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# The Growing Imperative of Nurse-Led Care Centers for Geriatric Populations in Developing Countries

<sup>1</sup> Dr. Shalini Joshi\*, <sup>2</sup> Dr. ManoRanjini VishnuPriyan. J, <sup>3</sup> Dr. Jaya Bijoy, <sup>4</sup> Arti Choudhary, <sup>5</sup> Riya Bharti

<sup>1</sup> Associate Professor (Mental Health and Geriatric Nursing), Department of Mental Health Nursing, Teerthanker Mahaveer College of Nursing, Teerthanker Mahaveer University, Uttar Pradesh, India. Email: jsh81shln@gmail.com

<sup>2</sup> Associate Professor, Department of Mental Health Nursing, Teerthanker Mahaveer College of Nursing, Teerthanker Mahaveer University, Uttar Pradesh, India

<sup>3</sup> Professor and HOD, Department of Mental Health Nursing, Peoples College of Nursing and Research Centre Bhopal, People's University, Madhya Pradesh, India

<sup>4</sup> PG Nursing Tutor, Department of Mental Health Nursing, Teerthanker Mahaveer College of Nursing, Teerthanker Mahaveer University, Uttar Pradesh, India

<sup>5</sup> PG Nursing Tutor, Department of Child Health Nursing, Teerthanker Mahaveer College of Nursing, Teerthanker Mahaveer University, Uttar Pradesh, India

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## ABSTRACT:

In rapidly aging nations like India, the twilight years often bring a complex tapestry of chronic illness, isolation, and inadequate healthcare access. In developing countries, the rapid aging of populations presents an urgent healthcare challenge that traditional physician dependent models cannot adequately address. This article explores how nurse-led care centers offer a compassionate, scalable solution for older adults struggling with multiple chronic conditions in a resource-constrained setting. By leveraging trained nurses to deliver continuous, person-centered care including chronic disease management, preventive services, mental health support, and caregiver education, these centers bridge critical gaps in geriatric services. Robust research confirms their efficacy, demonstrating improved patient outcomes, reduced hospitalizations, and enhanced quality of life. Beyond clinical benefits, these centers offer cost-effectiveness and strengthen primary care, fostering dignified aging. Overcoming barriers like training gaps and funding, their widespread adoption is crucial for equitable and sustainable healthcare systems across developing countries.

These community or clinic-based models empower qualified nurses to provide comprehensive geriatric assessment, chronic disease management, preventive education, and psychosocial support, effectively complementing physician services through task-shifting.

## 1. Introduction

Imagine 68-year-old Ramesh Rao in a bustling yet underserved neighbourhood on the outskirts of Bengaluru. A retired factory worker living with his wife and a married son who commutes two hours daily for work, Ramesh grapples with poorly controlled hypertension, osteoarthritis that makes every step painful, mild cognitive changes, and the quiet ache of loneliness since his grandchildren moved to another city for schooling. Clinic visits mean long waits, crowded buses, and consultations that last mere minutes with

overburdened doctors who prescribe medications but have little time for lifestyle counselling, medication reconciliation, or family education. His wife, the primary caregiver, feels exhausted and unprepared for managing his fluctuating blood pressure or recognizing early signs of complications. Stories like Ramesh's echo across rural villages in Uttar Pradesh, small towns in Odisha, and urban slums in Mumbai. In developing countries facing rapid population aging, traditional healthcare models strained by doctor shortages and resource constraints often fall short. Nurse-led care centers community or



clinic-based models where qualified nurses, supported by protocols and interdisciplinary links, serve as the primary point of ongoing assessment, management, education, and coordination for older adults emerge as a pragmatic, compassionate, and scalable bridge to dignified aging.

These centers are not a replacement for physicians but a smart complement through task-shifting. Nurses handle routine chronic disease monitoring, preventive care, home visits, mental health screening, palliative support, and patient empowerment, escalating complex cases to specialists. In resource limited settings like India, where most elderly reside in rural or semi-urban areas and multimorbidity is the norm, such models can transform fragmented, episodic care into continuous, person-centered support<sup>2</sup>.

## 2. India's Demographic Tsunami and the Urgent Need for Geriatric-Focused Care

India is aging at an unprecedented pace. The population aged 60 and above, currently around 11% or approximately 153-158 million as of recent estimates, is projected to reach roughly 230 million by 2036, constituting about 15% of the total population. By 2050, this figure could climb to 319-347 million, meaning nearly one in five Indians will be a senior citizen. Life expectancy has risen to around 72-73 years, but this longevity brings a heavy burden of chronic conditions. Multimorbidity affects a significant proportion—studies indicate 23-75% of older adults live with two or more chronic illnesses such as diabetes, hypertension, cardiovascular disease, arthritis, and respiratory issues. Mental health challenges, including depression (affecting about one in three), anxiety, loneliness, and emerging dementia cases (projected to rise sharply), compound the physical toll.<sup>6</sup>

