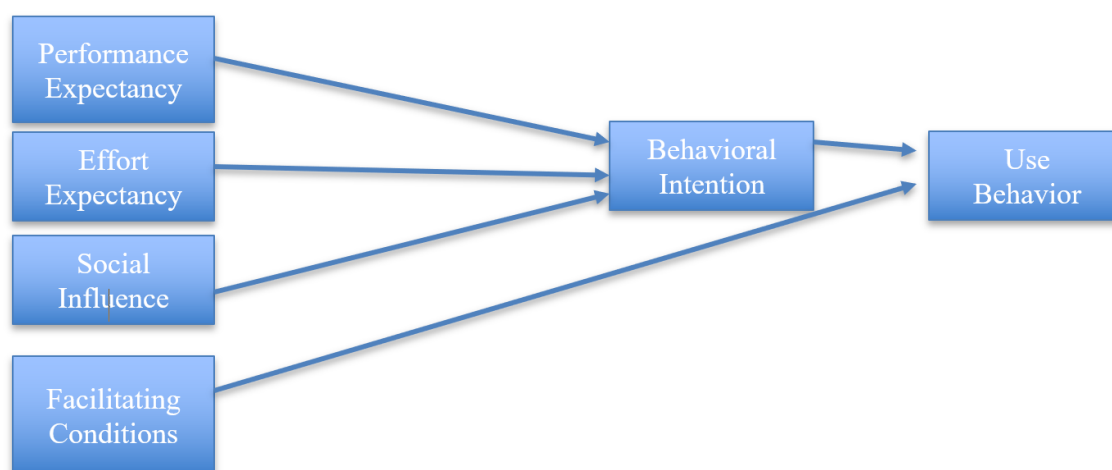
The demand for telemedicine services by patients remained consistent when COVID-19 pandemic restrictions were lifted in many states (Busso et al., 2022). Studies conducted during the COVID-19 outbreak noted the ability of telemedicine to provide high quality care to patients across a range of specialties (Qian et al., 2022). The extent to which telemedicine will be used in clinical practices in the sustainable future will be dependent on the steadiness of reimbursement rates and state/federal health policy changes (Qian et al., 2022). Although there are limitations and challenges with using telemedicine technology, one thing is for certain, more people have been exposed to what it can offer in comparison to before the COVID-19 pandemic (Drake et al., 2022).

Unified Theory of Acceptance and Use of Technology

This study will be guided by the UTAUT by Venkatesh et al. (2003). The UTAUT is a technology acceptance model that aims to explain an individual's intention and behavior to use a new technology such as telemedicine (Harst et al., 2019). The UTAUT was developed when Venkatesh et al. (2003) consolidated the concepts of eight models that previously explained information systems usage behavior. The eight models are the Theory of Reasoned Action (Fishbein & Ajzen, 1975), Technology Acceptance Model (Venkatesh & Davis, 1996), Motivational Model (Davis et al., 1992), Theory of Planned Behavior (Ajzen, 1985), Model of Computer Use (Thompson et al., 1991), Diffusion of Innovations Theory (Rogers, 1995), Social Cognitive Theory (Davis et al., 1989), and the Combined Theory of Planned Behavior and Technology Acceptance Model (Taylor & Todd, 1995a). Each of the eight theories attempted to predict the behavior of an individual in the use of new technology systems. In consolidating the eight models, the UTAUT provides a structured approach to understanding the factors that influences an individual to adopt, accept, and use new technologies. Figure 1 shows the modified UTAUT model that was used for this study.

Figure 1

Modified Unified Theory of Acceptance and Use of Technology Model



Note. From “User Acceptance of Information Technology: Toward a Unified View,” by V.

Venkatesh, M. Morris, G. Davis, & F. Davis, 2003, *MIS Quarterly*, 27(3), p. 447

(<https://doi.org/10.2307/30036540>).

The UTAUT has thrived significantly in both organizational and non-organizational settings (Venkatesh et al., 2016). The UTAUT has either been applied as is in studies, extended it to study different technologies in organizational and non-organizational settings, or applied with other theories to explain an individual’s intention to use new technologies (Binyamin & Zafar, 2021). This theory has been applied by physicians in clinical settings, employees in governmental organizations, and by students and faculty in secondary school and universities (Venkatesh et al., 2016). Cimperman et al. (2016) used this theory to understand older populations and what influenced their use of telemedicine. In Ethiopia, Shiferaw et al. (2021) used this theory to predict the behavioral intention of physicians to use new technology in a clinical setting. The

UTAUT has been used as the foundation in research in understanding physicians, patient, and consumer attitude and feelings towards new technology. Figure 1 shows the UTAUT model.

The UTAUT identifies four key factors (performance expectancy, effort expectancy, social influence, and facilitating conditions) that predict an individual's intention to implement and use a new technology (Venkatesh et al., 2016). According to the UTAUT, performance expectancy, social influence, and effort expectancy are key drivers to adoption of a new technology while facilitating conditions and behavioral intention determine actual use of the technology (Ahadzadeh et al., 2021; Venkatesh et al., 2016). A study conducted by Rahi (2022) concluded that individuals were more likely to adopt telemedicine if focus was placed more on performance expectancy and effort expectancy. A literature review conducted by Rouidi et al. (2022) found that the UTAUT was the most widely used model in predicting an individual's intention to use telemedicine. More importantly, the success of implementation and use of telemedicine is primarily determined by the provider (Rouidi et al., 2022). This study will focus on all four key factors of the UTAUT to understand podiatrists' experiences with telemedicine after adoption and their acceptance thereafter in delivering podiatric care services in their clinical practices. Each factor will be evaluated independently to understand how they impact an individual's intention to use telemedicine.

The first key factor of the UTAUT is focused on whether the implementation of a new technology will lead to its user's personal gain. Performance expectancy focuses on whether the new technology will be useful in attaining advancements or improvements in

the user's performance at work (Venkatesh et al., 2003). Performance expectancy is the strongest predictor of an individual's intention to utilize a new technology in mandatory and voluntary settings (Cai et al., 2021). Research regarding technology implementation has established how important it is to address performance expectancy upfront with users to influence adoption and use (Ahadzadeh et al., 2021; Conolly et al., 2020; Kho et al., 2020; Wang et al., 2020). With this factor, individuals focus is on whether the new technology (telemedicine) will increase their work efficiency, improve their job performance, improve the quality of their work, and meet their professional expectations.

The second key factor of the UTAUT is focused on how easy or complex the technology is to its user. Effort expectancy focuses on effortlessness and easiness associated with the use of the technology (Venkatesh et al., 2003). Effort expectancy is a direct determinant of a user's behavioral intent to use a new technology (Venkatesh et al., 2003). In a study by Purwaningdyah et al. (2021), consumers were significantly influenced to use an online shopping application based on how easy it was to use. In a literature review study, Dhingra and Mudgal (2019), concluded that the concept of ease of use is a predictor of intention in using electronic banking, educational technology, online shopping, and other technological applications. If users believe a new technology will make things easier for them, they are more likely to adopt the technology (Wijaya et al., 2021; Khan et al., 2019).

The third key factor of the UTAUT is focused on how important other people's opinions or perceptions are when deciding whether to use a new technology. Social influence focuses on the social pressure to conform to the beliefs, actions, or expectations

of those deemed important to and around the user (Youn et al., 2021). If an individual recognizes that others believe it is important to use that new technology, then it should be used (Venkatesh et al., 2003). A study conducted by Izuagbe et al. (2019) found that social factors are an important predictor of intention to use a new technology. Research by Youn et al. (2021) suggests that individuals are more inclined to comply with others' expectations to use a new technology when they can reward their behavior. More importantly, when there is a lack of information or a sense of indecision, people tend to look to others for behavioral cues and follow suit (Feindt & Poortvliet, 2020).

The fourth key factor of the UTAUT is focused on the support that is available to users when implementing a new technology. If an individual believes the organization has the means to support the use of a new technology, they are more inclined to use it (Venkatesh et al., 2003). Wijaya et al. (2021) found that the second highest display of satisfaction was facilitating conditions when evaluating the use of Zoom in first time users. Kaphza et al. (2021) also found facilitating conditions to be positively linked with the use of telepsychiatry and health care providers. Facilitating conditions is a key factor in continuous use after implementation if the user believes the organization has support they can access for the technology when needed (Kooji et al., 2022).

The application of the UTAUT to this study aided in identifying which key factors play a significant role in telemedicine implementation and adoption by podiatrists in clinical practice and possible continuous use in the future. A study conducted by Yamin and Alyoubi (2020) showed how significant social influence had on individuals' intention to adopt telemedicine during COVID-19; although significant, the effect size of

its significance was small in comparison to that of performance expectancy and effort expectancy which ultimately decided the user's intention to continue using telemedicine. Ahadzadeh et al. (2021) found that performance expectancy and the intention to use medical health systems was the strongest followed by effort expectancy and social influence. Both studies demonstrated that while social pressure could tremendously affect an individual's intention to utilize telemedicine, performance expectancy and the easiness of the technology plays an even bigger role in deciding actual use and acceptance.

Methodology Literature

This qualitative research study interviewed participants on Zoom, a virtual platform with semistructured questions. Qualitative research has been widely used in the social sciences field for many years. Researchers use qualitative research to answer the “what”, “how”, and “why” questions of an experience that are unattainable through quantitative methods (Aghaej et al., 2020; L. Haven & Van Grootel, 2019). Qualitative studies focus primarily on the participants perspectives. One of the key advantages of qualitative research is that it provides an abundance of data about participants lives and behaviors whereby understanding and appreciating them wholly (Delgado-Hito & Romero-Garcia, 2021; Nosrati Beigzadeh et al., 2021). Qualitative research is naturalistic and without objectivity (Aspers & Corte, 2019; Kelly, 2017). This provides an opportunity for researchers to study participants in their natural settings while attempting to make sense of their experience or perspective on a topic. Utilizing a qualitative method aligns with the intent of exploring the overall experiences of podiatrists in the implementation, use and acceptance of telemedicine.

One of the best ways to gain an in-depth understanding of people's lived experiences is through semistructured interviews (Mahat-Shamir et al., 2021). Semistructured interviews are perceived as natural. In a natural setting, participants are more inclined to provide detailed information of their experiences and their interpretation of them (Mahat-Shamir et al., 2021). A qualitative study by Nataliansyah et al. (2022) noted that clinicians were more inclined to give detailed information regarding telemedicine implementation when the interview felt more like a conversation. Another qualitative study by Corcoran et al. (2023) concluded that because of the nature of semistructured interviews, participants elaborated on their experience with transitioning to telemedicine during the COVID-19 pandemic.

One of the major roles of a qualitative researcher is to ensure participants are comfortable in their setting and feel at ease to openly express themselves during the interview (Goldberg et al., 2022). With the outbreak of COVID-19, virtual platforms have come to the forefront of conducting meetings and interviews to prevent the spread of the virus. Goldberg et al. (2022) concluded that Zoom virtual platform allows qualitative researchers the same opportunity to have natural conversations in a comfortable setting of the participants choosing. A qualitative study by Mattocks et al. (2022) conducted semistructured Zoom interviews on the challenges and opportunities with telemedicine with clinicians from nine medical centers in eight states. With Zoom, researchers have the potential to reach a wide array of participants and enhance the saturation of the data. Virtual platforms such as Zoom saves time and expense with traveling, prevents the spread of viruses between researcher and participant, and provides

confidentiality as a private room (Gray et al., 2020). Qualitative studies by Breton et al. (2021) and Courtney et al. (2021) found that they were able to conduct semistructured video interviews with participants in different states, maintain a rapport with participants during the interview, and maximize on the number of participants in the study. Each study reported over 20 participants with no cancellations.

