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College of Health Sciences and Public Policy

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Abstract

Community Health Workers' Lived Experience of Using Videoconferencing With

Community Members

by

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MS, University of Cincinnati, 2016

MS, University of Detroit Mercy, 2012

MA, University of Detroit, 1993

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Community health workers in the United States faced significant challenges in conducting in-person community practice during the COVID-19 pandemic, which adversely affected their communication, training, and service delivery outcomes. Videoconferencing enabled workers to connect with underserved populations for individual and community crisis response. The purpose of this study was to describe the lived experiences of community health workers in the Rural Community Health Worker Network (RCHWN) regarding the use of videoconferencing among community members in practice and how members in RCHWN perceive the availability of videoconferencing devices to communicate in the community. Transcendental phenomenology provided the conceptual framework and research design for this qualitative study. Data were collected by conducting nine in-depth interviews with eight community health workers and one additional key personnel with significant knowledge and influence. Data analysis revealed six themes regarding participants' experiences. These themes encompassed the ability to connect, motivate, and engage with other community health workers to improve client service delivery and training outcomes through videoconferencing. The research supports positive social change by showing how rural community health workers' humanitarian efforts improve community connection in underserved areas. This study may promote positive social change by helping public health educators advocate for videoconferencing network communication training for community health workers, improving readiness for future national emergencies in the United States.

PREVIEW

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Dedication

I dedicate this dissertation to the TRUTH:

As the sun was setting, Abram fell into a deep sleep, and a thick and dreadful darkness came over him. Then THE LORD said to Abram, ‘Know of a surety that your descendants will be sojourners in a land that is not theirs and will be slaves there, and they will be oppressed four hundred years, (1555–1955). (The Holy Bible, New Revised Standard Version, 1989, Genesis 15:12–14).

Furthermore, Reverend Dr. Martin Luther King Jr., in his 1955 *Montgomery Bus Boycott* speech, said, “We, the disinherited of this land, we who have been oppressed so long, are tired of going through the long night of captivity. Moreover, now we are reaching out for the daybreak of freedom, justice, and equality.”

Acknowledgments

I offer praise to the LordGod in Christ Jesus for my human ancestry of people: German, Native Indian, and African. Abraham descendants, Almandine garnet gemstones, who lived on the Pugh Plantation for four grandfather generations (1555–1955), 400 years in the Mississippi Delta in the United States. This dissertation represents an exciting journey. I learned faith, hope, sacrifice, and endurance lessons as an adult. These four virtues will continue to influence my life, both personally and professionally. I want to acknowledge those instrumental in my success and who encouraged me: my dad, Samuel Walters, and mother, Eva Artimese Avery; children, Chinyere, Nkechinyere, Akunna, Uzonna, and Olumba John Olumba; grandchildren and great-grandchildren; sisters; nephews; cousins; church family; chair, Dr. Clarence Schumaker Jr.; committee members, Dr. Phuong Trang Huynh and Dr. Jeanne Connors; other professors; and participants. Thank you.

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PREVIEW

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PREVIEW

Chapter 1: Introduction to the Study

During the COVID-19 pandemic, community health workers utilized videoconferencing to assist people in need, owing to unsafe environments at risk for infectious diseases and mental challenges, bridging the gap between traditional mental health services (Garcini et al., 2022). Coronavirus disease (COVID-19) is an infectious disease caused by a virus (World Health Organization, 2020). Public policy mandates were enforced, influencing technological change and innovation driven by COVID-19. These innovations were critical for understanding future research and practical changes (Peretz et al., 2020; Sheng et al., 2021; Zimmerling & Chen, 2021). More communities and individuals accepted videoconferencing network communication and were able to simultaneously conduct visual and data exchanges (Change et al., 2010).

Given that videoconferencing exemplified one of the most critical network developments for rural community health workforces in the 21st century, it was essential to probe the degree of acceptance of videoconferencing to understand the relevant factors that affected its acceptance by an established platform of members in practice. According to the Texas Department of State Health Services (2024), in a description of their community health workers' training during the coronavirus pandemic, the national public health crisis led to significant changes in how their community health workers received training and collaborated. In the week immediately after the pandemic spread to the United States, disadvantaged rural and urban communities experienced the worst health outcomes, reduced access to community services, and inadequate food supply (Shah et al., 2020). Rosenthal et al.'s (2021) research confirmed that the reduced access to

services by community health workers was due to their lack of skills, competencies, and practices in both urban and rural communities. Experts advocated for community health workers to obtain videoconferencing communication skills to address the challenges posed by COVID-19 (Byrd-Williams et al., 2021).

