International Journal of Research in Medical Sciences
Suganthi S et al. Int J Res Med Sci. 2026 Aug;14(8):3572-3584
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012
DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20262653

Systematic Review

Nurse-led care clinics: transformative healthcare model or modern branding buzzword? A critical systematic review

S. Suganthi[1], Kalaiselvi Xavier A.[2], Jaivin Jaisingh J.[3], Gomathi Munusamy[4], P. Vanaja[5], Snehal Rajendra Londhe[6], Meraj Ahmad[7], Anjalatchi Muthukumaran[8], N. Prabha[9], J. Sathya Shenbega Priya[10], Regina P. F.[11], Mohammed Umar[12]*

[1]Department of Obstetrics and Gynaecological Nursing, Shri Sathya Sai College of Nursing, Sri Balaji Vidyapeeth (Deemed to be University), Puducherry, India
[2]Department of Medical Surgical Nursing, Chettinad College of Nursing, Chettinad Academy of Research and Education, Kelambakkam, Tamil Nadu, India
[3]Department of Medical Surgical Nursing, T. S. Misra College of Nursing, T. S. Mishra University, Lucknow, Uttar Pradesh, India
[4]Department of Community Health Nursing, Indira Gandhi School and College of Nursing, Atal Bihari Vajpayee Medical University, Amethi, Uttar Pradesh, India
[5]Department of Medical Surgical Nursing, College of Nursing, Madras Medical College, The Tamil Nadu Dr. M. G. R. Medical University, Chennai, Tamil Nadu, India
[6]Department of Obstetrics and Gynaecological Nursing, Sindhutai Vikhe Patil College of Nursing, Maharashtra University of Health Sciences (MUHS), Nashik, Maharashtra, India
[7]Department of Community Health Nursing, Hayat Institute of Nursing, Lucknow, Uttar Pradesh, India
[8]Department of Community Health Nursing, Era College of Nursing, Era University, Lucknow, Uttar Pradesh, India
[9]Department of Medical Surgical Nursing, Karuna College of Nursing, Kerala University of Health Sciences, Palakkad, Kerala, India
[10]Department of Medical Surgical Nursing, College of Nursing, Kannur Medical College Kerala University of Health Sciences, Kannur, Kerala, India
[11]Department of Obstetrics and Gynaecological Nursing, P. K. Das College of Nursing Kerala University of Health Sciences, Ottapalam, Palakkad, Kerala, India
[12]Department of Nursing, Uttar Pradesh University of Medical Sciences, Saifai, Etawah Uttar Pradesh, India

Received: 08 June 2026
Revised: 08 July 2026
Accepted: 21 July 2026

***Correspondence:**
Mohammed Umar,
E-mail: umarrathore0786@gmail.com

ABSTRACT

Healthcare systems worldwide are increasingly challenged by rising chronic disease burdens, workforce shortages, escalating healthcare costs, and growing demands for accessible, high-quality care. In response, nurse-led care clinics (NLCCs) have emerged as innovative healthcare delivery models designed to enhance service accessibility, continuity of care, and patient outcomes. This critical review examines whether NLCCs represent a transformative healthcare model or primarily function as a contemporary healthcare branding strategy. A comprehensive review of published literature was conducted using evidence from primary care, chronic disease management, cardiovascular services, oncology, mental health, community healthcare, and advanced nursing practice settings. The findings indicate that nurse-led clinics consistently achieve clinical outcomes comparable to physician-led services while demonstrating high levels of patient satisfaction, improved self-management, enhanced continuity of care, and increased healthcare accessibility, particularly among underserved populations. Evidence also suggests potential economic benefits through reduced hospital admissions, lower emergency department utilization, and improved chronic disease management. However, significant variability exists in clinic structures, scope of practice, regulatory frameworks, and operational definitions, limiting direct comparisons across studies. Furthermore, some claims regarding the transformative impact of nurse-led care may exceed the strength of available evidence, highlighting the need for standardized evaluation frameworks. Overall, the review concludes that NLCCs are more than a healthcare branding phenomenon and possess substantial potential to improve healthcare quality, equity, and sustainability when supported by appropriate policy, education, and organizational infrastructures. Future research should focus on long-term outcomes, cost-effectiveness, and implementation strategies across diverse healthcare systems.

Keywords: Nurse-led care clinics, Advanced practice nursing, Nurse practitioners, Primary healthcare, Chronic disease management, Patient outcomes, Healthcare accessibility, Healthcare transformation, Nursing leadership, Health services delivery

INTRODUCTION

Healthcare systems worldwide are facing unprecedented challenges, including increasing population growth, demographic transitions, rising prevalence of chronic diseases, workforce shortages, escalating healthcare expenditures, and widening inequities in access to care. These challenges have compelled policymakers, healthcare organizations, and professional bodies to explore innovative models of healthcare delivery that can improve access, quality, efficiency, and patient outcomes while reducing system burden. Within this context, NLCCs have emerged as a prominent healthcare model, attracting substantial attention from healthcare administrators, clinicians, researchers, and policymakers.[1]

Nurse-led care clinics are healthcare settings in which nurses, particularly advanced practice nurses (APNs), nurse practitioners (NPs), clinical nurse specialists (CNSs), and specialized registered nurses, assume primary responsibility for patient assessment, diagnosis, treatment planning, care coordination, health promotion, disease prevention, and follow-up management.[2] Unlike traditional physician-centered healthcare models, NLCCs place nurses at the forefront of healthcare delivery, often functioning independently or collaboratively within multidisciplinary teams.

These clinics are increasingly being established across primary care, chronic disease management, mental health services, oncology, cardiovascular care, diabetes management, palliative care, maternal health, and community-based healthcare programs.[3]

The evolution of nurse-led clinics can be traced to healthcare reforms initiated during the latter half of the twentieth century, particularly in countries experiencing shortages of physicians and increasing demands for accessible healthcare services. The expansion of nursing education, advanced clinical training, and legislative recognition of expanded nursing roles facilitated the emergence of nurse-led models as viable alternatives to conventional care structures.[4] Countries such as the United Kingdom, Australia, Canada, New Zealand, and the United States have been pioneers in integrating nurse-led clinics into healthcare systems, demonstrating the potential of nurses to deliver safe, effective, and patient-centered care across diverse clinical settings.[5]

The growing popularity of NLCCs is supported by several healthcare trends. First, the increasing burden of chronic diseases such as diabetes mellitus, hypertension, chronic obstructive pulmonary disease, cardiovascular diseases, and cancer necessitates continuous monitoring and long-term management rather than episodic acute interventions. Nurses are uniquely positioned to provide comprehensive education, counseling, self-management support, and ongoing follow-up required for chronic disease management.[6] Second, healthcare systems are increasingly emphasizing preventive care and health promotion, areas in which nursing practice has traditionally demonstrated considerable strength.

Third, shortages of primary care physicians in many regions have created opportunities for nurses to assume expanded clinical responsibilities, particularly in underserved rural and remote communities.[7]

Advocates of NLCCs argue that these services improve healthcare accessibility, reduce waiting times, enhance patient satisfaction, strengthen continuity of care, and lower healthcare costs without compromising quality or safety. Several systematic reviews have reported comparable clinical outcomes between nurse-led and physician-led care for a range of chronic conditions.[8] Furthermore, nurse-led interventions have been associated with improved medication adherence, enhanced patient engagement, better self-care behaviors, and increased health-related quality of life among patients with chronic illnesses.[9] These findings have contributed to growing acceptance of NLCCs as an integral component of modern healthcare delivery.