Research Design Literature

This qualitative study used an Interpretive Descriptive (ID) approach as the research design to address the research questions. The ID approach is chosen by qualitative researchers to gain a better understanding of a phenomena within the health field (Garipey, 2021). While gaining a better understanding of that phenomena, knowledge is generated which can then be applied to the intended medical discipline. The ID approach was originally developed by Thorne et al. (1997) to meet a need for trustworthy and contextualized knowledge within the field of nursing (Thestrup Hansen et al., 2021). Interpretive descriptive approach is rooted in three traditional qualitative methodologies- phenomenology, grounded theory, and ethnography (Kolltveit et al., 2017). A valuable aspect of the ID approach is that it provides expert clinical knowledge where there is a lack of information about a health phenomenon (Bridarolli et al., 2020). The ID approach is applicable to this study as it aims to understand the experiences of podiatrists using telemedicine during COVID-19 in clinical practice. Understanding their overall experiences with telemedicine could potentially inform best practices and strategies for continuity of care which could be applied to the field of podiatry.

Interpretive descriptive approach is a widely used design as it offers flexibility in analyzing qualitative data within medical research (Burdine et al., 2021). Its focus is to uncover what is not known in a specific discipline and share that knowledge once its uncovered. A study by Vasileyski et al. (2023) used the ID approach to understand the needs and experiences of Australian women who became pregnant after having bariatric surgery. ID approach was beneficial to the study as it allowed for deeper understanding of health and wellbeing complexities. Another study by Fox et al. (2022) used the ID approach to understand family caregiver challenges in providing support to recently hospitalized relatives. ID approach provided an interpretive understanding of the caregiver's experiences while informing best practices for future caregivers. Similar to this study, Bauer et al. (2021) and Sunner et al. (2022), used the ID approach to understand the experiences of clinicians and patients using telemedicine. ID was beneficial and appropriate to both studies as it allowed for a deeper understanding of the participants experiences, and it supported the exploration of the research in a clinical setting.

Paul Colaizzi's 1978 seven- step qualitative data analysis method will be used to analyze data collected for this study. Colaizzi's method involves extracting phrases and revealing themes regarding the phenomena (Zheng et al., 2023). This method allows the researcher to engage deeply with the data and gain insights and understanding of the topic. The seven-step method consists of reading and re-reading the data to get a sense of the whole transcript, extracting significant statements, formulating meaning from those statements, organizing meanings into themes, developing descriptions of the topic based

on themes, condensing descriptions, then returning to participants for validation (Colaizzi, 1978; Young et al., 2019). Colaizzi's method is not only robust but also vigorous; therefore, this method can be used reliably to understand participants experiences (Tan et al., 2022). Colaizzi's method can be used as is to analyze data or it can be used in combination with analytic software to gain understanding of the topic.

For this study, Colaizzi's method was used in combination with the NVivo analytic software. Similar to this study, Ardakani et al. (2022) used the Colaizzi method with MAXQDA analytic software to gain a better understanding of participants lived experiences after recovering COVID-19. This combination allowed the researcher to further code the data into themes and sub- themes. Tan et al. (2022) and Tao et al. (2023) also used Colaizzi's method and NVivo software to gain a better understanding of participants lived experiences through further coding analysis of the collected data for their studies. In comparison to the studies mentioned prior, Liu et al. (2023), Wirihana et al. (2018), and Yin et al. (2023), used the Colaizzi method by itself as they felt it was robust and rigorous enough to provide a deep and thorough understanding of their phenomenon. Additionally, Davoodi et al. (2022), Hee and Jae (2021), and Zhou et al. (2022) used Colaizzi's seven-step method by itself as it provides researchers with logical and clear steps to gain a deeper meaning of participants experiences. Whether Colaizzi's method is used by itself or in combination with an analytic software, it has the ability to increase the reliability and dependability of the results obtained by the study. Colaizzi's method is beneficial in qualitative studies as it seeks to understand the data and above all,

it requires the validation from its participants to ensure the results are credible and accurate.

Summary and Conclusion

Telemedicine has emerged as a useful tool in treating, monitoring, and managing patients with diabetic foot conditions and other foot abnormalities. Previous studies in podiatry explored the initial experiences of podiatrists in implementing telemedicine services for individuals with foot ulcers, detailed the experiences of podiatrists managing varied cases of the diabetic foot on telemedicine, and explored key conditions necessary in successfully implementing telemedicine in diabetic foot care (Kavitha et al., 2020; Kolltveit et al., 2016). Previous studies demonstrated how telemedicine streamlined the patient/physician relationship by helping them see patients in a more holistic manner and how useful of a tool it is in managing diabetic foot conditions (Kavitha et al., 2020; Kolltveit et al., 2017). Due to its many benefits, telemedicine has been used across multiple disciplines and specialties; although technical hurdles and critics exist, telemedicine can heighten the overall patient experience in podiatry (Haleem et al., 2021).

There is paucity in the kinds of literature exploring the experiences of podiatrists' who use telemedicine to deliver podiatric care services to patients in their clinical practice during COVID-19 within the United States, more specifically, a southeastern state. There is also a lack in the body of literature on whether telemedicine is a method of care podiatrists accept in delivering podiatric care services in their clinical practice during COVID-19. This study addressed the lack of knowledge regarding podiatrists' overall

experiences in delivering podiatric care services through telemedicine in their clinical practices during COVID-19.

This qualitative study utilized an interpretive description approach to gather in-depth insights directly from podiatrists on their overall experiences with telemedicine and how it potentially shaped their overall competence in communicating and caring for patients with varying podiatric ailments and conditions. In Chapter 3, I discussed the following topics regarding the research study: research design and rationale, my role as the researcher, methodology, and issues of trustworthiness.

Chapter 3: Research Method

Introduction

The purpose of this qualitative, interpretive descriptive study was to understand the experiences of podiatrists who used telemedicine to deliver podiatric care services to patients in their clinical practice during COVID-19. I interviewed podiatrists within a southeastern state to examine whether telemedicine was a method of care they accepted in delivering podiatric care services in their clinical practice during COVID-19. Additionally, findings from this study may assist in informing intent for continued use in the future. In Chapter 3, the following topics regarding the research study are discussed: research design and rationale; role of the researcher; participant selection logic; instrumentation; procedures for recruitment, participation, and data collection; data analysis plan; credibility; transferability; dependability; confirmability; and ethical procedures.

Research Design and Rationale

This study used an interpretive descriptive approach to address the research questions. An interpretive descriptive approach allowed me to gain in-depth insights directly from podiatrists on their overall experiences with telemedicine at the onset of COVID-19 and whether they accepted it as a method in delivering care. An interpretive descriptive approach works well for studies in a clinical setting and knowledge development that can be beneficial to the field of podiatry. This design works especially well for studies using interviews. This design was chosen for this study because the only

way to understand whether podiatrists accept telemedicine is to interview them and hear it from them directly. The research questions that guided the study were as follows:

- RQ1: What were the overall experiences of podiatrists regarding the implementation of telemedicine to deliver podiatric care services in clinical practice during COVID-19?
- RQ2: What were the perceived challenges identified by podiatrists after implementation of telemedicine to deliver podiatric care services in clinical practice during COVID-19?
- RQ3: What are the perceived opportunities identified by podiatrists after implementation of telemedicine in clinical practice to promote continued use in the field of podiatry?

Role of the Researcher

For this study, I served as the observer-participant. A researcher participates in a study by interacting with participants and collecting data, which inevitably shapes the information collected (Russell et al., 2016). Confidentiality and protecting the privacy of participants are top priorities of the researcher when conducting a research study (Fleet et al., 2016). In conducting interviews, the researcher should acknowledge and respect the individuality of each participant; develop a trustful relationship with participants, thereby creating a comfortable environment for data collection; understand that each individual has their own perspectives about the world; recognize their own biases; and be aware of cultural differences (Karagiozis, 2018). The researcher should demonstrate the highest

degree of sensitivity and respect towards each participant, as this affects the depth and quality of the data collected (Karagiozis, 2018).

To mitigate any biases, I used bracketing to create a valid and reliable research study. Bracketing requires the researcher to purposefully put aside any beliefs or experiences before and during the research study (Baksh, 2018). While bracketing can lessen adverse effects of the research goals, more importantly, it enables the researcher to deeply reflect on the research design, collection, and interpretation of data and report findings (Tufford & Newman, 2012).

Population and Sample

The population for this study consisted of podiatrists who implemented telemedicine in their clinical practice at the onset of COVID-19 and were currently utilizing it in delivering podiatric care services to patients in a southeastern state. This study used a purposive sampling strategy. Sampling embraces small representatives in the population to understand a social phenomenon (Chauke et al., 2021). Purposive sampling is suitable when the researcher selects participants who fit specific parameters of the research questions and aims (Vermeulen et al., 2019). Purposive sampling effectively narrows down the potential participant pool, which improves the accuracy of data and findings (Sibona et al., 2020).

The inclusion criteria in this study focused on podiatrists who had the authority to make decisions on telemedicine implementation and usage in their clinical practice. Podiatrists are among health professionals and are not considered a vulnerable population. Therefore, for this research study, all podiatrists, including pregnant and

older populations, whose members were licensed and practicing within a southeastern state and had experience in the phenomenon being explored (telemedicine) during the COVID-19 pandemic were eligible to participate. Only podiatrists were interviewed for this study; other health care workers who were not podiatrists in clinical practice were not interviewed.

Data saturation is the most common guiding principle in qualitative research in evaluating the abundance of purposeful samples (Hennink & Kaiser, 2022). Data saturation is achieved when gathering more data reveals no additional information (Hennink & Kaiser, 2022). Data saturation is the point at which no new data or themes are observed by the researcher when conducting additional interviews or cases (Boddy, 2016). To gather an abundance of information, participants were interviewed until data saturation was achieved.

In qualitative research, data saturation is dependent on the sample size; however, what represents an appropriate sample size in any qualitative research is dependent on the aim of the study and framework (Boddy, 2016). Ravitch and Carl (2016) made mention that qualitative studies typically have small sample sizes even though there is no uniform agreement on what is sufficient. Qualitative researchers try to have a diverse sample size and to conduct in-depth interviews so that all important aspects of the phenomena are obtained. The more information the participants in the sample have that is relevant to the research study, the lower the number of participants that will be needed (Malterud et al., 2021). Guest et al. (2006) mentioned that 12 participants were sufficient for data saturation, with a minimum of six participants. In contrast, Baker and Edwards (2012)

recommended a sample size between 12 and 60 for saturation; the larger the sample size, the higher the validity. Baker and Edwards (2012) also mentioned that a sample size of one is enough, as the study's sample size depends on the design and purpose rather than any predetermined benchmark. Another study by Kim (2016) mentioned that studies with a focus on lived experiences through lengthy interviews only need small sample sizes. A total of 13 individuals who met the inclusion criteria were recruited through this sampling method.

For this study, participants were identified through a medical association located within a southeastern state database. The medical association has an active database of 1,109 podiatric physicians residing within a southeastern state. After obtaining approval from the medical association, introductory emails were sent out to the entire database, which included a summary of the proposed research study and inclusion criteria. A Google email address was created for the sole purpose of recruitment and communication with prospective participants. Prospective participants were given 30 days to respond to the email invitation. After all willing participants accepted the email invitation, consent forms were sent for them to review, acknowledge, and sign. After I had received all consent forms, each participant was asked for a convenient interview time and date within a given 2-week time period that I specified. Confirmation and reminder emails were sent to each participant with their Zoom link for their specified interview date and time. Each virtual interview session lasted between 25 and 50 minutes.

Data Collection

As the researcher, I was the primary instrument. Semistructured interviews with open-ended questions were conducted via the Zoom virtual platform. Zoom is an advanced videoconferencing platform that has numerous features that enhance its appeal to qualitative researchers (Archibald et al., 2019). Zoom has screen-sharing abilities that allowed the participants and me to display documents such as the letter of consent or research information; it included features for confidentiality of the interview session and eliminated the cost and expense for traveling, especially during the COVID-19 pandemic (Gray et al., 2020). Each interview session on Zoom was audio recorded, and the live transcription feature was activated to ensure that all the participants' answers were well documented and transcribed.

Semistructured interviews with open-ended questions allowed the conversation between the podiatrists and I to range broadly around the research topic (Bleiker et al., 2019). More importantly, they allowed the exploration of the participants' perspectives and experiences and potentially revealed in-depth insights into the phenomenon (Taylor et al., 2021). Open-ended questions allow participants the opportunity to express their thoughts, feelings, and experiences with words of their choice (Ozelci, 2021). Any questions regarding the research study were answered before each interview session. The interview questions are found in Appendix A. I carefully developed these questions to gather detailed and precise data for this study. The interview questions were also reviewed by expert panelists to ensure that they were clear and in alignment with the research questions.