Regional disparities intensify the challenge. Southern states like Kerala and Tamil Nadu already have higher elderly proportions (over 20% in some projections), with better infrastructure but strained systems due to out-migration of younger generations. In contrast, northern and central states with larger rural populations face acute access barriers. The “feminization of aging” is evident: women outlive men, often facing greater poverty, widowhood, and dependency. Urban migration has eroded traditional joint family support, leaving many elderly isolated or reliant on overburdened adult children. High out-of-pocket healthcare costs push

families into poverty, while rural doctor absenteeism and specialist shortages (geriatricians are exceedingly rare outside major cities) leave gaps in preventive and long-term care.

Beyond India, similar patterns unfold across developing nations in South Asia, Southeast Asia, Latin America, and sub-Saharan Africa. In countries like Indonesia, Brazil, or Nigeria, rapid fertility decline and improved survival rates create parallel “silver tsunamis” without commensurate health system readiness. Nurse-led models, proven adaptable in low- and middle-income countries (LMICs), offer a universal yet context-sensitive solution by leveraging the existing, largest segment of the healthcare workforce: nurses.

## 3. Understanding Nurse-Led Care Centers: Models, Services, and Implementation

Nurse-led care centers encompass various formats tailored to local needs: standalone community clinics, integrated services within primary health centers (PHCs) or Ayushman Bharat Health and Wellness Centres (now Ayushman Arogya Mandir), mobile or outreach teams, and home-based care programs. Core services include comprehensive geriatric assessment (CGA); evaluating physical, cognitive, functional, nutritional, and social domains chronic disease management (e.g., regular blood pressure and glucose monitoring, medication review to prevent polypharmacy), health education on diet, exercise, and fall prevention, wound care, palliative symptom management, mental health screening with basic interventions like counselling or relaxation techniques, and coordination with physicians, social workers, or specialists.

Nurses in these roles require targeted training in geriatrics, beyond general nursing curricula. India's Indian Nursing Council has introduced Nurse Practitioner in Geriatric Nursing programs, signalling progress, but scaling remains essential. In practice, nurses work under standing orders or collaborative protocols, often teaming with community health workers (ASHAs or ANMs) for outreach. Technology integration; tele-nursing via e-Sanjeevani, mobile apps for reminders, or simple wearables for vital monitoring enhances reach in remote areas.

In a typical day at a rural nurse-led geriatric hub, a nurse might start with group education sessions on healthy



aging for 10-15 elders, conduct individual assessments for a diabetic patient adjusting insulin based on protocols, visit a bedridden widow for pressure ulcer care and family caregiver training, and refer a complex cardiac case to the district hospital while following up via phone. This continuity builds trust; elders often confide in nurses about family tensions or financial worries that they hesitate to share with doctors.

#### 4. The Evidence Base: Latest Research Supporting Nurse-Led Approaches

Recent systematic reviews provide robust, up-to-date evidence for these models, particularly relevant to LMIC contexts. A 2025 systematic review of nine randomized controlled trials (RCTs) on community nurse-led interventions for older adults with multimorbidity found consistent positive effects. Interventions, categorized into care transitions, self-management strengthening, and integrated collaborative care, improved physical function, self-management capacity (e.g., better diabetes self-care or stroke recovery skills), medication adherence and knowledge, and patients' perceptions of care quality and coordination. Crucially, they reduced hospital readmissions, length of hospital stays, and reliance on home care services in several studies. While effects on mental health outcomes like depression were sometimes inconsistent, overall healthcare utilization decreased, offering clear benefits for strained systems.

The review highlighted applicability to developing countries, noting multimorbidity's high prevalence and cost implications in places like Indonesia (over 44% in elderly), and called for culturally adapted implementations with strong primary care foundations directly transferable to India's NPHCE framework.

Complementing this, another 2025 systematic review examined nurse-led multifactorial intervention programs (NLMIPs) focusing on psychological wellbeing among the elderly, synthesizing 37 studies (including RCTs and quasi-experimental designs). Results showed significant reductions in depression, anxiety, and stress symptoms. Interventions such as progressive muscle relaxation, psycho-educational sessions, counselling, and life review therapy boosted self-esteem, social engagement, sleep quality, cognitive functioning, and overall quality of life. Physical mobility improved alongside mental gains, and some analyses noted cost savings, including reduced hospitalization expenses.

In the Indian context, a nurse-led noncommunicable disease (NCD) clinic in a peri-urban area of Chandigarh demonstrated feasibility through task-sharing. Nurses handled screening, management, counselling with government materials, and follow-up for hypertension, diabetes, and related conditions, achieving high patient satisfaction; all participants reported strong approval of the accessible, regular services. Psychosocial interventions led by nurses in Indian elderly care settings have also shown reductions in loneliness and enhancements in social wellbeing.