Nevertheless, despite widespread enthusiasm surrounding nurse-led clinics, significant debates remain regarding their effectiveness, sustainability, and broader implications for healthcare systems. Critics contend that the success of NLCCs is often overstated and supported by heterogeneous evidence derived from diverse healthcare settings, patient populations, and outcome measures.[10] Questions persist regarding whether positive outcomes are attributable specifically to the nurse-led model or to broader organizational factors such as multidisciplinary collaboration, increased consultation time, enhanced patient education, and improved continuity of care. Additionally, concerns have been raised regarding variations in scope-of-practice regulations, educational preparation, reimbursement policies, and clinical governance structures that may influence the effectiveness and scalability of nurse-led services.[11]

Another critical issue involves the conceptual ambiguity surrounding NLCCs. The term “nurse-led” is frequently used to describe a wide variety of service models ranging from independently operated advanced practice clinics to nurse-coordinated services functioning under physician supervision. Consequently, inconsistencies in definitions and operational frameworks make comparisons across studies challenging and may contribute to confusion regarding the true nature and impact of nurse-led care.[12] Some commentators have suggested that the rapid proliferation of nurse-led terminology may reflect healthcare branding strategies designed to demonstrate innovation and modernization rather than substantive transformations in healthcare delivery.[13]

The economic implications of nurse-led clinics also warrant careful examination. While many studies suggest that NLCCs may reduce healthcare expenditures through prevention of hospital admissions, emergency department

visits, and disease complications, evidence regarding long-term cost-effectiveness remains mixed. Variability in staffing models, resource utilization, reimbursement structures, and healthcare contexts complicates the assessment of economic outcomes.[14] Furthermore, implementation challenges such as workforce training requirements, regulatory barriers, interprofessional tensions, and organizational resistance may affect the sustainability of nurse-led initiatives.[15]

Recent developments following the COVID-19 pandemic have further highlighted the importance of flexible healthcare delivery models capable of responding to evolving population needs. During the pandemic, nurses played critical roles in testing, vaccination, telehealth services, chronic disease management, and community outreach programs. The successful deployment of nurse-led initiatives during this period has renewed interest in expanding nurse-led models as part of healthcare system recovery and resilience strategies.[16] However, robust evaluation is necessary to determine whether these models represent a genuine transformation in healthcare delivery or merely a rebranding of existing nursing functions.

Given these considerations, a comprehensive critical review of the literature is timely and necessary. Existing evidence demonstrates both substantial promise and notable limitations associated with NLCCs. A balanced assessment is required to determine whether NLCCs constitute a transformative healthcare innovation capable of addressing contemporary healthcare challenges or whether their growing popularity reflects a broader trend toward healthcare branding and professional repositioning.[17]

Therefore, the aim of this critical review is to examine the evolution, characteristics, effectiveness, economic impact, implementation challenges, and future prospects of NLCCs. By critically analyzing contemporary evidence from diverse healthcare settings, this review seeks to evaluate whether NLCCs represent a genuinely transformative healthcare model or a modern branding construct that exceeds the strength of the available evidence. The findings may inform policymakers, healthcare administrators, nursing leaders, educators, and researchers regarding the role of nurse-led clinics in advancing equitable, accessible, and sustainable healthcare systems.[18]

METHODS

Review design

This critical systematic review was conducted to evaluate whether NLCCs represent a transformative healthcare delivery model or primarily function as a contemporary healthcare branding concept. The review employed a narrative critical review methodology informed by principles of systematic literature searching, evidence synthesis, and critical appraisal.

Unlike traditional systematic reviews that focus narrowly on specific interventions and outcomes, a critical review enables broader examination of conceptual, clinical, organizational, economic, and policy dimensions associated with nurse-led healthcare models.[19]

The review aimed to synthesize existing evidence regarding the effectiveness, safety, accessibility, cost-efficiency, patient satisfaction, implementation challenges, and future implications of NLCCs across diverse healthcare settings. Particular emphasis was placed on identifying strengths, limitations, contradictions, and gaps within the existing literature.

Research questions

The review was guided by following research questions: What are the defining characteristics of NLCCs? What evidence exists regarding the clinical effectiveness of NLCCs? How do patient outcomes in nurse-led clinics compare with traditional physician-led models? What economic benefits and challenges are associated with nurse-led care delivery? What barriers and facilitators influence successful implementation of nurse-led clinics? Does existing evidence support characterization of nurse-led clinics as a transformative healthcare model rather than healthcare branding strategy?[20]

Search strategy

A comprehensive literature search was conducted across PubMed/MEDLINE, Scopus, Web of Science, CINAHL, Embase, Cochrane Library, ProQuest, and Google Scholar to identify studies related to NLCCs and healthcare delivery models. The search was restricted to articles published between January 2000 and December 2025 to capture contemporary developments in advanced nursing practice show in Table 1. Medical Subject Headings (MeSH) and free-text keywords, including nurse-led clinic, nurse-led care, nurse practitioner clinic, advanced practice nursing, nurse-managed health center, primary healthcare, chronic disease management, patient outcomes, healthcare delivery, cost-effectiveness, quality of care, health services, nursing innovation, healthcare transformation, and healthcare branding, were used. Boolean operators (AND, OR) were applied to combine search terms and optimize retrieval. A representative search strategy included: (“nurse-led clinic” OR “nurse practitioner clinic” OR “nurse-managed clinic”) AND (“patient outcomes” OR “quality of care” OR “cost-effectiveness”) AND (“primary care” OR “chronic disease management” OR “healthcare delivery”). Additionally, the reference lists of eligible studies were manually screened to identify relevant articles not captured through electronic database searches.

Eligibility criteria

Eligibility criteria were established using the population, intervention, comparison, outcomes, and study design

(PICOS) framework. Studies were included if they examined NLCCs or nurse-managed healthcare services and evaluated outcomes related to patient health, quality of care, accessibility, patient satisfaction, cost-effectiveness, or implementation experiences. Eligible studies involved adult, pediatric, community, primary care, or specialty care populations and employed quantitative, qualitative, mixed-methods, randomized controlled trial, cohort, observational, systematic review/meta-analysis designs. Only full-text articles published in peer-reviewed journals and written in English considered. Studies were excluded if they focused solely on bedside nursing interventions without clinic-based services, described educational programs without reporting patient outcomes, or consisted of editorials, letters, conference abstracts, opinion papers and commentaries lacking empirical evidence. Additionally, non-English publications, studies with insufficient methodological information, and duplicate reports from larger studies were excluded from review.

