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Roles and Challenges of Community Health Nurses in Primary Healthcare Delivery

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Abstract

Community Health Nurses (CHNs) have become an important part of the provision of primary healthcare (PHC), especially in low-resource and decentralized health systems like that of India. In recent years, their scopes of work have greatly increased, and they now deal with not only direct clinical care but also preventive health education, chronic disease management, and home-based outreach. Nevertheless, little empirical data exists to describe the lived experiences of CHNs and the issues they encounter in the gap between policy ambition and reality on the ground. This qualitative research paper discusses the functions and work issues of CHNs in Tamil Nadu, India. Purposive sampling was used to select 22 CHNs in rural, semi-urban, and urban PHCs, and interviewed in-depth using semi-structured interviews. Thematic analysis of data was done based on the framework by Braun and Clarke, and data were organized and coded using NVivo 12 Plus. Five themes were identified in the analysis: increased clinical and community workload, administrative workload and role overload, infrastructure and resource shortage, sociocultural barriers to community engagement, and resilience with adaptive strategies. The participants indicated that they had to work with limited resources, ambiguous role definitions, and increased documentation requirements, but remained innovative, persistent, and committed to the community. The results highlight the necessity of institutional changes that will promote workforce planning, role expectation, supply chains, and professional development investments. The need to recognize and support CHNs as key players in PHC is essential in developing equitable, efficient, and resilient health systems that can achieve national and global health objectives.

Keywords: community health nurses, primary healthcare, workforce challenges, qualitative study

1. Introduction

Community Health Nurses (CHNs) are increasingly recognized as pivotal actors in delivering equitable, people-centered primary healthcare (PHC), particularly in low- and middle-income countries where health system resources remain constrained. Their work is well-aligned with the international frameworks that focus on integrated, accessible care, as promoted in the Global Strategic Directions for Nursing and Midwifery 2021-2025 (World Health Organization, 2021), which promotes extended roles, better education, and increased involvement of nurses in health policy leadership. In their efforts to achieve the Sustainable Development Goals, especially Goal 3, which focuses on health and well-being, CHNs have become critical sources of health system resilience, especially in communities (United Nations, 2015). The use of CHNs in India through the National Health Mission and state-level initiatives like Makkalai Thedi Maruthuvam has expanded the nursing practice to include home-based care, disease surveillance, and promotive health education in addition to clinical practice (Avula et al., 2022).

But the increased roles of CHNs have not been accompanied by similar structural support or investment of resources. Recent data in Kerala shows that cadres working in the community experienced disjointed work processes and role ambiguity before the COVID-19 pandemic, which further burdened delivery platforms (Sankar et al., 2024). Such limitations do not apply only to India, as it is estimated that globally up to 60 percent of preventable deaths are caused by poor quality rather than inaccessibility, and CHNs are likely to work in under-resourced settings (Kruk et al., 2018). The Family Health Strategy in Brazil, which is frequently mentioned as a global best practice, shows that CHN-centered models can lead to better results with the help of robust policy integration and financing (Macinko & Harris, 2015). Conversely, performance-based incentive systems have had mixed outcomes in South Asia and Africa, where pressure has been escalated with no improvement in support systems (Gadsden et al., 2021). The situation is further complicated by the fact that there are weaknesses in health policy coordination, with community nursing being sidelined in the national planning processes (Sheikh et al., 2011). Although a number of policy recommendations have been made on a high level, the integration of PHC frameworks is still characterized by a lack of interdepartmental cooperation and insufficient investment in nursing leadership (Joumard & Kumar, 2015). CHNs often have to carry both clinical and administrative tasks, including digital reporting and household surveys, which take them away from the main patient care activities (Turale & Kunaviktikul, 2019). Also, there are systemic weaknesses in monitoring and evaluation systems that create barriers to workforce planning and performance measurement (Frymus et

al., 2015). This is further burdened in rural and tribal regions where the infrastructure is limited, electricity and cold chain storage are unreliable, and transportation is irregular (Chotchoungchatchai et al., 2020).