These studies, mostly from 2024-2025, align with broader global evidence from high-income settings but emphasize adaptations for LMICs: shorter, culturally resonant sessions; integration with existing community workers; and focus on family involvement. Limitations include heterogeneity in interventions (precluding easy meta-analysis in some reviews) and fewer studies from South Asia, underscoring the need for more India-specific RCTs. Nonetheless, the pattern is clear: nurses excel at the relational, ongoing aspects of geriatric care that drive adherence and prevention.

#### 5. Multifaceted Benefits: Clinical, Economic, Social, And Systemic

Clinically, nurse-led centers excel at early detection and holistic management, preventing escalations like diabetic foot ulcers, falls leading to fractures, or unmanaged hypertension causing strokes. By emphasizing self-management education, they empower elders and families, fostering independence and reducing caregiver burnout.

Economically, these models are cost-effective. Preventing hospitalizations and readmissions yields substantial savings in systems where elderly care already strains budgets. NITI Aayog highlights high out-of-pocket expenses and the need for efficient primary care; nurse-led approaches align perfectly by optimizing the workforce. In LMICs, where doctor density is low, task-shifting to nurses (India's nurse-to-population ratio hovers around 2 per 1,000, below optimal levels) maximizes impact without proportional infrastructure costs.

Socially and humanly, the benefits are profound. Nurses often speak local languages, understand cultural nuances around aging (e.g., respect for elders, dietary



preferences), and spend time listening; addressing the emotional isolation that medications alone cannot fix. For elderly women, who face compounded vulnerabilities, this can mean sensitive discussions on widowhood, nutrition, or reproductive health legacies. Centers can double as social hubs, combating loneliness through group activities.

Systemically, they strengthen primary care under Ayushman Bharat and NPHCE, which already envisions geriatric services at sub-centers, PHCs, and district levels but faces implementation gaps in training and coverage. Integrating dedicated nurse-led geriatric modules could accelerate NPHCE's goals of preventive, curative, and rehabilitative care while addressing workforce shortages through targeted upskilling.

## 6. Real World Examples and Adaptations in Developing Contexts

In India, pilots within PHCs or NGO-supported models in states like Kerala (with its strong public health tradition) or Tamil Nadu show promise for home-based nurse visits reducing institutionalization. Internationally, community nurse programs in parts of Latin America or Africa demonstrate similar successes in chronic care. Scaling requires blending with digital tools; simple WhatsApp follow-ups or AI chatbots for reminders, while respecting low digital literacy among many elders.

## 7. Challenges on the Horizon: Barriers to Widespread Adoption

Despite evidence, hurdles persist. Specialized geriatric training for nurses is limited, with most curricula

focusing on acute care. Regulatory scopes of practice may restrict nurse autonomy in prescribing or independent management. Doctor resistance to task-shifting, inadequate funding for dedicated centers, supply chain issues for medications and aids, and rural infrastructure deficits (electricity, transport) complicate rollout. Cultural expectations sometimes prioritize physician consultations, and awareness of nurse-led options remains low. In LMICs, retention of trained nurses is challenging due to migration or better urban opportunities.

## 8. Recommendations and a Roadmap for India and Peers

To harness this potential, India should; expand geriatric nursing education, building on INC's 2023 Nurse Practitioner regulations, with mandatory modules in all programs and short certifications for existing staff. Integrate nurse-led geriatric clinics as a core component of Ayushman Arogya Mandir and NPHCE, with clear protocols, performance metrics, and dedicated funding. Foster public-private and NGO partnerships for pilots, infrastructure, and technology (e.g., low-cost monitoring devices). Launch community awareness campaigns and incentivize rural postings. Invest in research: context-specific trials measuring long-term outcomes, cost-effectiveness, and equity impacts, especially for marginalized groups. Promote interdisciplinary teams, including AYUSH practitioners for holistic wellness. Similar strategies apply to other developing nations: leverage nursing strengths, adapt to cultural contexts, and align with universal health coverage goals.

## 9. Diversified Service Models in Nurse-Led Geriatric Care Centres

S. No	Models	Characteristics	Salient Features
1.	Community-Based Nurse-Led-Care Models	<p>Nurses when preparing a Nursing care plan conduct a <b>comprehensive geriatric assessment (CGA)</b> for develop a customised care plan.</p> <p>Usually focus on a prevention mode, including chronic disease management, as well early detection of complications to avoid long term hospital stay.</p> <p>This community-based model is implemented in rural and remote areas of developing countries where, the minimal health care services are still challenging</p>	<p>Home visit and home-based care</p> <p>Periodical follow-up including Health education &amp; self-management support</p> <p>Reduced hospital stay and dependency</p>