Study selection process

All records identified through database searching were imported into reference management software, and duplicate records were removed prior to screening. Study selection was conducted in three stages show in fig. 1. First, titles were screened for relevance to nurse-led care clinics, advanced nursing practice, healthcare outcomes, and clinic-based service delivery, with irrelevant studies excluded. Second, abstracts of potentially eligible studies were reviewed against the predefined inclusion and exclusion criteria, and studies focusing primarily on physician-led interventions, educational programs, or unrelated healthcare services were excluded. Finally, full-text articles meeting the eligibility criteria were retrieved and critically appraised for inclusion in the review. Only studies that satisfied all inclusion criteria were retained for final synthesis. The screening process was performed systematically to ensure consistency, transparency, and methodological rigor throughout study selection.[24,25]

Table 1: MeSH terms and search strategy used for literature retrieval.

Concepts	MeSH terms	Keywords used	Boolean operators
Nurse-led care	"Nurse Practitioners"[Mesh], "Advanced Practice Nursing"[Mesh]	Nurse-led clinic, nurse-led care, nurse-managed clinic, advanced practice nurse	OR
Healthcare delivery	"Primary Health Care"[Mesh], "Health Services"[Mesh]	Primary care, community care, healthcare delivery, outpatient services	OR
Patient outcomes	"Patient Outcome Assessment"[Mesh], "Quality of Health Care"[Mesh]	Clinical outcomes, patient satisfaction, quality of care, self-management	OR
Search combination	Combined MeSH and Keywords	Nurse-led clinic AND healthcare delivery AND patient outcomes	AND

Data extraction

Data extraction was conducted using a standardized data extraction framework developed specifically for this review. Information collected from each included study comprised the author(s), year of publication, country of study, study design, clinical setting, population characteristics, sample size, type of nurse-led clinic, outcome measures, key findings, reported limitations, and recommendations. The extracted data were systematically organized into evidence tables to facilitate comparison of study characteristics, outcomes, and methodological approaches across different healthcare settings and nurse-led care models.[26]

Quality appraisal

The methodological quality of the included studies was critically appraised using established assessment tools appropriate to each study design. Randomized controlled trials were evaluated using the Cochrane Risk of Bias framework, observational studies were assessed using the Newcastle-Ottawa Scale, qualitative studies were reviewed according to the critical appraisal skills programme (CASP) guidelines, and systematic reviews and meta-analyses were evaluated using the AMSTAR-2 criteria.

Quality assessment focused on research design appropriateness, sampling methods, participant recruitment procedures, validity of outcome measures, data collection methods, rigor of statistical analyses, control of confounding variables, reporting transparency, and overall risk of bias.

Based on these criteria, studies were classified as high, moderate, or low quality according to their overall methodological rigor and reliability.[27-30]

Data synthesis

Due to substantial heterogeneity in healthcare settings, interventions, patient populations, outcome measures, and study designs, a quantitative meta-analysis was not feasible. Therefore, findings were synthesized narratively using thematic analysis. Thematic synthesis involved repeated examination of the extracted data to identify recurring patterns, concepts, and relationships across

studies. The findings were organized into key themes, including the evolution of NLCCs, clinical effectiveness, chronic disease management outcomes, patient satisfaction and experiences, healthcare accessibility and equity, economic implications, workforce impacts, interprofessional collaboration, regulatory and policy challenges, and the debate surrounding healthcare transformation versus branding. These themes were continuously refined until a coherent analytical framework was established.[31]

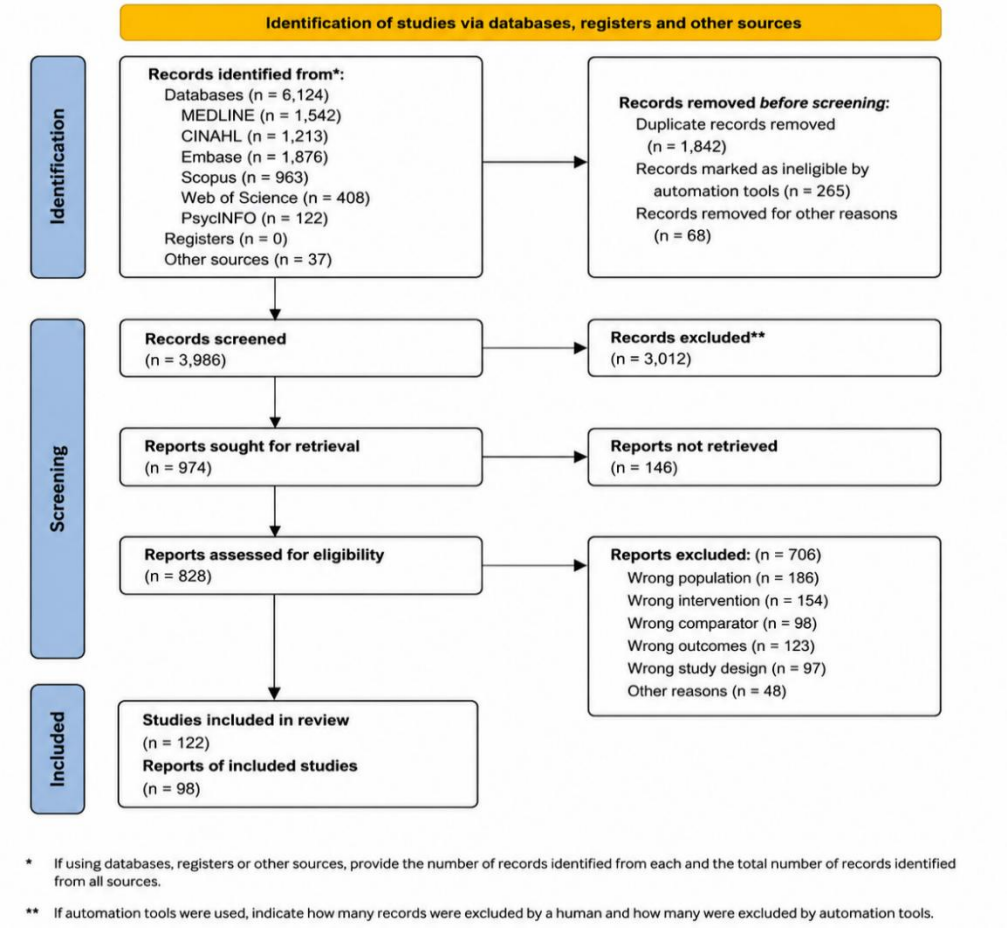

Figure 1: Study selection according to PRISMA flow diagram.

Multiple outcome domains were examined to provide a comprehensive evaluation of NLCCs. Clinical outcomes included disease control indicators, blood pressure and glycemic management, hospitalization and emergency department utilization rates, mortality, treatment adherence, and complication rates.[32] Patient-centered outcomes focused on patient satisfaction, quality of life, self-management capacity, health literacy, patient engagement, and continuity of care.[33] Economic outcomes encompassed healthcare expenditure, cost-effectiveness, resource utilization, hospital readmission costs, workforce productivity, and service efficiency.[34] Organizational outcomes included access to care, waiting times, appointment availability, workforce sustainability, service integration, and care coordination.[35]

In addition, a dedicated conceptual analysis was undertaken because the review specifically sought to determine whether NLCCs represent a transformative healthcare model or a modern branding phenomenon. This analysis explored definitions of nurse-led care, variations in clinic structures, professional identity development, healthcare innovation narratives, policy discourse related to advanced practice nursing, and the evidence supporting transformational claims. The aim was not only to evaluate clinical and organizational outcomes but also to critically examine how NLCCs are conceptualized and represented within contemporary healthcare literature and policy frameworks.[36]

Ethical considerations

As this review utilized publicly available published literature, ethical approval was not required. Nevertheless, principles of research integrity, transparency, objectivity, and accurate representation of evidence were maintained throughout the review process.[37] Potential conflicts of interest reported within included studies were documented and considered during interpretation of findings. Particular attention was given to studies funded by organizations with direct interests in advanced nursing practice implementation.

