

Working Conditions and Career Growth of Nurses in Barak Valley, Assam: A Literature-Based Assessment

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Abstract

Nurses are the largest professional group in the healthcare sector and are instrumental in the provision of patient care, but their work environment and career development are consistently under-reported, especially in remote areas like Barak Valley in the southern part of Assam. This chapter analyzes the conditions of service and opportunities for career advancement of nurses working in the hospitals of Barak Valley from the perspective of human resource management. The discussion includes recruitment, pay, training, employee welfare, grievance redress and channels for promotion. The chapter draws on secondary data from official government workforce publications, the Indian Nursing Council, WHO country reports and an analysis of empirical literature (2016-2025) on nurses' working conditions across India. Assam, and by extension Barak Valley, is set in a national context of high regional inequality: with a nurse-population ratio of 0.97 per 1,000 persons, Assam is far behind its neighboring Northeastern states such as Arunachal Pradesh (6.81) and Manipur (5.49), and below the national average of 2.45. This secondary data analysis clearly shows a disturbing regional gap in Assam and also systemic wage differences between permanent and contractual nursing staff as documented in the general literature. This chapter highlights the need for region-specific research on the human resource conditions of nurses in Barak Valley. It proposes three objectives to guide future empirical research. The results indicate that fundamental human resource reforms, particularly in the areas of staffing standards, salary equity and clarity on promotion, are crucial to improving the working conditions of nurses and the quality of patient care in this neglected area.

Keywords: Nurses, Working Conditions, Career Growth, Human Resource Management, Barak Valley, Assam, Healthcare Workforce.

Introduction

Nurses are the single largest occupational group in the health workforce and form the backbone of any health care delivery system. Despite this centrality, the profession in India continues to suffer from a relatively low institutional status, wage differentials, limited career progression and inconsistent regulatory enforcement of standards of working conditions, especially in the private hospital sector. These challenges are amplified in the historically under-resourced periphery of the country.

One such area is Barak Valley, consisting of Cachar, Karimganj and Hailakandi districts in southern Assam. The Barak Valley, which is different from the Brahmaputra Valley in terms of geography and administration, and which forms the backbone of Assam's healthcare infrastructure planning, has

hospitals (public and private) that rely on a nursing cadre whose working conditions, wage structures and career pathways have not been the subject of much dedicated academic study. This is despite the reality that Assam as a whole has one of the lowest nurse-population ratios among comparable Indian states and this may have implications for nurses' workload, working hours and occupational stress in the region.

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Literature Review

The study draws on the analysis of empirical and institutional literature (2016-2025) on working conditions and career development of nurses in India as its evidence base. For each study the author(s), the year, the focus, the methodology and the main findings are presented.

Lakshman, S. (2016). "Nurse Turnover in India: Factors Impacting Nurses' Decisions to Leave Employment." *South Asian Journal of Human Resources Management*, 3(2), 109-128.

Study examined: Determinants of nurse turnover intention across high- and low-attrition hospitals in southern India. Methodology: Qualitative critical-incident-technique interviews with 144 nurses and hospital management personnel across eight hospitals. Findings: Limited career advancement opportunity emerged as the most significant driver of turnover intention; the study identified an "HR investment paradox" wherein hospitals under-invest in retention despite the high cost of turnover.

Seth, K. (2017). "Heterogeneity in the Background and Earnings of Nurses in India: Evidence from a Cross-Sectional Study in Gujarat." *Health Policy and Planning*, 32(9), 1285-1293.

Study examined: Wage and demographic heterogeneity among nurses across Gujarat's public and private health sectors. Methodology: Cross-sectional survey of 266 nurses with multivariate regression on monthly earnings. Findings: Permanent public-sector nurses earned 105% more than private-sector nurses with identical qualifications; within the public sector, contract nurses earned 62% less than permanent nurses performing the same duties; many private-sector nurses earned below the statutory minimum wage.

Purohit, B. & Vasava, P. (2017). "Role Stress Among Auxiliary Nurses Midwives in Gujarat, India." *BMC Health Services Research*, 17, Article 6.

