



Transformation of Rural Health Systems in India: Evidence from Healthcare Infrastructure and Workforce Trends, 2005–2022

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Abstract

The National Rural Health Mission (NRHM), launched in 2005 and subsequently incorporated into the National Health Mission (NHM), was designed to strengthen healthcare infrastructure and human resources in rural India. This study assesses the impact of NRHM/NHM on the development of public health infrastructure and workforce availability between 2005 and 2022. The analysis is based on secondary data obtained from Rural Health Statistics (Table 3 to 12) and official government publications Statistical Handbook of India covering Sub Centres (SCs), Primary Health Centres (PHCs), Community Health Centres (CHCs), and key categories of health personnel across Indian states and union territories. The findings indicate substantial progress in the expansion and institutionalization of rural healthcare infrastructure. The number of sub-centers increased from 146,026 in 2005 to 156,101 in 2022, while PHCs rose from 23,236 to 25,140 and CHCs from 3,346 to 5,481. Among these facilities, CHCs recorded the highest growth rate (63.8%), reflecting increased emphasis on strengthening secondary-level healthcare services. Notable qualitative improvements were also observed in the physical infrastructure of health facilities. The proportion of facilities functioning from government-owned buildings increased considerably, reducing dependence on rented and temporary premises and enhancing the stability and sustainability of service delivery. Human resource development showed mixed outcomes. The availability of auxiliary nurse midwives (ANMs), doctors, pharmacists, and nursing personnel improved substantially, supported by expanded sanctioned posts and recruitment efforts. Consequently, workforce shortfalls declined in several categories. However, large numbers of sanctioned positions remained vacant, particularly in populous states. The most critical challenge was the persistent shortage of specialist doctors and radiographers at CHCs. Specialist shortfalls increased from 6,110 in 2005 to 17,519 in 2022, while radiographer shortages nearly tripled, constraining the effective delivery of referral, emergency, and diagnostic services. The study concludes that NRHM/NHM has notably strengthened the rural health infrastructure and basic healthcare workforce capacity in India. However, persistent shortages of specialized personnel, regional disparities, and recruitment and retention challenges continue to limit the effectiveness of rural healthcare delivery. Addressing these gaps is essential for achieving equitable, accessible, and quality healthcare for rural populations and for advancing the broader goals of universal health coverage in India.

Keywords: National Rural Health Mission (NRHM), National Health Mission (NHM), Rural Healthcare Infrastructure, Primary Health Care (PHC), Community Health Centres (CHC), Human Resources for Health, Public Health, India, Universal Health Coverage.

Introduction

Health is a basic human entitlement and a crucial aspect of human advancement, as well as a significant driver of socio-economic advancement (World Health Organization [WHO], 2023).

Globally, health measures such as the infant mortality rate (IMR), maternal mortality ratio (MMR), life expectancy, and institutional delivery rates are vital indicators of progress because they demonstrate the effectiveness of health systems and the general well-being of a community (United Nations Development Programme [UNDP], 2022; WHO, 2023). In India, most of the population lives in rural areas, making rural healthcare a top policy concern (World Bank, 2023). In 2004, the rural IMR was approximately 74 per 1,000 live births, significantly higher than the urban IMR of approximately 40 per 1,000 live births, showing significant disparities in healthcare service availability and utilization (Office of the Registrar General, India, 2006). During the early 2000s, only approximately 37% of rural mothers received three or more antenatal check-ups, compared to 67% among urban mothers, highlighting notable gaps in maternal healthcare utilization (International Institute for Population Sciences [IIPS] & Macro International, 2007).

Rural healthcare in India has historically encountered insufficient infrastructure, a scarcity of qualified healthcare staff, limited accessibility, and significant differences in health outcomes among states (Ministry of Health and Family Welfare [MoHFW], 2005). To tackle these issues, the Government of India initiated the National Rural Health Mission (NRHM) in 2005, concentrating on enhancing rural health infrastructure, boosting human resources, devolving health planning, and promoting community involvement through Accredited Social Health Activists (ASHAs) (MoHFW, 2005). In 2013, NRHM became part of the broader National Health Mission (NHM), which continued the focus on strengthening health systems and enhancing access to quality healthcare services (MoHFW, 2013). This study investigates whether NRHM enhanced rural health infrastructure and service availability and if these enhancements were uniform across states or led to persistent regional inequalities.

Study Objectives

The primary aim of this study was to evaluate the influence of the National Rural Health Mission (NRHM) on rural healthcare supply, particularly in

terms of infrastructure and workforce availability in India, and to propose recommendations for policymakers.

Methodology and Constraints

This study employed a descriptive research design, focusing solely on the supply side. The variables considered were rural healthcare providers such as PHC, CHC, SC, the types of operational buildings, and medical and paramedical personnel. The absolute difference was used to compare the status in 2005 with that of 2022 to assess the impact of the National Rural Health Mission on rural healthcare supply. Secondary data were presented and analyzed through simple tabulation. Two time points were purposively selected based on data availability. A major limitation was the lack of published time series data for the variables analyzed.

Theoretical and Research Gaps

From Table 1, the researcher identified several research gaps: Most studies concentrate on maternal and child health outcomes, with little focus on mental health and non-communicable diseases. While there is a strong emphasis on expanding infrastructure, the measurement of quality of care remains underexplored. Interstate variances are recognized but not systematically analyzed using panel econometric methods. Few studies integrate governance factors with outcome-based quantitative analysis. Structural determinants such as poverty, sanitation, and education are inadequately linked with assessing the impact of NRHM. Limited research explores the long-term sustainability under NHM convergence. There is a complete absence of comparison studies related to the supply side or healthcare system. Therefore, an effort was made to examine the healthcare system's supply side before and after NRHM to assist policymakers in determining their strategic vision. From Table 2, it outlines the evolution of rural health policy in India, signaling a shift from isolated disease control programs towards a comprehensive, decentralized, and outcome-focused health system.

Findings and Discussions

Table 3 depicts that the period between 2005 and 2022 witnessed notable expansion and restructuring of India's public health infrastructure, reflecting a deliberate policy shift toward strengthening rural and primary healthcare services. At the all-India level, the total number of sub-centers increased from 1,46,026 in 2005 to 1,56,101 in 2022, while primary health centers (PHCs) rose from 23,236 to 25,140 and community health centers (CHCs) from 3,346 to 5,481. The most notable growth occurred in CHCs, indicating an increased emphasis on secondary-level healthcare facilities capable of providing specialized services. This expansion aligns with the objectives of the National Rural Health Mission and its successor, the National Health Mission, which aimed to improve accessibility, quality, and referral services in rural areas.