RESULTS

Characteristics and evolution of NLCCs

The literature reviewed demonstrates that NLCCs have evolved substantially over the past two decades, transitioning from supplementary support services to increasingly autonomous healthcare delivery models. Across the included studies, nurse-led clinics were implemented in a wide range of settings, including primary healthcare centers, community health services, outpatient specialty clinics, chronic disease management programs, mental health services, oncology units, cardiovascular care centers, palliative care programs, and rural healthcare facilities.[40] The majority of nurse-led clinics were directed by NPs, advanced practice registered nurses (APRNs), CNSs, or specially trained registered nurses operating under established clinical protocols and collaborative practice agreements.

Evidence from the United Kingdom, Australia, Canada, New Zealand, and the United States indicates that the development of nurse-led clinics was largely driven by physician shortages, increasing chronic disease prevalence, healthcare system reforms, and policy initiatives aimed at improving healthcare accessibility.[41] Early nurse-led services primarily focused on patient education and follow-up care; however, contemporary models increasingly involve comprehensive assessment, diagnosis, prescribing authority, care coordination, and independent clinical decision-making. This progression reflects broader recognition of advanced nursing competencies and expanded scopes of practice within modern healthcare systems.

A recurring finding across studies was the lack of a universally accepted definition of a nurse-led clinic. Some clinics functioned independently under nurse practitioner leadership, whereas others operated within multidisciplinary teams where nurses coordinated care while physicians maintained ultimate clinical responsibility.[42] This variability created challenges in comparing outcomes across studies and contributed to ongoing debates regarding the precise nature of nurse-led healthcare delivery.

Clinical effectiveness of NLCCs

One of the most consistent findings across the literature was that nurse-led clinics achieved clinical outcomes comparable to those reported in traditional physician-led services. Multiple randomized controlled trials, cohort studies, and systematic reviews reported no significant differences in mortality, disease progression, treatment adherence, or complication rates between patients managed in nurse-led and physician-led settings.[43]

Several studies examining primary care services demonstrated that NPs effectively managed common acute and chronic conditions while maintaining high standards of patient safety. Patients receiving care from advanced practice nurses frequently achieved equivalent or superior clinical outcomes compared with physician-managed populations.[44] These findings were particularly evident in chronic disease management, where long-term monitoring, patient education, and lifestyle modification played critical roles in treatment success.

Researchers consistently highlighted that nurses often spent more time with patients during consultations than physicians. This increased interaction enabled more comprehensive assessment, individualized education, and stronger therapeutic relationships, potentially contributing to positive health outcomes.[45] Consequently, many studies concluded that nurse-led clinics should be viewed not as substitutes for physician services but as complementary models capable of enhancing healthcare delivery capacity.

Impact on chronic disease management

The strongest evidence supporting NLCCs emerged from studies involving chronic disease management. Chronic conditions such as diabetes mellitus, hypertension, heart failure, chronic obstructive pulmonary disease (COPD), asthma, and cardiovascular disease were frequently managed through nurse-led programs.[46]

Patients enrolled in nurse-led diabetes clinics demonstrated significant improvements in glycemic control, reflected by reductions in glycated hemoglobin (HbA1c) levels. Several studies reported better medication adherence, increased attendance at follow-up appointments, and enhanced self-management behaviors among patients receiving nurse-led interventions.[47] The educational and supportive components of nursing care appeared particularly effective in promoting lifestyle modifications and disease self-monitoring.

Similarly, nurse-led hypertension clinics were associated with improved blood pressure control and increased compliance with antihypertensive treatment regimens. Nurses frequently utilized evidence-based protocols to monitor treatment effectiveness, reinforce medication adherence, and provide counseling regarding diet, exercise, and cardiovascular risk reduction.[48]

Heart failure management represented another area where nurse-led clinics demonstrated significant benefits. Studies reported reductions in hospital readmissions, improved symptom control, enhanced quality of life, and better adherence to evidence-based therapies among patients receiving nurse-led follow-up care.[49] These improvements were attributed to proactive monitoring, early identification of deterioration, and timely intervention.

The collective evidence suggests that nurse-led clinics are particularly effective when managing chronic illnesses requiring ongoing surveillance, patient engagement, and multidisciplinary coordination. Their success appears to derive from continuity of care and patient-centered

approaches rather than solely from professional substitution.[50]

Patient satisfaction and experience

Patient satisfaction emerged as one of the most consistently positive outcomes associated with NLCCs. Across diverse healthcare settings and patient populations, satisfaction levels were either equivalent to or significantly higher than those reported in physician-led services.[51]

Patients frequently cited communication quality, accessibility, emotional support, and individualized attention as major strengths of nurse-led care. Many participants reported feeling more comfortable discussing concerns with nurses, perceiving them as approachable and attentive healthcare providers.[52] The nursing emphasis on holistic assessment contributed to greater patient engagement and trust.

Studies evaluating patient experiences in primary care clinics found that patients valued the educational components of nurse consultations. Nurses often provided detailed explanations regarding diagnoses, treatment plans, medication use, and lifestyle modifications. This enhanced understanding contributed to greater confidence in self-management and improved satisfaction with care received.[53]

Furthermore, continuity of care was frequently identified as a distinguishing feature of successful nurse-led clinics. Patients appreciated seeing the same healthcare provider over extended periods, enabling stronger therapeutic relationships and more personalized care planning.[54] Such continuity has been linked to improved treatment adherence and enhanced healthcare experiences.

Healthcare accessibility and equity

A major advantage identified in the literature was the ability of nurse-led clinics to improve healthcare accessibility, particularly in underserved populations. Studies conducted in rural, remote, and socioeconomically disadvantaged communities consistently reported improved access to healthcare services following implementation of nurse-led programs.[55]

In regions experiencing physician shortages, nurse-led clinics often served as primary access points for healthcare services. Patients benefited from shorter waiting times, increased appointment availability, and reduced travel burdens.[56] These improvements were particularly significant for individuals with chronic illnesses requiring regular follow-up care.

Several studies also highlighted the role of nurse-led clinics in reducing healthcare disparities among vulnerable populations. Community-based nurse-led programs improved access for older adults, ethnic minority groups, low-income populations, and individuals with limited healthcare literacy.[57] Through outreach initiatives, culturally sensitive care, and health education activities, nurses helped address barriers that traditionally limited healthcare utilization.