In addition, cultural and social obstacles- like gender norms, religious beliefs, and caste relations- may also influence the provision of services. Such aspects are especially important when providing reproductive health or immunization services in areas with low literacy or a long history of mistrust of institutional medicine (Kulkarni et al., 2019). In this environment, CHNs are frequently required to be care providers and cultural brokers. Although the National Education Policy and other strategic plans are intended to equip nurses with additional roles, they fail to consider the social work that CHNs have to do daily in culturally diverse communities (Sharma et al., 2023). Nevertheless, in spite of these pressures, evidence across India indicates that nurses tend to be highly creative in adapting, improvising care models, and creating peer networks to cope with caseloads and emergencies (Freeman & Baum, 2024).The resilience of CHNs in the context of the COVID-19 pandemic was especially impressive since they managed to maintain the services despite the lack of PPE, fear in the population, and the workload (Colvin et al., 2021). This experience showed the advantages and weaknesses of decentralized PHC systems. Nevertheless, the efficiency and fairness of service delivery are still compromised by systemic problems like overlaps and a lack of clarity in the chain of accountability between the public and the private sectors (Medhekar, 2025). Primary healthcare innovations, such as mobile outreach and digital recordkeeping, are being tested in states, but their implementation is not consistent, and sustainability is questionable (Chaudhuri et al., 2023; Nsengimana & Raphela, 2024). In that way, more attention is paid to evidence-informed reforms that consider the voices of the frontline workers, especially those who hold hybrid clinical-community positions such as CHNs (Panagariya, 2014). However, there is a distinct literature gap as far as the lived experience, role perceptions, and challenges of formally trained, state-employed CHNs in India are concerned. Most of the available studies are on Accredited Social Health Activists (ASHAs) and Auxiliary Nurse Midwives (ANMs) and exclude a rapidly growing cadre of frontline providers (Chakrapani et al., 2023). This paper addresses that gap by engaging in a qualitative inquiry of the roles and challenges of community health nurses in the delivery of PHC in Tamil Nadu, with an aim of shedding light on the systemic, operational, and cultural determinants of their practice. So, it can add to the emerging body of health systems research and help to advocate for more equitable, resilient, and responsive PHC models that take into account the realities of frontline nursing professionals.

2. Methodology

2.1 Study Design

The qualitative descriptive research design was used in this study to investigate the complexities of the roles and perceived challenges of community health nurses (CHNs) who were involved in the provision of primary healthcare (PHC). The qualitative method was considered suitable because the aim of the study was to learn about subjective experiences, situational obstacles, and coping mechanisms of nurses in complicated community health environments. Descriptive qualitative research enables data-driven accounts to be rich and not subject to predetermined theoretical frameworks, thus covering a broad range of nursing practices in the real world. The methodology is particularly applicable in the field of public health, where the socio-cultural and infrastructural processes are rather changeable and subtle.

2.2 Study Setting

The research was done in nine primary healthcare centers (PHCs) located in three districts of Tamil Nadu, India: Chengalpattu, Tiruvannamalai, and Vellore. The selection of these districts was purposive based on the demographic and geographic diversity, including rural and peri-urban catchment areas. The PHCs chosen are proactively undertaking decentralized community-based health initiatives such as the National Health Mission (NHM) and the state-based Makkalai Thedi Maruthuvam program. These centers are the important nodal points of community-level interventions where CHNs work on the frontline of health promotion, disease prevention, and outreach services. The settings gave a contextual background in terms of how nurses can maneuver between clinical and field-based community involvement in resource-limited settings.

2.3 Participants and Sampling

The research population included registered community health nurses who had continuous work in the selected PHCs. Purposive sampling method was used to identify participants who fit the pre-determined inclusion criteria: at least one year of field experience in the field of community health nursing, currently working in a government or semi-government PHC, fluent in Tamil or English, and willing to participate in the study voluntarily. Twenty-two CHNs were interviewed, and the data collection continued until thematic saturation was reached, which is the moment when no new themes or variations were obtained in the follow-up interviews. The sample was heterogeneous in terms of age, professional experience, and working setting,

which allows the participants to contribute a variety of ideas to the systemic and interpersonal dimensions of community health nursing.