Study examined: Organizational role stress among Auxiliary Nurse Midwives (ANMs) in rural government health centres. Methodology: Cross-sectional survey using the Organizational Role Stress scale. Findings: Role stagnation and role overload were the most prominent stressors, linked to unclear promotion pathways and excessive administrative workload beyond clinical duties.

Purohit, B., Lal, S. & Banopadhyay, T. (2021). "Job Satisfaction Among Public Sector Doctors and Nurses in India." *Journal of Health Management*, 23(4).

Study examined: Job satisfaction and its dimensions among public-sector doctors and nurses across three districts in two Indian states. Methodology: Structured survey of 307 healthcare providers, including 157 nurses, assessing seven satisfaction dimensions. Findings: Intrinsic motivational factors mattered more than extrinsic pay for satisfaction among public-sector nurses, but promotion opportunity and administrative support remained significant gaps.

Malik, E. & Shankar, S. (2023). "Empowering Nurses: Exploring Self-Managed Organizations in Indian Healthcare." *BMC Nursing*, 22, Article 477.

Study examined: Whether horizontal, self-managed organizational structures improve nursing experience relative to India's conventional hierarchical hospital structures. Methodology: Constructivist Grounded Theory using semi-structured interviews in homecare organizations. Findings: Rigid hierarchical structures and infrequent Departmental Promotional Committees were identified as the central barriers to nurses' career advancement; self-managed structures with role rotation and job enrichment significantly improved reported nursing experience.

Chakravarthi, I., Chaand, I. & Barria, S. (2022). "Employment and Working Conditions of Nurses in Private Hospitals in Delhi: An Exploratory Study." WHO Country Office for India / Public Health Resource Society.

Study examined: Recruitment, remuneration, promotion, welfare benefits, and harassment experiences of nurses in Delhi's private hospitals. Methodology: Qualitative case study using in-depth interviews with 31 nurses and key informants, plus desk-based document review. Findings: Fixed-term contracts renewed annually, rather than permanent employment, were the norm even after 10-15 years of service; promotions were opaque and dependent on interpersonal relations with HR rather than documented performance appraisal; private-hospital salaries were found to be as low as one-third of comparable public-sector salaries.

Sageer, A., Harsha, P.K., Kulsom, F.K. & Menon, M.G. (2024). "A Study on Job Satisfaction Among Nurses." *International Journal of Indian Psychology*, 12(4), 2138-2143.

Study examined: Job satisfaction levels among BSc and General Nursing (GNM) staff in Thrissur district, Kerala. Methodology: Survey of 60 nurses using the Index of Job Satisfaction (IJS) scale, random sampling. Findings: Poor job conditions and limited institutional resources significantly reduced job satisfaction and motivation, with implications for nurse turnover and quality of patient care.

Badhla, S.S., Matoria, R.S., Chaturvedi, D., Tyagi, A. & Pareek, S. (2025). "A Correlational Study to Assess Workplace Stress and Job Satisfaction Among Nursing Professionals in Western India." *International Journal of Indian Psychology*, 13(1), 2490-2498.

Study examined: Relationship between occupational stress and job satisfaction among nursing professionals in Rajasthan. Methodology: Correlational survey design. Findings: A high proportion of nurses reported occupational stress and job dissatisfaction, with a strong, statistically significant negative correlation between the two, underlining the need for structural improvement of working conditions.

Jahan, S.U. & Bali, S. (2024). "Human Resource Management Practices of Private and Public Hospitals of Srinagar District in Jammu and Kashmir." *Frontiers in Health Informatics*.

Study examined: Comparative HRM practices, including recruitment, training, performance management, and compensation, across private and public hospitals. Methodology: Mixed-methods design combining interviews with HR managers and surveys of healthcare personnel. Findings: Private hospitals demonstrated more dynamic and flexible HRM practices with faster recruitment and more extensive training, while public hospitals faced bureaucratic delays in recruitment and rigid, less frequent performance management, though offering greater job security.

