

Nursing in the digital age: Nurses' experiences as healthcare virtual assistants

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Abstract

Aim: This study aimed to explore the lived experiences of nurses working as healthcare virtual assistants (HCVAs) in the digital age and to examine the implications of this role for nursing practice and virtual healthcare delivery.

Methodology: A qualitative narrative research design was employed using a validated semi-structured interview guide. Sixteen purposively selected registered nurses currently employed as healthcare virtual assistants participated in the study. Data were analyzed through thematic analysis to identify key patterns and themes in participants' experiences.

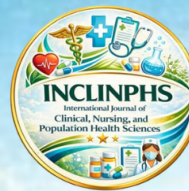
Results: Findings revealed that nurses in HCVA roles perform a wide range of administrative and operational functions, including assisting healthcare providers, managing workflows, coordinating care, and supporting patient education. Participants reported several benefits such as increased job satisfaction, reduced workplace stress, professional growth, and improved work-life balance. However, challenges were also identified, particularly related to data privacy concerns, unstable internet connectivity, technological adaptation, and limitations in virtual communication. Despite these challenges, HCVAs contribute to improved patient safety, enhanced access to healthcare services, and greater patient satisfaction within virtual care environments.

Conclusion: Nurses serving as healthcare virtual assistants play a vital role in administrative support, care coordination, patient engagement, and virtual care delivery. Their contributions support improved healthcare accessibility, patient safety, and service efficiency within digital healthcare systems. The findings support the development of a Healthcare Virtual Professional Program aimed at strengthening nurses' digital competencies and preparing the nursing workforce for evolving virtual healthcare environments.

Keywords: *healthcare virtual assistants, virtual nursing, telehealth nursing, digital healthcare, nursing informatics*

INTRODUCTION

The digital age has transformed healthcare, expanding professional roles and creating opportunities in virtual care. A Healthcare Virtual Assistant (HCVA) is a registered nurse who delivers remote healthcare support and patient services through digital platforms, bridging the gap between patients and providers (Varnosfaderani & Forouzanfar, 2024; Nawaz & Ali, 2025). Globally, several nurses in high-income countries are engaged in virtual care, and in the Philippines, the trend is rapidly growing due to the strong outsourcing industry and skilled nursing workforce, with several nurses in Quezon Province transitioning into HCVA roles. HCVAs provide essential patient services such as education, chronic disease monitoring, care coordination, virtual assessments, symptom triage, health coaching, and medication adherence, alongside administrative tasks including scheduling and electronic health record management. The role requires adaptability and technological competence, exploring telehealth platforms, Electronic Health Record (EHR) systems, secure messaging, and AI-assisted tools, while overcoming communication, cultural, and engagement challenges. Nurses often undergo training in HIPAA compliance, telehealth communication, data privacy, and software-specific tools to meet these demands. Despite challenges, HCVA roles offer advantages such as improved work-life balance, flexibility, reduced physical strain, higher job satisfaction, and professional growth.



Delivering quality virtual care also requires innovative strategies, including patient-centered communication, telehealth etiquette, culturally sensitive approaches, and AI-assisted triage and follow-up tools, improving accessibility and engagement, particularly among underserved populations. Legal and ethical considerations remain critical, with data privacy and jurisdictional compliance guided by regulations such as HIPAA and the Data Privacy Act of 2012 (RA 10173) (Edemekong et al., 2024). Despite the growth of HCVA roles, research on Filipino nurses' experiences remains limited. This study explores their transition, challenges, and impact on care quality, and proposes a Healthcare Virtual Professional Program to integrate into nursing courses such as Nursing Informatics (NCM 110) and Decent Work Employment and Transcultural Nursing (NCM 120), aiming to equip future nurses with competencies in telehealth, virtual communication, and cybersecurity while enhancing employment opportunities and reducing nurse migration.