Virtual interviews were conducted over an 8-week period. At the conclusion of each interview, I thanked each participant for their time and participation in the research study. I reiterated to participants about keeping their data confidential and providing contact information in case they had any follow-up questions from the interview. I informed each participant that a full transcription from the Zoom platform would be emailed to them to ensure its accuracy upon request.

For this study, I developed the interview questions for participants. To ensure that the interview questions were clear, fair, and valid, I consulted with two expert panelists within the field of podiatry. The panelists were chosen based on their professional and academic background. The first expert panelist was a practicing podiatrist/assistant dean of clinical education at a podiatry medical school. This panelist had over 15 years of treating patients in a clinical setting and teaching future podiatrists within a medical school. The second panelist was an associate academic dean at the same podiatry medical school as the first panelist. This panelist had over 30 years of working with practicing podiatrists and teaching future podiatrists within the medical school. Both panelists were emailed the interview questions and asked to review and provide feedback at their convenience. The first panelist requested a phone conference to review each question and provide feedback. During the phone conference, the expert panelist provided feedback regarding primarily the wording of some questions and grammatical errors. Those specific questions were modified and updated. The second expert panelist requested a face-to-face meeting to review the interview questions. The panelists went question by question and provided feedback. The interview questions were modified and updated in

the presence of each panelist. A follow-up email was sent to both panelists with the updated questions, and approval emails were returned.

Data Analysis Plan

For this study, computer-assisted qualitative data analysis software (CAQDAS) was used to analyze the data collected. CAQDAS programs are useful and established tools for qualitative research (Woods et al., 2016). NVivo software is a versatile tool; it is user-friendly for novice users, facilitates coding for themes, has a variety of options to explore data within different tabs, and can upload images and audio files (Elliott-Mainwaring, 2021).

Data analysis was performed using a modified version of Colaizzi's seven-step analytic method. According to Imani et al. (2021), the seven-step method entails reading all the transcripts to acquire a feeling for them, extracting significant statements, formulating meanings from each significant statement, organizing formulated meanings into themes, incorporating results into a comprehensive description of the phenomenon, formalizing a comprehensive description of the phenomenon, and returning to participants for validation. Wang and Volker (2013) used a modified approach to Colaizzi's seven-step method to understand the lived experiences of school nurses in treating patients with diabetes. The last step, returning to participants for validation, was omitted from this study, as the study participants were busy with schoolwork and examinations. As in this study, the last step of Colaizzi's analytic method, returning to participants for validation, was omitted due to a busy study population.

The transcribed interview data from Zoom were placed in a Word document. The transcribed interview data were transferred to NVivo for grouping. I identified reoccurring themes and aligned them with the research questions, framework, and problem.

Issues of Trustworthiness

Credibility is a vital indicator for establishing a strong qualitative research study. Credibility encompasses honest and accurate description of the phenomenon and authentic research claims (Liao & Hitchcock, 2018). Analysis should be reasonable and with acceptable evidence for claims made in the research problem (Bleiker et al., 2019). One strategy to mitigate bias, enhance credibility, and facilitate data saturation is triangulation, as it adds depth to the data collected by the researcher (Fusch et al., 2018). An additional strategy was requesting constant feedback from my committee members when forming theories from my data, thereby identifying and preventing biases that could have damaged my study. Member checking is also recommended as an important strategy in strengthening the credibility of data. Through member checking, a researcher provides participants with the data analysis and conclusions of a study to ensure accuracy (Amin et al., 2020).

Transferability signifies the degree to which the phenomenon of a research study is applicable to future research, practice, or theory (Moon et al., 2016). The purpose in transferability is to use the rich data obtained in a qualitative research study so that others can assess its application in other compasses (Bleiker et al., 2019). The researcher's focus should be on the participants and their experiences without categorizing them as

everyone's experiences (Connelly, 2016). The researcher can maintain the transferability of a study by providing rich, detailed descriptions of the data and participants and by being transparent about the analysis of the data (Connelly, 2016).

Dependability is the stability and consistency of the research data over time and the conditions of the study (Bleiker et al., 2019; Connelly, 2016). The researcher should provide an audit trail on the process for participant selection, transcripts, field notes, and reflective notes to ensure the stability of the research study (Bleiker et al., 2019). To ensure the dependability of my study, I used the same interview questions for each participant and evaluated the accuracy of the transcribed data collected.

Confirmability is the degree to which the results of the research study can be followed and replicated by other researchers (Moon et al., 2016). Confirmability ensures that the research finds are consistent and can be repeated; the researcher should keep a very detailed log with analysis and method descriptions (Connelly, 2016). In keeping a detailed log, the researcher allows the reader to establish confirmability by showing how the data, concepts, and theories developed (Moon et al., 2016). The researcher must be constantly reflexive to avoid any biases; memo writing and keeping a journal will aid in the researcher's reflexivity (Fleet et al., 2016).

Ethical Procedures

Avoiding harm to participants taking part in a research study should be the most important ethical concern of a researcher (Fleet et al., 2016). The researcher should be respectful and understanding of the rights of the participants in a study (Karagiozis, 2018). Before the collection of data, Walden University's Institutional Review Board

(IRB) reviewed the proposed plan for ethical compliance. Informed consent, confidentiality, and safeguarding the privacy of the participant by disguising their identity are key ethical concerns in a research study (Fleet et al., 2016).

Informed consent is frequently referred to as the foundation of research ethics; a major element of the informed consent specifies that participants' involvement is on a voluntary basis (Xu et al., 2020). All prospective participants were provided with an informed consent before participating in the research study. The informed consent was included in the initial email to participants after receipt of their intent to partake in the study. The participants' names were replaced with codes to protect their privacy. The Zoom recording of each participant was downloaded to my computer; each file was saved to an external hard drive, which was the designated storage for this research study. The transcriptions and research notes were saved on the external hard drive. The external hard drive was placed in a passcode-protected safe for 5 years and will be destroyed thereafter.

Summary

This chapter included the role of the researcher, the research methodology, ethical procedures, and steps vital for this study. The purpose of this chapter was to explain in detail the importance of the research instrumentation and trustworthiness required for accurate and rich research findings. This chapter described the significance of the research design, the participant selection process, the data collection method, and the data analysis plan, which was crucial for the integrity of the study. In Chapter 4, I will discuss the analysis of the podiatrists' overall experience with telemedicine and whether they accepted telemedicine as a method of care in providing podiatric services.

Chapter 4: Results

Introduction

The purpose of this interpretive descriptive study was to understand the experiences of podiatrists who used telemedicine to deliver podiatric care services to patients during the COVID-19 pandemic. Participants were recruited through a purposive sampling strategy. A total of 13 podiatrists were recruited to participate in this study.

The research questions that guided this study were the following: What were the overall experiences of podiatrists regarding the implementation of telemedicine to deliver podiatric care services in clinical practice during COVID-19? What were the perceived challenges identified by podiatrists after implementation of telemedicine to deliver podiatric care services in clinical practice during COVID-19? What are the perceived opportunities identified by podiatrists after implementation of telemedicine in clinical practice to promote continued use in the field of podiatry? The research questions were qualitative in nature, and a purposive descriptive design was used. The data collection tool used for this study was an interview guide to conduct semistructured interviews with 13 podiatrists. In this chapter, the study setting, demographics, data collection, data analysis, evidence of trustworthiness, results, and summary of the study are provided.

Setting of Study

All participant interviews were conducted through a virtual online videoconferencing platform, Zoom. This setting was ideal for data collection as participants were located all over a southeastern state. Once consent was received via email to participate in the study, the participant determined a suitable time and date to

conduct the interview through Zoom. After confirmation of the date and time with the participant, a secured password and link was sent to the participant to access.

Demographics

A total of 13 podiatrists participated in this study. The participants were asked demographic information pertaining to their (a) age range; (b) number of years in clinical practice, and (c) telemedicine platform used to deliver podiatric care services to patients. Table 2 provides a visual representation of the demographic data collected from participants in this study.

Table 2

Podiatrist Participant Demographics

Participant ID	Age range	Years in clinical practice	Telemedicine platform used
P1	50–60	25	Doximity & Zoom
P2	30–40	7	Zoom
P3	50–60	12	Zoom
P4	30–40	5	Doxy.me
P5	50–60	27	eClinical
P6	40–50	17	eClinical & Zoom
P7	40–50	14	Doxy.me & Zoom
P8	50–60	27	Doxy.me & Zoom
P9	30–40	5	Zoom
P10	30–40	7	Zoom
P11	30–40	3	BlueJeans & Epic
P12	30–40	5	Zoom
P13	40–50	18	Zoom

Data Collection

On August 21, 2023, this study was approved by the Walden University IRB as IRB# 08-21-23-0844933 with an expiration date of August 20, 2024. To obtain approval,

the plans in Chapter 3 were slightly modified. These modifications included the removal of the participants and a \$25 gift card to the first 10 participants. Interviews conducted via Zoom were only to be audio recorded, and all participants needed to receive the \$25 gift card for participating. Modifications were also required for the ‘Risks and Benefits of Being in the Study’ section. The following addition was required in this section: Once the study concluded, the researcher will email a summary of the study results to all participants’ emails.

An invitational email from a collaborating organization was sent to all podiatrists within a southeastern state. The email detailed the research study and its purpose. If participants were interested in participating, they were instructed to contact me via the study email. Once I confirmed they met all the requirements to participate in the study, an email with the consent form was sent to the participant. Once the participant consented by responding with the words “I consent,” an additional email was sent asking what time and date best suited their schedule. After the date and time were confirmed, an email with the Zoom link and secured password was sent to the participant.

The recruitment period was 8 weeks, with two invitational emails (one at the beginning of the 1st week and the second at the 7th week) being sent by the collaborating organization. The first invitational email yielded nine interviews during the first 6 weeks of the recruitment period. The second invitational email yielded four interviews during the last 2 weeks of the recruitment period. By the tenth interview, data saturation was achieved, but the last three participants were interviewed to gain additional perspectives for the study.

I conducted all 13 interviews in a private and quiet setting in my home. I encouraged all participants via confirmation email with Zoom link and password to be in a private and quiet location, if possible, for their interview. At the beginning of each interview, I reiterated to the participants that the Zoom interview was only going to be audio recorded, with no video, in case they tried to turn that feature on, and I provided the estimated length of the interview. I reviewed the study purpose to ensure that they were willing to continue with the interview and made small talk before starting the recording to make them at ease and comfortable. Following this, all participants agreed to proceed and start the interview. The 13 interviews lasted between 25 and 50 minutes. To ensure that I stayed on track and respected the participants' time and busy schedules, I kept monitoring the time. Only two interviews went over the 45-minute anticipated time, but the participants were okay with this, as they wanted to provide as much information as possible.

Upon completion of the interview, I stopped the recording and thanked the participants for their time and interest in the study. I reminded the participants that a summary of the results and a \$25 Starbucks gift card link would be sent to their emails. All 13 participants declined the \$25 gift card and mentioned that their intent in participating was to provide this needed information to the field of podiatry. The interviews were recorded, and an audio recording and transcript were generated by Zoom. The generated transcripts were downloaded from Zoom and placed into individual Word documents. The generated transcripts were not fully accurate and required edits. From the generated transcripts, eight required minor edits, and five required major edits. This was

done by listening to each audio recording and editing transcripts via Microsoft Word document. To ensure accuracy, I listened to each audio recording again while reviewing the edited transcripts.

Data Analysis

Each interview was audio-recorded and transcribed through Zoom and coded for emergent themes. After each transcript was downloaded from Zoom, I reviewed each one along with the audio recording for accuracy and made edits where necessary. From the generated transcripts, eight required minor edits, and five required major edits. After I had ensured the accuracy of each transcript, they were uploaded as a new project into the NVivo qualitative analysis software. NVivo provided the opportunity for analysis to be completed in a central location.