Research Gap

The reviewed literature converges on several consistent findings at the national level: nurses across India experience wage disparity between permanent and contractual roles (Seth, 2017), limited and opaque career advancement pathways (Lakshman, 2016; Malik & Shankar, 2023), role stress linked to workload and role stagnation (Purohit & Vasava, 2017), and working conditions that vary substantially between public and private, and corporate and non-corporate, hospitals (Chakravarthi, Chaand & Barria, 2022; Jahan & Bali, 2024). However, this body of empirical research is heavily concentrated in Gujarat, Delhi, Kerala, Rajasthan, and Jammu & Kashmir. No study identified in the literature reviewed for this chapter examines nurses' working conditions or career growth specifically within Assam, and none at all address Barak Valley, a region that, as later sections of this chapter show through descriptive comparison of official data, reports a nurse-population ratio markedly below both the national average and its selected Northeastern neighbours. Given that HR practices such as recruitment methods, wage structures, and promotion mechanisms have been shown elsewhere in India to vary significantly by hospital type, ownership, and region, the near-total absence of Barak Valley-specific or even Assam-specific empirical study represents a significant gap that this chapter addresses through secondary-data analysis and identifies as a priority for future primary research.

Objectives of the Study

- **Objective 1:** To study the nurse-population ratio in Assam vis-à-vis selected North-Eastern states and national average and to assess its relevance to the staffing context of Barak Valley in secondary data.
- **Objective 2:** To identify, through a review of the wider Indian literature, the key human resource management factors, namely recruitment, remuneration, training, and promotion, that shape

nurses' working conditions and career growth, and to assess their likely relevance to Barak Valley's hospital sector.

- **Objective 3:** To evaluate wage and employment-status disparities (permanent vs. contractual) reported in the literature and their implications for nurses' career growth and retention in resource-constrained regional hospital settings such as Barak Valley.

Research Methodology

- **Nature of Study:** Descriptive and analytical, based on secondary data and a structured review of empirical literature, given the exploratory scope of this chapter.
- **Data Sources:** Official nurse-registration and workforce data released by the Ministry of Health and Family Welfare, Government of India, and the Indian Nursing Council (2025-26); WHO Country Office for India report on nurses' working conditions (2022); peer-reviewed empirical literature (2016-2025) on nurses' HR conditions in India.
- **Note on Reliability Testing:** As this chapter relies entirely on secondary, officially published data and a structured review of existing studies, rather than a primary questionnaire or multi-item scale administered by the author, tests of internal consistency such as Cronbach's Alpha are not applicable here. Cronbach's Alpha measures the internal consistency of responses across multiple Likert-type items within a researcher-administered scale; since no such scale was administered as part of this chapter, reporting a reliability coefficient would misrepresent the nature of the data used. Should this study be extended into a primary field survey of Barak Valley's nurses in future work, a structured scale with Cronbach's Alpha testing (formula below) would be appropriate at that stage.

$$\alpha = (k / (k - 1)) \times (1 - (\sum \sigma_i^2 / \sigma_x^2))$$

where k is the number of scale items, σ_i^2 is the variance of each individual item, and σ_x^2 is the variance of the total score across all items.

- **Scope:** Assam, with particular reference to Barak Valley (Cachar, Karimganj, Hailakandi districts), situated within the wider Northeast Indian and national context.
- **Statistical Tools Used:** Descriptive statistics (mean and standard deviation) are used to summarise the available state-level figures. An inferential test (such as a one-sample t-test) was considered but was not used in the final analysis, for reasons explained below. The formulas used are:

$$\text{Mean: } \bar{x} = (\sum xi) / n$$

$$\text{Standard Deviation: } s = \sqrt{[\sum (xi - \bar{x})^2 / (n - 1)]}$$

where xi is each individual state's nurse-population ratio, $\bar{x}$ is the sample mean, n is the number of states in the sample, and s is the sample standard deviation.

A note on why inferential testing was not used: The five states with individually available official figures (Assam, Arunachal Pradesh, Manipur, Sikkim, Mizoram) were not randomly selected from the Northeastern states; they are simply the states for which individual figures happened to be reported in the official data release used in this chapter. Treating them as a random statistical sample and applying a conventional inferential test, such as a one-sample t-test against the national average, would therefore not be methodologically appropriate. In addition, the national average of 2.45 is itself constructed from the same underlying national workforce and population data, rather than being an independent, externally fixed benchmark in the sense usually required for such a test. For these reasons, this chapter relies on direct descriptive comparison of the reported figures rather than inferential hypothesis testing, and any inferential claims are left to future primary research with an appropriately designed sample.