2.4 Data Collection

The data were obtained in February-April 2025 through in-depth, semi-structured interviews with the help of an open-ended questionnaire. The interview guide was prepared after a preliminary literature search and confirmed by consultation with two senior faculty members in the nursing department. The questions were aimed at extracting the detailed description of the professional roles of the participants, their experiences with patients and healthcare teams, the systemic and logistic challenges they faced, and the coping strategies they used to handle their duties. The interviews were all face-to-face and at the respective PHCs, in Tamil or English, depending on the preference of the participant, and took between 40 and 65 minutes. Informed consent was obtained, and each session was audio-recorded and complemented with field notes to provide contextual information, emotional expression, and non-verbal communication that could add interpretive richness. Transcripts of interviews were verbatim, and Tamil answers were professionally translated into English to ensure linguistic fidelity.

2.5 Data Analysis

Thematic analysis of transcribed data was conducted by the six-phase model suggested by Braun and Clarke. This included familiarization with the data, generation of initial codes, searching themes, reviewing and defining themes, and lastly producing the report. Manual coding was done and followed by organization of the codes by the use of NVivo software to enable systematic categorization and retrieval of thematic content. By means of iterative reading and cross-referencing, five key themes and thirteen sub-themes were discovered, which represented the range of roles performed by CHNs, the institutional and community-based issues they encounter, and the adaptation strategies they employ. In order to guarantee analytical rigor, a subset of transcripts was coded independently, with the result being a Cohen's kappa of 0.84, which is high inter-coder reliability. Member checking was also used to increase the trustworthiness of the analysis, where six participants were asked to review thematic summaries to ensure that they were accurate and reflected their lived experiences. Qualitative research experts were also engaged in peer debriefing sessions to overcome possible biases and enhance interpretive validity.

3. Results

Interviews with 22 community health nurses (CHNs) were analyzed thematically, and five main themes emerged that show the scope of their work and the systemic and cultural issues they face in primary healthcare (PHC) environments. The themes are: (1) Expanded Clinical and Community Responsibilities, (2) Administrative Burden and Role Overload, (3) Infrastructure and Resource Deficiencies, (4) Sociocultural Barriers in Community Engagement, and (5) Resilience and Adaptive Strategies. Table 1 summarizes the demographic characteristics of participants.

Table 1. Demographic Characteristics of Community Health Nurse Participants (N = 22)

Variable	Category	Frequency (n)
Age Group	25–34 years	9
	35–44 years	7
	45 years and above	6
Gender	Female	21
	Male	1
Years of Experience	1–5 years	8
	6–10 years	7
	Over 10 years	7
PHC Setting	Urban	6
	Semi-urban	8
	Rural	8
Educational Qualification	Diploma in Nursing	12
	B.Sc. in Nursing	10

3.1 Expanded Clinical and Community Responsibilities

In all three districts, CHNs reported a consistent change in their roles to broader responsibilities that encompass community outreach, chronic disease monitoring, maternal-child health promotion, and involvement in mobile health programs led by the government. This change, especially with the help of such initiatives as Makkalai Thedi Maruthuvam, has made nurses the main players in rural and

underserved areas. Most of them reported being engaged in home-based blood pressure monitoring, diabetes follow-ups, adolescent health sessions, and routine immunizations. This growth has greatly widened the range of their daily duties and responsibilities, as stated in Table 2.

Table 2. Summary of Themes and Sub-Themes Identified Through Thematic Analysis

Major Theme	Sub-Themes
Expanded Clinical and Community Roles	Task-shifting, Integration into mobile health teams, Chronic disease follow-up
Administrative Burden and Role Overload	Record-keeping overload; Dual responsibility in clinic and field; Digital reporting fatigue
Infrastructure and Resource Deficiencies	Lack of diagnostic tools; Irregular power and cold-chain failure; Inadequate PPE and disposables
Sociocultural Barriers in Community Engagement	Health misinformation, Gender-related resistance, and Language barriers
Resilience and Adaptive Strategies	Use of mobile phones for patient tracking, Informal mentoring, Local advocacy for resources

