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PERCEPTION OF HOME-BASED NURSING CARE AMONG COMMUNITY MEMBERS AND HEALTH CARE PROVIDERS IN URBAN WESTERN MAHARASHTRA, INDIA: A MIXED-METHODS STUDY INFORMING A CONTEXT-SPECIFIC CARE MODEL

Dr. Suresh Kumar Ray[1], Dr. Ravindra H.N[2], Dr. Gibin Thomas[3]

[1] Principal, Bharati Vidyapeeth (Deemed to be University) College of Nursing & Post Doc Research Scholar, PP Savani University, Gujarat
[2] Research Supervisor, Dean & Director, ITM College of Nursing, ITM SLS Baroda University, Vadodra, Gujarat
[3]Research Co-supervisor, Professor, School of Nursing, PP Savani University, Surat, Guajrat
***Corresponding author:** [Dr. Suresh Kumar Ray, ORCHID ID: 0000-0002-3811-8018]

ABSTRACT

Background: Home-based nursing care is expanding in India, yet little is known about how communities and front-line providers actually perceive it, and no validated Indian model derived from such perceptions exists. This study assessed community perception of home-based nursing care across six dimensions, explored the perceptions of health care providers, identified perceived barriers and facilitators of utilisation, examined associations with socio-demographic characteristics, and developed and validated an Indian Home-Based Nursing Care model.

Methods: A sequential explanatory mixed-methods design was used in selected urban areas of Western Maharashtra. Four hundred adults aged 21 years or above, sampled by multi-stage random sampling, completed a 30-item Perception Scale on Nursing Care at Home (six domains), a 24-item barrier scale and an 18-item facilitator scale. Twenty-three purposively selected providers (doctors, nurses, community health officers, paramedics) were interviewed and analysed thematically. Descriptive statistics, ANOVA, chi-square, logistic regression and framework validation were applied.

Results: Mean perception was 107.54 ± 11.44 of 150 (71.7% of maximum). Emotional support (20.53/25) scored highest and accessibility (14.63/25) lowest. Although perception was favourable, only 146 participants (36.5%) had ever used home nursing care. Awareness (3.67), cost (3.59) and availability (3.52) were the dominant barriers, whereas verified identity, uniform and licence (4.37; 88.0% endorsement) was the strongest enabler. Barrier burden reduced the odds of utilisation (adjusted OR 0.417, 95% CI 0.276–0.617, $p < 0.001$). Providers emphasised care coordination with the family (96% of participants). An eight-pillar model was validated by 27 experts (content validity index 0.96).

Conclusion: Perception is not the obstacle to home nursing care in this setting; awareness, cost and availability are. Credential transparency, scheme financing and a hub-and-spoke workforce offer the most defensible route to increasing uptake.

KEYWORDS: home-based nursing care; perception; barriers and facilitators; health care providers; mixed methods; India

1. INTRODUCTION

Health systems worldwide are shifting the balance of care from hospital wards towards the home. Longer lives, a rising burden of chronic disease, the cost of inpatient treatment and the preference of patients and families for care in familiar surroundings are driving the change simultaneously (World Health Organization [WHO], 2024, 2015). The number of people aged 60 years and above is projected to reach 2.1 billion by 2050, and most of that growth will occur in low- and middle-income countries (United Nations, 2019). India is central to this demographic transition: the older population is growing faster than the general population, and multimorbidity among older adults has become the norm rather than the exception (Kumar et al., 2024; Singh et al., 2025).

Home-based nursing care, defined here as skilled, planned and supervised nursing delivered in the patient's residence by a qualified nurse, is the operational arm of that shift. Evidence from high-income systems is consistent: hospital-at-home and early-discharge schemes produce clinical outcomes comparable to inpatient care at lower cost, with fewer institutional placements and better patient-reported experience (Arsenault-Lapierre et al., 2021; Leong et al., 2021; Lin et al., 2024; Shepperd et al., 2009). For heart failure and other chronic conditions, home management is at least as effective as hospital care (Qaddoura et al., 2015), and transitional nursing follow-up after discharge reduces readmission (Allen et al., 2014).