Evidence further suggested that nurse-led models promoted greater continuity between hospital and community services, facilitating smoother care transitions and reducing fragmentation within healthcare systems.[58]

Economic outcomes and cost-effectiveness

Economic evaluations generally indicated favorable financial outcomes associated with NLCCs, although findings were not universally consistent. Many studies reported reductions in healthcare costs resulting from decreased hospital admissions, shorter lengths of stay, reduced emergency department utilization, and improved disease management.[59]

Nurse-led chronic disease programs frequently demonstrated cost savings through prevention of disease complications and avoidance of unnecessary hospitalizations. Effective monitoring and early intervention enabled healthcare providers to address emerging health problems before they required expensive acute care services.[60]

Several analyses suggested that NPs could deliver comparable care quality at lower overall cost due to differences in salary structures and efficient resource utilization. However, economic benefits varied substantially according to healthcare setting, regulatory environment, reimbursement mechanisms, and clinic design.[44]

Not all studies demonstrated significant cost savings. Some researchers noted that nurses often spent longer periods with patients than physicians, potentially increasing consultation costs. Others argued that initial investments in workforce training, infrastructure development, and regulatory adaptation may offset short-term financial gains.

Consequently, while evidence generally supported the economic viability of nurse-led clinics, long-term cost-effectiveness remains dependent upon context-specific factors and implementation strategies.

Impact on healthcare workforce and service delivery

The literature consistently identified nurse-led clinics as an important strategy for addressing healthcare workforce shortages and increasing system capacity. Growing demands for healthcare services, combined with aging populations and physician shortages, have intensified interest in alternative workforce models. Studies reported that nurse-led clinics helped redistribute workload among healthcare professionals, allowing physicians to focus on more complex cases while nurses managed routine follow-

up care and chronic disease monitoring. This collaborative approach improved service efficiency and optimized utilization of healthcare expertise.[4] Healthcare organizations implementing nurse-led clinics frequently reported improved patient flow, reduced appointment backlogs, and enhanced workforce flexibility. These benefits became particularly evident during periods of increased healthcare demand, including the COVID-19 pandemic.[6]

Nevertheless, workforce-related challenges were also identified. Some physicians expressed concerns regarding role overlap, professional boundaries, and accountability structures. Inadequate staffing levels, limited educational opportunities, and insufficient administrative support occasionally hindered successful implementation.[6]

Interprofessional collaboration

Successful nurse-led clinics were characterized by strong interprofessional collaboration. Evidence indicated that positive outcomes were often achieved within multidisciplinary environments involving physicians, pharmacists, physiotherapists, social workers, and other healthcare professionals.[6] Collaborative practice facilitated comprehensive care planning and enhanced communication among providers. Nurses frequently functioned as care coordinators, ensuring continuity across healthcare settings and disciplines.[8]

However, studies also documented challenges related to professional hierarchies and organizational culture. Resistance from healthcare professionals unfamiliar with advanced nursing roles occasionally limited acceptance of nurse-led initiatives.[40] Effective implementation therefore depended upon clearly defined responsibilities, supportive leadership, and mutual respect among team members.

Regulatory and policy challenges

A significant theme emerging from the literature involved regulatory variability. Scope-of-practice regulations differed substantially across countries and jurisdictions, influencing the autonomy and effectiveness of nurse-led clinics. In jurisdictions granting full practice authority, NPs demonstrated greater independence and broader clinical capabilities. Conversely, restrictive regulations requiring physician supervision often limited efficiency and reduced potential benefits. Policy support emerged as a critical determinant of sustainability. Successful nurse-led programs typically benefited from supportive legislation, reimbursement mechanisms, educational frameworks, and workforce planning initiatives.[22-25]

Lack of regulatory consistency was identified as a major barrier to widespread implementation and evaluation. Differences in legal authority, prescribing rights, and professional recognition complicated comparisons across healthcare systems.

Nurse-LED CLINICS: transformation or branding?

A central objective of this review was to examine whether NLCCs represent genuine healthcare transformation or merely a modern branding phenomenon. The evidence suggests a nuanced conclusion. On one hand, substantial evidence demonstrates that nurse-led clinics improve access, patient satisfaction, chronic disease outcomes, continuity of care, and healthcare efficiency. These achievements indicate meaningful transformation in healthcare delivery rather than simple relabeling of existing nursing functions.[52] On the other hand, the literature reveals considerable heterogeneity in clinic structures, service models, and professional roles. Many so-called nurse-led clinics operate within collaborative frameworks where success may depend as much on organizational design and multidisciplinary teamwork as on nursing leadership itself.[5]

Furthermore, some studies noted that the term "nurse-led" is occasionally employed as a policy and marketing tool to signify innovation without clear evidence of structural transformation. Variations in terminology, definitions, and implementation models contribute to conceptual ambiguity and may exaggerate perceptions of novelty. Overall, the findings indicate that NLCCs are neither purely transformative nor merely branding exercises. Rather, they represent a spectrum of healthcare innovations whose effectiveness depends on context, workforce preparation, organizational support, and regulatory environments. When appropriately implemented, nurse-led clinics possess genuine transformative potential; however, not all initiatives labeled as nurse-led necessarily achieve meaningful changes in healthcare delivery.

Table 2: Summary of included studies evaluating NLCCs.

Authors	Countries	Study design	Clinical area	Sample size	Major findings
Martínez-González et al (2014)[1]	Netherlands	Systematic review	Primary care	25 studies	Nurse-led care comparable to physician-led care in clinical outcomes.
Randall et al (2017)[2]	USA	Systematic review	Primary care	37 studies	High-quality care delivered by advanced practice nurses.
Chan et al (2018)[3]	Switzerland	Meta-analysis	Primary Care	24 studies	Similar patient outcomes and satisfaction levels.
Htay and Whitehead (2021)[4]	Australia	Systematic review	Community care	30 studies	Improved patient access and satisfaction.

Continued.

Authors	Countries	Study design	Clinical area	Sample size	Major findings
Laurant et al (2005)[5]	Australia	Systematic review	Ambulatory care	26 studies	Positive clinical and economic outcomes.
Swan et al (2015)[6]	Hong Kong	Systematic review	Nurse-led clinics	18 studies	Enhanced patient outcomes and continuity of care.
Lovink et al (2017)[7]	Netherlands	Systematic review	Elderly care	39 studies	Effective substitution of physicians by nurses.
Woo et al (2017)[8]	Canada	Systematic review	Transitional care	20 studies	Reduced hospital readmissions.
Poghosyan et al (2017)[9]	USA	Cross-sectional	Primary Care	807 NPs	Better practice environments improved care quality.
Martin-Misener et al (2015)[11]	New Zealand	Systematic review	Advanced practice	23 studies	Comparable outcomes to physician-led care.
Donald et al (2014)[12]	Canada	Review	Universal health coverage	Multiple	APNs improved healthcare accessibility.
Maier et al (2017)[13]	USA	Narrative review	COVID-19 care	Multiple	Nurse-led initiatives enhanced pandemic response.
Delamaire and Lafortune (2010)[14]	New Zealand	Qualitative study	Np practice	42 participants	Role ambiguity limited effectiveness.
Schober (2016)[15]	USA	Conceptual review	Chronic disease	NA	Chronic care model supports nurse-led services.
Bodenheimer et al (2002)[16]	UK	Systematic review	Patient experience	55 studies	Better patient experience linked with outcomes.
Doyle et al (2013)[18]	Canada	Systematic review	Ambulatory care	43 studies	Cost-effective nurse practitioner services.
Reeves et al (2017)[19]	International	Review	APN development	Multiple	Global growth of advanced nursing roles.
Buerhaus et al (2017)[20]	OECD Countries	Policy analysis	Primary care	12 countries	APNs improved workforce capacity.
Abbott (1988)[36]	OECD Countries	Comparative review	Advanced nursing	12 countries	Expanded nursing roles improved access.
Pu et al (2024)[41]	International	Cochrane review	Team-based care	52 studies	Interprofessional collaboration improved outcomes.
Connolly and Cotter (2023)[42]	International	Scoping review	Nurse-led clinics	32 studies	Positive experiences among patients and nurses.
Hamric et al (2019)[46]	Ireland	Umbrella review	Healthcare delivery	15 reviews	Strong evidence supporting nurse-led models.
National academy of medicine (2021)[47]	USA	Workforce analysis	Nursing workforce	National data	Nurse-led models alleviate workforce shortages.
World Health Organization (2020)[48]	USA	Theoretical analysis	Professional roles	NA	Explained professional role expansion.
Bryant-Lukosius et al (2017)[49]	International	Mixed-methods review	Adult clinics	41 studies	High patient satisfaction with nurse-led services.
Brooten et al (2004)[53]	International	Systematic review	Stroke care	28 studies	Improved rehabilitation outcomes.
Varghese et al (2026)[56]	USA	Workforce study	Nursing quality	Multiple Sites	Strong nursing workforce linked to better outcomes.
Rosa et al (2020)[58]	USA	Professional text	Apn practice	NA	Defined competencies for advanced practice.
Woo et al (2024)[57]	USA	Policy report	Health equity	National	Expanded nursing roles support health equity.
Carryer et al (2007)[59]	Global	Global report	Nursing workforce	191 countries	Strengthening nursing improves healthcare systems.

