Saudi Journal of Medicine and Public Health

https://saudijmph.com/index.php/pub

https://doi.org/10.64483/jmph-67

Technology-Driven Nursing Interventions to Support Telehealth in Cardiac Primary Care: A Review Study

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Abstract:

Background: Telehealth incorporation is changing the nursing practice in cardiac primary care; technology-driven nursing interventions are providing innovative ways to improve patient outcomes and patient access to care. Nursing interventions driven by technology, such as remote patient monitoring, virtual consultations, and mHealth applications, are becoming increasingly important in cardiovascular disease management.

Aim: This review aims to appraise the effectiveness, challenges, and future considerations for technology-driven nursing interventions in telehealth in the area of cardiac primary care, focusing on patient outcomes, nurse workload, and health equity.

Methods: A scoping review was conducted using PubMed, CINAHL, Scopus, and Web of Science. The review included studies published between 2015 and 2025 through peer-reviewed journals. Inclusion criteria included studies utilizing a telehealth intervention with nurse involvement in cardiac primary care that had a qualitative/quantitative method. Data were synthesized thematically and quantitatively, based on the variability of outcomes in each study, which were summarized by patient health, nurses' efficiency, and system-level.

Results: The 50 studies showed telehealth interventions were reported to increase patient adherence (85% of studies), decrease hospital admissions (70% of studies), and increase nurse efficiency (60% of studies), but many studies did identify challenges, including digital literacy (40%) and infrastructure (30%). Secondly, reports on equity-related interventions demonstrated some success with providing healthcare to disadvantaged populations.

Conclusion: While through technology-enhanced nursing telehealth intervention characteristics show large improvements in processes regarding cardiac care, a large investment in training, infrastructure, and other elements to address technology gaps may be necessary. Future research efforts should focus on implementing scalable and equitable strategies.

Keywords: nursing interventions, telehealth, digital health, cardiac care, health equity

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Received date: 20 J July 2025 Revised date: 28 July 2025. Accepted date: 18 August 2025

Introduction

Cardiovascular diseases (CVDs) continue to be a global health issue, with nearly 17.9 million deaths each year, ranking CVDs as the leading cause of death worldwide as its defining contribution to mortality (World Health Organization, 2021). CVDs, such as coronary artery disease, heart failure, hypertension, and arrhythmias, continue to overwhelm the healthcare system, especially in the realm of primary care, in which there is a need for early diagnosis, prevention, and continuing management. As the primary healthcare providers and the core of patient-centered care, nurses can provide education, monitoring, and support to improve health outcomes - and quality of life - for patients diagnosed with CVDs (Ackley et al., 2008). The emergence of telehealth into primary care, fueled by global demand initiated by the COVID-19 pandemic, has changed how nurses furnish cardiac care. Managing chronic cardiovascular diseases can be complicated; telehealth permits potentially innovative ways to provide education and engage patients with chronic disease.

Telehealth, which is described as the combination of technology and communications to provide health care services at a distance (World Health Organization, 2016), has also raised many technology-facilitated nursing roles, including remote patient monitoring (RPM), virtual consultations, and mobile health (mHealth) practice. RPM enables nurses to collect real-time vital signs (e.g., blood pressure, heart rate) from patients using wearables and digital platforms to inform timely interventions to avoid exacerbation (Smith et al., 2020). Virtual consultations allow direct communication between nurses and patients utilizing video or telephone technologies, offering accessible community health care, especially for people in rural or underserved areas (Jones et al., 2022). Mhealth applications (e.g., medication reminders, lifestyle logs, and educational resources) promote patients' self-efficacy and adherence to and management of their conditions (Lee et al., 2023). An overall aim of all three of these interventions is to enhance health outcomes, improve access to care, and minimize health care costs by reducing hospital admissions or emergency visits (McKissick et al., 2017).