Substantial regional variations are evident at the state level. Large and demographically notable states such as Rajasthan, Uttar Pradesh, Madhya Pradesh, and Odisha recorded considerable increases across all categories of health facilities, particularly CHCs. Rajasthan, for instance, showed a sharp rise in sub-centers and nearly a doubling of CHCs, highlighting focused investments in underserved regions. In contrast, some states such as Andhra Pradesh and Jharkhand registered a decline in the number of sub-centers, partly due to administrative reorganization and rationalization of facilities. The appearance of Telangana and Ladakh in the 2022 data reflects changes following state and union territory bifurcations, which also influenced comparative trends over time.

A major qualitative improvement during this period was observed in the pattern of sub-center buildings. In 2005, a large proportion of sub-centers functioned from rented or rent-free premises, indicating infrastructural inadequacies. By 2022, the number of sub-centers housed in government buildings increased dramatically from 63,901 to 1,07,005 at the national level, while those operating from rented buildings declined sharply. This transition signifies enhanced institutional stability, improved working conditions for health personnel, and better service delivery for the population. States such as Uttar Pradesh, Madhya Pradesh, Rajasthan,

and West Bengal made notable progress in replacing rented facilities with government-owned buildings.

The rural healthcare network expanded steadily between 2005 and 2022. Sub-centers increased by 6.9%, while PHCs grew by 8.2%. The most substantial growth occurred in community health centers (63.8%), indicating a notable strengthening of referral and specialized healthcare services in rural India. The findings suggest that health infrastructure development during the post-NRHM period was concentrated primarily at the secondary-care level through the expansion of CHCs.

Overall, the comparative analysis of 2005 and 2022 highlights a clear strengthening of India's public health system, both in quantitative expansion and qualitative improvement. While disparities among states persist, the general trend indicates a sustained commitment to building a more robust, accessible, and permanent healthcare infrastructure, especially in rural and remote areas. This transformation has laid a stronger foundation for delivering primary and secondary healthcare services and addressing public health challenges more effectively across the country.

Table 4 depicts the data on sub-centers functioning in different types of buildings for the years 2005 and 2022, which brings out a clear qualitative shift in India's primary healthcare infrastructure. At the all-India level, the total number of sub-centers increased from 1,46,026 in 2005 to 1,56,101 in 2022; however, the more notable change lies in the nature of their physical infrastructure. In 2005, 63,901 sub-centers were housed in government buildings, while a large proportion functioned from rented buildings (50,338) or rent-free premises provided by panchayats and voluntary organizations (14,295). This reflected a heavy dependence on temporary or semi-permanent arrangements, which often affected service quality and continuity.

By 2022, there was a marked improvement in this situation, with 1,07,005 sub-centers operating from government buildings at the national level. At the same time, sub-centers in rented buildings declined sharply to 26,333, indicating a conscious policy effort to reduce reliance on rented infrastructure. Although the number of sub-centers functioning in rent-free panchayats or voluntary society buildings

increased to 22,763, their share remained secondary to government-owned facilities. This transition underscores a strong emphasis on creating permanent health infrastructure, ensuring better working conditions for health workers, and improved access to services for rural populations.

State-level patterns further reinforce this trend. Major states such as Uttar Pradesh, Rajasthan, Madhya Pradesh, Maharashtra, and West Bengal recorded substantial increases in the number of sub-centers housed in government buildings by 2022. Uttar Pradesh, for instance, showed a dramatic rise in government-owned sub-centers, reflecting large-scale infrastructural investments. Rajasthan and Madhya Pradesh also made notable progress in shifting away from rented premises toward permanent structures. In contrast, several states in 2005 lacked disaggregated data on building types, but by 2022, most states reported clear categorization, suggesting improved monitoring and reporting mechanisms.

Smaller states and union territories displayed mixed but generally positive trends. Northeastern states such as Meghalaya, Mizoram, and Sikkim already had a high proportion of government buildings in 2005 and maintained or improved this status by 2022. Newly formed units like Telangana and Ladakh showed a substantial presence of government-owned sub-centers, indicating that infrastructure development accompanied administrative restructuring. Overall, the data highlight a decisive shift from temporary arrangements to permanent, government-owned health infrastructure between 2005 and 2022, reflecting India's broader commitment to strengthening the foundations of primary healthcare delivery, especially in rural and remote areas.

Table: 5. Table 5 depicts the role of CHCs as referral centers for PHCs and their vital role in delivering specialist services, maternal and child health care, and emergency services in rural and semi-urban areas. Infrastructure availability and ownership are crucial determinants of service quality and continuity. At the national level, the total number of functioning CHCs increased from 3,346 in 2005 to 5,481 in 2022, reflecting an increase of 2,135 centers (approximately 64%). This expansion

indicates a notable strengthening of secondary-level healthcare infrastructure over the 16-year period.

Several states recorded substantial growth, notably Uttar Pradesh, Rajasthan, Odisha, West Bengal, Bihar, and Tamil Nadu. Tamil Nadu exhibited a particularly sharp increase, expanding from only 35 CHCs in 2005 to 385 in 2022, highlighting a major policy-driven expansion of health facilities. A major structural change observed between 2005 and 2022 was the increasing reliance on government-owned buildings for CHC functioning.

In 2005, only 2,822 CHCs (84.3%) operated from government buildings, with a notable proportion functioning from rent-free Panchayat or voluntary buildings (254 centers). By 2022, 5,350 CHCs (97.6%) were functioning from government buildings, while the number of rent-free centers declined sharply to 88, and rented buildings accounted for only 43. This transition reflects a deliberate shift toward permanent infrastructure, thereby reducing dependence on temporary or non-government premises.

In 2005, several states such as Arunachal Pradesh, Bihar, Jharkhand, Manipur, and Jammu & Kashmir lacked complete data on building ownership, suggesting limitations in reporting or infrastructure formalization during that period. By 2022, most states reported near-complete or complete operation of CHCs in government buildings. States such as Kerala, Tamil Nadu, Odisha, West Bengal, Assam, Bihar, Telangana, and Tripura reported 100% of CHCs functioning in government-owned buildings, indicating improved administrative capacity and infrastructure development. However, a few large states such as Uttar Pradesh, Rajasthan, Gujarat, Maharashtra, and Madhya Pradesh continued to rely marginally on rented or rent-free buildings, pointing to persistent regional infrastructure gaps.