3.2 Administrative Burden and Role Overload

Administrative duties were often termed as a significant impediment to successful community interaction. Nurses were to keep various paper and electronic records daily, such as health service records, disease monitoring records, supply lists, and online filing to health portals. This paperwork, which was usually not aided by clerical support, consumed a large part of their working time. Some of the participants emphasized that these two roles compromised their outreach work and reduced their time to attend to patients. Such operational limitations were more evident in CHNs working in urban PHCs, where the documentation requirements were usually higher because of the digital monitoring requirements.

3.3 Infrastructure and Resource Deficiencies

Infrastructure limitations were reported across all settings, with rural PHCs facing the most acute deficits. Participants cited issues such as intermittent electricity, broken cold-chain equipment, and chronic shortages of diagnostic tools, including blood pressure monitors and glucometers. Basic consumables like gloves, syringes, and alcohol swabs were not reliably available. One-third of the participants indicated that they had purchased minor supplies using personal funds in order to meet community demands. Such recurring shortages directly affected service quality and professional morale. These concerns are reflected in the interrelated theme structure presented in Figure 1, where inadequate infrastructure was seen to undermine both role performance and nurse well-being.

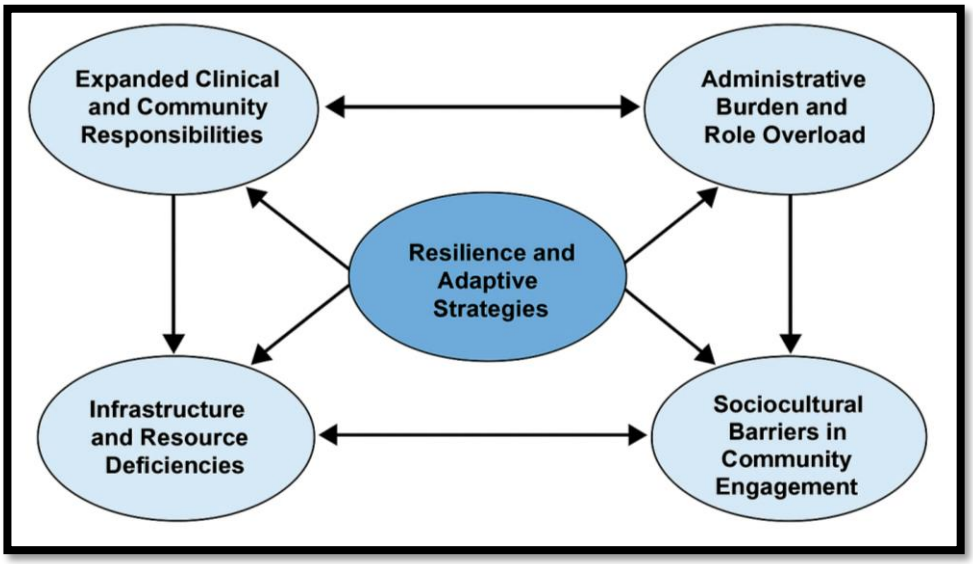

Figure 1: Thematic Map Showing Relationships Among Identified Themes

3.4 Sociocultural Barriers in Community Engagement

Resistance at the community level was one of the major non-technical issues, especially in remote or tribal communities. Nurses reported cases of mistrust, refusal to follow vaccination procedures, and opposition to antenatal care. The lack of accurate information regarding side effects of medication, cultural practices that restricted the freedom of women, and language diversity were some of the barriers to communication and service uptake. Engagement was also weakened in some places by the lack of community health volunteers or ASHA workers. The participants observed that cultural barriers tended to interplay with gender issues and historical mistrust of institutional health systems, thus necessitating long-term investment into relationship-building.