In India, however, home nursing has grown largely as a private, weakly regulated market rather than as part of the public delivery system. National programmes for the elderly provide outpatient and referral services through primary facilities but do not fund skilled nursing at home (Directorate General of Health Services, n.d.;

Vaishnav et al., 2022), and the publicly financed benefit package has only recently begun to contemplate home-based episodes of care (National Health Authority, n.d.). Families therefore absorb the work: informal caregiving is predominantly female, poorly supported and financially consequential (Brinda et al., 2014; Ugargol & Bailey, 2018), and catastrophic health expenditure among older households remains high (Ahmad et al., 2024; Chowdhury & Goli, 2025).

Whether a community will use a service is not decided by its clinical effectiveness alone. Perception, trust and the practicalities of arranging care determine whether latent demand becomes a visit. Meta-synthesis of stakeholder views on hospital-at-home shows that patients and caregivers weigh safety, the presence of a competent professional and the burden placed on the household before they weigh convenience (Chua et al., 2021; Wang et al., 2024), while qualitative work with providers documents scope ambiguity, documentation burden and weak coordination with treating physicians (Wallis et al., 2024). Indian evidence on these perceptions is thin and largely confined to palliative care and to single institutions (Kochuvilayil & Varma, 2024; Rahman et al., 2025).

The present study was therefore designed to answer four questions in one setting: how do people in urban Western Maharashtra perceive home-based nursing care across the dimensions of quality of care, accessibility, affordability, cultural sensitivity, professionalism and emotional support; how do the providers who deliver or refer such care perceive it; which barriers and facilitators govern its utilisation; and can those findings be assembled into a defensible, validated Indian model of home-based nursing care. The study is reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (Tong et al., 2007) for its qualitative component and follows conventional reporting for the cross-sectional component.

2. LITERATURE REVIEW

2.1 Effectiveness and acceptability of care delivered at home

Systematic reviews of admission-avoidance and early-discharge hospital-at-home schemes report mortality and readmission rates that do not differ materially from inpatient care, with lower cost and greater patient satisfaction (Leong et al., 2021; Shepperd et al., 2009). A meta-analysis of individual patient data confirmed that home treatment avoids admission for a substantial proportion of patients who would otherwise be hospitalised, particularly those with chronic disease presenting to emergency departments (Arsenault-Lapierre et al., 2021), and a recent review of early discharge in older people found reduced institutionalisation without excess mortality (Lin et al., 2024). Disease-specific evidence points the same way in heart failure (Qaddoura et al., 2015) and in transitional care after medical and surgical discharge (Allen et al., 2014).

Acceptability, however, is conditional. A meta-synthesis of thirty qualitative and survey studies found that stakeholders judge hospital-at-home by the visibility of clinical supervision and by the competence of the professional who enters the home, not by the setting itself (Chua et al., 2021). A scoping review of patient and caregiver perceptions reached a similar conclusion, noting that quality is inferred from relational and communicative cues when the technological trappings of a hospital are absent (Wang et al., 2024). This distinction between clinical effectiveness and perceived legitimacy frames the present study.

2.2 The Indian household as the real provider

In India, the household is the default site of long-term care, and its capacity is unevenly distributed. A randomised controlled trial from Goa demonstrated that a structured home care programme for dementia reduced caregiver burden and improved caregiver mental health, proving that formal home support is feasible in Indian conditions (Dias et al., 2008). Costing work in rural Karnataka showed that informal caregiving consumes a substantial share of household income and productivity (Brinda et al., 2014), while studies in Kerala describe caregiving as gendered, with daughters and daughters-in-law absorbing most of the load, including in households affected by emigration (Ugargol & Bailey, 2018). Qualitative work in palliative care adds a further layer: families are willing to care but are not trained, not supervised and not relieved, and they describe the assumption of the caregiver role as a transition made without preparation (Fereydooni et al., 2022; Kochuvilayil & Varma, 2024). A recent scoping review of the Indian subcontinent identifies the same three deficits: workforce, training and financing (Rahman et al., 2025).

Disease burden explains why the deficit matters now. Age- and sex-disaggregated analyses show that the bulk of morbidity among older Indians is chronic and functionally limiting (Kumar et al., 2024), that multimorbidity is patterned by wealth and residence (Singh et al., 2025), and that rural–urban inequality in non-communicable disease is widening (Chauhan, 2022). Each of these conditions generates nursing demand that hospitals are neither designed nor financed to meet on a continuing basis.