Table 6 displays the detailed comparison of primary health centers (PHCs) in India between 2005 and 2022, highlighting substantial progress in both the availability and quality of primary healthcare infrastructure over time. In 2005, India had 23,236 functioning PHCs, which formed the backbone of rural and semi-urban healthcare delivery. By 2022, this number had increased to 25,140 PHCs, reflecting sustained expansion of the public health system to

meet the needs of a growing population and rising healthcare demand.

One of the most notable differences between 2005 and 2022 lies in the nature of the infrastructure used for PHCs. In 2005, only 16,023 PHCs were housed in government buildings, while a considerable proportion functioned from rented buildings (2,826) and rent-free Panchayat or voluntary society buildings (1,687). This reliance on non-government premises indicates infrastructure gaps and temporary arrangements in many states. In contrast, by 2022, the number of PHCs operating from government buildings increased sharply to 22,705, demonstrating a clear policy focus on establishing permanent and standardized health facilities. Simultaneously, the number of PHCs functioning from rented buildings declined to 1,280, and those in rent-free premises reduced to 1,155, showing a marked reduction in dependence on temporary or shared spaces.

At the state level, a comparison between 2005 and 2022 revealed notable improvements, especially in larger and higher-population states. In 2005, states such as Uttar Pradesh, Rajasthan, Maharashtra, Madhya Pradesh, and Gujarat had a high number of PHCs but also showed a heavy dependence on rented or rent-free buildings. By 2022, many of these states reported a substantial increase in the number of PHCs housed in government buildings, indicating higher public investment and improved infrastructure planning. States such as Karnataka, Tamil Nadu, and Kerala also showed consistent growth, with a strong shift toward government-owned buildings, reflecting improved health system preparedness.

Smaller states and Union Territories present a comparatively stable picture across both years. Even in 2005, states such as Sikkim, Mizoram, Tripura, Lakshadweep, and Andaman and Nicobar Islands had most or all PHCs functioning from government buildings. This trend continued in 2022, suggesting sustained infrastructure support despite the smaller population size and geographic challenges. Additionally, administrative changes were visible by 2022, with newer Union Territories, such as Telangana and Ladakh, appearing separately in the data, reflecting improved reporting and governance structures.

Another important aspect of the 2005–2022 comparison is the data completeness and monitoring. In 2005, several states, including Bihar, Jharkhand, and Jammu & Kashmir, reported incomplete or “NA” data for building type. By 2022, reporting had become more comprehensive and systematic, indicating strengthened health information systems and better institutional capacity for monitoring healthcare infrastructure. Overall, the comparison between 2005 and 2022 shows both quantitative growth and qualitative improvement in India’s primary health care network. Although the increase in the total number of PHCs improved physical access to healthcare, the decisive shift toward government-owned buildings enhanced service reliability, safety, and long-term sustainability. Despite continued regional disparities, this period reflects a strong commitment to strengthening primary healthcare as the foundation of the public health system in India.

Table 7 shows a detailed comparison of Health Worker (Female)/ANM positions in India between 2005 and 2022, revealing important changes in workforce requirements, availability, and gaps within the public health system.

In 2005, the total required number of ANMs in India was 1,69,262, against which 1,39,798 posts were sanctioned. Of these, 1,33,194 ANMs were in position, leaving 6,640 sanctioned posts vacant and an overall shortfall of 19,311 ANMs when compared to the requirements. This indicates that even though many sanctioned posts were filled, the sanctioned strength itself was insufficient to meet population-based norms, resulting in a substantial national-level workforce deficit.

By 2022, the situation presented a mixed but evolving picture. The required number of ANMs increased to 1,81,241, reflecting population growth, expanded health services, and higher norms under programs such as the National Health Mission (NHM). Sanctioned posts rose sharply to 2,68,913, and 2,14,820 ANMs were in position. However, despite the large increase in sanctioned strength, 56,868 posts remained vacant, indicating serious challenges in recruitment, deployment and retention. Simultaneously, the overall shortfall reduced drastically to 5,177, suggesting that while vacancies within sanctioned posts increased, the gap

between requirement and actual workforce narrowed considerably compared to 2005.

Notable variations were visible across the two years at the state level. In 2005, large states such as Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, Maharashtra, and West Bengal showed major shortfalls due to either inadequate sanctioned posts or unfilled positions. Uttar Pradesh alone had a shortfall of over 6,000 ANMs in 2005. Several states, including Bihar and Jharkhand, had incomplete data, reflecting weak reporting systems at that time. In contrast, 2022 data are more comprehensive, and although sanctioned posts increased substantially in these states, large vacancies persisted. For example, Bihar had over 24,000 vacant posts in 2022, and Uttar Pradesh reported more than 6,600 vacancies, highlighting administrative and operational constraints.

Smaller states and Union Territories showed different trends. In 2005, many of them—such as Sikkim, Mizoram, Tripura, Lakshadweep, and Andaman & Nicobar Islands—either met or exceeded their requirements, often with minimal vacancies. By 2022, while requirements increased slightly, most of these regions continued to maintain relatively better staffing levels, though some, like Tripura and Mizoram, still showed shortfalls due to limited recruitment capacity. Newly formed or reorganized administrative units, such as Telangana and Ladakh, appeared only in the 2022 data, reflecting improved administrative reporting and governance structures.

Overall, the comparison between 2005 and 2022 highlights a clear expansion of the ANM workforce framework, with a sharp rise in sanctioned posts and improved alignment between requirements and availability. However, the persistence of large vacancies in 2022 indicates that sanctioning posts alone is insufficient; effective recruitment, training, and retention strategies remain critical. While the reduction in the overall shortfall suggests progress in policy planning, the growing number of vacant sanctioned posts points to ongoing systemic challenges in human resource management within India's public health system.

Table 8 shows a comparison of doctor availability at Primary Health Centres (PHCs) between 2005 and 2022, revealing notable quantitative expansion

alongside persistent workforce gaps. At the national level, the number of doctors in position increased from 20,308 in 2005 to 31,716 in 2022, reflecting sustained policy efforts to strengthen primary healthcare staffing. This increase was accompanied by a substantial rise in sanctioned posts, which expanded from 24,476 to 40,143 over the same period. However, vacancies also widened notably, from 4,282 in 2005 to 8,762 in 2022, indicating challenges in recruitment and retention despite increased approvals. Although the overall shortfall relative to requirements remained broadly similar (1,004 in 2005 and 1,084 in 2022), large inter-state disparities persisted. High-population states such as Uttar Pradesh, Bihar, Madhya Pradesh, Maharashtra, and West Bengal continued to experience considerable shortages, while states such as Kerala, Tamil Nadu, Goa, and Puducherry demonstrated relatively better staffing adequacy. The findings suggest that while numerical growth in PHC doctors has occurred, structural and regional imbalances in human resource deployment remain a critical constraint to effective primary healthcare delivery in India.