I analyzed the data using a modified version of Colaizzi's seven-step method (reading and rereading each transcript, extracting significant statements, formulating meaning from each statement, organizing meanings into subthemes, developing subthemes/descriptors, and condensing subthemes/descriptors into themes). For the first stage of analysis, I read and reread each transcript to obtain a general sense of each participant experience. For the second stage of analysis, significant statements were highlighted from each transcript, which provided a whole meaning of the experience. I arranged each significant statement into three sections that aligned with the research questions. The following examples illustrate significant statements extracted from the interviews:

I asked what led to telemedicine implementation, she said “I actually have been using telemedicine since 2013. I stopped shortly after because it was too many requirements back then but then I started back again at the beginning of COVID.”

Well solely due to the COVID scenario where you had restrictions on you know, person to person contact or just contact with patients and due to the concerns with that and the risk to the patient, and not just the patient, but to us I think at that point was in the best interest to implement that as an option for patients who felt it necessary, you know, felt it in their best interest not to come to the office.

For the third stage of analysis, I formulated meanings or a general restatement for each significant statement from the transcript. Table 3 illustrates how each significant statement was converted into a formulated meaning.

Table 3*Examples of Formulated Meanings From Significant Statements*

Significant statements	Formulated meanings
I asked what led to telemedicine implementation, she said “I actually have been using telemedicine since 2013. I stopped shortly after because it was too many requirements back then but then I started back again at the beginning of COVID.”	Prior restrictions discouraged the use of telemedicine, but COVID presented opportunity for its use again.
“Well solely due to the COVID scenario where you had restrictions on you know, person to person contact or just contact with patients and due to the concerns with that and the risk to the patient, and not just the patient, but to us I think at that point was in the best interest to implement that as an option for patients who felt it necessary, you know, felt it in their best interest not to come to the office.”	COVID was the sole driver in implementing telemedicine due to government restrictions and patients not wanting to leave their homes.

For the fourth stage of analysis, after obtaining formulated meanings from each significant statement, I arranged them into a cluster of subthemes/descriptors. Before completing Stages 5 and 6, all transcripts, significant statements, formulated meanings, and cluster subthemes were reviewed again. Any redundant subthemes or formulated meanings were removed to enhance the true essence of the participants’ experiences.

For the fifth stage of analysis, I incorporated all the cluster of subthemes into a final theme, which provided an exhaustive description of participants’ overall experience with telemedicine. In the final stage of analysis, I conducted a final review to ensure that any repetitions of subthemes were removed, and the final themes provided a clear and concise reflection of their experiences. Table 4 shows the process of how I constructed

the first theme, new beginnings, by incorporating the cluster of subthemes. The themes and clusters of subthemes for this study are reflected in Table 5.

Table 4

Developing Clusters of Subthemes and Themes From Formulated Meanings

Formulated meanings	Cluster of subthemes	Theme
Prior restrictions discouraged the use of telemedicine, but COVID presented an opportunity for its use again.	Unexpected opportunity	New beginnings
COVID was the sole driver in implementing telemedicine due to government restrictions and patients not wanting to leave their homes.	Acceptance	

Table 5

Themes and Subthemes

Theme	Subthemes
New beginnings	Unexpected opportunity Acceptance
Learning process	Learning curve Patient education Efficiency
Human element	Lack of physical contact Maintaining a connection
Technological challenges	Aging population Lack of examination
Acceptance of technology	Limited acceptance Continued use
Collaborative care	Team approach

Trustworthiness

Evidence of trustworthiness was addressed through credibility, transferability, dependability, and confirmability. Credibility and confirmability were addressed through triangulation, which uses multiple methods to develop a descriptive understanding of the experiences of participants. The interview questions were reviewed by expert panelists to ensure clarity and alignment with the research questions. Throughout the data analysis process, I utilized audio recordings along with generated transcripts and my personal notes during the interviews to ensure accuracy of participant experiences. For the data analysis process, I analyzed all transcripts using NVivo analysis software along with a modified version of Colaizzi's seven-step analysis method, which is not only robust but also rigorous. All these methods ensured transparency and clarity during the research process.

To address transferability, I used detailed quotations from the transcripts in the findings and maintained transparency about my data collection and analysis process. To address dependability, I provided a very detailed process on how my participants were selected for this study and how transcripts were generated through Zoom and edited to ensure accuracy. Additionally, I asked the same interview questions for each participant and in a similar order for all. At the conclusion of my questioning, I asked all participants if they had anything they would like to add for their interview session or input on anything they felt I should have asked but did not.

Throughout the research process, ethical procedures were conducted and followed. I began recruitment for participants and data collection through a collaborative

organization after receiving IRB approval. All participants received IRB-approved consent forms via their personal email, and data collection began only after receiving their consent to participate and be audio-recorded during their interview. Data such as transcripts, audio recordings, and data analysis are stored on a password-protected external hard drive in a secure location in my home. All participant names on transcripts were removed and substituted with code names.

Results

The primary research questions for this study were answered through an analysis of 13 podiatrists who had experience implementing telemedicine in their clinical practice at the onset of COVID. This analysis led to themes that identified their overall experiences with telemedicine, challenges that they experienced after implementation, patients' experience using telemedicine, and their acceptance of telemedicine as a method in treating and caring for their patients. A total of six themes were identified, with 12 subthemes. The primary themes identified are (a) new beginnings, (b) learning process, (c) human element, (d) acceptance of technology, (e) technological challenges, and (f) collaborative care. The themes and subthemes are described below.

Theme 1: New Beginnings

The first theme that emerged from analysis of the data regarding what led podiatrists to implement telemedicine at the onset of COVID in their practice was new beginnings. The subthemes of unexpected opportunity and acceptance emerged to explain their feelings towards implementing it. This theme reflected how some podiatrists simply accepted what was going on in the world at the onset of COVID and implemented

telemedicine as a means to an end in providing care for their patients. This theme also highlights how COVID presented an unexpected opportunity to some podiatrists who wanted to implement telemedicine pre-COVID but faced barriers due to governmental restrictions or lack of guidance on implementation for podiatry specifically. The subthemes are discussed in the following sections.

Unexpected Opportunity

Podiatrists expressed their interest in telemedicine before the onset of COVID but did not know how to implement it or use it for podiatry. They knew its benefits, but the uncertainty prevented them from using it. COVID presented an unexpected opportunity for those podiatrists to implement telemedicine and take advantage of the loosened restrictions made by the government. For example, P2 said, “So, I’ve always wanted to do it, but there was no infrastructure in place to bring it to podiatry. So, you know, when I heard that it was possible during COVID, we kind of jumped on it”.

One podiatrist in particular, P1, was using telemedicine pre-COVID but faced governmental barriers so she eliminated that service from her practice. “I actually have been using telemedicine since 2013. I stopped shortly after because it was too many requirements back then but then I started back again at the beginning of COVID”. P3 said, “And obviously when the government authorized telemedicine, everybody saw the benefits and implemented it. We saw its advantages and so did our patients of doing their consult on telemedicine”. P6 stated, “The COVID-19 pandemic allowed us to implement it from a podiatry standpoint”. COVID opened a gateway for its use in podiatry especially to those who had prior interests.

Acceptance

At the onset of COVID, many restrictions were put in place to avoid the spread of the disease. Most of the podiatrists mentioned the sole reasoning for implementing telemedicine was due to these restrictions and patients not wanting to come into the office. They understood the fears of their patients and implemented telemedicine in their practice. They accepted the “new normal” in caring for their patients and started offering that service to patients. P11 stated, “We had state, county, and hospital related shutdowns for COVID that limited the amount of people who could come to our office in person, so we had to implement it”. P7 stated:

Well solely due to the COVID scenario where you had restrictions on you know, person to person contact or just contact with patients and due to the concerns with that and the risk to the patient, and not just the patient, but to us, I think at that point it was in the best interest to implement that as an option for patients who felt it necessary, you know, felt it in their best interest not to come to the office.

P10 stated:

I think it was the initial fear and nobody really knew what was going on or what was happening. There was a lot of patients who tested positive, but still you know, needed some form of treatment even if they couldn't come in personally.

P4 stated:

I was the director of podiatry in a multispecialty practice. When COVID happened, initially they were trying to keep everybody from going in the field and doing work from home consultations through telemedicine. As you know,

podiatry is very hands on, so you know, if I knew I could see them on telemedicine, I did. I would do follow ups for wound care, and I would do follow ups when I would do evaluations based on conversations with patients for diabetic foot evaluations. I did what I had to do to keep seeing my patients.

Theme 2: Learning Process

The second theme that emerged from the analysis of podiatrist's overall experience with implementing telemedicine was learning process. The subthemes of learning curve, patient education, and efficiency emerged to explain their experiences on how telemedicine affected their office, patient population, and experience as a whole. This theme highlights the actual implementation process and how podiatrists decided which platform to use. This theme addresses their onboarding process, how staff adjusted to the system, and if it made any changes to their practice. This theme also addressed how podiatrists felt about the platform once implementing it in their practice.

Learning Curve

While some podiatrists quickly learned the new system in their practice, others needed assistance in navigating their particular telemedicine system. P9 stated, "Overall, it was a good experience. It was very easy. Our platform was easy to navigate. The most difficult part for us was making sure we were following all guidelines to get reimbursed properly". P9 also mentioned their current "EMR had the option for telemedicine, so we started using it. And we were just using our own". P8 stated:

It was like a new toy for me. So, I would make the appointments, help the patients access the link, and show them how to angle their cameras and things like that to

get the ball rolling for their appointment. We didn't have that many staff or students, so I just did what I had to.

P8 also mentioned that they came across their telemedicine system "through an advertisement on the internet or through my email. I am unsure of which one, but we did utilize Doxy.me. A few of the doctors I knew told me about it because they were also using it during COVID". P11 felt "like we were well equipped on our side to accommodate patients on telemedicine. Using Epic was a great decision as they had a help desk to assist in any situation anytime of the day". She also mentioned that "After little to no research on our side, we decided to go with Bluejeans and Epic which was pretty quickly implemented. We really couldn't settle on one, so we went with both".

Operating a solo practice, P1 stated, "there was not much of a learning curve except my own". On the other, in a multi-physician practice with older providers, P2 stated:

As I said, bringing the actual providers on board was an uphill battle. I find that, yes, some of them were more like old school, and that you have to actually go and lay hands on a patient, you know, or even like the technology aspect for the providers themselves and making sure the office staff was on board and able to help them troubleshoot. It was pretty rough.

For some of the podiatrists, having a tech savvy staff help them tremendously in learning the new system. P3 contributed his success in learning their telemedicine system to his young staff. P3 stated:

I think because our staff is a young staff, most of the time, they are prepared for anything that is related to computers. So, telemedicine was an easy transition. They handled it pretty well. They scheduled the appointments, and then we connect with the computers in the office, and it was pretty smooth.

P13 stated:

So basically, for me, it was very easy for me to implement. My staff, they are pretty good. I had a printout sheet that my staff created. From that sheet, I learned how to log on and how to be in the waiting room, etc., on the site. The ease of use for me and my staff from 1-10 was a ten. Ten being very simple and easy. It was an awesome experience for us and I'm very thankful for my staff. They made things effortless for me.

For the tech savvy podiatrists, transitioning to a telemedicine platform was easy to use on their own. P12 stated:

For me, it was pretty easy, since technology is something, I grew up with. I personally have no issues using telemedicine. As far as the staff, it was just a matter of coordinating with the patient, you know, the time, and making sure they received the link to sign into their telemedicine session.

P12 stated selecting their telemedicine system "Was solely based on what was convenient at the time. I believe we used Zoom initially and then Skype". In a similar manner, P3 stated selecting which telemedicine system to use was random. "We randomly used Zoom meeting as we found most of the patients have Zoom on their phone, and it's easy for them to use".

For P5, P6, and P7, learning their telemedicine system did not come easy. Some felt they were not organized to make the transition while others slowly transitioned to it from phone visits. P5 stated:

Oh, total learning process! In the beginning we first did e-visits, which was telephone visits. And then once we got everything set up on the telemedicine side, you know, because we weren't even in the office, everything was good. The government, through Medicare had set up like emergency protocols, parameters for us to meet at the different levels of telemedicine. Once we understood those parameters and understood our eClinical system and telemedicine, we were ready to offer this service in our practice. I would definitely say there was a learning curve. It was understanding properly how to document, how to make sure patients understand and connect to our system.