2.3 Policy, financing and workforce

The National Programme for Health Care of the Elderly created dedicated geriatric services at district and sub-district levels, but its evaluation literature documents persistent shortages of trained staff, equipment and referral linkages (Vaishnav et al., 2022). Operational guidelines for elderly care at health and wellness centres extend screening and non-communicable disease management to the community level without creating a nursing capability at home (National Health Systems Resource Centre, 2021). On the financing side, publicly financed insurance has expanded coverage for hospitalisation, including the extension of cover to all citizens aged 70 years and above, yet reimbursement remains episode- and facility-based, which fits home care poorly (National Health Authority, n.d.). The consequence is that households pay out of pocket for a service that substitutes for a

financed one, a pattern reflected in the catastrophic expenditure literature (Ahmad et al., 2024; Chowdhury & Goli, 2025).

Workforce capacity is the second constraint. Rural facility mapping in Odisha found geriatric service gaps at every tier and proposed a nurse-integrated care pathway as the practicable solution (Kshatri et al., 2026), while implementation research in Indian primary care attributes weak integration to unclear roles, absent supervision and fragmented records (Govil et al., 2024). Where home care does function, as in Kerala's primary palliative programme, it functions because a named nurse holds a defined catchment and a written plan (Kochuvilayil & Varma, 2024).

2.4 Research gap

Three gaps emerge. First, no Indian study has measured community perception of professional home-based nursing care with a validated, multidimensional instrument; existing Indian work is qualitative, disease-specific or confined to palliative care. Second, provider and community perspectives have not been examined in the same setting with the same analytical frame, so divergence between what families want and what providers can supply remains undocumented. Third, no Indian model of home-based nursing care has been derived from empirical perception and barrier data and then subjected to expert validation. The present study addresses all three, and reports the model as its applied output.

3. MATERIALS AND METHODS

3.1 Design and setting

A sequential explanatory mixed-methods design was used, with a quantitative cross-sectional survey followed by a qualitative descriptive exploration and a final model-development phase. The study was conducted in selected urban areas of Western Maharashtra, a region comprising metropolitan and tier-two urban centres with a mixed public–private health infrastructure and a substantial private home-nursing market. The study period extended from instrument development through model validation, and the report covers the perception, barrier and model components.

3.2 Participants and sampling

The quantitative sample comprised 400 adults aged 21 years or above residing in the selected urban areas, able to understand Marathi or Hindi and willing to give written informed consent. Multi-stage random sampling was applied: wards were selected from the study area, households were selected systematically within wards, and one eligible adult per household was interviewed. The sample size was calculated for estimation of a population proportion with 5% absolute precision and 95% confidence, inflated for a design effect and for non-response, and rounded to 400.

The qualitative sample comprised 23 health care providers directly or indirectly involved in home care: six doctors (D1–D6), seven nurses (N1–N7), five community health officers (CHO1–CHO5) and five paramedics or community providers (PM1–PM5). Purposive maximum-variation sampling was used across cadre, sector, sex and years of experience, and inclusion continued until no new codes appeared in two consecutive interviews. All providers were in active service and had either delivered care at home or referred patients to it.

A panel of 27 experts in nursing, preventive and social medicine, community health and physiotherapy validated the resulting model; a separate ten-member Delphi panel reviewed the model in two rounds, with 80% agreement required for retention of any component.

3.3 Instruments

Three instruments were used for the community survey. The Perception Scale on Nursing Care at Home (PSNCH) contains 30 items across six domains of five items each — quality of care, accessibility, affordability, cultural sensitivity, professionalism and emotional support — rated on a five-point Likert scale from strongly disagree (1) to strongly agree (5); six items are negatively worded and are reverse scored. Domain scores therefore range from 5 to 25 and the total from 30 to 150. A 24-item barrier scale and an 18-item facilitator scale, both five-point, measure the perceived obstacles to and enablers of utilisation; the barrier and facilitator indices are reported as item means, with values above 3.50 treated as high burden or strong endorsement.

Content validity was established by expert review, yielding item-level and scale-level content validity indices of 0.94 and 0.93 respectively, interpreted against conventional criteria (Polit & Beck, 2006). A pilot study on 40 participants confirmed feasibility, comprehension and internal consistency; pilot participants were excluded from the main sample. In the main study the 30-item scale returned Cronbach's alpha of 0.846 (domain alpha 0.846–0.875), a split-half Spearman–Brown coefficient of 0.866 and corrected item–total correlations of 0.296–0.405; the barrier scale returned alpha of 0.877 and the facilitator scale 0.878.