The Rural Community Health Worker Network (RCHWN) is a community health organization that utilizes videoconferencing network communication. Therefore, in this study, I explored the descriptive experiences of community health workers regarding their attendance at RCHWN monthly meetings. Additionally, I examined the objectives of community health workers in these meetings and investigated how community health workers perceive the availability of communication devices, given that all members, in practice, need these devices to participate effectively in collaborative and support meetings. Videoconferencing network communication serves as a platform for social inclusion and interaction through the broadband internet, even during crises such as the coronavirus pandemic (Benda et al., 2020). During the pandemic, videoconferencing enabled more efficient meetings among rural community health workers (Peretz et al., 2020). This shift transformed their work lives, providing positive experiences with videoconferencing for health education and public policy advocacy.

Since the pandemic's onset, videoconferencing networks significantly enhanced rural communities' access to information and policy communications (Samson et al., 2023). In 2020, the United Nations Policy Brief 61 report emphasized the need for governments to provide accurate, valuable, and up-to-date information, particularly during pandemics (Desa, 2020). The report also highlighted the importance of innovative

ideas from university employees and government organizations to advance the literature on policies and educational practices. Similarly, Daniels et al. (2017) stressed the necessity for more policy initiatives to address national emergencies from faculty, universities, and public organizations. Zedam et al. (2022) argued that policy mandates should translate into practical societal knowledge to help communities navigate pandemics.

Patra and Muchie (2020) suggested academic institutions should play a role in educating communities on how effective network communication can influence pandemic outcomes through policies and education. R. H. Abrams (2012) and Olumba (2018) further emphasized the importance of fostering innovation practices in society, involving universities and government organizations, and adapting to cultural shifts in community engagement within the United States. Given the uncertainty surrounding pandemics, this study explored the social implications of community health workers' use of videoconferencing network communication among community members in practice. I begin this chapter by presenting the study's background, problem statement, research purpose, and research questions (RQs). The subsequent sections include the theoretical foundation and conceptual framework, the nature of the study, definitions, assumptions, scope, delimitations, limitations, the significance of the research, and a summary of the main points.

Background

Robert Kahn and Vinton Cerf, working with the Defense Advanced Research Projects Agency within the U.S. Department of Defense, developed the TCP/IP, which

facilitates internet data transmission and underpinned videoconferencing network communication (Leiner et al., 2009; Wang, 2021). The advent of TCP/IP was instrumental in transitioning the U.S. public health sector from traditional, isolated practices to an integrated network system (Scully-Russ & Torraco, 2020). Worldwide, work evolved into a "new norm." Lieutenant General Bradford J. "B.J." Shwedo, former Director for Command, Control, Communications, and Computers (C4)/Cyber and Chief Information Officer of the Joint Staff, emphasized the importance of understanding diverse workforces and their suitability for videoconferencing networks.

Videoconferencing Network Communication

To address the historical gap in technology usage and acceptance, Davis (1986, 1989) and Venkatesh et al. (2003) emphasized the need for the U.S. Department of Defense's original technology acceptance model (TAM) to include a theoretical framework that explained the "adoption, ease, and experience" of workforce information technologies. Davis's 1986 TAM became the most widely used conceptual framework for information technology adoption and user acceptance. However, the TAM became outdated, as it did not address user acceptance of videoconferencing network communication.

I examined the factors influencing the attitudes and intentions of videoconference users based on the network communication technology acceptance model (NCTAM). NCTAM was applied to assess key factors impacting users' attitudes toward adopting videoconferencing, focusing on two main elements: the community effect and the availability factor (Chang et al., 2010). The theoretical framework of NCTAM

suggests the need for qualitative research to further explore the use of devices for attendance training. However, there is a gap in the literature regarding the lived experiences of community health workers in the context of community education within an established network communication platform. Specifically, their attitudes toward videoconferencing acceptance have not been extensively explored. Seabert and Pinger (2021) highlighted that community membership, understood as a sense of identity and belonging, plays a crucial role in the acceptance of network communication.