Table 9 displays a comparative assessment of specialist availability at community health centers (CHCs) between 2005 and 2022, revealing a persistent and widening gap between requirements and actual deployment. At the all-India level, the required number of specialists increased substantially from 13,384 in 2005 to 21,924 in 2022, reflecting expanded service norms and population growth. Although the number of specialists in position rose modestly from 3,550 to 4,405 during this period, the increase was insufficient to meet growing needs. Consequently, the absolute shortfall escalated sharply from 6,110 specialists in 2005 to 17,519 in 2022, underscoring a severe human resource deficit at the secondary care level. Most states exhibited chronic shortages, particularly in high-burden states such as Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, Odisha, and West Bengal, where sanctioned positions often remained unfilled. Even states with relatively better health indicators, including Kerala and Tamil Nadu, showed notable shortfalls due to limited sanctioned strength or rapid expansion of required norms. The findings highlight that, unlike improvements

observed in physical infrastructure and PHC-level staffing, specialist availability at CHCs has remained critically inadequate, posing a major constraint to the effective delivery of comprehensive referral and emergency care in rural India.

Table: 10 compares radiographer availability at community health centers (CHCs) between 2005 and 2022 and indicates a widening gap between service requirements and workforce availability. At the national level, the required number of radiographers increased from 3,346 in 2005 to 5,481 in 2022, reflecting the expansion of diagnostic services and CHC infrastructure. Although the number of sanctioned posts rose from 1,669 to 3,948 during this period, the number of radiographers in position increased only modestly from 1,337 to 2,418. Consequently, the absolute shortfall nearly tripled from 1,176 in 2005 to 3,279 in 2022. Several states, including Uttar Pradesh, Bihar, Odisha, West Bengal, Gujarat, and Rajasthan, reported severe shortages in 2022 despite increased sanctioned strength, indicating persistent challenges in recruitment and retention. Even relatively better-performing states such as Kerala and Tamil Nadu continued to experience substantial deficits due to rapid growth in required norms. The findings suggest that, similar to specialist shortages, the availability of radiographers has not kept pace with expanding diagnostic needs at CHCs, thereby limiting the effective utilization of imaging facilities and weakening referral-level service delivery in rural India.

Table: 11 attempts a comparative analysis of pharmacist availability across Indian states and union territories between 2005 and 2022 indicates expansion in sanctioned strength alongside persistent workforce deficits. At the national level, the required number of pharmacists increased from 26,582 in 2005 to 30,621 in 2022, reflecting the growth of health facilities and pharmaceutical service needs. During the same period, sanctioned posts rose markedly from 21,072 to 37,651, and the number of pharmacists in position increased from 17,708 to 28,537. Despite these improvements, vacancies expanded substantially from 3,380 in 2005 to 9,370 in 2022, while the absolute shortfall increased from 2,858 to 4,492 pharmacists. Several large states, including Bihar, Rajasthan, Uttar Pradesh, Madhya

Pradesh, and Telangana, reported pronounced shortages in 2022, indicating difficulties in filling sanctioned positions despite increased approvals. In contrast, states such as Kerala, Gujarat, Odisha, and Tamil Nadu demonstrated relatively better pharmacist availability, although even these states exhibited gaps relative to growing requirements. Overall, the findings suggest that while progress has been made in expanding pharmacist deployment, recruitment and retention challenges continue to constrain the effective functioning of drug dispensing and pharmaceutical care services within India's public healthcare system.

Table 12 depicts a comparative analysis of nursing staff availability between 2005 and 2022, revealing substantial expansion in sanctioned strength alongside continued challenges in meeting normative requirements. At the national level, the required number of nursing staff increased markedly from 46,658 in 2005 to 63,507 in 2022, reflecting the expansion of health facilities and service delivery norms. Correspondingly, sanctioned posts rose sharply from 34,061 to 106,725, and the number of nurses in position increased from 28,930 to 79,044 during the same period. Despite this notable numerical growth, vacancies expanded considerably from 5,280 in 2005 to 29,708 in 2022, indicating widening gaps between approvals and actual deployment. While the absolute shortfall relative to requirements declined substantially from 13,352 to 5,073, large inter-state disparities persisted. High-population states such as Uttar Pradesh, Bihar, Odisha, Rajasthan, and West Bengal continued to experience notable shortages, whereas states like Kerala, Gujarat, Tamil Nadu, and Karnataka demonstrated relatively better staffing levels. Overall, the findings suggest that although nursing staff availability has improved considerably over time, challenges related to distribution, recruitment, and retention continue to exist.

Conclusion

A comparative analysis of health infrastructure and human resources between 2005 and 2022 demonstrates that the National Rural Health Mission (NRHM), later subsumed under the National Health Mission (NHM), has had a substantial impact on strengthening India's rural public health

system. The number of Community Health Centres (CHCs) increased notably during this period, accompanied by a marked shift toward functioning from government-owned buildings, indicating improved infrastructure stability and long-term public investment. At the Primary Health Center (PHC) level, the availability of doctors increased considerably, reflecting expanded sanctioned strength and recruitment efforts, although vacancies continued to persist in several large and high-burden states. Despite improvements in basic medical staffing, the results revealed critical shortages of specialist doctors and diagnostic personnel at CHCs.

The shortfall of specialists—surgeons, obstetricians and gynecologists, physicians, and pediatricians—widened sharply over time, highlighting limited progress in strengthening secondary-level care. Similar patterns were observed for radiographers, where workforce growth failed to keep pace with the expanding diagnostic infrastructure. In contrast, nursing staff and pharmacists showed relatively better improvement, with substantial increases in sanctioned posts and personnel in position, although the uneven distribution and high vacancies in certain states remained a concern.