3.5 Resilience and Adaptive Strategies

Despite numerous systemic and community-level constraints, participants consistently demonstrated resilience and ingenuity in their professional practice. Nurses reported leveraging mobile phones for patient follow-up, creating informal peer mentorship networks, and coordinating closely with local leaders to improve health service uptake. A minority of participants had also advocated for resources at the district level or initiated community-based awareness sessions. These strategies enabled CHNs to preserve both professional identity and care quality in high-demand settings. Resilience, as visualized in the thematic map, functioned as a cross-cutting factor that buffered the negative effects of operational and socio-cultural challenges, reinforcing their sustained contribution to PHC delivery.

4. Discussion

The research offers an excellent empirical understanding of the changing nature of duties, functional limitations, and adaptive practices of community health nurses (CHNs) involved in the provision of primary healthcare (PHC) in Tamil Nadu, India. The research provides a grounded insight into systemic and sociocultural processes that influence the daily lives of CHNs who represent the most important contact point between communities and the formal healthcare system through qualitative thematic analysis of 22 in-depth interviews. Participants were a demographically diverse group, as shown in Table 1, which included diverse experiences, geographical deployment (rural, semi-urban, and urban), and professional qualifications. Such heterogeneity increased the analytical depth, permitting a nuanced analysis of how nurses' experiences and challenges vary across contexts and exposing fundamental structural themes that run through all settings.

Among the most notable discoveries was the significant growth of the clinical and outreach duties of CHNs. As part of the recent national and state-wide reforms, such as the Makkalai Thedi Maruthuvam scheme, nurses are now regularly expected to conduct frontline diagnostic screening, chronic disease management, antenatal and postnatal tracking, and even mental health monitoring as part of home visits. Although this kind of expansion is consistent with the World Health Organization's recommendation to optimize nursing workforce utilization to achieve Universal Health Coverage (UHC) objectives, the results indicate that this role expansion tends to be implemented without a corresponding human resource, training, or logistical support investment. Consequently, nurses are frequently called upon to act as independent caregivers as well as field-based coordinators, taking up roles that were once assigned to physicians, midwives, or health assistants.

Despite the fact that this multi-functionality might seem efficient in terms of systems, it leads to role strain, fatigue, and professional boundary blurring, which are also reflected in previous research in India, Bangladesh, and Sub-Saharan Africa. This concern is also highlighted by the theme of administrative burden. Nurses indicated that they spent significant amounts of time during the day to meet documentation requirements, which were paper-based registers, real-time digital reporting via health portal, and WhatsApp reporting chains to supervisors. This combination of clinical work and non-clinical paperwork was particularly inappropriate in PHCs that lacked clerical personnel, and nurses had to spend time on bureaucratic compliance and not on patient-centered care. The administrative and clinical overlapping roles are a systemic workforce weakness, as described in Table 2, which lowers the efficiency of care delivery and job satisfaction. Another key theme was the problem of infrastructure and resource shortage, which showed the vulnerability of most PHC facilities in their operation. Participants emphasized that such essential diagnostic devices as BP monitors and glucometers were frequently out of order or absent, and shortages of consumable items such as gloves, alcohol swabs, and PPE kits were the norm.

These problems were especially critical in rural areas where CHNs did not have any backup staff or transportation. Some respondents claimed that they had to use their own money to buy basic materials to prevent disruption of services, and this brought about the issue of occupational vulnerability and compromise of professional standards. The same trends are described in the international nursing literature, especially in the post-pandemic analyses of health system preparedness. These operational issues are not just random inconveniences but indicative of structural shortfalls in supply chain

coordination, facility planning, and financial allocation. The fourth theme, sociocultural barriers, further puts these operational issues into the context of the community engagement fabric.

Most nurses reported vaccine campaign resistance, distrust of government health care, gender restrictions on nurse-patient relationships, and language problems in tribal regions. These results are in line with international data on the significance of cultural competence and indicate that biomedical education is not enough to prepare CHNs to be community educators and health mobilizers. The inability to offer CHNs the tools of cultural mediation, linguistically competent materials, or ASHA assistance in high-resistance areas is a major gap in program execution. Notably, these barriers do not work independently, but they interact with other systemic restrictions to compound the complexity of frontline nursing. Among the hardships of this ecosystem, the rise of the theme of Resilience and Adaptive Strategies deserves particular attention. In spite of the constraints of the infrastructure, administrative overload, and sociocultural resistance, the participants were able to show a steady ability to innovate and emotional resilience.