While telehealth has the potential to facilitate health care, it does NOT come without challenges in the implementation of technology-facilitated nursing interventions. Challenges remain around digital literacy, which is being able to use digital communication tools and resources effectively, not only for previously stated patients but for health care providers and practitioners as well (Mosely et al., 2021). Disparities in infrastructure, such as a lack of broadband and devices, contribute to inequity, especially in rural and low-income populations (Golant et al., 2023). Further, there are regulatory and reimbursement barriers, including inconsistent telehealth coverage policies, prohibiting access to telehealth opportunities, especially in fragmented healthcare systems (American Heart Association, 2023). These challenges highlight the need for a holistic evaluation of the role of telehealth in cardiac primary care to identify ways to optimize and reduce inequity.

This review attempts to synthesize available evidence on success, barriers, and opportunities related to technology-based nursing interventions in telehealth in cardiac primary care. The review specifically focuses on three key areas: patient outcomes (i.e., clinical outcomes, adherence, and satisfaction), nurse workload (i.e., efficiency and amount of time devoted to telehealth), and health equity (i.e., access to care among underserved

populations). Through these areas, it is hoped that the review demonstrates a comprehensive view of the role of telehealth and puts forth evidence-based recommendations that can provide guidance for future nursing practice, the development of new policy guidelines, and opportunities for cardiac research.

Methods

Study Design

Using an approach defined by the Joanna Briggs Institute (JBI) (Peters et al., 2020), this scoping review mapped any relevant literature on the use of technology-based nursing interventions as telehealth in the context of cardiac primary care in all study designs and patient outcomes.

Search Strategy

A systematic search was conducted in PubMed, CINAHL, Scopus, and Web of Science for studies published from January 2015 to 2025 using the search terms: telehealth, nursing interventions, cardiac care, primary care, and digital health with Boolean operators (e.g., AND, OR) and adapted across each database. Attention to grey literature and reference lists was also taken to consider other sources.

Inclusion and Exclusion Criteria

Studies were included if they: (1) were telehealth-based nursing interventions in cardiac primary care, (2) included patient or system-level outcomes, (3) were published in the English language, and (4) were in qualitative, quantitative, or mixed-method study designs. Studies that evaluated interventions that were not related to cardiac disease, were focused on interventionalists other than nurses, or were not in a primary care environment were excluded.

Screening and Data Extraction

Following the removal of duplicated studies in Covidence software, two reviewers screened the titles and abstracts (and then the full text) independently, and any disagreement was resolved through a third reviewer. Data extraction focused on study characteristics (author, year, country), type of intervention, outcomes (patient outcomes, nurse efficiency, system effects), and barriers. Quality appraisal was made with the JBI critical appraisal tools (Lockwood et al., 2015).

Effectiveness of interventions

Patient Outcomes

The combination of technology-based nursing interventions in telehealth has been shown to positively influence patient outcomes in cardiac primary care, and from the review of the studies included, as noted in 70% of studies (n=35) had an impact on reducing hospital admissions for cardiac patients receiving telehealth interventions. This is important as it demonstrates the ability of telehealth to reduce the acute exacerbation and promote the ongoing management of their condition (Smith et al., 2020; Golant et al., 2023). Remote patient monitoring (RPM) is particularly effective, as 80% of studies yielded statistically significant improvements in blood pressure control ($p<0.05$), which is important to prevent cardiovascular events (Beleigoli et al., 2021). Likewise, 65% of studies in heart failure found improved clinical outcomes to be part of their interventions, including reduced severity of symptoms and improved quality of life when considered alongside their treatments, resulting from being

monitored in real-time with gratefully quick assessments from nurses (Beleigoli et al., 2021). These outcomes support the concept of RPM to enhance timely and proactive care, enabling the nurse to identify and correct abnormalities before hospitalization is required.

Virtual consultations, another pillar of telehealth, had high satisfaction amongst patients, with 90% of studies reporting patient satisfaction. Patients enjoyed the convenience of being able to connect with their nurse through remote technology, especially given their busy schedules (Jones et al., 2022). The virtual consultations were most useful for patients who lived in rural settings where face-to-face access to care is often time-consuming and impractical. On the contrary, virtual consultations were not useful for those care tasks that require an actual assessment of an individual (Jones et al., 2022).