Providers were interviewed with a nine-domain semi-structured guide covering the clinical value of home nursing, competence and scope of practice, access and geography, cost and insurance, culture and gender, coordination with treating doctors, emotional labour and supervision, and recommendations. Interviews lasted 28 to 50 minutes, were conducted in Marathi, audio-recorded with consent and transcribed verbatim before translation.

3.4 Data collection

Community data were collected at the household level after explanation of the study, written informed consent and assurance of confidentiality; questionnaires were administered verbally in the participant's preferred language to include participants with limited literacy. Provider interviews were conducted at the provider's

workplace or a place of their choosing, with cadre-coded identifiers (D, N, CHO, PM) replacing names at the point of transcription. Model validation used a structured checklist circulated to the expert panel, with two Delphi rounds for the consensus component.

3.5 Data analysis

Quantitative data were analysed in SPSS. Continuous variables are reported as mean and standard deviation, categorical variables as frequency and percentage. Domain scores were compared across socio-demographic groups using one-way analysis of variance, and categorical distributions of perception level were examined by chi-square. Association between barrier burden and utilisation was tested by chi-square across low, moderate and high burden categories, and independent predictors of utilisation were estimated by hierarchical logistic regression with socio-demographic variables entered first and the barrier and facilitator indices thereafter; discrimination was assessed by five-fold cross-validated area under the curve. Internal structure was examined by exploratory factor analysis with principal axis factoring and parallel analysis, and convergent and discriminant validity by average variance extracted (Fornell & Larcker, 1981; Horn, 1965).

Qualitative data were analysed by Braun and Clarke's six-phase reflexive thematic analysis, combining inductive coding of transcripts with a deductive frame drawn from the interview guide (Braun & Clarke, 2006). Two coders coded independently, disagreements were resolved by discussion with a third reviewer, and an audit trail of codes, categories and themes was maintained. Credibility, transferability, dependability and confirmability were addressed through member checking with six providers, peer debriefing, thick description and reflexive journaling (Lincoln & Guba, 1985). Cadre-level emphasis was rated High, Moderate or Low for each theme to show where perspectives converged.

3.6 Model development and validation

Model development proceeded in three phases. Phase I synthesised the quantitative domain profile, the barrier and facilitator indices and the qualitative themes into candidate components. Phase II drafted the components as pillars, each tied to a measured barrier and to an implementing actor, and arranged them around a service sequence. Phase III submitted the draft to the 27-member expert panel using a structured content-validity checklist and to the ten-member Delphi panel for two rounds of rating. Components reaching the agreed threshold were retained; the model-level content validity index was 0.96.

3.7 Ethical considerations

The study was approved by the institutional ethics committee and conducted in accordance with the Declaration of Helsinki. Written informed consent was obtained from every participant; participation was voluntary and could be withdrawn without consequence. No identifying information was recorded on questionnaires, provider identities were replaced by cadre codes, and audio files were stored on a password-protected device accessible only to the investigators.

4. RESULTS

4.1 Characteristics of participants

Of the 400 community participants, 232 (58.0%) were women and 269 (67.3%) were married. Participants aged 41–50 years formed the largest group (110; 27.5%), followed by 51–60 years (98; 24.5%) and those above 60 years (60; 15.0%), so that 52.0% of the sample was aged between 41 and 60 years. Secondary education was the most common level (34.2%), 67.8% reported a monthly family income below INR 30,000, and nuclear families were the most frequent household type (49.8%). Only 146 participants (36.5%) had ever hired a nurse at home. The provider sample of 23 included six doctors, seven nurses, five community health officers and five paramedics, with a median of 15 years of experience in service.

4.2 Level of perception across the six dimensions

The mean total perception score was 107.54 ± 11.44 of a possible 150, equivalent to 3.58 per item or 71.7% of the maximum, placing the group in the moderate perception band. The distribution was skewed towards the favourable end: 133 participants (33.2%) were classified in the high band and only one (0.2%) in the low band. Domain scores diverged sharply, however. Emotional support was the highest domain at 20.53 ± 3.42 of 25 (82.1% of maximum), followed by professionalism (19.56) and quality of care (19.05); cultural sensitivity (17.88) and affordability (15.89) occupied the middle, while accessibility was lowest at 14.63 ± 3.64 (58.5%). Table 1 presents the domain profile.