Summary: NRHM/NHM, 2005–2022

Indicator	Key Empirical Finding (2005–2022)	Policy Response Required
CHC Infrastructure & Buildings	Notable increase in number of CHCs and transition to government-owned buildings; infrastructure growth outpaced service readiness.	Freeze further CHC expansion in adequately covered areas; prioritise making existing facilities fully functional through staffing.
Specialist Doctors at CHCs	National shortfall of specialists increased sharply despite higher sanctioned posts; extreme deficits persist in high-burden states.	Introduce compulsory rural specialist service linked to postgraduate training, promotions, and licensure.
PHC Medical Officers	Modest improvement in numbers, but uneven distribution and continued shortages in large states.	Implement state-specific deployment and retention strategies instead of uniform national norms.
Nursing Staff (Staff Nurses)	Substantial increase in sanctioned and in-position nurses; however, vacancies increased and inter-state disparities widened.	Shift from sanctioning new posts to rational redistribution and retention in deficit regions.
Pharmacists at PHCs/CHCs	Improved staffing levels overall, but rising vacancies in several large states threaten medicine delivery.	Launch targeted pharmacist recruitment and retention drives in high-vacancy states.
Radiographers / Diagnostic Staff	Shortfall nearly tripled nationally; diagnostic infrastructure remains underutilised due to lack of personnel.	Classify diagnostic staff as core health system inputs with protected funding and recruitment pathways.
Sanctioned vs In-Position Posts (All Cadres)	Persistent gap between sanctioned and in-position staff; approvals not translating into actual deployment.	Make sanctioned posts conditional on time-bound recruitment with penalties for prolonged vacancies.
State-wise HR Distribution	A small group of high-population states account for a disproportionate share of national shortages.	Adopt differential policy instruments and higher incentives for chronically underperforming states.
All-India Aggregated HR Indicators	Infrastructure and approvals expanded, but functional human resource availability lagged behind.	Link central NHM financing to measurable human resource outcomes rather than inputs.

Taken together, the secondary data evidence demonstrates that NRHM/NHM delivered physical expansion without commensurate human resource functionality. Future rural health reform must

therefore be judged not by infrastructure counts or sanctioned posts, but by the actual availability of skilled personnel at the point of care.

Table 1 Review of Literature

Author & Year	Theme	Methodology	Key Findings	Limitation Identified
D.K. Taneja (2005)	Policy Design & Structural Reform under NRHM	Secondary policy review	Highlighted decentralisation, ASHA introduction, IPHS norms; identified NRHM as systemic restructuring reform	Limited empirical evidence on outcome effectiveness
Prasuna & Meenakshi (2006)	Comparative Analysis of Rural Health Missions	Critical policy comparison	NRHM more systematic than earlier initiatives; ASHA pivotal	Insufficient clarity on long-term sustainability and frontline workforce retention
Movahedi (2008)	Primary Healthcare & Health Outcomes (Cross-country)	WHO secondary data; regression trend analysis	Strong PHC linked to improved U5MR, fertility, vaccination	Limited focus on governance and institutional mechanisms
Bajpai et al. (2010)	Mid-Term Evaluation	Mixed-method (DLHS, NFHS, SRS + field interviews)	Improved maternal and child health indicators; decentralised planning strengthened	Interstate variation and weak fund utilisation
Zakir Husain (2011)	Infrastructure & Governance Constraints	Desk review + facility observations	Severe HR shortages; weak 24×7 PHC functionality	Limited analysis of quality-of-care dimension
Kavya Sharma (2012)	Capacity Building (PGDPHM)	Programme evaluation	Strengthened managerial competencies	No direct linkage to health outcome indicators
Brij Pal (2012)	Governance Reform & MDG Alignment	Descriptive policy analysis	Infrastructure expansion; ASHA deployment	Weak PRI participation; incomplete baseline data
Avani Kapur (2012)	Financial Allocation & Outcome Trends	Budget and expenditure analysis	Increased health spending improved institutional deliveries & IMR	Persistent inequities across high-focus states
Patra et al. (2013)	State-Level Implementation (Odisha)	Regression analysis + secondary data	Improvement in IMR & JSY functioning	Inadequate funding and manpower shortages
Singariya (2013)	Infrastructure & IMR Reduction	Time-series regression (1980–2011)	Notable association between ANM growth & IMR decline	Does not examine governance efficiency
Amit et al. (2013)	Childbirth Services & EAG States	Retrospective national survey comparison	Institutional deliveries doubled; IMR decline accelerated	Sustainability of improvements unclear
A.K. Sharma (2014)	Sociological Critique of NRHM	Conceptual analysis	Structural inequalities affect access & equity	Limited quantitative validation
Kumutha et al. (2014)	State Success Model (Tamil Nadu)	Secondary HMIS & CRS analysis	Effective governance improved neonatal mortality outcomes	Model replicability in weaker states not tested
Ray (2014)	Awareness & Service Utilisation	Primary rural survey	Low awareness except JSY; preference for private sector	Behavioural determinants underexplored

Desai (2016)	ASHA Performance	Interview-based field study	Improved MCH outcomes; incentive delays problematic	No macro-level linkage to IMR/MMR trends
Vellakkal et al. (2016)	Equity Outcomes	Quasi-experimental analysis	Decline in socioeconomic inequality in institutional delivery	Does not examine quality-of-care variation
Muraleedharan et al. (2017)	Community Participation & Governance	Institutional analysis	Outcomes vary by state-level accountability structures	Lacks quantitative impact assessment
Ebenezer & Amudha (2019)	IMR Trends (Southern States)	Statistical trend evaluation	Notable IMR decline post-NRHM	Baseline strength affects marginal impact
Shukla & Sheikh (2020)	ASHA & Community Mobilisation	Field-based evaluation	Frontline mobilisation improved MCH utilisation	HR sustainability and attrition risks
Apurv Soni et al. (2022)	Child Undernutrition Trends	NFHS serial cross-sectional analysis	Wasting declined; stunting reduction slower	Structural determinants insufficiently addressed
Rather (2022)	Policy Evaluation & MDGs	Conceptual policy review	Reduced IMR/MMR; improved decentralisation	Weak accountability & financing efficiency
Rajvinder Kaur et al. (2023)	Non-State Actors under NHM	Mixed-method regional study	NGOs supportive but limited direct role	Institutional coordination challenges
Rajab & Khan (2023)	Mental Health Integration	Conceptual review	Mental health poorly integrated into NRHM	Shortage of trained professionals; weak funding
Devaki Nambiar et al. (2024)	Communitization & Institutional Evolution	Historical-institutional analysis	Community mechanisms shaped by advocacy & policy windows	Need legal and financial sustainability
Hari Sankar et al. (2024)	Decentralised Governance (Kerala)	Realist framework	Strong local governance amplified NHM outcomes	Context dependency limits g