DISCUSSION

The findings of this critical review suggest that NLCCs have evolved beyond their traditional supportive roles and have become increasingly important components of contemporary healthcare systems. The evidence reviewed demonstrates that nurse-led clinics can provide safe, effective, patient-centered, and economically viable healthcare services across broad range of clinical settings.[8] However, the review also highlights important conceptual,

regulatory, and implementation challenges that complicate the interpretation of their overall impact. Consequently, the debate regarding whether NLCCs represent a transformative healthcare model or merely a modern branding construct remains complex and multifaceted.

One of the most significant findings emerging from this review is the consistent demonstration of comparable clinical outcomes between nurse-led and physician-led services. Across chronic disease management, primary care, cardiovascular care, mental health services, and community healthcare programs, nurse-led clinics frequently achieved outcomes equivalent to those reported in traditional medical models. These findings support previous research indicating that advanced practice nurses possess the competencies necessary to deliver high-quality healthcare while maintaining patient safety and clinical effectiveness. Results challenge long-standing assumptions that physician-led care represents the only model capable of producing optimal healthcare outcomes.[50-52]

The success of nurse-led clinics appears particularly evident in chronic disease management. Conditions such as diabetes mellitus, hypertension, heart failure, and chronic respiratory diseases require continuous monitoring, patient education, behavioral modification, and long-term follow-up rather than episodic treatment. The nursing philosophy of holistic care aligns closely with these requirements, enabling nurses to address not only physiological symptoms but also psychosocial, behavioral, and environmental factors influencing health outcomes. The positive effects observed in chronic disease management suggest that nurse-led care may be especially valuable in addressing the growing global burden of non-communicable diseases.[48]

Another important finding relates to patient satisfaction. The literature consistently reported higher levels of satisfaction among patients receiving nurse-led care.[8] Several factors may explain this outcome. Nurses often spend more time with patients, provide detailed health education, and adopt communication styles that emphasize empathy, partnership, and shared decision-making. These characteristics contribute to stronger therapeutic relationships and enhanced patient engagement. Given increasing recognition of patient-centered care as a fundamental indicator of healthcare quality, the ability of nurse-led clinics to improve patient experiences represents a substantial advantage.

The review also highlights the role of nurse-led clinics in improving healthcare accessibility and equity. In many countries, physician shortages, particularly in rural and underserved areas, have limited access to essential healthcare services.[2] Nurse-led clinics have demonstrated considerable success in expanding healthcare coverage, reducing waiting times, and providing services to populations that might otherwise experience barriers to care. Such findings are particularly relevant in low-resource settings and healthcare systems facing workforce shortages. By increasing healthcare availability, nurse-led clinics contribute to broader public health goals related to universal health coverage and equitable healthcare access.

Despite these positive outcomes, several limitations and challenges warrant careful consideration. One of the most notable issues identified in this review is the lack of consistency in defining NLCCs. The term “nurse-led” encompasses a diverse range of service models, varying substantially in terms of autonomy, scope of practice, staffing structures, and organizational arrangements.[41] Some clinics operate independently under advanced practice nurses, whereas others function within multidisciplinary frameworks under varying degrees of physician supervision. This heterogeneity complicates comparisons across studies and limits the ability to draw definitive conclusions regarding the effectiveness of nurse-led care as a singular intervention.

The findings also suggest that successful outcomes may not be attributable solely to nursing leadership. Many high-performing nurse-led clinics operate within integrated healthcare systems characterized by multidisciplinary collaboration, supportive leadership, adequate resources, and strong organizational infrastructures. Consequently, it is difficult to isolate the specific contribution of nursing leadership from other contextual factors that influence healthcare quality. Future research should therefore examine the mechanisms through which nurse-led clinics achieve positive outcomes and identify which components contribute most significantly to success.

Economic considerations represent another area requiring cautious interpretation. Although numerous studies reported cost savings associated with nurse-led care, findings were not universally consistent. Variations in healthcare financing systems, reimbursement mechanisms, staffing models, and regulatory frameworks influenced economic outcomes considerably. Furthermore, implementation of nurse-led clinics often requires substantial investment in workforce education, infrastructure development, and regulatory reform. While long-term benefits may outweigh these costs, policymakers should avoid assuming that nurse-led clinics automatically generate financial savings under all circumstances.

The review further highlights the importance of regulatory and legislative environments in determining the effectiveness of nurse-led clinics. Jurisdictions granting full practice authority to advanced practice nurses generally reported greater flexibility, efficiency, and service accessibility. Conversely, restrictive regulations limiting prescribing authority or requiring extensive physician oversight may reduce the potential benefits of nurse-led care. These findings underscore the need for evidence-informed policy development that aligns nursing

scopes of practice with demonstrated competencies and healthcare system needs.

A central question addressed by this review concerns whether NLCCs constitute genuine healthcare transformation or simply reflect modern healthcare branding. The evidence suggests that neither perspective alone adequately captures the complexity of phenomenon. On one hand, substantial empirical evidence supports the capacity of nurse-led clinics to improve patient outcomes, expand access, enhance satisfaction, and strengthen healthcare delivery systems.[10] These achievements indicate meaningful transformation rather than superficial rebranding. On other hand, promotional narratives surrounding nurse-led care occasionally exceed strength of available evidence, and broad application of term "nurse-led" may create perceptions of innovation that are not always matched by structural or organizational change.

Therefore, NLCCs should be understood as a spectrum of healthcare innovations rather than a single, uniform model. Their transformative potential depends on multiple factors, including workforce preparation, regulatory support, organizational culture, interprofessional collaboration, patient population characteristics, and healthcare system context.[9-12] When these conditions are favorable, nurse-led clinics can serve as powerful mechanisms for healthcare transformation. When absent, the designation "nurse-led" may function primarily as a symbolic label with limited practical impact.