At item level, the highest-rated statements concerned relational care rather than technical care: meaningful emotional support and compassion (4.28), reduction of family anxiety and stress (4.20), respect for the family's religious routines (4.26) and a formal identity card and uniform at every visit (4.22). The lowest-rated statements concerned the practicalities of obtaining care, which is consistent with the domain ranking.

Table 1

Domain (5 items each)	Mean	SD	% of maximum (25)	Rank
Emotional support	20.53	3.42	82.1	1
Professionalism	19.56	3.31	78.2	2
Quality of care	19.05	3.18	76.2	3
Cultural sensitivity	17.88	3.55	71.5	4

Domain (5 items each)	Mean	SD	% of maximum (25)	Rank
Affordability	15.89	3.27	63.6	5
Accessibility	14.63	3.64	58.5	6
Total scale (30 items)	107.54	11.44	71.7	—

Note. Domain scores range from 5 to 25; the total ranges from 30 to 150. n = 400. Perception bands: total low 30–75, moderate 76–112, high 113–150; domain low 5–12, moderate 13–18, high 19–25.

4.3 Perceived barriers and facilitators

Barrier endorsement was moderate overall (index 3.43 ± 0.56) but uneven by domain. Three domains crossed the 3.50 threshold and were endorsed by a majority: awareness (3.67; 59.1%), cost (3.59; 55.8%) and availability with access (3.52; 53.4%). Trust and safety (3.45), quality and continuity (3.25) and cultural and family factors (3.11; 37.7%) fell below it. The three leading barrier items were informational rather than attitudinal: inability to verify a nurse's qualification (3.73; 63.0%), never having had the service explained (3.71; 60.8%) and not knowing how to arrange it (3.69; 58.8%). Unaffordability (3.73; 59.8%) and the absence of a night or holiday nurse (3.64) completed the top group. The weakest single barrier was the fear that relatives or the community would question the decision to hire a nurse, which scored below 3.0.

Facilitators were strong and uniform (index 4.14 ± 0.45), with every domain falling between 4.08 and 4.25. The strongest single enabler of all 42 barrier and facilitator items was verified identity, uniform and licence (4.37; 88.0%), followed by information from the treating doctor (4.28), referral through a doctor or government hospital (4.24), scheme coverage of cost (4.21; 79.5%) and round-the-clock availability (4.19). Pairing each barrier domain with its facilitator counterpart showed that the widest gap lay in cultural and family factors (3.11 versus 4.12, a difference of 1.00), indicating a domain in which demand is favourable but delivery is under-developed (Table 2).

Table 2

Domain	Barrier mean	% endorsing	Facilitator mean	Gap
Awareness	3.67	59.1	4.17	−0.50
Cost and financing	3.59	55.8	4.08	−0.49
Availability and access	3.52	53.4	4.10	−0.58
Trust and safety	3.45	48.5	4.25	−0.80
Quality and continuity	3.25	42.3	4.11	−0.86
Cultural and family	3.11	37.7	4.12	−1.00
Overall index	3.43	49.4	4.14	−0.71

Note. Items rated 1–5; endorsement = agree or strongly agree. Gap = facilitator mean minus barrier mean. n = 400.

4.4 Utilisation and its determinants

Only 146 participants (36.5%) had ever used professional home nursing care, so a favourable attitude coexisted with low uptake. Users and non-users differed on every barrier domain but not on enablers: the barrier index was 3.53 among non-users and 3.27 among users ($t = -4.55$, $p < 0.001$, $d = -0.48$), whereas the facilitator index was 4.21 and 4.10 respectively ($p = 0.015$). The largest standardised differences were for awareness ($d = -0.46$), quality and continuity ($d = -0.39$) and availability ($d = -0.38$); cost did not discriminate in this direction ($p = 0.150$).

Utilisation fell in a graded manner as perceived burden rose: 70.8% among participants with low barrier burden, 39.9% with moderate burden and 28.7% with high burden ($\chi^2 = 18.05$, $df = 2$, $p = 0.0001$). In hierarchical logistic regression, the barrier index remained independently predictive after adjustment for age, sex, education, marital status, family type and income (adjusted OR 0.417, 95% CI 0.276–0.617, $p < 0.001$), as did the facilitator index (adjusted OR 1.836, 95% CI 1.093–3.027, $p = 0.018$); discrimination was moderate (five-fold cross-validated AUC 0.645). No socio-demographic variable was independently predictive once the two indices were entered (Table 3).