Review of Related Literature and Studies

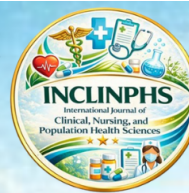
The role of nurses serving as HCVAs has expanded alongside the growth of telehealth and digital healthcare platforms, integrating traditional nursing competencies with virtual care responsibilities to support patients and healthcare teams. HCVAs perform diverse functions such as remote clinical support and patient triage, where they assess conditions, monitor systems, and provide guidance on immediate care needs, particularly for chronic disease management (Bulto, 2024). They also assist with patient intake and discharge by gathering medical histories, verifying medications, documenting records, and providing discharge instructions, thereby reducing the workload of bedside nurses and allowing them to focus on complex clinical tasks. In addition, HCVAs enhance patient education and communication by addressing concerns and maintaining continuity of care despite the absence of physical interaction. Remote monitoring is another essential responsibility, as nurses track vital signs, symptoms, and other health indicators using digital tools to enable early detection of complications and improve patient management.

Beyond clinical support, HCVAs handle administrative responsibilities such as updating medical records, processing insurance, scheduling appointments, and coordinating care, which improves workflow efficiency and reduces the administrative burden on healthcare staff. They also facilitate communication among multidisciplinary teams and assist patients in navigating telehealth technologies, troubleshooting technical issues, and promoting equitable access to digital healthcare platforms (Al-Worafi, 2024). Transitioning to HCVA roles provides nurses with benefits including flexibility, remote work opportunities, improved work-life balance, and reduced workplace stress. These roles can help alleviate burnout while supporting high-quality patient care and offering financial incentives, competitive salaries, and professional growth opportunities in telehealth, EHR management, and digital health systems. Furthermore, HCVA roles provide fulfillment for nurses who prefer administrative or supportive functions while still contributing to positive patient outcomes and organizational effectiveness.

Despite these advantages, nurses transitioning to HCVA roles face several challenges, particularly in adapting to digital tools and learning new technologies often without sufficient preparation. Technological complexities such as system incompatibility, frequent updates, and assisting patients with virtual platforms add difficulty, while communication barriers caused by the lack of physical interaction may affect rapport and care quality (Burgess & Honey, 2022). Digital literacy gaps, technical disruptions, and connectivity issues further increase stress and hinder effective service delivery, emphasizing the need for continuous training, institutional support, and reliable IT infrastructure (Stoltzfus et al., 2023). Data privacy and security concerns also remain critical due to the sensitivity of healthcare information, requiring strict compliance with regulations such as HIPAA and adherence to proper IT protocols to maintain patient trust and system integrity (Ikram, 2024; Pepper, 2024).

The impact of HCVAs on healthcare quality is significant, particularly in improving accessibility, continuity of care, and patient engagement, especially among underserved populations. However, digital inequities, limited preparedness, and technological challenges may affect patient outcomes (Nascimento et al., 2023; Haimi, 2023). Privacy concerns and the absence of standardized quality measures further influence care effectiveness, highlighting the need for ongoing training, evaluation, and regulatory oversight (Houser et al., 2023). To address these issues, the development of a healthcare virtual professional program is essential, focusing on digital health literacy, telehealth fundamentals, EHR training, simulation-based learning, mentorship, and continuous education to ensure nurses remain competent in evolving virtual healthcare environments (Kavakli & Konukbay, 2024; Vesna et al., 2024).

Several studies highlight the importance of communication, technology integration, and competency development in virtual healthcare. Sheehan et al. (2021) emphasized multidisciplinary communication and the



role of health information technology but noted the lack of standardized communication methods, while Peyroteo et al. (2021) examined Health Remote Monitoring Systems for chronic disease management and identified integration challenges. Curtis et al. (2021) stressed empathy and relational behavior in HCVA design, and study by Haleem et al. (2021) highlighted telemedicine's accessibility, cost-effectiveness, and workforce support. Research on competency development further underscores the importance of training and technology adaptation, with studies by Al Baalharith & Aboshaiqah (2024), Alshammari & Alenezi (2023), Mohammadnejad et al. (2023), and Joo (2022) emphasizing digital skills, efficiency, and telehealth outcomes. Additional studies highlight barriers related to digital transformation, usability issues, interpersonal communication, stress, and leadership support (Gottlieb et al., 2021; Booth et al., 2021; Maqbool & Herold, 2024; Younas et al., 2023; Laukka et al., 2022; Haanes et al., 2024). Finally, training, mentorship, and professional development remain essential, with studies highlighting competencies, ethical frameworks, telehealth education, and the impact of digital technologies on healthcare delivery (Anawade et al., 2024; Curran et al., 2023; Duffy et al., 2023; Gellert et al., 2023; Iyanna et al., 2022; Tischendorf et al., 2024; Wang et al., 2021; Yogesh & Karthikeyan, 2022; Rossiter et al., 2024).