Data Presentation and Statistical Analysis

- **Nurse-Population Ratio: Assam in Regional Context**

No published secondary data disaggregated to the Barak Valley or even the Assam-district level (Cachar, Karimganj, Hailakandi) is currently available from official sources. In the absence of such region-specific data, this section uses the most granular officially published figures available, which are at the state level, to place Assam's overall nurse workforce position in regional context. Since Barak Valley's hospitals draw on and contribute to Assam's state-level nursing workforce and registration system, Assam's state-wide ratio is used here as the closest available official indicator of the staffing environment

within which Barak Valley's hospitals operate; neighbouring Northeastern states (Arunachal Pradesh, Manipur, Sikkim, Mizoram) are included solely to provide comparative regional context, not as a claim that these states are part of Barak Valley itself.

Table 1 presents the Registered Nurses and Midwives (RN & RM) per 1,000 population for select Northeastern states with individually reported figures, based on an official data release by the Ministry of Health and Family Welfare, Government of India (21 July 2026), using Indian Nursing Council registrations as of 31 December 2025 and UIDAI's projected 2026 population estimates. The figures in the table are reproduced directly from this official release; no calculation was performed by the author to arrive at the individual state ratios themselves.

Table 1: Nurse-Population Ratio, Select NE States vs. National Average (2025-26)

State	RN & RM per 1,000 population
Arunachal Pradesh	6.81
Manipur	5.49
Sikkim	4.92
Mizoram	4.91
Assam	0.97
National RN & RM average	2.45

Fig. 1: Nurse-Population Ratio in Select Northeast Indian States vs. National Average (2025-26)

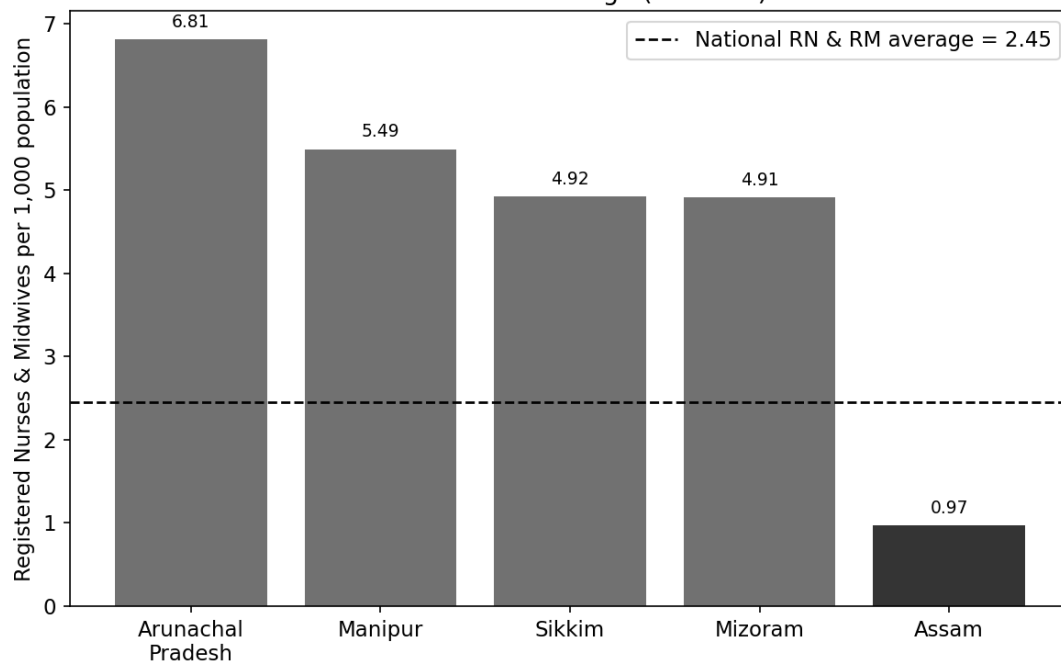


Figure 1: Nurse-Population Ratio in Select Northeast Indian States vs. National Average

Chart construction note: Figure 1 is a direct bar-chart plot of the five state-wise ratios reported in Table 1 (no transformation or calculation was applied to these values); the dashed horizontal line marks the national RN & RM average of 2.45, plotted for visual comparison against each state's bar.