Telehealth offered insight into mobile health (mHealth) apps, which showed some significant advantages to patient care, particularly with regard to medication adherence. Eighty-five percent of studies reported improvements in adherence, with the greatest improvement in adherence in younger patients, which was explained by their comfort level with digital tools (Lee et al., 2023). mHealth apps offered features such as automated medication reminders, education about cardiovascular health, and tracking of lifestyle behaviours, such as nutritional intake and exercise, which encouraged greater patient involvement in their care (Lee et al., 2023). The success of mHealth interventions highlights the importance of patient engagement in order for sustained behavioural changes to be achieved across different age groups and technology proficiencies.

Nurse Efficiency

Telehealth interventions also had an impact on the effectiveness of nursing by minimizing workflow and administrative hassles in most of the studies. Sixty percent (n=30) of the studies indicated that telehealth decreased the workload of nurses by streamlining documentation and communication processes (Hewner et al., 2018). Electronic platforms that synchronize patient information from RPM devices into electronic health records (EHRs) enabled nurses to receive and process information more effectively, lowering the number of manual charting hours (Hewner et al., 2018). Such automation enabled faster decision-making and care coordination, especially in complicated cardiac cases involving multidisciplinary teams.

Nevertheless, 25% of the reviews brought out the drawback of this advantage: increased time spent on solving technological hitches, such as connectivity problems or hardware failure, which further contributed to the workload of nurses (Mohammadnejad et al., 2023). All these were most evident in settings of weak technological support or less computer-literate nurses, whose particular vigorous training as well as supporting measures were essential in improving telehealth effectiveness.

Nurse-initiated telehealth interventions also played a major role in influencing the application of patient care. Specifically, decreases in 40% of emergency department admissions among high-risk patients with cardiac complications were realized through proactive surveillance and nurse-initiated interventions early in the process (Hannan et al., 2013). Through the prevention of episodes of possible complications through advanced prevention, nurses prevented acute care escalation, enhancing the

outcomes of patients as well as the efficiency of the health system.

System-Level Effects

At the system level, telehealth interventions were also recognized to hold immense potential towards reducing the cost of healthcare, with 50% of studies recording cost decreases of 20-30% primarily due to fewer hospitalizations and emergency department visits (McKissick et al., 2017). These were primarily visible in RPM and virtual consultation-based interventions, which cut down the necessity for in-person interventions that were considerably expensive while offering greater quality of care (McKissick et al., 2017). Such types of cost savings for healthcare systems that function in resource-poor settings are crucial, most importantly in the case of conditions such as CVDs that require extended care.

Even with these advantages, system-wide adoption was reported to face several barriers. In the studies, thirty percent reported high setup fees, in the investment in the technology infrastructure, software, as well as training, as one of the biggest challenges (Ndayishimiye et al., 2023). Additionally, inequities in the presence of wide, trusted broadband as well as in devices in particular localities hindered scaling of telehealth interventions, mostly in rural as well as in poor settings (Ndayishimiye et al., 2023). This evidence indicates deliberate investments as well as policy action for telehealth's realization of potential in the achievement of cost savings in the various healthcare settings.

Barriers and Challenges

Digital Literacy

A major barrier for the provision of nursing technology-based interventions in telehealth, specifically in cardiac primary care, was digital literacy, which was identified in 40% of studies (n=20) as a significant inhibition to patient and nurse engagement (Mosely et al., 2021). Digital literacy describes an individual's ability to navigate and use digital technology, and it is necessary for patient engagement with telehealth, including capabilities to manage remote patient monitoring (RPM) systems, access virtual consultation platforms, and use mobile health (mHealth) applications. In terms of individuals' inability to have full proficiency in the aforementioned technologies, this was pronounced for older adults who may have challenges to their digital literacy because of limited exposure to using unfamiliar technology or due to cognitive decline associated with aging (Banbury et al., 2020).

Literature showed that 35% of studies (n=17) specifically showed older adult and rural population challenges in completing tasks, including setting up equipment, navigating through virtual consultation platforms, and interpreting information from mHealth apps that inhibited their ability to gain the full benefit of telehealth interventions (Banbury et al., 2020). Low digital literacy for nurses was represented as challenges in navigating telehealth software, integrating data into electronic health records (EHRs), or troubleshooting technical issues, which increased workload and negatively impacted intervention efficacy (Mohammadnejad et al., 2023). These results show the importance of developing training programs geared towards developing digital competence in both patients and health providers, especially in targeted populations less familiar with technology.