Previous research has established that nurses serving as HCVAs play an important role in telehealth by providing remote clinical support, patient triage, monitoring, administrative assistance, and communication that improve healthcare accessibility, efficiency, and continuity of care. Studies also highlight the benefits of HCVA roles for nurses, including flexibility, reduced burnout, improved work-life balance, and opportunities for professional development in digital health systems. At the same time, existing literature identifies several challenges such as technological adaptation, digital literacy gaps, communication barriers, system usability issues, privacy concerns, and the need for institutional and leadership support in virtual healthcare settings. While previous studies have explored telehealth systems, communication processes, digital competencies, and training needs in virtual healthcare, limited research has specifically examined nurses' lived experiences, adaptation processes, and competency development when transitioning into HCVA roles. Therefore, this study addresses this gap by exploring nurses' experiences as healthcare virtual assistants and generating insights that can inform the development of a comprehensive healthcare virtual professional program to better prepare nurses for effective practice in virtual healthcare environments.

Theoretical Framework

This study was anchored on several theoretical frameworks. The Diffusion of Innovations Theory explains how new ideas and technologies are adopted over time within a social system, emphasizing factors such as perceived usefulness and ease of use that influence acceptance of HCVA roles. The Transformative Learning Theory focuses on how individuals change their perspectives through critical reflection and experience, which is relevant to nurses adapting from traditional bedside care to virtual healthcare practice. The Innovation Resistance Theory explains the barriers individuals may exhibit when encountering new technologies or practices, such as fear of change, perceived complexity, or uncertainty in digital systems. Lastly, the Theory of Technological Competency as Caring in Nursing highlights that the integration of technology in nursing care should still reflect core caring values, ensuring that digital competence enhances rather than replaces compassionate patient care. Together, these theories help explain how nurses experience, adapt to, and sometimes resist the transition into HCVA roles within a rapidly evolving digital healthcare environment.

These theoretical frameworks guided the study in structuring the interview questions, organizing the qualitative data, and interpreting participants' experiences. Specifically, they informed the thematic analysis conducted through NVivo 14 by providing conceptual lenses for identifying codes and themes related to HCVA roles, responsibilities, benefits, challenges, and perceived impact on quality care. The Diffusion of Innovations Theory and Innovation Resistance Theory helped explain adoption patterns and barriers, while Transformative Learning Theory supported the analysis of nurses' adaptation and professional growth. The Theory of Technological Competency as Caring in Nursing ensured that findings were interpreted in relation to maintaining compassionate care in a digital context. Based on these analyzed insights, the study developed a Healthcare Virtual Professional Development Program aimed at preparing nurses and nursing students for virtual care through training in telehealth technologies, digital communication, patient engagement, cybersecurity, reflection, hands-on practice, and problem-solving, ensuring readiness for high-quality virtual healthcare delivery.

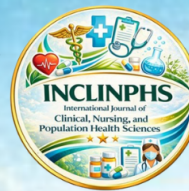


Figure 1. Theoretical paradigm showing the nurses' experiences as healthcare virtual assistants.

Statement of the Problem

The rapid advancement of digital healthcare technologies has significantly transformed healthcare delivery systems worldwide. Telehealth, remote patient monitoring, and digital communication platforms have expanded opportunities for nurses to participate in virtual healthcare environments. One emerging role within this digital healthcare landscape is the Healthcare Virtual Assistant (HCVA), where nurses provide remote healthcare support, patient education, care coordination, and administrative assistance through digital platforms.