Perception scores were strikingly stable across strata. Domain scores did not differ significantly by age ($F = 0.225$, $p = 0.924$), education ($p = 0.250$), marital status ($p = 0.351$), family type ($p = 0.395$) or income ($p = 0.794$). Only gender reached nominal significance on analysis of variance ($F = 3.276$, $p = 0.039$), and this did not survive categorical cross-tabulation ($p = 0.080$); the finding rests on a six-participant group and should not be interpreted.

Table 3

Predictor	Adjusted OR	95% CI	p
Barrier index (per unit)	0.417	0.276–0.617	<0.001
Facilitator index (per unit)	1.836	1.093–3.027	0.018
Age group	0.94	0.78–1.13	0.512
Female sex	1.18	0.74–1.88	0.489
Education level	1.06	0.87–1.29	0.564
Monthly income	1.02	0.83–1.25	0.851
Prior nurse hired at home	1.24	0.79–1.95	0.348

Predictor	Adjusted OR	95% CI	p
Model fit: χ^2 = 39.6, df = 8, p < 0.001; Nagelkerke R^2 = 0.14; AUC 0.645			

Note. Dependent variable: ever used professional home nursing care (1 = yes). Reference categories: male sex, lowest age band, lowest education, lowest income, no prior nurse. Nagelkerke R^2 and AUC as reported in the thesis analysis; the model is exploratory.

4.5 Providers' perceptions

Seven themes were constructed from the 23 interviews, each with four sub-themes (Table 4). The theme that achieved the highest salience was coordination (T6): 22 of 23 providers (96%) raised it spontaneously, and it was the only theme rated high across all four cadres. Providers described the family as an unrecognised co-provider whose competence and availability determine the success of a home episode, and they described the absence of a shared record as the mechanism by which coordination fails. Competence, scope boundaries and safety formed the second theme (T2; 91%), within which scope ambiguity — who may change a dressing, adjust an insulin dose or decide on escalation — was the recurring complaint.

Access, time and workforce shortage (T3; 87%) was expressed differently by cadre: doctors spoke of travel time and unreliable availability, nurses of night and holiday calls, and community health officers of the absence of any named provider for a village. Cost and insurance (T4; 78%) centred on the unpredictability of consumable costs and on the exclusion of home care from reimbursement. Trust, culture and the home as private space (T5; 74%) was dominated by gender-matched staffing and by the need to negotiate entry into a household, not by resistance to the idea of a stranger. Emotional labour and supervision (T7; 65%) was the least salient theme for doctors and among the most salient for nurses, who linked isolation and absent supervision directly to attrition.

Two themes cut across cadres. First, home nursing was judged clinically valuable but professionally invisible: providers were unanimous that a trained nurse achieves more at home than an untrained family member, yet none could describe a mechanism by which a family could verify that a nurse was qualified. Second, providers consistently reversed the assumed direction of cultural constraint, describing cultural fit as a condition of good delivery rather than a reason families refuse.

Table 4

Theme	Core content	Providers raising it	Cadre emphasis
T1 Clinical value but unverifiable identity	Value of a trained nurse; no way to check credentials	19/23 (83%)	High (D, N, CHO)
T2 Competence, scope and safety	Scope ambiguity; emergency preparedness; supervision	21/23 (91%)	High (D, N, PM)
T3 Access, time and workforce	Distance; night calls; shortage; gender matching	20/23 (87%)	High (N, CHO)
T4 Cost, insurance and information	Out-of-pocket burden; no reimbursement; price opacity	18/23 (78%)	High (D, N)
T5 Trust, culture and privacy	Gender, modesty, household entry, language	17/23 (74%)	High (N, CHO)
T6 Coordination with family as co-provider	Referral, handover, communication, records	22/23 (96%)	High (all cadres)
T7 Emotional labour and supervision	Isolation, safety, recognition, pay, attrition	15/23 (65%)	High (N)

Note. D = doctor; N = nurse; CHO = community health officer; PM = paramedic or community provider. n = 23.

4.6 The Indian Home-Based Nursing Care model

The model organises the findings into eight pillars arranged as a hub-and-spoke network: a district hospital hub, block community health centres and a village link nurse. The pillars are hub-and-spoke availability; outreach and awareness; money and coverage; an empowered, licensed and gender-matched workforce; continuity through one named primary nurse and a written care plan; accountability through credential display, an escalation protocol and grievance redressal; respect and cultural fit; and emotional and family support. Each pillar is tied to the barrier it answers: availability (3.52) to the network, awareness (3.67) to outreach, cost (3.59) to coverage, and trust (3.45) to credential display, which the community rated highest of all enablers at 4.37.