P6 stated “I wouldn’t say it was hard, but it also wasn’t easy. Trying to figure out how to use it best was a challenge”. P7 stated:

So, there was no kind of onboarding process, you know. Wasn't a situation where we had a rundown of how to use the system. Essentially, you kind of went online. They had a little instructional piece on how to just open up the application, but it wasn't much more than that, as far as the whole. I think at the time, we knew we weren't very organized.

Overall, podiatrists did not encounter many challenges when implementing their telemedicine system in their practice. Some were fortunate to have staff that quickly learned the system and made the transition easy for them. Others were lovers of new

technology or techy savvy and found implementation seamless. While others took a little extra time to implement the system due to disorganization within their practice, familiarizing themselves with governmental parameters, or just learning their system.

Patient Education

It was a challenge at first for most of the podiatrists getting their patients to onboard, but once they got adjusted with help from the office staff or themselves, telemedicine use became easier for everyone. P4 stated:

In the beginning, it was kind of hit a miss to get them on telemedicine. Sometimes we had to call them to remind them of their appointment and how to sign in to system. Doxy.me is pretty simple and intuitive. They would just click a link, and it would just log them into the website. And it would tell them that they're there to see me. I was sending them my link. Once they clicked it and put a name in, we're good to go. Only thing, sometimes the patients had a lot of cookies on their phone or hadn't restarted their phone in a while. So, we had to tell them to restart their phone so they couldn't connect to it. That was a bit time consuming. But once they restarted their phone it would connect just fine. So, it was pretty seamless.

P12 stated:

I think the most difficult part of implementing it was the patient side of it, especially for the older patients or geriatric patients. They aren't as tech savvy and so we really had to kind of walk through that with them and get them used to the platform we were using. It was an adventure trying to get them to position the camera so we could see their foot and give a proper diagnosis. Overall, I think my

staff did okay because they were getting frustrated trying to help the older patients out. It was sometimes a hassle, but we had to get it done.

P8 stated, “Some patients had difficulty accessing the link while others had no issue. Depending on the patient, I had to make time to make sure they were connected and knew what they were doing. It was time consuming at times”. P8 also stated their system, Doxy.me, “created an email so we could send to our patients making them aware of the platform and how to use”. P11 found educating the patients was really difficult in the beginning stages:

So, it was really difficult when they would call in, after trying to connect and then they would say, oh, well, we can just do the visit this way. We would then have to try and help them navigate through the system while on the phone. Most of the times when they called, they would say what is this program? how do you get in it? And it just became overwhelming at that point. I’m not gonna lie, it was tough, because there was a whole chunk of patients who just didn’t know how to use the technology to actually get onto the system.

Overall, podiatrists found that it was easy to conduct visits on telemedicine once their patients knew the system and how to navigate it. It was time consuming to some of the podiatrists in the beginning but was worth it once the patient knew what they were doing.

Efficiency

For the majority of the podiatrists, telemedicine had a positive effect on their practice. It allowed the podiatrists to reach more patients and created additional time for

them to focus on others matters pertaining to the practice. P10 stated, “Like I mentioned before, the day went by quicker, and we saved a lot of money in overhead costs”. P9 stated:

Like I said, it just freed up time with my medical assistants to work on other things in the office. I did find that I really didn’t need as much staff on my telemedicine days, so they typically had that day off. I would say, financially, that did save money for the practice by decreasing their working hours a bit. Thinking about it, less staff during COVID and freeing up some funds was really beneficial to the practice. It didn’t negatively affect the workflow.

P4 stated:

It just gave us an added tool that helped us reach more patients and cover our follow ups. We were able to accommodate more patients as we did not need the time to clean instruments, prep rooms, and things of that nature. We used that extra time to conduct more telemedicine visits.

P13 stated:

I would say probably it was much more efficient again, because of the time factor. I was able to see more patients because of the time factors. So, things were a little bit more efficient. It sped up my day on days I had telemedicine visits, and I was able to focus on other matters in the office. My staff was grateful because they weren’t running around like headless chickens having to move from room to room to help me with patients. I can say they were happy too.

On the other hand, P11, noticed a change in the flow of the practice. Due to COVID, they lost workers which decreased their patient flow. P11 stated:

It did change the clinic flow, because we were down with nurses, especially at the beginning of COVID. There were a couple of nurses that didn't want to be in the office at all even after we started using telemedicine and easing the patient flow. We didn't force anyone to be there that didn't want to be there. We actually lost two of our nurses which made things a bit difficult for us, but we made it work.

Another change podiatrists observed in their practice is that it was an inconvenience seeing patients in- person and through telemedicine on the same day. This was a basic set up for the majority of podiatrists. Only a few separated the days they saw in-person patients and telemedicine patients. P8 stated:

So, for me, it wasn't like I was, you know, going back and forth between patients in the clinic and using telemedicine at the same time, but I could imagine if I did, that would be a little more hectic. For me, I was only one or the other. I never incorporated telemedicine visits while I was seeing patients in the office. I actually spoke to other doctors that were doing both and their experiences dissuaded me. So, I have days where it's strictly telemedicine and days for the office. That has kept me sane and organized.

P7 stated:

For me personally, it was a little cumbersome because appointments were randomly placed during the day. You're seeing patients all day in the office then you have to hop on telemedicine, but the staff has to verify first if they are really

on there, and then you can start the visit. There was no real organization to the telemedicine visits. I think if we were more organized or much more focused telemedicine as a routine, the office would have run more efficiently. For me, it was a bit chaotic.

P6 stated:

One thing I found is that, you know, if you're gonna do a telemedicine appointment, you can't do it in between your regular in office patients. It became kind of hard sometimes if you get delayed. You have a 9 o'clock patient, then I have a patient that's waiting and already logged on or trying to log into Zoom and is unable to. Because I am not there yet, and they're sitting there waiting, they get frustrated and sign off of Zoom. Then we're trying to contact them and communicate the delay but that doesn't help sometimes. Or if I am delayed, when I hop on and we're going back and forth, I have to rush the telemedicine visit because I have another patient that's waiting in the waiting room. It's just the logistics of it. I ended up having all my telemedicine visits around the same time which made things easier for me and the staff.

Theme 3: Human Element

The third theme that emerged from the analysis of podiatrist's overall experience with implementing telemedicine was human element. The subthemes of lack of physical contact and maintaining a connection emerged to explain podiatrists' experiences interacting with patients on telemedicine. This theme highlights how patients feel about receiving care through telemedicine. It also emphasizes podiatrist's views on the

difference between in-person visits and telemedicine visits. Additionally, this theme address foot conditions that podiatrists feel can be treated on telemedicine versus foot conditions that pose a challenge on telemedicine.

Lack of Physical Touch

Podiatrists reiterated throughout the data collection process that telemedicine does not have the same feel as in-person office visits, it less personable and lacks physical touch. P8 stated:

Well, remember we are podiatrists so mostly everything we do is hands on. We are really reliant on touching, seeing, feeling. With telemedicine, you lack the ability, obviously, to put your hands on the patient. Do an actual physical evaluation of the patient. So, you know, it really limits your ability to fully evaluate the patient.

P7 stated:

Oh, it's a world difference, you know. I mean face to face, you have the beauty of touching the patient, you know, in-person contact. Yes, there are some benefits to telemedicine like not worrying about a crowded waiting room and the business tends to be a little bit quicker.

Similarly, P6 stated:

I think it's just the ability to actually examine the patient fully, you know, by feel, by touching them. I think you could still get the adequate history on telemedicine and sometimes it makes it a little easier to just focus on the symptoms and not get distracted by what's going on in the physical office. You don't tend to deviate

when you're doing telemedicine visits. You focus on the issue, try and diagnosis, and provide a treatment plan. Now if the patients in the office, you know, we start talking about the grand kids, the children, and go off on a tangent not too worried about time. But with telemedicine, they are kind of limited with time and we kind of focus on what the problem is as opposed to some of the ancillary stuff that you may discuss.

Although podiatrists observed that telemedicine visits are more focused and shorter, they kept reiterating that a virtual visit will not replace the need to touch, feel, and see the foot. P5 stated:

In so many ways, I think human interaction is number one. That human contact where you could actually lay hands and assess someone. I find they open up sometimes more. There's like a barrier with the video a little bit. I think sometimes it could go either way, but mostly they're more focus.

P12 stated:

It's definitely a quicker visit, in my opinion, since a lot of the interaction in person involves a thorough physical exam. I like to touch and feel and talk to my patients as I'm examining them. It's just different with telemedicine. I pop on, say hello, ask how they're doing, and get straight to business. It's very impersonal and personal at the same time to me. Yes, you can have a mini conversation and catch up on life, but that personal touch is missing.

Based on their experiences, podiatrists provided a list of foot conditions they felt were suited for telemedicine and a list of foot conditions that were challenging to address on telemedicine.

Table 6

Foot Conditions Suited and Not Well Suited for Telemedicine

Foot conditions suited for telemedicine	Foot conditions not well suited for telemedicine
Wound care	Wound care
Assessments for ankle or foot sprain	Trauma
Athlete's foot	Dislocation
Heel pain	Nail debridement
Arthritic pain	Pain
Tendonitis	Infections
Rheumatoid arthritis	Circulatory
Psoriasis	Orthotics
Lupus dermatitis	Lacerations
Fungal nails	Fractures
Rash	Ingrown toenails
Neuropathy	Musculoskeletal
Neuroma	Foot ulcers
Dermatological issues	Diabetic ulcers
Onychomycosis	Warts
Tenia pedis	Routine foot care
Gout	Calluses
Plantar fasciitis	

Maintaining a Connection

During telemedicine visits, podiatrists tried to maintain the same rapport and connection with their patients. Coincidentally, almost all of the podiatrists in this study only provided care to established patients on telemedicine. With their established

patients, they took measures to ensure their patient felt comfortable and upkeep the same connection as in the office. P8 stated:

For me, it remained the same. I had a great rapport with them during their telemedicine visits. It was shorter at times, but I always made sure I greeted them and made them feel welcomed. The fact that they were willing to use this other platform that allowed them to communicate with me was inspiring.

P13 stated:

I had a good rapport with them. It was obviously not like in person where you can, you know, touch, and smell and have small talk with them while working them up. To quantify it, I would say, probably 90% of the patient that I saw in telemedicine, my rapport with them was really good, because most of them are all established patients. I know we already have that connection with each other. We already have that relationship with each other. The ones that were brand new patients, it was okay but obviously you cannot develop that tight and close relationship with them through touch, small talk, that personal feel you know. I tried to make them comfortable but it's never the same as in person.

P4 stated, "I only used telemedicine for follow up visits, so I already had an established relationship with my patients. It just gave an added benefit for me to contact patients and see them in their home environment". P3 maintained a rapport and connection with his patients by "asking some questions that make them more human and more accessible. I tried to break the long distance relationship by asking how their day was and engage with them". P9 stated:

Because I use it mainly for follow ups, I still have the same rapport with them 100 percent. Telemedicine didn't change anything as far as like my protocols on how I greet them, communicate with them, or even small talks during the appointments.

Theme 4: Technological Challenges

The fourth theme that emerged from the analysis of the challenges that podiatrist identified after implementation was technology challenges. The subthemes of aging population and lack of examination emerged to explain the difficulties podiatrists faced in onboarding the older populations and how the limitations of telemedicine made it challenging to provide a proper diagnosis. The theme also highlights the challenges podiatrists encountered when trying to diagnose a patient based on what they said or how they operated their camera to show visuals.

Aging Population

The older populations presented a challenge for podiatrists after implementation of telemedicine in their practice. P12 stated:

I think the most difficult part of implementing it was the patient side of it, especially for the older patients or geriatric patients. They aren't as tech savvy and so we really had to kind of walk through that with them and get them used to the platform we were using. It was an adventure trying to get them to position the camera so we could see their foot and give a proper diagnosis.