Descriptive comparison shows that Assam's RN & RM ratio of 0.97 per 1,000 population is substantially below the national average of 2.45 and below the corresponding ratios reported for the four other selected Northeastern states: Arunachal Pradesh (6.81), Manipur (5.49), Sikkim (4.92), and Mizoram (4.91). The mean ratio across these four other states is 5.53 (SD = 0.89), meaning Assam occupies a markedly lower position than both the national average and its selected Northeastern

neighbours. This is a descriptive comparison of the officially reported figures rather than a formal test of statistical significance, for the methodological reasons noted above. This lower state-wide ratio provides contextual evidence relevant to Barak Valley, whose hospitals draw on and contribute to Assam's overall nursing workforce, and suggests a potentially constrained staffing environment in the region; it does not, however, directly measure workload or working conditions within Barak Valley's hospitals specifically, which would require dedicated primary data collection.

- **Wage Disparity by Employment Status**

Drawing on Seth's (2017) Gujarat-based cross-sectional wage analysis, the most detailed quantitative study of nurse earnings by employment type available in the reviewed literature, Figure 2 presents a relative earnings index across three employment categories.

Fig. 2: Wage Disparity Among Nurses by Employment Type
(Source: Seth, 2017 — Gujarat)

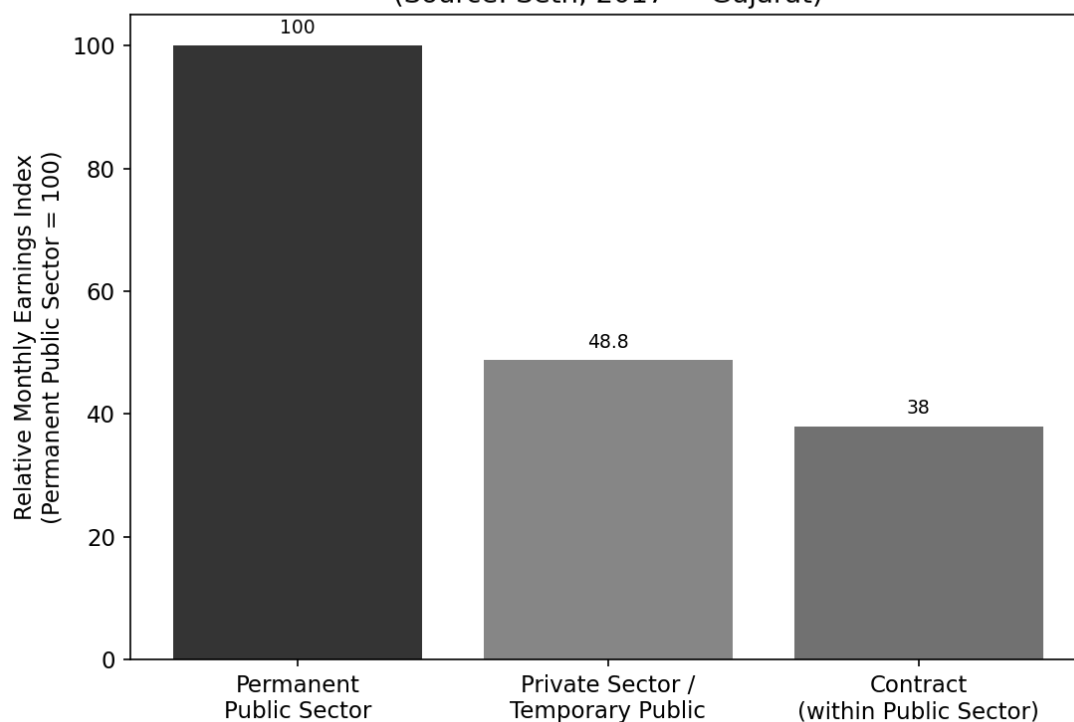


Figure 2: Illustrative Earnings Index Based on Seth (2017), Gujarat — Not Barak Valley Data

Chart construction note: Figure 2 is an earnings index, not a direct rupee-figure plot. Permanent public-sector nurses' average earnings were set as the base value of 100. The other two bars were then calculated from the percentage differences explicitly reported in Seth (2017): since permanent public-sector nurses were found to earn 105% more than private-sector/temporary nurses with identical qualifications, the private/temporary index value was computed as $100 \div 2.05 \approx 48.8$. Since contract nurses within the public sector were found to earn 62% less than permanent public-sector nurses, the contract-nurse index value was computed as $100 \times (1 - 0.62) = 38$. This indexing method converts Seth's (2017) reported percentage gaps into a single comparable scale; it does not represent new primary calculation by the author beyond this standard percentage-to-index conversion.