Despite the growing demand for healthcare virtual assistants and the increasing participation of Filipino nurses in remote healthcare services, limited research has explored the lived experiences of nurses working in HCVA roles, particularly in the Philippine context. Understanding their roles, benefits, and challenges is important for improving digital healthcare practices, strengthening nursing competencies in virtual care, and ensuring quality healthcare delivery within telehealth systems.

Furthermore, the integration of virtual healthcare competencies into nursing education and professional training remains an emerging concern. Identifying the experiences and challenges faced by nurses working as healthcare virtual assistants may provide valuable insights for developing structured training programs that prepare nurses for digital healthcare environments.

Given these concerns, this study seeks to examine the experiences of nurses serving as healthcare virtual assistants and to propose a Healthcare Virtual Professional Program that may guide nursing education and professional development in virtual healthcare practice.

Research Objectives

General Objective

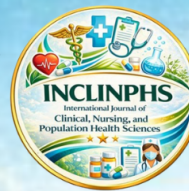
To explore the experiences of nurses serving as healthcare virtual assistants and examine their roles, benefits, challenges, and contributions to healthcare delivery.

Specific Objectives

1. To determine the primary roles and responsibilities of nurses serving as healthcare virtual assistants.
2. To examine the benefits of transitioning to a healthcare virtual assistant role among nurses.
3. To identify the challenges encountered by nurses in adapting to digital healthcare platforms and technologies.
4. To assess the impact of healthcare virtual assistant roles on the quality of care provided.
5. To propose a healthcare virtual professional program that can be integrated into nursing education to guide nurses in exploring healthcare virtual assistant roles.

Research Questions

This study sought to answer the following research questions:



1. What are the primary roles and responsibilities of nurses serving as healthcare virtual assistants?
2. What are the benefits of transitioning to a role as a healthcare virtual assistant among nurses?
3. What are the key challenges encountered by nurses in adapting to and exploring the digital platforms and technologies used in healthcare virtual assistant roles?
4. What impact does the HCVA role have on the quality of care provided?
5. What healthcare virtual professional program can be integrated into nursing subjects to guide nurses in exploring healthcare virtual assistant roles?

METHODS

Research Design

This study employed a qualitative approach using narrative analysis to examine interview data from HCVA participants, allowing for in-depth exploration of nurses' experiences and the impact of their roles on quality of life (Braun and Clarke, 2021). Through semi-structured interviews, participants were able to elaborate on their experiences in their own words, providing flexibility and rich insights from their perspectives. The study specifically aimed to identify the primary roles and responsibilities of nurses as healthcare virtual assistants, the benefits of transitioning into these roles, the challenges encountered in adapting to digital healthcare platforms, and the impact of HCVA roles on the quality of care provided.

Population and Sampling

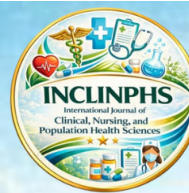
Investigating the experiences of nurses employed as healthcare virtual assistants is crucial for understanding the rising trend of nurses seeking employment in remote virtual settings. The study comprised a purposively chosen 16 registered nurses following the criteria such as a) residing in Quezon Province who are working remotely as HCVAs by foreign agencies; b) actively engaged in virtual care; c) directly communicating with patients regardless of their specific health needs; and d) willing to participate in the study, providing diverse perspectives, to enrich the data collected. The selection of participants was based on the information that the Philippines has emerged as a central point for outsourcing services, such as virtual assistance due to its large pool of English-speaking talent and competitive labor costs. In addition, to ensure variation in participant experiences, the study included nurses with different lengths of experience and varying roles in virtual healthcare.

Instrument

A validated self-devised interview guide containing semi-structured questions was employed to systematically gather data on the experiences of nurses working as HCVAs for foreign companies and residing in Quezon Province. The guide comprised four parts: (1) primary roles and responsibilities of HCVAs, (2) benefits of transitioning to HCVA roles, (3) key challenges in adapting to digital platforms and technologies, and (4) the impact of HCVA roles on the quality of care, with each question supplemented by two follow-up questions to explore participants' experiences more deeply. The instrument also included a participant letter, consent form, and interview protocol. To ensure trustworthiness, the guide was reviewed by three experts, two HCVA supervisors and a HCVA manager, who assessed its accuracy, coherence, relevance, and depth, while a language expert ensured linguistic precision. Finally, the validated guide was submitted to the Institutional Research Ethics Committee of Sacred Heart College of Lucena City, Inc. and approved for use in the study.