S. No	Models	Characteristics	Salient Features
2.	Nurse-Led Primary Care Clinics	Concentrating in delivering the care for elderly with chronic illnesses such as diabetes, hypertension, COPD. It always associated with cost-effectiveness promoting high patient satisfaction and.	Considerable reduction in the burden on tertiary hospitals Focusing in expanding the access in an unprivileged area with low-resource settings
3.	Integrated / Collaborative Care Models	Nurse works in the health care team, play a major role aside of physicians and other professionals Nurse coordinates care for complex, chronic and elderly patients with multi-morbidity Improves continuous monitoring and reduces the duplication of services	Health care team - Care coordination Involvement of Family and caregiver support Continuity of care coordination between health care settings
4.	Nurse Practitioner (Advanced Practice) – Led Models	Independently manage the elderly in framing diagnosis, prescribing treatment, and aiding in regular follow-up It proves the effectiveness in specialized areas like neuro geriatrics, ortho geriatrics (e.g., Neuro cognitive brain disorder, hip fracture care)	It addresses the rising need and man-power shortage [Physicians] It Improves clinical outcomes and gradually reduces the hospital stays, promoting early recovery
5.	Long-Term Care / Nursing Home-Based Models	Nurse-led teams foster on consistent monitoring, patient rehabilitation, and playing a vital role in palliative care It explains the significance of lessening or controlling avoidable hospitalizations, thereby improving the psychological well-being and promoting quality of life	Team with upskilled nursing professionals Depicting Clinical leadership by nurses

**10. Core Benefits of this Nurse-Led Care Centres**

S. No	Benefits	Impact
1.	Improved Access to Healthcare	Healthcare coverage focusing on ageing populations to provide the health for they deserve
2.	Cost-Effectiveness and Affordability	Provide the holistic health in an affordable manner Consistent healthcare delivery in a low- and a middle-income country.
3.	Enhanced Chronic Disease Management	Promising improved quality of life through better disease control with the fewer complications which they deserve
4.	Patient-Cantered and Holistic Care	Fostering patient satisfaction and a complete well-being on all domains in the most possible ways
5.	Strengthening preventive and delivering a promotive Care	Delayed onset of disability that focuses in Reducing disease burden in the community



S. No	Benefits	Impact
6.	Reduced Burden on Hospitals	Best providing health services through allocation of healthcare resources by reaching low access areas across the system.
7.	Continuity and Coordination of Care	Paying attention to reduce fragmentation of care in turn Improving the health outcomes.
8.	Empowering Nursing Workforce	Creating a upskilled, stronger and more resilient healthcare workforce.
9.	Strengthening for Ageing-in-Place	Reinforcing the importance of being independent and improving quality of life for older adults.
10.	Adaptability to Peripheral regions	Perspective to effective solutions availability for wide range of developing countries

### 11. Undeniable Barriers In Implementing This Initiative

S. No	Barriers	Implications
1.	Shortage of Skilled Nursing Workforce	Limited resources specialized in the expert domain of gerontology Far reaching limitations in migration of nurses to high-income countries in search of better economic status
2.	Limited Advanced Practice Roles	Regulatory restrictions on independent practice Lack of formal recognition of advanced nursing roles in many countries
3.	Infrastructure portraying weak health system	Inadequate or lack of primary healthcare facilities, poor referral systems & non-availability of essential equipment and medications
4.	Funding Gaps and Financial Constraints	Limited budget, more expenses and lack of insurance
5.	Low Policy on Geriatric Care	No standard framework designed for elderly care
6.	Sociocultural Barriers and Perceptions	Only preference to Physicians and lack of trust among Nurses as a first-line care provider
7.	Inadequate Training and Education Systems	Curriculum has limited focus on Geriatric care and needs. Minimal to no continuous professional development [CPD] program in this zone
8.	Fragmented Care and Poor Coordination	No proper integration in health care and lack of health information system [HIS]
9.	Regulatory & Legal challenge	Legal policies are restricting Nurse-Led practice in few countries as a whole and also in parts of few countries
10.	Urban–Rural Disparities	Uneven and in-equity in resource distribution

### 12. Envisioning a Future of Dignified Aging

For Ramesh Rao and millions like him, a nearby nurse-led center could mean proactive monitoring that catches

issues early, practical advice tailored to his limited mobility and modest diet, emotional support that alleviates his wife's burden, and a sense of continued value in his community. Nurse-led care centers represent



more than efficient healthcare delivery; they embody respect for the wisdom and vulnerabilities of later life. In developing countries navigating demographic transitions amid resource constraints, prioritizing these models is not optional but essential for equitable, sustainable, and compassionate systems. As India and peers invest in training, policy alignment, and community integration, they can turn the challenge of aging into an opportunity for stronger, more inclusive societies; where every elder, regardless of location or income, receives care with humanity.

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