Similarly, P6 stated:

Yes, it's just the ease of use. My patient population, they're older, so you know, it's not like we're dealing with a bunch of 30- to 40-year-old women that are tech

savvy or understand technology. I have 70- to 80-year-old patients that might still have a rotary phone or cell phone with two apps on it. So, it was difficult for my patients. It was just difficult for my patient population in general after implementing it.

P4 described his experience with the older population:

The main thing was our geriatric patients not knowing how to utilize it. The main thing was just getting them in tune with the technology. They were nervous initially but once they signed in and started using it, it was pretty simple for them. Some people made it more difficult than what it was but that's just the nature of older people who are not technology savvy.

Several other podiatrists shared the same sentiment, describing their experience with the older population. P13 stated, "the only obstacles that we had was just with the elderly patients. My staff had to guide them through it over the phone to be able to get them to get onto the site". P7 also stated, "with the older patients, which is my population, just having them, you know, get access to the to the app, then use it, and show their face or show their foot for the examination was somewhat of a problem". The majority of the podiatrist's patient population is comprised of the elderly. Onboarding them was a major challenge amongst the podiatrists. P10 stated:

Our older patients on the other hand, had a harder time with the new technology. Just generally speaking, obviously, there's always outliers. But so much so that some of it would end up just being a phone call because they couldn't log in or they forgot the password or then couldn't get into the portal.

Lack of Examination

Podiatrists experienced bouts of uncertainty when diagnosing patients on telemedicine. The lack of a physical examination made things difficult and uncomfortable at times. Podiatrists found themselves asking patients to change the view or angle of their camera to gain a better visual of the foot. P3 stated, “With telemedicine, you have to trust whatever the patient tells you, what you can see at the moment, and any clinical tests they may have”. P10 stated:

Implementation was not difficult; it was the actual diagnosis that made things uncomfortable for me. I was not confident in diagnosing patients over video. It made me question and doubt myself at times regarding if I made the right call or diagnose the patient correctly. You can say I was not fond of that part. I found myself asking patients to turn the camera a certain way, or asking the same question in different ways to make sure I had enough information to diagnose them. Hmmm it was a mess.

P1 shared similar feelings by stating:

Even subjective things like something hurts or I have pain. Because the way they press on it like, and the way I would is completely different. The degree to which I press it to check for DVTs or the degree of squeezing that I'll do is different. Usually when they do it, they are guarding themselves. So again, anything that involves physical touch examination that's going to be difficult on telemedicine.

P6 also stated:

They can point to it, but then they have to move the camera, put their feet in the air, and it just makes things more challenging and unique. And once again it's the touch, at least for me. You know, I need to kind of pinpoint where the pain is coming from and what could be contributing to the pain. Is it more nerve pain, is it more structural, is it bony, capillary, ligament, the tendon. So, you know, you have to kind of assume or deduce based on the patient's symptoms but which I don't really like to do.

P7 shared:

So, you find yourself asking the patient, can you show me the foot? can you turn the camera to the foot? Now, let's go and extra step because you know already, in a dim area, there's no adequate lighting to actually see what the problem is. In addition to that, if it's a darker skin individual, you know, you have to tell the patient to try and move to a better lighting in their home so you can differentiate some pathologies. So, there was that. That was a challenge, you know. If it was like, I said, an issue where you are just talking to a patient about their complaints. Oh, my! My nose has been running, or my chest hurts, that's one thing, but with us, it's all about the feet, legs, and you want to see the legs. That's the inspection; you have to see something in our profession, and in many cases very difficult to see what you want to see, when with particular patients, are by themselves and can't work the camera.

Having a similar experience, P12 stated:

It was the physical exam part for me. Not being able to touch the patient, was the challenge. Otherwise, what I would usually do is, you know, if they had pain somewhere, I would have them point to it and then have them describe it. If they had an area of skin that they're worried about getting an infection, again, if through telemedicine, they're not in good lighting, I would ask them to be in better lighting, so I can see better. And just getting, you know the visual exam, I guess kind of replaces that physical exam where I can't touch them. So, what I'll usually do is have them move the foot a certain way, see if it hurts, or have them touch a certain spot and see if that hurts and that will be documented accordingly. So basically, for my practice, the physical exam part, I think, was a challenge with telemedicine.

Theme 5: Acceptance of Technology

The fifth theme that emerged from the analysis of podiatrist's overall experience with implementing telemedicine was acceptance of technology. The subthemes of limited acceptance and continued use emerged to explain whether podiatrists accept the new technology in providing care for their patients. This theme highlights the thoughts of podiatrists behind their acceptance knowing its limitations due to their "hands-on" specialty and their plans on using it in the future in their practice.

Limited Acceptance

It was a general consensus amongst the podiatrists that telemedicine is a great option to have for patients but only in certain situations and for certain foot conditions.

All podiatrists in the study accepted telemedicine as a method of care in treating their patients with limitations. P9 stated:

Oh, I mean, I accept it. It's definitely gonna be the wave of the future. Like I mentioned before, as far as podiatry, there are just certain things you can't do on there, but I definitely think that in the future the technology and or ability to treat certain types of foot conditions will be there. I think telemedicine is better for others than some but either way, it's still a useful resource for podiatry. We can't do all that we want to do, but we can certainly start with what we can.

Similarly, P8 stated:

Yes, of course I accept it. As long as patients are receptive to it, I will keep offering it. But with its limits, I would use it specifically for patients with dermatological issues and follow ups. Why have patients travel back to the office for a quick follow up when I can easily have them jump on telemedicine and have them carry on with their day.

P2 stated:

I honestly think that all providers, like all podiatric clinics, should implement this service, and yes, you have to see how it works for your individual practice. But in thinking about it, I can't think of any type of podiatric practice that wouldn't benefit from some level of telemedicine. There are so many ways that you can do it and so many features that it has that I can see this working in any type of podiatric practice.

P12 also stated:

In this, in my profession, I think again, it's only on certain occasions. But yes, I accept it. I think it would be a good way to triage patients or follow ups.

Remember, what we do is mostly hands on. We can't do the physical exam, but we can diagnose and give them conservative treatment options through telemedicine. In my personal opinion, I feel that is the only way I can see telemedicine being used in podiatry.

Additionally, P11 stated:

I think it has its place. I accept it for a lot of things like initial triage or routine lab work and routine kind of follow ups and stuff or post OP. You know, if you do a bunion surgery, you could easily do half of the post ops just by video, and that would, I think, be a time saver and letting the patients know things are looking good. It can never replace a full visit because most of what we do as podiatrists is hands on.

Continued Use

All podiatrists in this study had plans to continue using telemedicine in their practice in a full or limited capacity. P2 stated:

For us, it's definitely here to stay. Like I said, we've been trying to implement it for a while, and now that we have it, thanks to COVID, I'm seeing the ways that we can continue to use it and continue to expand as the technology advances. I see no reason why we would stop using it.

Many of the podiatrists felt the impact of COVID on their practice and how it disrupted their patient care. With the potential of another outbreak, podiatrists plan on keeping active even if it's for basic care. P9 stated:

Of course. I think about patients now who requires transportation after I just did a nail biopsy. I definitely think that patient will benefit from not having to go through the whole hassle, getting transportation, paying the cost, coming into the office for me just to read something to them. I actual plan on utilizing it more for those things. And once again, it's like a case-by-case thing. If it's a quick follow up, I am not going to have the patient come back for something I can easily tell them to sign into telemedicine for. When you think about COVID and how it shocked the world, it could potentially happen again in the future, so I am going to stay ready and keep telemedicine active in my practice.

P1 also shared the same thoughts in that:

Obviously, it'll continue going on. I will continue switching between platform systems depending on my preference and my patient's preference at the time and what's new and affordable in the market. It works in my practice so I will continue to use it. You know, sometimes a pre-op patient requests a visit beforehand, like the week before, just to review everything. I can jump on telemedicine and talk with the patient and their family. Give them the risks, the complications, the expectations, and understand where they're coming from. I think anytime you can talk to your patient and give them better assurance and communication, it's gonna be a good thing.

Additionally, P7 stated:

Yeah, I think it'll be great. Yeah, I think it will be a great option. I'm telling you.

But I want to say, we will only use it for certain conditions which requires surveillance or monitoring. So as long as you don't have to once again do something physically to the patient, we will definitely use telemedicine. You have to know which situations warrant the use of telemedicine.

Theme 6: Collaborative Care

The sixth theme that emerged from the analysis of perceived opportunities identified by podiatrists to promote continued use of telemedicine in the field of podiatry was collaborative care. The subtheme of team approach emerged to explain how podiatrists can potentially use telemedicine to provide a broader scope of care with patients and their specialty team.

Team Approach

The majority of podiatrists responded in the same manner when asked about additional opportunities for telemedicine in podiatry. They shared the same consensus in that telemedicine can provide a team approach through real time video conferencing with the patient and their doctors sharing ideas on how to develop a comprehensive treatment plan. P1 stated:

Yes, consultations and conference calls with the patient and their primary or specialty team. I think it gives you the opportunity to have a real team approach in treating your patients. As a patient, you always want all your doctors on board, knowing what's going on, treatment plans, bouncing ideas off one another. You

can also introduce a patient to a new doctor to aid in their care. There are endless possibilities with telemedicine in podiatry, you just have to be open to it.

Telemedicine can be very useful once used properly.

Similarly, P3 stated:

Well, obviously you can treat patients, but definitely consult with other doctors and the patient. It has the potential to be a great platform for doctors to interact with the patient and discuss their case and possible treatment plan. I believe that telemedicine is here to stay, and doctors should open their mind and listen to their patients if they request that service.

P11 also mentioned:

I think a tele consult would be awesome, especially in like underserved areas or places. They don't have podiatrists, so the doctors there don't know what they're looking at, or especially where people don't have skilled wound care nurses. I think it could fill in a lot of gaps where there are, you know, underserved populations.

The suggestions shared by podiatrists highlighted how telemedicine can provide opportunities for continued use in podiatry while benefiting their patient population in receiving well rounded care.

Summary

Chapter 4 detailed the demographic information collected from the research participants, data collection process, data analysis process, the coding process and themes identified from the data. Six primary themes were identified. These themes are new

beginnings, learning process, human element, technological challenges, acceptance of technology, and collaborative care. Twelve subthemes, unexpected opportunity, acceptance, learning curve, patient education, efficiency, lack of physical contact, maintaining a connection, aging population, lack of examination, limited acceptance, continued use, and team approach were identified under their corresponding primary themes.

Chapter 5 will present an in-depth interpretation of the study findings, limitations of the study, recommendations for future research, implications for positive social change and a conclusion of the study.

Chapter 5: Results

Introduction

The purpose of this qualitative, interpretive descriptive study was to understand the overall experiences of podiatrists who used telemedicine to provide podiatric care services to patients in their clinical practice during COVID-19. Based on their overall experiences, this study examined whether telemedicine is a method of care they accepted in providing podiatric care services to their patients. In this study, I used purposive sampling to conduct semistructured interviews with 13 podiatrists who had experience providing podiatric care services to patients on telemedicine during COVID-19.

Six main themes emerged from the study: new beginnings, learning process, human element, technological challenges, acceptance of technology, and collaborative care. Twelve subthemes, unexpected opportunity, acceptance, learning curve, patient education, efficiency, lack of physical contact, maintaining a connection, aging population, lack of examination, limited acceptance, continued use, and team approach, were identified under their corresponding primary themes. Chapter 5 provides in-depth details of these themes and subthemes. I also describe limitations of the study, recommendations, implications for positive social change, and conclusions of the study.

Interpretations of the Findings

Theme 1: New Beginnings

The use of telemedicine became increasingly common in the medical field, mainly due to the COVID-19 pandemic (Main et al., 2021). The first theme, new beginnings, identified what led podiatrists interviewed for this study to implement

telemedicine in their practice at the onset of COVID. Some podiatrists were not as receptive to the idea of using telemedicine due to its limitations to treat their patients, while others saw an opportunity to provide care on a nontraditional platform. Although there are evident limits to telemedicine services in a more hands-on specialty, this should not deter podiatrists from reconsidering the way care has always been delivered (Morrow, 2020). Due to government restrictions to decrease the spread of COVID, all podiatrists in this study implemented telemedicine to ease the fear of their patients who did not want to leave their homes and maintain continuity of care for them. Whether implementation was voluntary or forced upon them due to restrictions for these podiatrists, it was a new beginning for them to change the way they provided care for their patients. The two subthemes that emerged from this theme, unexpected opportunity and acceptance, are discussed below.