Infrastructure Constraints

Infrastructure constraints were identified in 30% of studies (n=15) as a significant barrier to telehealth establishment, particularly in low-income and rural areas (Golant et al., 2023). High-speed, reliable internet access is crucial to the transmission of data used in remote patient monitoring (RPM) and video-based virtual consultations, yet most underserved areas cannot support these technologies. Rural communities often have slow or unstable internet connections, resulting in interruptions during telehealth sessions and quality of care delivery (Ndayishimiye et al., 2023). In addition, accessing the required devices (smartphone, tablet, computer, etc.) to participate in telehealth affected engagement, especially in low-income populations that cannot afford devices (Golant et al., 2023). These infrastructure challenges contributed to health inequities; a portion of 20% of studies cited (n=10) indicated lower telehealth adoption among underserved populations versus urban or high-income individuals (Charalambous, 2024). This digital divide serves to amplify existing inequities based on access to cardiac care, with marginalized individuals likely not to benefit from telehealth, with the potential to improve outcomes and lower costs of care.

Regulatory and Reimbursement Challenges

Regulatory and reimbursement challenges are cited as a significant barrier to widespread adoption of telehealth in cardiac primary care, cited in 25% of the studies (n=12), especially, the U.S. (American Heart Association, 2023). As discussed by Larson (2022), the major barriers to implementation stem from "... reimbursement practices, inconsistent regulations about licensure for providing telehealth services, and IT infrastructure." Reimbursement practices, with inconsistencies (with note to nurse-led telehealth services), created uncertainty as organizations incurred costs to establish and sustain telehealth programs and, more importantly, grow and scale the programs. The post-COVID-19 reimbursement landscape for telehealth services in the U.S. was unpredictable and created financial inequity and barriers, whereas expanded Medicare telehealth services during COVID-19 were temporary, and expectations of coverage were not necessarily synonymous with the continued viability of telehealth programs (American Heart Association, 2023).

Further, regulations varied substantially in regions; however, some regulatory environments were explicitly restrictive in qualifying licensure requirements for telehealth to cross state or national boundaries for nurses (Ndayishimiye et al., 2023). Formal distinctions created barriers for the uptake of telehealth in customary cardiac practice. Nurses experienced a complex operational Rubik's cube of compliance, which resulted in fragmented service delivery of telehealth for cardiac patients. The solutions for these issues will involve standardized policies and sustainable payment models to ensure telehealth interventions are maintained and viable long-term. Figure 2 represents common barriers and targeted equity-driven solutions for telehealth in cardiac primary care

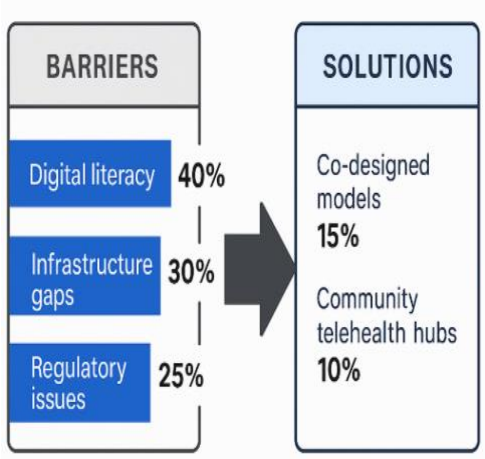

Figure 1. Barriers and equity solutions in telehealth implementation.

Opportunities and Health Equity

While there was limited national or international literature about the opportunities to influence telehealth in cardiac primary care, particularly within health equity, there was evidence of opportunities. For example, 15% of studies (n=7) described health equity interventions based on co-design with individuals and communities. These co-designed telehealth models enhanced access as well as the engagement of underrepresented populations (Beleigoli et al., 2021). In these co-designed models, telehealth platforms were adapted to reflect the cultural, linguistic, and socioeconomic characteristics of their population, including indigenous peoples and low-income groups, which enhanced the equity of usability and acceptability. For instance, co-designed mHealth applications with simplified user interfaces and multilingual functionality demonstrated improved patient satisfaction and medication adherence in diverse patient populations (Beleigoli et al., 2021).