Source: Cumulative of research articles reviewed by researchers

Table 2 Policy of Rural Health Reforms in India

Year	Policy / Committee / Programme	Key Features	Relevance to Rural Health
1946	Bhore Committee	Recommended comprehensive national health service; integration of preventive and curative care; PHC-based system	Laid foundation for rural Primary Health Centres (PHCs)
1952	Community Development Programme	Multi-sectoral rural development initiative	Introduced rural health as part of community development
1952	National Family Planning Programme	Population control strategy	Strengthened maternal and reproductive health services
1962	National Malaria Eradication Programme	Vector control and malaria reduction	Strengthened disease control in rural areas
1975	Integrated Child Development Services	Nutrition, immunization, preschool education	Improved child health and nutrition in rural areas

1978	Alma-Ata Declaration	“Health for All” through Primary Health Care	Reinforced PHC approach in rural India
1983	National Health Policy 1983	Universal primary health care emphasis	Strengthened rural health infrastructure planning
1992	Child Survival and Safe Motherhood Programme	Focus on MCH services	Reduced IMR and MMR in rural regions
1997	Reproductive and Child Health Programme	Integrated maternal and child health services	Strengthened reproductive health services
2002	National Health Policy 2002	Increased public health spending target; decentralization	Provided policy base for NRHM
2005	National Rural Health Mission	Strengthening rural infrastructure, ASHA workers, decentralized planning, increased funding	Major structural reform in rural health delivery
2013	National Health Mission	Integrated NRHM and NUHM; expanded scope	Continued and broadened rural health reforms
2017	National Health Policy 2017	Universal Health Coverage, increased public health expenditure	Strengthened long-term rural health commitments
2018	Ayushman Bharat	Health and Wellness Centres; PM-JAY insurance	Expanded financial protection and primary care access in rural areas

Source: Summary of various committee and Policy Reports

Table 3 Centre wise impact of Rural Healthcare Supply

S. No.	State/UT	2005			2022		
		Sub Centre	PHCs	CHCs	Sub Centre	PHCs	CHCs
1	Andhra Pradesh	12522	1570	164	7437	1142	141
2	Arunachal Pradesh	379	85	31	337	122	57
3	Assam	5109	610	100	4663	948	197
4	Bihar	10337	1648	101	10258	1932	306
5	Chhattisgarh	3818	517	116	5115	769	166
6	Goa	172	19	5	219	23	6
7	Gujarat	7274	1070	272	9162	1477	333
8	Haryana	2433	408	72	2626	384	124
9	Himachal Pradesh	2068	439	66	2114	553	98
10	Jharkhand	4462	561	47	3848	291	171
11	Karnataka	8143	1681	254	8891	2141	182
12	Kerala	5094	911	106	5234	782	213
13	Madhya Pradesh	8874	1192	229	10189	1234	295
14	Maharashtra	10453	1780	382	10673	1839	270
15	Manipur	420	72	16	416	86	17
16	Meghalaya	401	101	24	448	121	28

17	Mizoram	366	57	9	340	62	9
18	Nagaland	394	87	21	427	131	21
19	Odisha	5927	1282	231	6688	1288	377
20	Punjab	2858	484	116	2951	422	150
21	Rajasthan	10512	1713	326	13531	2130	589
22	Sikkim	147	24	4	147	24	2
23	Tamil Nadu	8682	1380	35	8713	1422	385
24	Telangana	-	-	-	4744	636	85
25	Tripura	539	73	10	967	108	22
26	Uttarakhand	1576	225	44	1823	245	53
27	Uttar Pradesh	20521	3660	386	20778	2923	753
28	West Bengal	10356	1173	95	10357	915	348
29	A& N Islands	107	20	4	124	22	4
30	Chandigarh	13	0	1	0	0	0
31	Dadra & Nagar Haveli	38	6	1	94	12	3
32	Daman & Diu	21	3	1			
33	Delhi	41	8	0	12	5	0
34	Jammu & Kashmir	1879	334	70	2426	891	63
35	Ladakh	-	-	-	289	32	7
36	Lakshadweep	14	4	3	7	4	3
37	Puducherry	76	39	4	53	24	3
All India/ Total		146026	23236	3346	156101	25140	5481

Table 4 Sub Centres functioning in different types of buildings

S. No.	State/UT	2005				2022			
		Total Number of Sub Centers functioning	Sub Centres functioning in			Total Number of Sub Centers functioning	Sub Centres functioning in		
			Govt. Building	Rented Building	Rent Free Panchayat / Vol. Society Buildi		Govt. Building	Rented Building	Rent Free Panchayat / Vol. Society Buildi
1	Andhra Pradesh	12522	4221	8301	0	7437	2321	3851	1265
2	Arunachal Prade	379	NA	NA	NA	337	337	0	0
3	Assam	5109	2637	2472	0	4663	3881	658	124
4	Bihar	10337	NA	NA	NA	10258	2881	3472	3905
5	Chhattisgarh	3818	1458	0	2360	5115	4344	25	746
6	Goa	172	40	132	0	219	61	135	23
7	Gujarat	7274	5554	0	1720	9162	5956	126	3080
8	Haryana	2433	1499	0	934	2626	1608	265	753
9	Himachal Pradesh	2068	1262	14	792	2114	1616	23	475
10	Jharkhand	4462	NA	NA	NA	3848	2422	1219	207
11	Karnataka	8143	4460	2893	790	8891	4734	1716	2441
12	Kerala	5094	2986	1098	1010	5234	3446	499	1289
13	Madhya Pradesh	8874	3996	4878	0	10189	8525	587	1077

14	Maharashtra	10453	6527	1098	2828	10673	9285	358	1030
15	Manipur	420	216	131	73	416	335	14	67
16	Meghalaya	401	391	10	0	448	440	0	8
17	Mizoram	366	366	0	0	340	329	7	4
18	Nagaland	394	NA	NA	NA	427	371	2	54
19	Odisha	5927	2542	3385	0	6688	4951	1351	386
20	Punjab	2858	1443	0	1415	2951	1729	6	1216
21	Rajasthan	10512	8211	0	2301	13531	10709	857	1965
22	Sikkim	147	108	31	8	147	146	1	0
23	Tamil Nadu	8682	6510	2172	0	8713	6484	1737	492
24	Telangana	-	-	-	-	4744	1273	2694	777
25	Tripura	539	278	202	59	967	804	19	144
26	Uttarakhand	1576	562	1014	0	1823	1340	446	37
27	Uttar Pradesh	20521	6494	14027	0	20778	17124	3262	392
28	West Bengal	10356	1923	8433	0	10357	8338	1234	785
29	A& N Islands	107	107	0	0	124	124	0	0
30	Chandigarh	13	8	0	5	0	N App	N App	N App
31	D & N Haveli	38	38	0	0	94	76	5	13
32	Daman & Diu	21	20	1	0				
33	Delhi	41	NA	NA	NA	12	1	8	3
34	Jammu & Kashm	1879	NA	NA	NA	2426	750	1676	0
35	Ladakh	-	-	-	-	289	217	67	5
36	Lakshadweep	14	8	6	0	7	7	0	0
37	Puducherry	76	36	40	0	53	40	13	0
All India/ Total		146026	63901	50338	14295	156101	107005	26333	22763