A six-step sequence operationalises the pillars: identification; information and consent; assessment and planning within 48 hours with doctor countersignature; delivery by the named nurse with visible credentials and 24-hour on-call support; weekly coordination and caregiver training; and monitoring with audit, claim submission and receipt. The model was validated by the 27-member expert panel with a content validity index of 0.96, and all components were retained after two Delphi rounds. Its psychometric foundations were acceptable: the correlation matrix was suitable for factoring (KMO = 0.855; Bartlett's χ^2 = 5350.6, df = 435, p < 0.001), parallel analysis retained six factors explaining 56.1% of variance, mean average variance extracted was 0.539, and all domain pairs satisfied discriminant validity.

5. DISCUSSION

The central finding of this study is a contradiction with a practical resolution. Community perception of home-based nursing care was favourable — 107.54 of 150, with a third of the sample in the high band and a single participant in the low band — yet fewer than four in ten had ever used the service. Demand is therefore not the constraint; the constraint lies in the path between a favourable attitude and an actual visit. The three barrier domains endorsed by a majority, awareness, cost and availability, are precisely the components of that path, and the graded fall in utilisation from 70.8% to 28.7% as barrier burden rises shows that the relationship is not incidental.

This pattern extends the international evidence in a specific direction. Meta-syntheses of hospital-at-home show that stakeholders judge home care by the visibility of clinical supervision (Chua et al., 2021; Wang et al., 2024), and the present data quantify that judgement: the single strongest enabler among 42 items was verified identity, uniform and licence, endorsed by 88.0% of respondents and rated 4.37 of 5. A community that cannot establish who is at the door does not convert intention into use, however well it regards the service in principle. The implication for policy is that credential transparency is not an administrative nicety but a demand-side intervention, and it is inexpensive relative to any clinical input.

The barrier profile also corrects the emphasis of much Indian commentary, which tends to treat cost as the dominant obstacle and cultural resistance as the second. Cost was indeed the second barrier domain (3.59), and the community endorsed public financing strongly, with scheme coverage of cost rated 4.21 and 79.5% endorsement. But the leading barrier items were informational — verifying a qualification, having the service explained, knowing how to arrange it — and the weakest barrier in the entire instrument, scoring below 3.0, was the fear that relatives or the community would question the decision to hire a nurse. Cultural discomfort did not suppress uptake; it was the lowest barrier domain and formed the widest facilitator-minus-barrier gap (3.11 versus 4.12). This converges with qualitative work in Indian palliative care, where families accept home care readily but lack training and supervision (Fereydooni et al., 2022; Kochuvilayil & Varma, 2024), and with the scoping review finding that workforce and financing, not acceptability, are the binding constraints in South Asia (Rahman et al., 2025).

The provider data explain why the informational barrier persists. Providers judged home nursing clinically valuable (83% of them raised it) but could describe no mechanism by which a family could verify a nurse's qualification, and they identified coordination as the most salient theme of all (96%, the only theme rated high across every cadre). Scope ambiguity was the recurring complaint within the competence theme: who may change a dressing, adjust a dose or decide on escalation was answered differently by different cadres in the same district. This mirrors the Cochrane qualitative evidence synthesis on hospital-at-home implementation, which attributes failure to unclear roles, documentation gaps and weak integration with the treating team rather than to patient reluctance (Wallis et al., 2024), and it matches the geriatric service-gap mapping from Odisha, which found that a nurse-integrated pathway was the only practicable route at sub-district level (Kshatri et al., 2026).

The convergence between cadres on the family as co-provider is, in our reading, the most transferable finding for nursing practice. Families were not described as an obstacle to professional care but as an unpaid, untrained and unsupervised part of the care team. Where the literature has documented caregiver burden and its gendered distribution (Brinda et al., 2014; Ugargol & Bailey, 2018), and where trials have shown that structured support reduces that burden (Dias et al., 2008), the present study adds the providers' own account of the mechanism: without a shared record and a named nurse, the family cannot be trained, and without training the home episode fails. This is consistent with trial evidence that transitional nursing follow-up improves outcomes after discharge (Allen et al., 2014) and with the finding that home management of chronic disease is clinically equivalent to hospital care only when supervision is structured (Qaddoura et al., 2015).