Data Collection

After receiving approval from the Institutional Research Ethics Committee, the researcher obtained informed consent from participants, explaining the study's aims, goals, and intended outputs to ensure voluntary participation. Recruitment was enhanced through a referral method, where initial participants recommended other nurses meeting the study criteria, allowing for a broader and more diverse sample of HCVAs. Data were collected from February 3 to 17, 2025, through in-depth interviews lasting 45–60 minutes, using open-ended questions to capture detailed experiences, with participants given the option of face-to-face, online (Zoom or Google Meet), or written interviews and permission obtained for recordings as appropriate. Interview recordings were transcribed, Tagalog responses translated into English, and verified by a language expert to ensure accuracy, after which NVivo 14 Qualitative Research Data Analysis Software was used to systematically organize, code, and analyze the data, supporting thematic analysis of participants' roles, responsibilities, experiences, and challenges as healthcare virtual assistants.



Treatment of Data

This study employed NVivo 14 Qualitative Research Data Analysis Software to systematically organize, code, and analyze the qualitative data, supporting various formats such as text, audio, and video for efficient categorization and pattern recognition. Thematic analysis, following Braun and Clarke's (2021) framework, was used to identify, analyze, and report patterns within the data. The process involved familiarization with the data through repeated reading and transcription, systematic generation of initial codes, and collating these codes into potential themes. Themes were then reviewed, refined, and clearly defined, with supporting data extracts integrated into a coherent narrative addressing the research questions. To ensure rigor, three validators reviewed the results, confirming that the themes accurately reflected participants' responses and were logically organized, consistent, and free from researcher bias.

Ethical Considerations

This study strictly adhered to the Data Privacy Act of 2012 (RA 10173) and upheld the ethical principles of confidentiality, autonomy, and anonymity to protect participants' privacy. Confidentiality was maintained by separating or altering sensitive information to prevent identification, while anonymity ensured that data were collected without any identifying details. Participants were fully informed of the study's purpose, their right to decline participation, and their ability to withdraw at any time without consequences, with informed consent obtained prior to data collection. During interviews, participants were treated with respect, and their physical and psychological well-being was safeguarded. All collected data were handled with strict confidentiality: digital recordings and transcripts were stored on a password-protected laptop, and hard copies were kept in a locked file cabinet accessible only to the researcher. Following institutional policies, data will be retained for two years after study completion and then securely disposed of, with digital files permanently deleted and hard copies shredded to ensure no identifiable information remains.

RESULTS and DISCUSSION

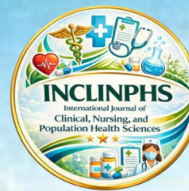
Data presented in this part include the results of the researcher's investigation of the queries raised in line with this study. This provided a comprehensive analysis and interpretation of the data gathered using semi-structured interviews taken from the participants of the study.

Part I. Primary Roles and Responsibilities of Nurses Serving as Healthcare Virtual Assistants

Nurses serving as HCVAs perform diverse roles that enhance both administrative efficiency and clinical care delivery. The first key area, administrative and healthcare operations management, includes documentation, medical scribing, maintaining patient records, managing daily census, distributing cases, and processing insurance claims. These responsibilities ensure accurate record-keeping, regulatory compliance, and streamlined workflows, reducing provider fatigue and enabling timely access to care (Edemekong et al., 2024). Additionally, HCVAs support healthcare providers and workflow efficiency by executing medical orders, managing referrals, coordinating laboratory requests, and facilitating patient follow-ups, which alleviates administrative burdens and allows providers to focus on direct patient care, improving service delivery, reducing delays, and enhancing patient satisfaction (Burgess & Honey, 2022; Sheehan et al., 2021).