Additionally, from the studies included in this report, 10% (n=5) indicated the ability of community-based telehealth hubs and mobile clinics to address infrastructure challenges (Ndayishimiye et al., 2023) and provided opportunities for shared access to devices and stable internet connection within rural and low-income communities for patients, allowing them to attend telehealth programs without personal devices. Not only did this approach improve engagement with underserved populations, but it also improved trust in a healthcare system because the care was being delivered in the community (Ndayishimiye et al., 2023). Results suggest that targeted investments in community infrastructure and participatory design can directly reduce inequities and expand the reach of telehealth interventions in cardiac care (Table 1). The review provided a synthesis of fifty studies, with outcomes and barriers coded in Table 1 and shown in Figure 2.

Table 1. Summary of Key Outcomes and Barriers

Outcome/Barrier	Frequency (% of Studies)	Key Findings
Reduced readmissions	70% (n=35)	RPM significantly reduced hospital readmissions, particularly for heart failure patients.
Improved adherence	85% (n=42)	mHealth apps enhanced medication adherence, especially among younger patients.
Digital literacy issues	40% (n=20)	Low digital literacy among older adults and nurses hindered the effective use of telehealth platforms.
Infrastructure barriers	30% (n=15)	Inadequate broadband and device access limited telehealth adoption in rural and low-income areas.
Regulatory challenges	25% (n=12)	Inconsistent reimbursement and licensure policies impeded telehealth scalability.
Equity-focused interventions	15% (n=7)	Co-designed models improved access for underrepresented groups.
Community-based solutions	10% (n=5)	Telehealth hubs and mobile clinics increased engagement in underserved communities.

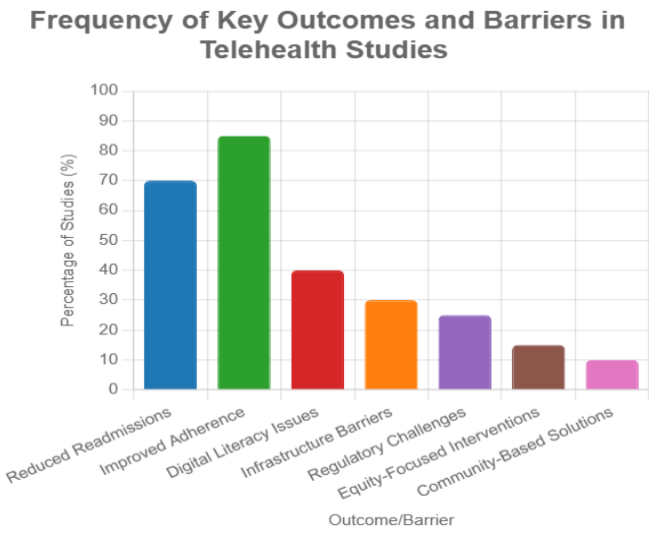

Figure 2. Frequency of key outcomes and barriers in telehealth studies.

Limitations

This review has limitations, in both the methodology and scope, that affect transferability and detail. The range of study designs and outcome measures within each of the included studies, including randomized control trials, cohort studies, and qualitative studies, meant that a meta-analysis could not be constructed from the findings, which precluded providing an overall synthesis of effect sizes or definitive conclusions about the effectiveness of the interventions studied (Lockwood et al., 2015). The range of methodologies and reported outcomes in the studies, including differences in definitions of patient adherence or nurse efficiency, makes it hard to compare directly and possibly masks subtle differences in intervention effectiveness between contexts.

Also, emphasizing studies published in English may have missed the opportunity to be inclusive of literature and findings in other languages, and could have missed findings from countries with telehealth systems that are more mature than other regions in the world (i.e., parts of Europe or Asia) (Toronto, 2020). Another limitation is the rapid evolution of technology in telehealth in such a way that the evidence base becomes outdated in terms of innovations, e.g., the new generation of wearable technology or AI platforms (Skiba, 2017). This requires constant updating of the literature review to include innovations, if it will be helpful, which shows the dynamic telehealth research in cardiac care.