With permanent public-sector nurses indexed at 100, private-sector and temporary public-sector nurses earn approximately 49 on this index, illustrating Seth's (2017) finding that permanent public-sector nurses earned 105% more than private-sector nurses with identical qualifications. Contract nurses within the public sector itself earn approximately 38 on this index, illustrating the reported 62% wage gap relative to permanent public-sector counterparts performing the same duties. This figure is an illustrative

index built entirely from Seth's (2017) Gujarat-based findings and does not represent Barak Valley nurses or any data collected for this chapter. Evidence from Gujarat (Seth, 2017) and Delhi (Chakravarthi, Chaand & Barria, 2022) suggests that employment-status-related disparities in nurses' remuneration may extend beyond a single state, although the extent and magnitude of any such disparity in Barak Valley remain to be established through primary research.

Findings and Discussion

- Assam reports a nurse-population ratio (0.97 per 1,000) that occupies a markedly lower position than both the national average and the selected Northeastern states compared in this chapter, providing contextual evidence relevant to, though not a direct measurement of, nurse staffing conditions in Barak Valley's hospitals.
- The national literature consistently identifies limited, opaque, and infrequently convened promotion mechanisms, rather than a simple absence of qualified candidates, as the central obstacle to nurses' career growth (Lakshman, 2016; Malik & Shankar, 2023).
- Wage disparity by employment status (permanent vs. contractual/temporary) has been documented in more than one Indian state, with contract nurses earning up to 62% less than permanent counterparts for comparable work in the Gujarat evidence reviewed (Seth, 2017); whether a comparable gap exists in Barak Valley remains to be established through primary research.
- HR practices differ systematically by hospital ownership type: private hospitals tend toward faster recruitment and more frequent training but weaker job security, while public hospitals offer greater security but slower, more bureaucratic promotion processes (Jahan & Bali, 2024), a distinction directly relevant to Barak Valley's mixed public-private hospital landscape.
- Role stress driven by role stagnation and administrative overload, rather than clinical workload alone, was identified as a significant factor undermining job satisfaction (Purohit & Vasava, 2017; Badhla et al., 2025).

Recommendations

- Regional health authorities in Barak Valley should prioritise nurse recruitment and staffing-norm revision, given Assam's markedly low nurse-population ratio relative to its Northeastern neighbours and the national average.
- Hospitals should institute regular, transparent, appraisal-based Departmental Promotional Committees rather than ad hoc or interpersonally-mediated promotion decisions.
- Wage parity mechanisms between permanent and contractual nursing staff performing comparable duties should be introduced, in line with Supreme Court and Delhi High Court precedent on equal pay for equal work.
- Future primary research should directly survey nurses across Barak Valley's public and private hospitals to empirically test the objectives proposed in this chapter, given the near-total absence of region-specific data identified in the literature review.

Conclusion

This chapter has examined the working conditions and career growth prospects of nurses in Barak Valley's hospitals through a human resource management lens, situating the region within a wider Indian literature that consistently identifies wage disparity, opaque promotion structures, and role stress as central challenges facing the nursing workforce. Secondary data indicate that Assam has a markedly lower RN & RM population ratio than the national average and the selected Northeastern states compared in this chapter. Although these state-level figures cannot directly measure working conditions in Barak Valley, they provide important contextual evidence regarding the staffing environment within which the region's hospitals operate. In the absence of any region-specific empirical study, this chapter has proposed three objectives to guide future primary research, and recommends that regional health authorities prioritise staffing-norm reform, promotion transparency, and wage parity as immediate HR interventions. Addressing these structural gaps is essential not only for the professional wellbeing and career progression of nurses themselves, but for the quality and sustainability of healthcare delivery across Barak Valley.

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