The next key area, communication and coordination of care, highlights HCVAs' role as intermediaries between patients and healthcare teams. They manage communication through calls, emails, and virtual consultations, ensuring patient concerns are addressed promptly and accurately, which reduces medical errors, improves treatment adherence, and strengthens patient satisfaction (Burgess & Honey, 2022). HCVAs coordinate referrals, manage urgent cases, and ensure continuity of care, supporting timely clinical decision-making and effective interprofessional collaboration (Curran et al., 2023; Mohammadnejad et al., 2023). Direct patient support and virtual care assistance form another critical function, with HCVAs performing triage, emergency assessments, medication management, and general care support. Their remote assessments enhance patient safety and accessibility, particularly in high-risk or underserved areas, while monitoring medication adherence reduces risks of errors and improves outcomes (Anawade et al., 2024; Haimi, 2023).

Finally, HCVAs play a vital role in patient engagement and education by promoting health literacy, providing appointment scheduling and reminders, and coaching patients on disease management. These activities empower patients to make appropriate decisions, improve adherence to treatment plans, and reduce missed appointments, contributing to preventive care and long-term health outcomes (Anawade et al., 2024; Haleem et al., 2021). Integrating education with virtual support not only enhances patient participation but also promotes a



more patient-centered, efficient healthcare system, highlighting the importance of HCVA in modern healthcare delivery (Gellert et al., 2023).

Part II. Benefits of Transitioning to a Role as a Healthcare Virtual Assistant Among Nurses

The transition of nurses into HCVA roles offers significant advantages, particularly in terms of job satisfaction and stability. Nurses report higher satisfaction due to improved compensation, flexible work arrangements, and the ability to maintain meaningful patient interactions remotely, while financial stability from better pay reinforces career retention and long-term security (Anawade et al., 2024). Emotional fulfillment is also evident, as nurses continue to impact patients' lives positively, with reduced workplace stress and increased autonomy contributing to overall job contentment (Gottlieb et al., 2021). These factors collectively position HCVA roles as a sustainable and rewarding alternative in the evolving healthcare field.

Personal well-being and reduced stress are additional benefits of HCVA roles. Virtual healthcare allows nurses to experience lower stress, improved mental health, and reduced burnout by minimizing exposure to physically demanding and high-pressure clinical environments. Nurses gain more time for leisure, self-care, and family, which supports emotional resilience and overall well-being. Eliminating commuting and lowering work-related expenses contribute further to comfort and satisfaction, while remote work flexibility, even during travel, aligns with emerging trends like digital nomadism in healthcare (Mohammadnejad et al., 2023; Haleem et al., 2021; Alshammari & Alenezi, 2023).

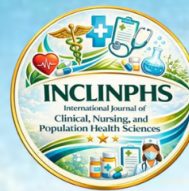
HCVA roles also promote professional growth, skill development, and work-life balance. Nurses expand their competencies through exposure to telehealth technologies, electronic health records, and international healthcare systems, enhancing adaptability and technical expertise (Vesna et al., 2024). Continuous learning via training, certifications, and global healthcare exposure supports career advancement, while developing essential skills such as communication, decision-making, and multitasking strengthens overall professional capability (Jeffries et al., 2022; Sheehan et al., 2021; Al Baalharith & Aboshaiqah, 2024). Flexible scheduling and remote work options improve productivity, reduce burnout, and facilitate integration of personal and professional responsibilities, particularly for nurses with family obligations, making HCVA roles a highly attractive and sustainable career choice (Gottlieb et al., 2021; Alshammari & Alenezi, 2023).

Part III. Key Challenges Encountered by Nurses in Adapting to and Exploring the Digital Platforms and Technologies Used in Healthcare Virtual Assistant Roles

The transition of nurses into Healthcare Virtual Assistant (HCVA) roles presents significant challenges, particularly in adapting to digital platforms and technologies. A primary concern is data privacy and security, as HCVA roles are responsible for protecting sensitive patient information in telehealth, electronic medical records (EMRs), and cloud-based systems, which exposes data to cyber threats, unauthorized access, and breaches (Houser et al., 2023; Curran et al., 2023). Unlike traditional healthcare settings, remote nurses must implement digital safeguards such as encrypted communication, secure networks, multi-factor authentication, and strict adherence to HIPAA regulations. Nurses emphasized the vigilance required to maintain confidentiality, recognizing that lapses could result in legal consequences, reputational harm, and compromised care quality (Curran et al., 2023). Continuous cybersecurity training and organizational support are essential to explore this complex digital landscape effectively.