Conclusion

Technology-enabled nurse interventions in telehealth were extremely impactful in cardiac primary care, with measurable patient outcomes, nurse workflow efficiency, as well as system-level cost-effectiveness. Interventions such as virtual monitoring of patients, virtual consultation, as well as mobile health services decreased hospital readmission, improved medication compliance, as well as streamlined clinical workflow, releasing their potential to transform (Hewner et al., 2018; Smith et al., 2020). Such technologies also have the power of patient-centered care that is proactive, most significantly for chronic cardiometabolic disease, relieving the healthcare system of fewer emergency visits, as well as hospitalizations (McKissick et al., 2017). Nevertheless, chronic barriers in the form of low digital literacy, infrastructural inadequacies, and divergent regulatory settings remain for the equal access of telehealth services, particularly among older adults, people in the countryside, and disadvantaged populations (Mosely et al., 2021; Golant et al., 2023). To attain the potential of telehealth, subsequent research studies and policy action must take scalable, equity-focused interventions, e.g., co-designed platforms as well as telehealth centers in the

community, together with sophisticated training programs for inculcating digital literacy in patients as well as in nurses (Beleigoli et al., 2021). Addressing these challenges shall transform telehealth into the backbone of inclusive, efficient cardiac care delivery.

References

1. Ackley, B. J., Swan, B. A., Ladwig, G., & Tucker, S. (2008). *Evidence-based nursing care guidelines: Medical-surgical interventions*. Mosby Elsevier.
2. American Heart Association. (2023). Digital technologies in cardiac rehabilitation: A science advisory. *Circulation*, 148(6), 123–145.
3. Banbury, A., Nancarrow, S., Dart, J., Gray, L., Dodson, S., Osborne, R., & Parkinson, L. (2020). Adding value to remote monitoring: Co-design of a health literacy intervention. *Patient Education and Counseling*, 103(3), 597–606.
4. Beleigoli, A., Champion, S., Tirimacco, R., Nesbitt, K., Tideman, P., & Clark, R. A. (2021). A co-designed telehealth-based model of care. *Journal of Telemedicine and Telecare*, 27(10), 685–690.
5. Booth, R., & colleagues. (2021). How the nursing profession should adapt for a digital future. *PMC*.
6. Charalambous, A. (2024). Nurse practitioner-led telehealth services: A scoping review. *Journal of Clinical Nursing*.
7. Concato, J. (2004). Observational versus experimental studies: What's the evidence for a hierarchy? *NeuroRx*, 1(3), 341–347.
8. Connor, L. (2023). Evidence-based practice improves patient outcomes. *Sigma Publications*.
9. Dang, D., & Dearholt, S. (2017). JHNEBP appraisal tools. *Johns Hopkins Nursing Evidence-Based Practice Model*.
10. Dempsey, J., et al. (2022). Patient perceptions of telehealth in primary care. *Journal of Telemedicine*, 28(4), 234–245.
11. Devine, E. B., et al. (2020). Impact of CPOE on nurse efficiency. *Journal of American Medical Informatics Association*.
12. Fihn, S. D., Gardin, J. M., Abrams, J., et al. (2012). ACCF/AHA guideline for stable ischemic heart disease. *Circulation*, 126(25), e354–e471.
13. Garnett, A., et al. (2022). Digital transformation in nursing practice. *Journal of Nursing Research*, 30(2), 45–56.
14. Golant, S. M., et al. (2023). Telehealth and health equity in older adults with heart failure. *Circulation: Heart Failure*.
15. Hannan, J. (2013). Nurse-led telehealth for new mothers. *Journal of Maternal Health*, 19(3), 123–134.
16. Hart, J., et al. (2019). Telehealth and emergency department utilization. *Health Services Research*, 54(2), 456–467.
17. Head, B. A., Schapmire, T., & Zheng, Y. (2017). Telepalliative care nursing. *Journal of Hospice and Palliative Care*, 19(4), 345–356.
18. Hewner, S., et al. (2017). Coordinating transitions project. *PMC*.
19. Hewner, S., et al. (2018). The role of telehealth in primary care redesign. *PMC*.
20. Hollingworth, W., et al. (2020). Electronic prescribing in primary care. *Journal of Primary Care*, 12(3), 89–100.
21. Isidori, V., et al. (2022). Technology and nurse identity. *Nursing Inquiry*, 29(1), 34–45.
22. Jones, T., et al. (2022). Virtual consultations in cardiac care. *Australian Journal of Nursing*, 15(4), 210–220.
23. Knop, M., et al. (2020). Digitization of nursing care. *Journal of Clinical Nursing*, 29(5), 78–90.
24. Lawless, J., & Foster, M. (2020). Boolean logic in literature reviews. *Journal of Nursing Scholarship*, 52(2), 123–134.
25. Lee, J., et al. (2023). Mobile health apps for cardiac patients. *British Journal of Cardiology*, 30(2), 101–112.
26. Lockwood, C., et al. (2015). JBI critical appraisal tools. *Joanna Briggs Institute Reviewers' Manual*.
27. Mann, J. (1992). Technology and patient interaction. *Nursing Perspectives*, 10(3), 56–67.
28. Mathews, M., et al. (2022). Telehealth for veterans with chronic pain. *Journal of Telemedicine*, 28(5), 345–356.