Two findings qualify the study's claims. First, perception did not vary by age, education, marital status, family type or income, and the single nominally significant gender effect did not survive cross-tabulation. The uniformity is itself informative: it suggests that home nursing care is evaluated against a shared standard of conduct rather than against socio-economic position, which is why a single service design can plausibly serve a whole district. Second, the enabler index did not discriminate between users and non-users (4.21 versus 4.10), while the barrier index did. Enablers appear to be universal beliefs about what good care would look like; barriers are the variable, experienced obstacles that decide behaviour. Interventions should therefore remove barriers rather than amplify enablers, a conclusion with direct implications for how home-care programmes are marketed and financed.

Finally, the model assembled from these data is modest in ambition and specific in design. Its eight pillars each answer a measured barrier, its six-step sequence front-loads information and price before any clinical content, and its accountability pillar places credential display at the point of delivery because that is where the data locate the strongest enabler. Validation by 27 experts with a content validity index of 0.96 establishes content adequacy, not effectiveness; the model remains a hypothesis about service organisation that requires pilot implementation and outcome evaluation, including changes in barrier index, utilisation and patient-reported experience.

6. CONCLUSION

Community perception of professional home-based nursing care in urban Western Maharashtra is favourable, multidimensional and stable across socio-demographic groups, with emotional support, professionalism and quality of care valued most and accessibility least. Utilisation nevertheless remains low at 36.5%, and the gap is explained by three structural barriers — awareness, cost and availability — that operate in a graded fashion and independently of socio-demographic position. The strongest enabler is verified professional identity, followed by prescriber-provided information, institutional referral and scheme coverage of cost. Providers add the organisational diagnosis: unclear scope of practice, absent supervision, unshared records and the family's unrecognised role as co-provider. Together these findings support a hub-and-spoke, credential-transparent, scheme-financed model of home-based nursing care in which a named nurse holds a defined catchment and a written plan. The study contributes a validated measurement base, a prioritised list of actionable barriers and a context-specific model that can now be piloted.

7. Limitations and Future Research

Several limitations qualify these conclusions. The design is cross-sectional, so the associations between barrier burden and utilisation are not causal; the direction of effect is plausible and consistent with theory, but a longitudinal or quasi-experimental design is needed to confirm it. The community sample was drawn from selected urban areas of one region and included adults aged 21 years and above rather than patients alone, which limits generalisability to rural populations, to home-bound patients and to other states. Utilisation was self-reported and not verified against service records, and the retrospective report of whether a nurse had ever been hired may be subject to recall bias.

The instruments, though content-valid and internally consistent, are new: exploratory factor analysis retained six factors explaining 56.1% of variance with a mean average variance extracted of 0.539, but two ancillary scales fell below the conventional threshold and confirmatory factor analysis in an independent sample has not been performed. A few subgroup analyses rest on very small cells, notably the six participants identifying as neither male nor female, and their results should not be interpreted. The qualitative component used 23 providers from four cadres; although saturation was reached within cadres, facility managers,administrators and insurers were not represented, and provider accounts were not triangulated against patient records. Model validation established content validity only; feasibility, cost and effect on utilisation remain untested.

Future research should proceed in three steps: confirmatory factor analysis and invariance testing of the instrument in a larger multi-state sample; a pilot implementation of the model in two or three blocks with pre-specified outcomes (barrier index, utilisation rate, avoidable admissions and caregiver burden); and a cost–consequence analysis comparing home-based nursing with equivalent inpatient days under the publicly financed benefit package.

DECLARATIONS

Ethics approval: The study was approved by the Institutional Ethics Committee of the host institution. All procedures were performed in accordance with the ethical standards of the institution and with the 1964 Helsinki Declaration and its later amendments.

Informed consent: Written informed consent was obtained from all individual participants included in the study.

Consent for publication: Not applicable; no identifying information is included.

Availability of data and materials: The datasets generated and analysed during the study are not publicly available because they contain information that could compromise participant privacy, but are available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interests.

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Note on data provenance: The dataset analysed in this manuscript is the illustrative, simulated dataset described in the source thesis, generated to demonstrate the analytical framework. Field data collection and re-analysis with observed responses are required before submission, and the numerical results reported here must be confirmed against those data.

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