Another key challenge involves internet and connectivity issues, which affect HCVA's ability to provide timely and efficient virtual care. Reliable internet is critical for virtual consultations, EMR management, and telehealth communication, yet nurses reported frequent signal disruptions, weak connectivity, bandwidth limitations, and power outages (Haimi, 2023). Such interruptions can delay workflows, impede real-time interactions with patients and healthcare providers, and increase stress due to prolonged task completion. Contingency measures, including backup power supplies, mobile hotspots, or alternative networks, are necessary to maintain continuity of care. Without infrastructure improvements and proactive planning, nurses face persistent barriers in delivering consistent virtual healthcare services.

Technology and system challenges, along with virtual communication demands, further complicate HCVA roles. Nurses often encounter hardware malfunctions, platform glitches, outdated devices, and complex system requirements, which can disrupt workflow and delay documentation (Nascimento et al., 2023; Haimi, 2023). In addition, virtual communication challenges arise from the absence of in-person cues, language barriers, cultural differences, and frequent software or protocol updates, requiring HCVA to continuously adapt and develop strong digital communication skills (Anawade et al., 2024; Curran et al., 2023; Duffy et al., 2023; Stoltzfus et al., 2023; Vesna et al., 2024). Access to IT support, user-friendly platforms, and training are crucial for overcoming



technological and interpersonal challenges, ensuring high-quality virtual care while bridging the gap between traditional and digital healthcare delivery.

Part IV. Impact of HCVA Role on the Quality of Care Provided

The role of HCVAs has a profound influence on the quality of care provided to patients, particularly in the area of enhancing patient safety and treatment compliance. HCVAs play a pivotal role in ensuring that patients adhere to prescribed treatment plans, follow medical advice, and maintain consistent medication intake. By providing reminders, follow-ups, and educational support, HCVAs help patients understand the importance of compliance and the potential consequences of missed medications or incomplete treatments. Participants in the study highlighted how meticulous documentation, accurate reporting, and the application of evidence-based clinical guidelines contribute to minimizing errors and ensuring optimal care (Curtis et al., 2021; Haleem et al., 2021). Through these interventions, patients are empowered to actively manage their health, promoting both accountability and confidence in their care plans while improving overall treatment outcomes (Duffy et al., 2023).

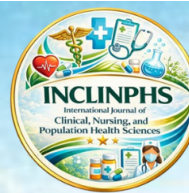
Another major impact of the HCVA role is expanding access and reducing barriers to care, which is particularly critical for patients in remote or underserved areas. Virtual healthcare platforms allow patients to receive timely consultations without the need to travel long distances, while HCVAs coordinate appointments, follow-ups, and referrals to ensure continuity of care (Wang et al., 2021). Participants emphasized that HCVAs streamline administrative processes, reducing the workload of healthcare providers and allowing them to focus more on direct patient care. This not only improves healthcare efficiency but also ensures that medical needs are addressed promptly, reducing delays in interventions and promoting equitable access to services (Anawade et al., 2024; Mohammadnejad et al., 2023; Joo, 2022). By bridging the gap between patients and providers, HCVAs contribute significantly to a more inclusive and patient-centered healthcare system.

In addition to safety and accessibility, the HCVA role substantially enhances patient experience and satisfaction. Timely responses, personalized interactions, and consistent support promote trust between patients and healthcare providers, improving engagement in their treatment plans. Participants reported that patients highly appreciate accurate and prompt medication delivery, as well as follow-ups that provide reassurance and emotional support (Alshammari & Alenezi, 2023; Gottlieb et al., 2021). These experiences illustrate that HCVAs are instrumental in creating a seamless virtual care environment, where patient concerns are addressed efficiently and effectively. By improving service reliability and convenience, HCVAs strengthen patient trust, encourage active participation in healthcare, and contribute to more positive perceptions of medical services.