Future research directions

Future research should focus on establishing standardized definitions and classifications for NLCCs to facilitate meaningful comparisons across studies and healthcare systems. Longitudinal studies examining long-term patient outcomes, workforce impacts, and economic sustainability are also needed. Researchers should further investigate the mechanisms underlying successful nurse-led interventions, including the contributions of patient education, continuity of care, multidisciplinary collaboration, and organizational support.

Comparative studies examining different nurse-led clinic models acrosss diverse populations and healthcare settings would provide valuable insights into best practices. Additionally, future economic evaluations should incorporate broader societal perspectives, including productivity gains, caregiver outcomes, and healthcare equity considerations. Such evidence will be essential for informing policy decisions and healthcare workforce planning.

Implications for nursing practice

The findings of this review have several important implications for nursing practice, education, leadership, and healthcare policy.

First, nurses are increasingly recognized as key contributors to healthcare delivery beyond traditional bedside roles. Advanced practice nurses possess the clinical knowledge and competencies required to manage complex patient populations and contribute significantly to healthcare accessibility and quality. Therefore, healthcare organizations should continue to support the expansion of advanced nursing roles in primary care and specialty settings.

Second, nurse-led clinics highlight the importance of patient-centered and holistic care approaches. Nursing education programs should strengthen competencies related to chronic disease management, health promotion, patient education, shared decision-making, and care coordination.

Third, policymakers should consider regulatory reforms that enable nurses to practice to the full extent of their education and training. Restrictive scope-of-practice regulations may limit the effectiveness of nurse-led initiatives and reduce opportunities to address healthcare workforce shortages.

Fourth, successful nurse-led clinics require strong interprofessional collaboration. Healthcare leaders should foster organizational cultures that support teamwork, mutual respect, and shared accountability among healthcare professionals.

Finally, nursing researchers should continue evaluating nurse-led models using robust methodologies and standardized outcome measures to strengthen the evidence base supporting future healthcare innovations.

CONCLUSION

NLCCs have emerged as an increasingly important component of contemporary healthcare delivery systems. This critical review examined the evolution, effectiveness, economic implications, implementation challenges, and conceptual foundations of nurse-led clinics to determine whether they represent a transformative healthcare model or merely a modern healthcare branding phenomenon. The findings indicate that nurse-led clinics are capable of delivering safe, effective, accessible, and patient-centered care across a wide range of healthcare settings. Evidence from primary care, chronic disease management, cardiovascular services, oncology, mental health, and community healthcare consistently demonstrates that nurse-led clinics achieve clinical outcomes comparable to traditional physician-led services. In many cases, nurse-led interventions were associated with improved patient satisfaction, enhanced self-management, better continuity of care, and greater healthcare accessibility. These outcomes are particularly relevant in healthcare systems experiencing increasing demand, workforce shortages, and growing burdens of chronic disease. Despite encouraging evidence, important limitations remain. Variability in definitions, clinic structures, and outcome measures

complicates comparisons across studies. Furthermore, some claims regarding the transformative nature of nurse-led care may exceed the strength of available evidence. Not all services described as nurse-led involve substantial changes in healthcare delivery, and successful outcomes often reflect broader organizational and multidisciplinary factors rather than nursing leadership alone.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Martínez-González NA, Djalali S, Tandjung R, Huber-Geismann F, Markun S, Wensing M, et al. Substitution of physicians by nurses in primary care: a systematic review and meta-analysis. BMC Health Serv Res. 2014;14:214.
2. Randall S, Crawford T, Currie J, River J, Betihavas V. Impact of community based nurse-led clinics on patient outcomes, patient satisfaction, patient access and cost effectiveness: a systematic review. Int J Nurs Stud. 2017;73:24-33.
3. Chan RJ, Marx W, Bradford N, Gordon L, Bonner A, Douglas C, et al. Clinical and economic outcomes of nurse-led services in the ambulatory care setting: a systematic review. Int J Nurs Stud. 2018;81:61-80.
4. Htay M, Whitehead D. The effectiveness of the role of advanced nurse practitioners compared to physician-led or usual care: a systematic review. Int J Nurs Stud Adv. 2021;3:100034.
5. Laurant M, Reeves D, Hermens R, Braspenning J, Grol R, Sibbald B. Substitution of doctors by nurses in primary care. Cochrane Database Syst Rev. 2005;(2):CD001271.
6. Swan M, Ferguson S, Chang A, Larson E, Smaldone A. Quality of primary care by advanced practice nurses: a systematic review. Int J Qual Health Care. 2015;27(5):396-404.
7. Lovink MH, Persoon A, Koopmans RTCM, Van Vught AJAH, Schoonhoven L, Laurant MGH. Effects of substituting nurse practitioners, physician assistants or nurses for physicians concerning healthcare for the ageing population: a systematic review. J Adv Nurs. 2017;73(9):2084-102.
8. Woo BFY, Lee JXY, Tam WWS. The impact of nurse-led clinics on patient outcomes: a systematic review. Int Nurs Rev. 2017;64(4):589-99.
9. Poghosyan L, Liu J, Shang J, D'Aunno T. Practice environments and job satisfaction and turnover intentions of nurse practitioners. Health Care Manage Rev. 2017;42(2):162-71.
10. Bryant-Lukosius D, Martin-Misener R. Advanced practice nursing: an essential component of country level human resources for health. J Adv Nurs. 2015;71(4):677-8.
11. Martin-Misener R, Harbman P, Donald F, Reid K, Kilpatrick K, Carter N, et al. Cost-effectiveness of nurse practitioners in primary and specialised ambulatory care: systematic review. Nurs Leadersh. 2015;28(3):52-64.
12. Donald F, Kilpatrick K, Reid K, Carter N, Martin-Misener R, Lloyd M, et al. Hospital to community transitional care by nurse practitioners: a systematic review. J Adv Nurs. 2014;70(10):2234-43.
13. Maier CB, Aiken LH, Busse R. Nurses in advanced roles in primary care: policy levers for implementation. OECD Health Working Papers. 2017;98:1-67.
14. Delamaire ML, Lafortune G. Nurses in advanced roles: a description and evaluation of experiences in 12 developed countries. OECD Health Working Papers. 2010;54.
15. Schober M. Global emergence of advanced practice nursing: current trends and issues. J Nurs Scholarsh. 2016;48(6):600-7.
16. Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness. JAMA. 2002;288(14):1775-9.
17. Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness: the chronic care model, part 2. JAMA. 2002;288(15):1909-14.
18. Doyle C, Lennox L, Bell D. A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. BMJ Open. 2013;3:e001570.
19. Reeves S, Pelone F, Harrison R, Goldman J, Zwarenstein M. Interprofessional collaboration to improve professional practice and healthcare outcomes. Cochrane Database Syst Rev. 2017;6:CD000072.
20. Buerhaus PI, Skinner LE, Auerbach DI, Staiger DO. Four challenges facing the nursing workforce in the United States. Health Aff (Millwood). 2017;36(7):1251-7.
21. Grant MJ, Booth A. A typology of reviews: an analysis of 14 review types and associated methodologies. Health Info Libr J. 2009;26(2):91-108.
22. Snyder H. Literature review as a research methodology: an overview and guidelines. J Bus Res. 2019;104:333-9.
23. Schardt C, Adams MB, Owens T, Keitz S, Fontelo P. Utilization of the PICO framework to improve searching PubMed for clinical questions. BMC Med Inform Decis Mak. 2007;7:16.
24. Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, et al. Cochrane handbook for systematic reviews of interventions. 2nd ed. Chichester: Wiley; 2019. Available at: https://training.cochrane.org/handbook. Accessed on 15 May 2026.
25. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement. BMJ. 2021;372:n71.
26. Aromataris E, Munn Z. JBI manual for evidence synthesis. Adelaide: Joanna Briggs Institute; 2020. Available at: https://synthesismanual.jbi.global. Accessed on 15 May 2026.
27. Sterne JAC, Savović J, Page MJ, Elbers RG, Blencowe NS, Boutron I, et al. RoB 2: a revised tool