Source: Rural Health Statistics 2021-2022

Table 5 CHC functioning in various types of buildings

S. No.	State/UT	2005				2022			
		Total Number of CHCs functioning	CHCs functioning in			Total Number of CHCs functioning	CHCs functioning in		
			Govt. Building	Rented Building	Rent Free Panchayat / Vol. Society Building		Govt. Building	Rented Building	Rent Free Panchayat / Vol. Society Building
1	Andhra Pradesh	164	164	0	0	141	141	0	0
2	Arunachal Pradesh	31	NA	NA	NA	57	57	0	0
3	Assam	100	100	0	0	197	197	0	0
4	Bihar	101	NA	NA	NA	306	306	0	0
5	Chhattisgarh	116	116	0	0	166	163	0	3
6	Goa	5	5	0	0	6	6	0	0
7	Gujarat	272	225	0	47	333	293	1	39
8	Haryana	72	72	0	0	124	119	1	4
9	Himachal Pradesh	66	65	0	1	98	96	0	2

10	Jharkhand	47	NA	NA	NA	171	171	0	0
11	Karnataka	254	207	0	47	182	182	0	0
12	Kerala	106	105	0	1	213	213	0	0
13	Madhya Pradesh	229	229	0	0	295	289	6	0
14	Maharashtra	382	290	5	87	270	263	1	6
15	Manipur	16	NA	NA	NA	17	17	0	0
16	Meghalaya	24	24	0	0	28	28	0	0
17	Mizoram	9	9	0	0	9	9	0	0
18	Nagaland	21	21	0	0	21	21	0	0
19	Odisha	231	231	0	0	377	377	0	0
20	Punjab	116	115	0	1	150	150	0	0
21	Rajasthan	326	256	0	70	589	558	3	28
22	Sikkim	4	4	0	0	2	2	0	0
23	Tamil Nadu	35	35	0	0	385	385	0	0
24	Telangana	-	-	-	-	85	85	0	0
25	Tripura	10	10	0	0	22	22	0	0
26	Uttarakhand	44	44	0	0	53	51	2	0
27	Uttar Pradesh	386	386	0	0	753	718	29	6
28	West Bengal	95	95	0	0	348	348	0	0
29	A & N Islands	4	4	0	0	4	4	0	0
30	Chandigarh	1	1	0	0	0	N App	N App	N App
31	D & N Haveli	1	1	0	0	3	3	0	0
32	Daman & Diu	1	1	0	0				
33	Delhi	0	0	0	0	0	N App	N App	N App
34	Jammu & Kashmir	70	NA	NA	NA	63	63	0	0
35	Ladakh	-	-	-	-	7	7	0	0
36	Lakshadweep	3	3	0	0	3	3	0	0
37	Puducherry	4	4	0	0	3	3	0	0
All India/ Total		3346	2822	5	254	5481	5350	43	88

Source: Rural Health Statistics 2021-2022

Table 6 Functioning of PHC in various kinds of Buildings

S. No.	State/UT	2005				2022			
		Total Number of PHCs functioning	PHCs functioning in			Total Number of PHCs functioning	PHCs functioning in		
			Govt. Building	Rented Building	Rent Free Panchayat / Vol. Society Building		Govt. Building	Rented Building	Rent Free Panchayat / Vol. Society Building
1	Andhra Pradesh	1570	1281	289	0	1142	1126	1	15
2	Arunachal Pradesh	85	NA	NA	NA	122	122	0	0
3	Assam	610	610	0	0	948	926	9	13
4	Bihar	1648	NA	NA	NA	1932	1395	537	0
5	Chhattisgarh	517	326	0	191	769	714	2	53

6	Goa	19	18	1	0	23	20	3	0
7	Gujarat	1070	663	0	407	1477	1189	16	272
8	Haryana	408	288	0	120	384	310	4	70
9	Himachal Pradesh	439	312	46	81	553	450	23	80
11	Jharkhand	561	NA	NA	NA	291	232	9	50
12	Karnataka	1681	1439	92	150	2141	1859	50	232
13	Kerala	911	837	34	40	782	764	11	7
14	Madhya Pradesh	1192	746	446	0	1234	1140	94	0
15	Maharashtra	1780	1417	7	356	1839	1758	15	66
16	Manipur	72	NA	NA	NA	86	81	0	5
17	Meghalaya	101	101	0	0	121	120	0	1
18	Mizoram	57	57	0	0	62	62	0	0
19	Nagaland	87	87	0	0	131	127	0	4
20	Odisha	1282	1282	0	0	1288	1259	0	29
21	Punjab	484	409	0	75	422	366	0	56
22	Rajasthan	1713	1446	0	267	2130	1964	41	125
23	Sikkim	24	24	0	0	24	24	0	0
24	Tamil Nadu	1380	1340	40	0	1422	1392	0	30
25	Telangana	-	-	-	-	636	636	0	0
26	Tripura	73	73	0	0	108	108	0	0
27	Uttarakhand	225	182	43	0	245	224	9	12
28	Uttar Pradesh	3660	1835	1825	0	2923	2677	212	34
29	West Bengal	1173	1173	0	0	915	913	1	1
30	A& N Islands	20	20	0	0	22	22	0	0
31	Chandigarh	0	0	0	0	0	N App	N App	N App
32	D & N Haveli	6	6	0	0	12	12	0	0
33	Daman & Diu	3	3	0	0				
34	Delhi	8	8	0	0	5	5	0	0
35	Jammu & Kashmir	334	NA	NA	NA	891	648	243	0
36	Ladakh	-	-	-	-	32	32	0	0
37	Lakshadweep	4	4	0	0	4	4	0	0
38	Puducherry	39	36	3	0	24	24	0	0
All India/ Total		23236	16023	2826	1687	25140	22705	1280	1155