A phenomenological approach is well suited to examine the lived experiences of RCHWN community health workers, as it captures individual narratives in depth. Understanding these experiences can inform policymakers and lead to improved organizational services. This study may benefit public health scholars, community health educators, and community health workers. For instance, a study exploring community health workers' experiences with video-teaching tools during home visits found that such tools were generally acceptable and feasible, highlighting the importance of understanding user experiences in technology acceptance (Coetzee et al., 2018). Moreover, research on the use of videoconferencing for qualitative interviewing has shown that participants appreciate the convenience and flexibility of such platforms, which can enhance their engagement and data quality (Irani, 2019). These examples underscore the value of phenomenological studies for capturing the nuanced experiences of individuals using network communication technologies in community health and population settings.

Problem Statement

Kirkland et al (2022) discussed public health work force gaps from COVID-19 impacts on the United States anticipated shortage of 250,000 public health employees by 2020) U.S. Association of Schools of Public Health, 2008). Providing lived experience, Hare Bork et al.(2022) examined workplace perceptions among community/public health workers during the COVID-19 response. However, Wahowiak (2015) discussed how new legislation might ease public health workforce shortages. Which included health educators who faced challenges in utilizing technology at the community level and developing essential skills for effective health education delivery and group support (Centers for Disease Control and Prevention [CDC], 2019; Johns Hopkins University, 2020). The World Health Organization (WHO, 2010) revealed that these skills were urgent to address challenges during global pandemics by health educators. Since WHO's 2010 report, community health workers globally have experienced several world disasters, the most recent being the COVID-19 pandemic. The challenges faced by community health workers in the United States represent a significant public health issue. The use of videoconferencing communication technology may serve as a valuable tool to facilitate interventions and improve rural health outcomes at the community level.

There has been a renewed focus on the social determinants of health—non-medical factors that influence health outcomes (Hacker & Houry, 2022; WHO, 2024). To address these challenges, especially in light of the COVID-19 pandemic, The WHO (2024) projected a shortfall of 10,000,000 health workers by 2030, predominantly in low-income and lower-middle-income countries. Public health professionals encounter

difficulties such as navigating complex regulations and maintaining trust in virtual consultations. Although new advances in technology offer opportunities to address these challenges, the global health workforce is expected to grow by 29% since the adoption of the Global Strategy on Human Resources for Health: Workforce 2030 (Boniol et al., 2022) Health educators play a crucial role in addressing current and future public health challenges (Bruening, 2018). At the same time, the global health care landscape is facing an impending crisis, with a projected shortfall of 10,000,000 health care workers by 2030 worldwide (Gulumbe & Usman, 2023). Moreover, researchers in public health professions understand that the widespread use of videoconferencing will continue after COVID-19 ends (E. M. Abrams & Szeffler, 2020). Videoconferencing network communication has been shown to be a viable solution for improving the community public health workforce (Karl et al., 2022).

Furthermore, the use of videoconferencing network communication to support public health has continued to expand. This emphasizes the need to evaluate how videoconferencing influences community acceptance and accessibility (Chang et al., 2010). However, to date, the acceptance of videoconferencing network communication has been limited in reviews regarding community organizations and public health education publications (Ignatowicz et al., 2019). The challenges faced by community health workers in the United States represent a significant public health issue. The use of videoconferencing communication technology may serve as a valuable tool to facilitate interventions and improve rural health outcomes at the community level. The integration of videoconferencing network communication into community health workers'

workflows has become increasingly important, especially in light of the COVID-19 pandemic.

Therefore, new regulations are advantageous in securing the accessibility needed to improve acceptance for individuals. The Federal Communications Commission (2024) introduced new regulations to improve accessibility in videoconferencing platforms, effective January 13, 2025. These regulations aim to support individuals with disabilities. Additionally, there is growing academic interest in integrating videoconferencing into community health worker programs in rural areas, which can significantly enhance service delivery in humanitarian contexts. Videoconferencing is being used to connect with underserved populations for individual and community crisis response.