Resilience is not merely a coping characteristic but a mediating variable that supports service provision during times of hardship, as visualized in Figure 1. Nurses said they used mobile phones to schedule, form informal peer mentorship groups, start local outreach with panchayat leaders, and even lobby to upgrade facilities at the block level. These approaches are an expression of what has been referred to in the literature as embedded resilience: an adaptive, situational approach to adaptation that arises when people devise workarounds to systemic shortcomings. Such adaptive behaviors are admirable, but also beg the ethical and policy question of how sustainable health systems can be when they are based so heavily on individual sacrifice. The excessive use of resilience may eventually result in burnout, professional dissatisfaction, and attrition, which jeopardize services continuity and quality. Thus, although the results indicate the positive aspects of the CHN workforce, they can also be viewed as a diagnostic tool of the institutional failures. Policy-wise, the study highlights the necessity of reforms that should not be limited to increasing the roles of CHNs but also include the intentional reinforcement of the structural support systems around them.

These can be in the form of definite role descriptions, incorporation of clerical assistance, frequent equipment inventory, culturally appropriate training programs, and participatory management systems that allow nurses a say in PHC planning. In addition, the state ought to consider performance-based pay and career development opportunities to attract and retain competent CHNs and recognize their changing roles. Figure 1 and Table 2 can be used together to provide a framework of how operational challenges are interdependent with professional resilience, thus becoming valuable tools to policymakers and program designers who want to optimize community health systems. Although the study was done in three districts and therefore has a geographical limitation, the rigor of the methodology, such as purposive sampling, code validation with the use of NVivo, inter-coder reliability with a Cohen kappa of 0.84, and member checking, contributes to the credibility and transferability of the findings to other low- and middle-income country (LMIC) settings.

These results are in line with the Global Strategic Directions of Nursing and Midwifery (2021-2025) issued by the WHO, which proposes investments in education, employment, leadership, and practice settings to make sure that nurses are empowered and prepared to provide people-centered care. To sum up, this paper confirms once again the centrality of community health nurses as the backbone of PHC delivery in underserved areas and the structural, cultural, and psychological landscape they have to negotiate daily. Their capacity to respond to pressure is admirable, though it cannot be interpreted as a replacement for institutional accountability. The existence of resilience must encourage changes at the system level, rather than excuse a delay in these changes. The inclusion of the lived experiences of CHNs in strategic planning can help the health system to shift the focus of reactive patchwork to sustainable, equity-based PHC models that acknowledge and support the role of nursing as the core of public health.

5. Conclusion

The paper provides an in-depth qualitative insight into the changing nature of the community health nurses (CHNs) in providing primary healthcare (PHC) services in Tamil Nadu, India, and their ongoing issues. By examining the thematic data of 22 CHNs, the research found five broad areas that summarize their lived experience: expanded clinical and community roles, administrative workload, infrastructural shortcomings, sociocultural obstacles, and adaptive coping mechanisms as a result of resilience. Although CHNs have proven to be very flexible and dedicated to filling the gap between the formal health systems and underserved communities, their work has become more challenging and complicated without corresponding institutional support. The results highlight a major contradiction in PHC systems: the anticipation that frontline nurses can bear the operational and cultural demands without the resources, authority, or appreciation. Despite the fact that resilience and innovation allow temporary continuity of care, excessive dependence on these individual qualities is

not sustainable and may lead to the normalization of neglect in the system. The thematic structure of this study indicates the dire necessity of policy and managerial changes that would strengthen CHNs with systematic support, defined roles, combined training, and participatory governance systems. To sum up, CHNs are an essential workforce in the primary healthcare environment. Their working environment should be changed from the environment of survival and improvisation to the environment of institutional support, interprofessional respect, and evidence-based planning to maximize the potential of the workforce and provide equitable health service delivery. Only in this way can CHNs remain the moving force of people-centered and community-driven primary healthcare.

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