Unexpected Opportunity

Prior to COVID-19, telemedicine use was low in the medical field due to strict federal and state regulations by CMS (2022). P1 shared that she tried to implement telemedicine prior to COVID but discontinued that service due to government requires. The onset of COVID provided an unexpected opportunity for her to implement telemedicine again with loosened restrictions. P2 shared that she had always wanted to implement it, but there was no foundation in place to use it in podiatry. P6 shared that COVID-19 allowed them the opportunity to implement it from a podiatry standpoint. For these podiatrists, COVID provided an expected opportunity to do what they had always wanted to do, providing care for their patients on a nontraditional platform.

Acceptance

At the onset of COVID, government restrictions limited the movement of people in the country. Telemedicine was used for continuity of patient care and to reduce the spread of COVID-19 (Nataliansyah et al., 2022). The majority of podiatrists in the study mentioned that they only implemented telemedicine because their patients were afraid to leave their homes. P7 shared that his sole reasoning for implementing telemedicine was due to government restrictions and patients being fearful of the disease. P10 shared that although patients were fearful of the disease or had the disease, they still needed treatment. P11 shared that due to state, county, and hospital shutdowns, they had no other choice but to implement telemedicine in their practice. Podiatrists recognized the need to continue seeing their patients and understood their fears during COVID, so they accepted telemedicine and implemented it.

Theme 2: Learning Process

At the onset of COVID, telemedicine use increased in clinical care practices in podiatry (Terry, 2020). Podiatrists were adjusting to the “new normal” and finding ways to use telemedicine in their practice (Bowen et al., 2021). For these podiatrists, implementing telemedicine in a primarily hands-on field was a challenge for some of them, and for others, it was an easy transition. Overall, it was a learning process for them, as they had to make decisions on which system to use, ensuring that the system was easy to navigate for their patients, and determining how it would be implemented into their office flow. The three subthemes that emerged from this theme, learning curve, patient education, and efficiency, are discussed below.

Learning Curve

The vast majority of podiatrists in the study found the implementation process to be easy. P9 shared that overall, it (implementation) was very easy, and their platform was easy to navigate. P8 shared that her telemedicine system was like a new toy. She wanted to do everything first; she made the appointments and helped patients access the link so they could actively start using the system. P11 shared they were more than ready to on their side to start using their telemedicine system. P1 shared that she ran a solo practice so there was no learning curve for her. On the hand, P2 had struggles implementing telemedicine in her practice. With multiple podiatrists higher in age, she had difficulties transitioning them to the system because they were used to seeing patients in person. They were steadfast in their belief that podiatry was hands-on. She shared that it was an uphill battle.

Patient Education

Like most new technology, it can present to be a challenge, or it can be easy to use. For the podiatrists in this study, educating their patient on the new system and getting them to connect was a challenge. Telemedicine provides more access and is most useful only when there is reliable connectivity to a cellular network or Wi-Fi (Nelson & Holschuh, 2021). P4 shared that in the beginning of implementation, it was hit or miss getting patients to connect. He found himself having to tell patients to clear their cookies or restart their phone. P8 shared that some of her patients had difficulties accessing their link while others had no issues. P11 found that educating her patients on the system beforehand during their appointment reminder was difficult. She encountered

connectivity issues with patients, and most times, they would ask to transition the appointment to the telephone.

Efficiency

Podiatrists in the study found that telemedicine not only benefited their patients, but also had a positive effect on their practice. Telemedicine has the potential to make healthcare more organized, effective, and available from anywhere in the world (Haleem et al., 2021). P10 shared that her days went by more quickly, and the office saved a lot of money in overhead costs. Similarly, P9 shared that telemedicine freed up time with his medical assistants so they were able to focus on other matters in the office. P4 shared that they were able to accommodate more patients through telemedicine, which increased their patient population. On the other, one podiatrist found that telemedicine decreased their patient flow. However, this was not attributed to telemedicine; two of her nurses left the office due to COVID and possible exposure.

Theme 3: Human Element

Telemedicine improved patient access to care, but it lacked the physical touch shared between the patient and the physician (Breton et al., 2021). Podiatry is primarily a hands-on specialty, and most of what is performed during a routine or comprehensive visit requires touching. Telemedicine is limited in that it takes away the human element (touching and feeling) from the virtual visit. Many of the podiatrists mentioned that during an in-person visit, their work goes further than just touching the patient to treat them. There is a natural connection that cannot be experienced through telemedicine. Patients and physicians embrace each other as a greeting or even touch one another

unknowingly when laughing or conversing during the visit. Podiatrists in this study missed that aspect when using telemedicine. The two subthemes that emerged from this theme, lack of physical contact and maintaining a connection, are discussed below.

Lack of Physical Touch

For some physicians, telemedicine offered more time for patient counseling, but the lack of touch adversely affected the touch shared between them (Gomez et al., 2021). For the podiatrists in this study, telemedicine was less personal and lacked the physical contact they needed. P8 shared that most everything they do as podiatrists is hands-on, so they are reliant on touching and feeling. P7 shared that there is beauty in touching the patient when face to face versus using telemedicine. P5 shared that human contact is important as the provider has the opportunity to lay hands on the patient and assess them. She found that sometimes, patients open up more with physical contact. P12 shared that she likes to touch and feel her patients while talking to and assessing them. Yes, telemedicine still allowed her to converse with her patients, but it lacked that physical touch. The lack of physical touch was a challenge for all the podiatrists in this study.

Maintaining a Connection

With the transition from in-person visits to telemedicine visits, podiatrists in the study tried to maintain the same rapport and connection with their patients. They felt it was important to upkeep the same relationship they had with patients in the office during their telemedicine visit. P8 shared that she had great interactions with her patients on telemedicine. Although the visit was shorter, she took the time to greet them and make them feel comfortable. Similarly, P3 shared that he took the time to break the long-

distance relationship by asking about the patient's day and plans after their visit. P9 shared that telemedicine did not take away from her normal protocols with her patients. She took the time to greet them and even had small talks with them. By maintaining that connection, podiatrists shared that their patients had great experiences during their visit and felt comfortable using the system.

Theme 4: Technological Challenges

Telemedicine is one of the most beneficial technologies that can increase patients' access to preventative treatments and aid in improving their long-term health (Haleem et al., 2021). Although there are numerous benefits to telemedicine, there are also challenges in implementing and utilizing it. For the podiatrists in the study, implementation was not much of a challenge as it was onboarding patients and being able to perform physical examinations. The ease of use of telemedicine for the younger populations was not the same for the older populations. All technologies come with some levels of difficulty, but for podiatrists in the study, their ability to properly diagnose and treat patients on the platform was limited. Lacking the ability to use their hands and perform a full examination limited their patient population on telemedicine. Most podiatrists in the study were only able to accommodate established patients on telemedicine or patients they could quickly diagnose by just looking at their foot. The two subthemes that emerged from this theme, aging population and lack of examination, are discussed below.

Aging Population

The vast majority of the podiatrists in the study mainly provided care for the aging population. They were not as technologically savvy as younger populations. Onboarding was a challenge for podiatrists and consumed most of their time in the beginning stages of telemedicine use. P12 shared that the most difficult part of implementing telemedicine in her practice was the patient, especially the older or geriatric patients. She went on to say that patients were not tech savvy, so they had to take time to walk them through the system so they could get used to using it. It was an adventure for her and her staff trying to get the older population to angle or position the camera so they could give a proper view of their foot. P6 shared that his patient population was older and might still have a rotary phone or cell phone with two apps. It became difficult for him to get patients to use the telemedicine system. P13 shared that the only obstacle they had was the elderly patient. P7 shared that with the older population, which was his main population, just having them get access to the app and show their faces was a challenging task. Although it was time consuming and challenging, podiatrists in the study, along with their staff, exercised patience in making sure that the older populations learned the system and were able to use it for future visits. If they were unable to help the older patient connect, they requested that a family sit with them and assist during the visit.

Lack of Examination

Inability to examine patients is challenging and problematic and negatively affects the provider's overall experience on telemedicine (Kolin et al., 2021). For podiatrists in

this study, performing a physical examination provided confidence in their diagnosis of a patient. Anything involving a physical examination is difficult to do on telemedicine. P10 shared that implementing telemedicine was not difficult for her; it was the actual diagnosis that made things difficult for her. She was not confident in diagnosing patients over video. It made her question and doubt herself at times regarding if she made the right diagnosis. P1 shared that the patient's way of pressing on the area that hurts and the way she would press on the area were completely different. This was one of the main reasons why they preferred treating patients in person rather than on telemedicine. P6 shared that with telemedicine, he either had to assume or deduce based on the patients' symptoms, which he did not like to do. The lack of physical examination on telemedicine was also a major contributor to podiatrists in the study not fully accepting telemedicine to treat and provide care for their patient population.

Theme 5: Acceptance of Technology

The acceptance of technology is primarily determined by the provider based on the success of implementation and actual use (Rouidi et al., 2022). Based on podiatrists' overall experiences implementing telemedicine in their practice, their interactions with patients, and challenges they identified, all accepted telemedicine as a method of care in providing care to their patients. Their acceptance came with limitations due to the nature of their specialty. Podiatrists in the study believed that telemedicine visits cannot replace an in-office visit and that the lack of touch limits its use for certain patients. The two subthemes that emerged from this theme, limited acceptance and continued use, are discussed below.

Limited Acceptance

All the podiatrists in the study agreed that telemedicine was an added benefit to their practice and a good option to have for patients who were unable to come into the office. P9 shared that he accepted telemedicine but reiterated that there are certain things that individuals cannot do on there as podiatrists. P8 shared that she also accepted it but with its limits. She shared she would only use telemedicine for patients with dermatological issues and follow-ups. P2 shared that all podiatrists should implement telemedicine, but they have to see what works for their office. Every practice is not the same, and not all podiatrists treat the same conditions. P12 shared that in the field of podiatry, telemedicine can only be used on certain occasions. This was a repetitive response shared by the majority of podiatrists in the study.

Continued Use

With acceptance comes continued use, well at least this was the consensus for the podiatrists in the study. Podiatrists felt it was in their best interest to continue the use of telemedicine, even in limited capacity, in case another outbreak occurs or to accommodate certain patients who can be receive care on the platform. Many providers recognized the importance and value of telemedicine during the COVID-19 pandemic (Busso et al., 2022, Wilhite et al., 2022). P2 shared that telemedicine is there to stay in her practice. She credited COVID for being the catalyst for telemedicine implementation in podiatry. P1 shared that her practice will continue to offer telemedicine services and upgrade her system as technology improves. P9 shared that COVID shocked the world, and it could potentially happen again, so he is going to stay ready and keep telemedicine

active in his practice. Telemedicine has proven to be a good tool for podiatrists in certain situations and with certain foot conditions. COVID provided a great opportunity for podiatrists to implement and try the system and see how they can make it work for their practice. It may be in limited use for some or fully active for others, all in all, it is accepted by podiatrists and will continue to be use in some capacity.

Theme 6: Collaborative Care

The use of telemedicine after the COVID-19 holds a variety of opportunities for patients and providers. The demand for telemedicine services by patients remained consistent after COVID restrictions were lifted in many states (Busso et al., 2022). Although there are limitations and challenges with using telemedicine technology, one thing is for certain, more people have been exposed to what it can offer in comparison to before the COVID-19 pandemic (Drake et al., 2022). Podiatrists in the study saw the potential to expand patient care and connect with other doctors in creating treatment plans for their patients. Collaborating or consulting with different doctors on telemedicine provides an opportunity for comprehensive care and treatment for patients. Telemedicine has paved the way to connect both patients and doctors on real time video and potentially filling the gap in underserved areas. One subtheme emerged from this theme, team approach, is discussed below.