Despite these benefits, virtual healthcare is not without limitations, which impact the overall quality of care provided. Technical issues such as software glitches, unstable internet connections, and digital platform inefficiencies can delay consultations, hinder communication, and frustrate both patients and providers (Burgess & Honey, 2022; Maqbool & Herold, 2024; Younas et al., 2023). Furthermore, the absence of physical examinations in virtual consultations limits accurate assessment and diagnosis, increasing the risk of misinterpretation of symptoms and delayed treatment (Kavakli & Konukbay, 2024; Anawade et al., 2024). Participants highlighted how message backlogs, queue systems, and miscommunication during virtual interactions can exacerbate these challenges. Collectively, these limitations underscore the necessity for strong technological infrastructure, hybrid care models, and continuous professional training for HCVAs to ensure reliable, timely, and high-quality patient care in digital healthcare environments.

Conclusions

The findings of the study reveal that nurses serving as Healthcare Virtual Assistants (HCVAs) perform diverse roles primarily focused on administrative functions and healthcare operations management, including assisting healthcare providers, ensuring workflow efficiency, facilitating coordination of care, supporting patient engagement, and delivering health education in virtual settings. While the transition to HCVA roles provides benefits such as improved job satisfaction, reduced stress, enhanced well-being, professional growth, and better work-life balance, nurses also face challenges including data privacy and security concerns, internet connectivity issues, technological limitations, and difficulties in adapting to virtual communication. Despite these challenges, HCVA roles contribute positively to healthcare quality by improving patient safety, treatment compliance, access to services, and patient satisfaction, which in turn supports better continuity of care and more equitable health service delivery for diverse populations. These findings have important implications for health policy development, particularly in strengthening telehealth regulations, ensuring cybersecurity and data protection, standardizing virtual care practices, and promoting equitable access to digital healthcare services, while also contributing to improved population health outcomes through enhanced chronic disease management, increased



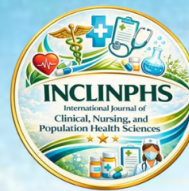
healthcare accessibility, and more responsive health systems. As an output of the study, the proposed Healthcare Virtual Professional Program was developed to integrate digital healthcare competencies into nursing education and practice, focusing on telehealth skills, digital communication, patient engagement, cybersecurity, problem-solving, and adaptability, thereby preparing nurses for effective HCVA roles and supporting improved patient and population health outcomes in evolving virtual care environments.

Recommendations

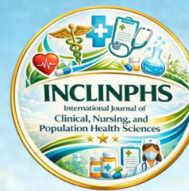
In light of the findings and conclusions of the study, nurses serving as healthcare virtual assistants may engage in continuous professional development by participating in the proposed Healthcare Virtual Professional Program to enhance their competencies in telehealth systems, virtual patient care, healthcare technologies, and cybersecurity practices to ensure the protection of patient information. Patients receiving virtual care may adhere to established telehealth guidelines, actively participate in patient education initiatives, and communicate effectively during online consultations to optimize healthcare outcomes. Professional organizations such as the Philippine Nurses Association (PNA) may utilize the study's findings to develop policies that formally recognize healthcare virtual assistants as a specialized field within nursing, ensuring appropriate compensation, licensure, and ongoing competency development. Nursing educators may integrate the proposed program into nursing curricula to equip students with essential digital health competencies and promote research related to virtual healthcare delivery. Aspiring nurses interested in HCVA roles may participate in training programs and professional networks to gain practical knowledge and experience in virtual healthcare environments. HCVA organizations and professional associations may adopt the program as a training framework and establish mentoring systems to address workplace challenges and support professional development. Healthcare administrators and nursing service managers may utilize the program to support onboarding, competency development, and continuing education for nurses transitioning into virtual healthcare roles. Future researchers may expand this line of inquiry by exploring additional variables, employing quantitative or mixed-method approaches, and conducting large-scale investigations to further examine the long-term impacts of HCVA roles on healthcare quality, accessibility, and nursing outcomes.

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