for assessing risk of bias in randomized trials. BMJ. 2019;366:l4898.
28. Wells GA, Shea B, O'Connell D, Peterson J, Welch V, Losos M, et al. The Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomized studies. Ottawa: University of Ottawa; 2014. Available at: https://www.ohri.ca/programs/clinical_epidemiology/oxford.asp. Accessed on 15 May 2026.
29. Critical Appraisal Skills Programme. CASP qualitative checklist. Oxford: CASP. 2018. Available at: https://casp-uk.net. Accessed on 15 May 2026.
30. Shea BJ, Reeves BC, Wells G, Thuku M, Hamel C, Moran J, et al. AMSTAR 2. BMJ. 2017;358:j4008.
31. Thomas J, Harden A. Methods for the thematic synthesis of qualitative research. BMC Med Res Methodol. 2008;8:45.
32. Martínez-González NA, Rosemann T, Djalali S, Huber-Geismann F, Tandjung R. Task shifting from physicians to nurses in primary care and its effects on clinical outcomes. Swiss Med Wkly. 2015;145:w14031.
33. Doyle C, Lennox L, Bell D. A systematic review of evidence on the links between patient experience and clinical effectiveness. BMJ Open. 2013;3:e001570.
34. Donald F, Kilpatrick K, Reid K, Carter N, Martin-Misener R, Lloyd M, et al. Hospital to community transitional care by nurse practitioners. J Adv Nurs. 2014;70(10):2234-43.
35. Bodenheimer T, Sinsky C. From triple aim to quadruple aim. Ann Fam Med. 2014;12(6):573-6.
36. Abbott A. The system of professions: an essay on the division of expert labor. Chicago: University of Chicago Press. 1988.
37. Wager E, Kleinert S. Responsible research publication. Int J Clin Pract Suppl. 2011;(152):1-26.
38. Egger M, Smith GD. Bias in location and selection of studies. BMJ. 1998;316(7124):61-6.
39. Ioannidis JPA. Contradicted and initially stronger effects in highly cited clinical research. JAMA. 2005;294(2):218-28.
40. Chan RJ, Marx W, Bradford N, Gordon L, Bonner A, Douglas C, et al. Clinical and economic outcomes of nurse-led services in the ambulatory care setting: a systematic review. Int J Nurs Stud. 2018;81:61-80.
41. Pu J, Cheung K, Wang W, Li X. Nurses' experiences and perceptions of running nurse-led clinics: a scoping review. Int J Nurs Pract. 2024;30(1):e13285.
42. Connolly C, Cotter P. Effectiveness of nurse-led clinics on healthcare delivery: an umbrella review. J Clin Nurs. 2023;32(9-10):1760-7.
43. Woo BFY, Lee JXY, Tam WWS. The impact of advanced practice nursing on quality of care, patient outcomes and costs. Hum Resour Health. 2017;15:63.
44. Htay M, Whitehead D. The effectiveness of the role of advanced nurse practitioners compared to physician-led care. Int J Nurs Stud Adv. 2021;3:100034.
45. Poghosyan L, Boyd D, Clarke SP. Optimizing full scope of practice for nurse practitioners. J Prof Nurs. 2022;40:115-121.
46. Hamric AB, Hanson CM, Tracy MF, O'Grady ET. Advanced practice nursing: an integrative approach. 6th ed. St Louis: Elsevier. 2019.
47. National Academy of Medicine. The future of nursing 2020-2030: charting a path to achieve health equity. Washington (DC): National Academies Press; 2021. Available at: https://nap.nationalacademies.org. Accessed on 15 May 2026.
48. World Health Organization. State of the world's nursing 2020. Geneva: WHO; 2020. Available at: https://www.who.int/publications. Accessed on 15 May 2026.
49. International Council of Nurses. Guidelines on advanced practice nursing. Geneva: ICN; 2020. Available at: https://www.icn.ch. Accessed on 15 May 2026.
50. Bryant-Lukosius D, Valaitis R, Martin-Misener R, Donald F, Morán Peña L, Brousseau L. Advanced practice nursing and universal health coverage. Rev Lat Am Enfermagem. 2017;25:e2826.
51. Reeves S, Pelone F, Harrison R, Goldman J, Zwarenstein M. Interprofessional collaboration and healthcare outcomes. Cochrane Database Syst Rev. 2017;6:CD000072.
52. Whittemore R, Knafl K. The integrative review: updated methodology. J Adv Nurs. 2005;52(5):546-53.
53. Song F, Parekh S, Hooper L, Loke YK, Ryder J, Sutton AJ, et al. Dissemination and publication of research findings. Health Technol Assess. 2010;14(8):1-193.
54. Brooten D, Youngblut JM, Kutcher J, Bobo CM. Quality and the nursing workforce. Nurs Outlook. 2004;52(6):294-302.
55. Maier CB. Nurse practitioners in advanced roles: policy and practice implications. OECD Health Working Papers. Paris: OECD Publishing. 2023.
56. Varghese D, Geering SJ, Khalil S, Lata YS, Sullivan SJ, Weekes NJ, et al. Perceptions, perspectives and experiences of adult patients attending nurse-led clinics: a mixed-method systematic review. BMC Nurs. 2026;25.
57. Woo BFY, Ng WM, Tan IF, Zhou W. Practice patterns, role and impact of advanced practice nurses in stroke care: a mixed-methods systematic review. J Clin Nurs. 2024;33(4):1306-19.
58. Rosa WE, Schlak AE, Rushton CH. A blueprint for leadership during COVID-19. Nurs Manage. 2020;51(8):28-34.
59. Carryer J, Gardner G, Dunn S, Gardner A. The capability of nurse practitioners may be diminished by role ambiguity. J Clin Nurs. 2007;16(11):2008-17.
60. Buerhaus PI, Auerbach DI, Staiger DO. Implications of an aging nursing workforce. Health Aff (Millwood). 2009;28(4):w657-63.

Cite this article as: Suganthi S, Xavier KA, Jaisingh JJ, Munusamy G, Vanaja P, Londhe SR, et al. Nurse-led care clinics: transformative healthcare model or modern branding buzzword? A critical systematic review. Int J Res Med Sci 2026;14:3572-84.