Team Approach

Podiatrists in the study shared the same sentiments on potential opportunities for telemedicine in podiatry. P11 shared that in underserved areas, many of the doctors are not skilled with lower extremity conditions, as podiatrists are, and telemedicine could fill

in that gap. She mentioned having a telemedicine consult with the patient and the doctor or a skilled nurse in that area could save a lot of limbs. P1 shared having consultations with the patient, their primary team, and/or specialty team provides an opportunity for a real team approach in treating the patient. She also mentioned introducing patients to a new doctor to aid in their care. She feels there are endless opportunities and possibilities with telemedicine in podiatry. P1 said it best when she shared, as a patient, you always want all your doctors on board knowing your treatment plan. Telemedicine can provide that opportunity especially in the field of podiatry where different populations with varying conditions seek podiatric care.

Theoretical Framework

The UTAUT was the theoretical framework in this study. The findings of this study aligned with the UTAUT model. The UTAUT identifies four key factors (performance expectancy, effort expectancy, social influence, and facilitating conditions) that predict an individual's intention to implement and use a new technology. According to the UTAUT, performance expectancy, social influence, and effort expectancy are key drivers to adoption of a new technology while facilitating conditions and behavioral intention determine actual use of the technology (Ahadzadeh et al., 2021; Venkatesh et al., 2016). The interpretation of the findings is discussed below.

Performance Expectancy

Performance expectancy is focused on whether the implementation of telemedicine will lead to its users gain (Venkatesh et al., 2003). The subtheme efficiency, identified under the theme learning process is in alignment with this key factor. Many of

the podiatrists in the study shared that telemedicine increased their patient population and created additional time for them (staff and doctor) to focus on other office matters. Some of their days went by quicker while others saved money due to decreased working hours in their practice. For other podiatrists in the study, telemedicine created a hectic work environment due to scheduling conflicts with in-office visits and telemedicine visits. Although the podiatrists in the study were not fully aware of how useful telemedicine would be to their practice, they observed the changes shortly after implementation. Based on the study findings, performance expectancy was the second most significant factor for telemedicine use and continued use.

Effort Expectancy

Effort expectancy is focused on how easy or complex telemedicine is to its users (Venkatesh et al., 2003). The subthemes learning curve and patient education, identified under learning process and the subtheme aging population identified under the theme technological challenges align with this key factor. For the majority of podiatrist in the study, implementing telemedicine was simple and easy as they had assistance from their staff or were already tech savvy. Once they implemented their varying systems, it was easy to use and navigate. Podiatrists shared that the complexity in using telemedicine was from the patient side. Many of the podiatrists' patients had difficulties connecting to the system, especially the older populations. Once they learned the system through assistance from the office staff and doctors, it was easy to use and navigate for their telemedicine visits. If users believe a new technology will make things easier for them, they are more likely to adopt the new technology (Wijaya et al., 2021). COVID instilled fear in the

patients so they took the opportunity to learn the system to continue receiving care.

Although in the beginnings stages of using telemedicine, it was challenging, it became easier over time once they got adjusted to the system. Based on the study findings, effort expectancy was the third most significant factor for telemedicine use and continued use.

Social Influence

Social influence focuses on the social pressure to conform to the beliefs, actions, or expectations of those deemed important to and around the user (Youn et al., 2021).

The theme new beginnings and subthemes unexpected opportunities and acceptance are in alignment with this key factor. COVID-19 was the sole reasoning for the podiatrists in the study implementing telemedicine in their practice. There were government restrictions that limited the movement of people and limited the amount of people that could be accommodated in certain facilities. Patients were fearful of the disease but still needed care. Podiatrists in this study had no other choice but to conform to what was going on in the world and implement telemedicine. Some of the podiatrists had previous interest in the technology, COVID was the catalyst for implementation. Based on the study findings, social influence was the most significant factor for telemedicine implementation and use for the podiatrists in the study.

Facilitating Conditions

Facilitating conditions is focused on the support that is available to users when implementing telemedicine (Venkatesh et al., 2003). The subtheme learning curve, identified under learning process is in alignment with this key factor. All the podiatrists in the study are in private practice and they made the decision on which system to

implement and use. The podiatrists in the study either received help from the tech savvy staff, learned it on their own, or contacted the support team associated with the system for help. Based on study findings, this was not as significant as the other factors for telemedicine implementation and use. Whether they had support or not, due to COVID, they had to implement telemedicine in their practice to continue their patient care.

Limitations of the Study

This qualitative study is limited to podiatrists in clinical practice residing within one southeastern state. The podiatrists that participated in the study do not represent all podiatrists within a southeastern state. The study also focused primarily on podiatrists in clinical practice which cannot be generalized to other clinical settings such as wound care centers or outpatient centers. Additionally, due to the ongoing COVID-19 pandemic and the scope of study area, interviews were limited to Zoom (a virtual platform) only.

This study is also limited by the sample size, purposive sampling technique, and lack of triangulation from multiple methods to address credibility. The sample size for the study was between 10-30 participants. Only 13 podiatrists were interviewed for the study which may limit the ability to generalize it to a wider population. The podiatrists interviewed for this study implemented telemedicine at the onset of COVID, therefore, this study cannot be generalized to all podiatrists who implemented telemedicine at any point and time during COVID. Finally, this study is limited due to lack of multiple methods in addressing credibility. The last step of Colaizzi's analytic method, returning to participants for validation, was omitted from this study due to the busy schedules of the podiatrists in the study.

Recommendations

It is recommended that future research include a wider representation of podiatrists not limited to clinical practice to provide additional information on their acceptance and use of telemedicine in providing care for their patients. It is also recommended that future research include podiatrists who began using telemedicine before, during and post COVID to understand their varying views on why they are using telemedicine and in what capacity. There is little to no research on telemedicine use in podiatry so it would be interesting to examine the experiences from the three standpoints which would add to the body of literature for the field of podiatry.

Implications

This study has implications for positive social change by contributing to the understanding of how telemedicine has shaped the delivery of care in podiatry. This study also has implications for positive social change by contributing to the understanding of how providing care on a non-traditional platform in a nontraditional setting can improve access to patients in the field of podiatry. Improving access to patients due to continued use of telemedicine in the field of podiatry has the potential to reduce the burden placed on the healthcare system, patients, and their physicians. This study has implications for positive social change by highlighting how podiatrists using telemedicine could provide care for patients in rural and remote areas who require podiatric services. Findings from this study could encourage and comfort podiatrists who are still on the fence on how to incorporate and use telemedicine in their practice. Additionally, acceptance and use of telemedicine have practical implications during future health crises which may require

prolonged use of telemedicine for continuity of patient care. Finally, findings from this study could influence lawmakers to keep the lessened restrictions on telemedicine so podiatrists can keep using the platform to provide care for their patients while being reimbursed appropriately.

Conclusion

This study aimed to gain an understanding of podiatrist's overall experience with telemedicine during COVID-19 in delivering podiatric care services to patients.

Furthermore, this study examined whether telemedicine was a method of care podiatrists accepted in delivering podiatric care services in their clinical practice during COVID-19 based on their overall experiences. The findings in this study identified six themes. These themes are: (1) new beginnings, (2) learning process, (3) human element, (4) technological challenges, (5) acceptance of technology, and (6) collaborative care. The themes aligned with the key factors of the theoretical framework UTAUT.

With its limited use in the medical field, COVID-19 became the catalyst that exposed both patients and physicians to what it can offer, especially podiatrists, primarily hands-on specialists. This study not only shed a light on the limitations and challenges podiatrists faced after implementing telemedicine in their practices, but it also highlighted the potential it has to make podiatric services more available and accessible to patients. Telemedicine acceptance and continued use by podiatrists provides an opportunity for collaboration, team based care, and exchange of vital information for patients even in remote and rural areas. The findings of this study may contribute to filling in the gap in the research of podiatrist's overall experience with telemedicine implementation and use

during COVID-19. The findings of this study may also encourage willingness in using telemedicine by podiatrists still on the fence of its capabilities and benefits to their clinical practice. Positive social change opportunities related to this study include understanding how telemedicine has shaped the delivery of care in podiatry.

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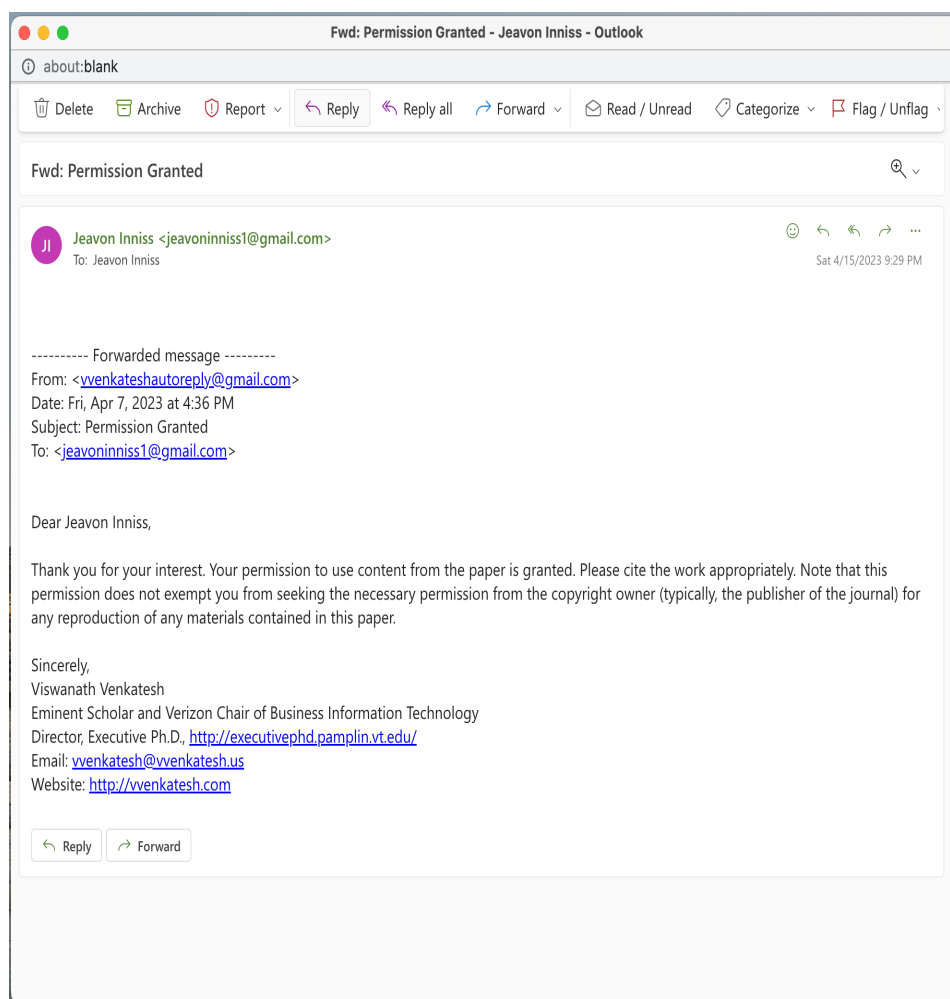
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Appendix A: Interview Questions

1. What is your current age range?
2. How many years have you been in practice?
3. What led you to implement telemedicine in your practice?
4. How did you decide which telemedicine system to use?
5. What was your overall experience with implementing telemedicine at the onset of COVID-19 in your clinical practice? Was it easy/hard getting staff on board?
Other colleagues in practice?
6. Based on your experience implementing telemedicine, what strategies would you suggest for a podiatrist thinking about implementing it?
7. What were some challenges, if any, did you identify after implementing telemedicine in your clinical practice?
8. What types of foot conditions are challenging to address with telemedicine?
9. What types of foot conditions are well-suited for telemedicine?
10. How has telemedicine visits differed from in-person visits in delivering podiatric care services in your clinical practice?
11. How have your interactions with patients been since implementing telemedicine?
12. How do you think patients feel about receiving podiatric care services via telemedicine?
13. What changes have you noticed in your clinical practice since implementing telemedicine?

14. What are your thoughts on accepting telemedicine as a method of care in delivering podiatric care services to patients?
15. What are your thoughts on utilizing telemedicine in your clinical practice in the future?
16. Based on your experience with telemedicine, what additional opportunities do you see for its continued use/ or use in the field of podiatry?

Appendix B: Content Permission



Appendix C: Organization Collaboration Informal Agreement