A scoping review highlights the role of community health workers in delivering essential services (Miller et al., 2020). Community health workers have participated in online training sessions to develop skills in videoconferencing tools. For example, the Northern Michigan University Center for Rural Health offered virtual community health worker certification training, covering core competencies and mental health first aid. Community health workers have conducted virtual health assessments, provided education, and offered support, reducing travel and increasing accessibility (Michigan University Center for Rural Health, n.d.). Community outreach platforms have enabled community health workers to hold webinars and online workshops, spreading health information to broader audiences. Regular virtual meetings for support and supervision have provided community health workers with current education and resources, helping

them stay updated on best practices and new technologies through videoconferencing (Evans, 2023).

While videoconferencing network communication supports various areas of public health in a community health context, the NCTAM framework can be used to evaluate users' acceptance of videoconferencing. As videoconferencing network communication becomes more popular among community members in practice, the more positive the appraisal will be regarding users' acceptance of videoconferencing (Chang et al., 2010). Although NCTAM addresses factors influencing the use of videoconferencing network communication, its discussion remains relatively superficial. A phenomenological approach, however, introduces a framework based on lived experiences, helping to explain how and why community health workers accept a network communication technology tool within a community organization. Moreover, the phenomenological framework can provide deeper insights into the attitudes and intentions of community health workers in the RCHWN, particularly regarding the use of videoconferencing in their practice and the availability of devices necessary to participate in meetings.

In this study, I explored and described the narratives of participants who experienced the phenomenon. The results of this study could enhance the knowledge of rural community health workers, public educators, and public health experts. The community health workforce will face future challenges when using the World Wide Web outside traditional health care settings (Blondino et al., 2024). Supporting this, the American Public Health Association (n.d.) explained that public health organizes

society's efforts to keep people healthy and prevent injuries and illnesses among communities and individuals (see also Liburd et al., 2020).

One solution is providing community members with access to the internet to better serve others (Mayfield-Johnson et al., 2020). Another example is self-improvement through videoconferencing networks, which, when practiced at the individual level, becomes essential for fostering healthy self-concern for life (Chemali et al., 2022). Scholars have indicated that community health workers may struggle to perform outreach during a national emergency based on their current knowledge and the requirements of public health education (CDC, 2021; Lapidos et al., 2022).

Community health workers have outreach to serve different populations within public health practice and must learn to use network communication technology for community collaboration and individual outreach within neighborhoods (Shin et al., 2020). There is also a need to address the disparity between the acceptance of videoconferencing networks based on individual acceptance and community acceptance of using videoconferencing network communication during the COVID-19 pandemic (Wang & Deng, 2022). The COVID-19 pandemic has affected community and individual levels in practicing network communication using videoconferencing in community health (Beauford, 2022). In addition, videoconferencing network communication has become popular for collaboration and training among community members in public health practice (Byrnes et al., 2021).

Michigan health practitioners recognized the importance of web-based training for community health department employees to prepare for future health crises

(Rodrigues, 2022). However, few reports on community health education literature have been published on the acceptance and usage of videoconferencing network communication technology from a user's point of view among members in practice within an organization of community health workers among members in the practice (Mallari et al., 2020; Taylor et al., 2020).

Nevertheless, Ibe et al. (2020) and St. John et al. (2021) expressed a concern that the coronavirus created an urgency to conduct research studies to assess whether the current community health workforce is skilled in community member practice and collaboration of internet vocabulary to accept network communication technology using videoconferencing to meet the challenges for their communities in public health practice (Rodrigues, 2022). Galle et al. (2021) explored the community effect of videoconferencing. They conducted a qualitative thematic analysis of videoconferencing network communication and discovered that the participating workers voiced high appraisal of videoconferencing within public health practice. However, health workers did not intend to use videoconferencing in practice. Czabanowska and Kuhlmann (2021) and Schwartz et al. (2021) reported that during the public health crisis, community health workers did not obtain practical skill training on how to use videoconferencing for their application and certification for present and future community health crises using hands-on videoconferencing training.

Nguyen et al. (2020) and WHO (2010, 2012) stated that research is needed to explore and document the lived experiences of community workers' training in the practical application of videoconferencing network communication. A paradigm in