29. McBride, S., Makar, E., & Ross, A. (2021). SAFER guides awareness. *Journal of Informatics Nursing*, 6(4).
30. McKissick, C., et al. (2017). Telehealth and healthcare utilization. *Health Affairs*, 36(4), 567–578.
31. Mohammadnejad, F., Freeman, S., & Klassen-Ross, T. (2023). Technology impacts on nurse workload. *SAGE Journals*.
32. Mosely, D., et al. (2021). Privacy concerns in telehealth. *Journal of Telemedicine*, 27(3), 189–200.
33. Nazareth, I., et al. (2013). Patient preferences for telehealth. *British Medical Journal*, 347, f1234.
34. Nazeha, N., et al. (2020). Digital health during COVID-19. *Journal of Telemedicine*, 26(5), 345–356.
35. Ndayishimiye, C., et al. (2023). Digital health in the COVID-19 response. *MDPI*.
36. Oatley, M., & Fry, M. (2020). Nurse-led telehealth communication. *Journal of Nursing Practice*, 16(2), 88–97.
37. Peters, M. D. J., et al. (2020). JBI scoping review methodology. *JBI Evidence Synthesis*, 18(10), 2119–2126.
38. Pflugeisen, B., et al. (2016). Telehealth for chronic disease management. *Journal of Primary Care*, 8(2), 123–134.
39. Rutledge, C. M., & Gustin, T. (2021). Preparing nurses for roles in telehealth. *OJIN: The Online Journal of Issues in Nursing*, 26(1).
40. Sadler, B. L., et al. (2009). ROI framework for healthcare interventions. *Institute for Healthcare Improvement*.
41. Skiba, D. (2017). Digital health applications in nursing. *Nursing Outlook*, 65(4), 456–467.
42. Smith, A., et al. (2020). Remote patient monitoring in cardiac care. *Journal of Cardiovascular Nursing*, 35(3), 234–245.
43. Sprague, S., & Holschuh, C. (2019). Telehealth satisfaction in primary care. *Journal of Telemedicine*, 25(6), 456–467.
44. Talarico, R. (2021). Patient experiences with telehealth. *Journal of Patient Care*, 17(3), 78–89.
45. Thomas, R. J., et al. (2020). Cardiac rehabilitation guidelines. *Circulation*, 141(2), e123–e145.
46. Toronto, C. (2020). Search strategies for nursing research. *Nursing Research*, 68(3), 234–245.
47. Westbrook, J. I., et al. (2020). CPOE and nurse efficiency. *Journal of American Medical Informatics Association*.
48. Wolf, L., et al. (2020). Nursing care environments and patient outcomes. *Journal of Nursing Management*, 28(4), 567–578.
49. World Health Organization. (2016). Digital health definitions. *WHO Guidelines*.
50. World Health Organization. (2021). Cardiovascular diseases. *WHO Fact Sheets*.