Source: Rural Health Statistics 2021-2022

Table 7 Comparison of Health Worker (Female)/ANM positions in India between 2005 and 2022

S. No.	State/UT	2005					2022				
		Health Worker [Female]/ANM					Health Worker [Female]/ANM				
		Required I	Sanctioned	In Position	Vacant	Shortfall	Required I	Sanctioned	In Position	Vacant	Shortfall
		[R]	[S]	[P]	[S-P]	[R-P]	[R]	[S]	[P]	[S-P]	[R-P]
1	Andhra Pradesh	14092	14077	13740	337	352	8579	16255	14889	1366	*
2	Arunachal Pradesh	464	454	454	0	10	459	486	596	*	*
3	Assam	5719	5719	5719	0	0	5611	9094	8650	444	*
4	Bihar	11985	NA	NA	NA	NA	12190	45109	20403	24706	*
5	Chhattisgarh	4335	4335	3667	668	668	5884	7058	8273	*	*
6	Goa	191	196	179	17	12	242	447	390	57	*
7	Gujarat	8344	7274	6508	766	1836	10639	11618	10023	1595	616
8	Haryana	2841	2841	2818	23	23	3010	5272	4428	844	*
9	Himachal Pradesh	2507	2210	1790	420	717	2667	2215	1414	801	1253
10	Jharkhand	5023	NA	NA	NA	NA	4139	8278	5185	3093	*
11	Karnataka	9824	8756	8544	212	1280	11032	14240	11394	2846	*
12	Kerala	6005	5675	5565	110	440	6016	6730	5895	835	121
13	Madhya Pradesh	10066	10027	9345	682	721	11423	12867	11981	886	*
14	Maharashtra	12233	11032	10699	333	1534	12512	17867	14486	3381	*
15	Manipur	492	463	463	0	29	502	1140	1006	134	*
16	Meghalaya	502	667	608	59	*	569	1074	1122	*	*
17	Mizoram	423	366	345	21	78	402	NA	324	NA	78
18	Nagaland	481	342	342	0	139	558	647	1008	*	*
19	Odisha	7209	7121	6768	353	441	7976	8498	7579	919	397
20	Punjab	3342	2704	2602	102	740	3373	4538	3371	1167	2
21	Rajasthan	12225	11425	11425	0	800	15661	17941	15454	2487	207
22	Sikkim	171	267	260	7	*	171	296	318	*	*
23	Tamil Nadu	10062	10366	10112	254	*	10135	11412	10859	553	*
24	Telangana	-	-	-	-	-	5380	8996	7943	1053	*
25	Tripura	612	525	561	*	51	1075	NA	695	NA	380
26	Uttarakhand	1801	1660	1486	174	315	2068	2274	1816	458	252
27	Uttar Pradesh	24181	18577	18146	431	6035	23701	28448	21830	6618	1871
28	West Bengal	11529	10356	9070	1286	2459	11272	20378	18159	2219	*
29	A & N Islands	127	127	127	0	0	146	194	185	9	*
30	Chandigarh	13	13	13	0	0	0	N App	N App	N App	N App
31	D & N Haveli	44	38	38	0	6	106	154	154	0	*
32	Daman & Diu	24	24	24	0	0					

33	Delhi	49	60	51	9	*	17	37	35	2	*
34	Jammu & Kashmir	2213	1964	1588	376	625	3317	4726	4418	308	*
35	Ladakh	-	-	-	-	-	321	478	394	84	*
36	Lakshadweep	18	22	22	0	*	11	26	24	2	*
37	Puducherry	115	115	115	0	0	77	120	119	1	*
All India2/ Total		169262	139798	133194	6640	19311	181241	268913	214820	56868	5177

Source: Rural Health Statistics 2021-2022

**Table 8 Comparison of doctor availability at Primary Health Centres (PHCs)
between 2005 and 2022**

S. No.	State/UT	2005					2022				
		Doctors at PHCs					Doctors at PHCs				
		Required I	Sanctioned	In Position	Vacant	Shortfall	Required I	Sanctioned	In Position	Vacant	Shortfall
		[R]	[S]	[P]	[S-P]	[R-P]	[R]	[S]	[P]	[S-P]	[R-P]
1	Andhra Pradesh	1570	2497	2137	360	*	1142	2146	2001	145	*
2	Arunachal Pradesh	85	78	78	0	7	122	114	135	*	*
3	Assam	610	NA	NA	NA	NA	948	1677	1383	294	*
4	Bihar	1648	NA	NA	NA	NA	1932	4317	2902	1415	*
5	Chhattisgarh	517	1034	628	406	*	769	874	498	376	271
6	Goa	19	56	53	3	*	23	96	87	9	*
7	Gujarat	1070	1070	848	222	222	1477	1903	1679	224	*
8	Haryana	408	862	862	0	*	384	812	655	157	*
9	Himachal Pradesh	439	354	467	*	*	553	618	517	101	36
10	Jharkhand	561	NA	NA	NA	NA	291	291	278	13	13
11	Karnataka	1681	2237	2041	196	*	2141	2406	1801	605	340
12	Kerala	911	1345	949	396	*	782	1500	1431	69	*
13	Madhya Pradesh	1192	1278	839	439	353	1234	1887	1307	580	*
14	Maharashtra	1780	3157	3158	*	*	1839	4021	3252	769	*
15	Manipur	72	95	67	28	5	86	337	308	29	*
16	Meghalaya	101	127	123	4	*	121	175	162	13	*
17	Mizoram	57	57	35	22	22	62	0	58	*	4
18	Nagaland	87	53	53	0	34	131	97	123	*	8
19	Odisha	1282	1353	1353	0	*	1288	1331	926	405	362
20	Punjab	484	646	373	273	111	422	610	401	209	21
21	Rajasthan	1713	1517	1506	11	207	2130	2463	2101	362	29
22	Sikkim	24	48	48	0	*	24	39	38	1	*
23	Tamil Nadu	1380	3806	2257	1549	*	1422	2991	2725	266	*
24	Telangana	-	-	-	-	-	636	1254	1213	41	*

25	Tripura	73	161	152	9	*	108	NA	230	NA	*
26	Uttarakhand	225	272	182	90	43	245	416	301	115	*
27	Uttar Pradesh	3660	NA	NA	NA	NA	2923	4448	3093	1355	*
28	West Bengal	1173	1560	1319	241	*	915	1533	955	578	*
29	A & N Islands	20	36	36	0	*	22	53	50	3	*
30	Chandigarh	0	0	0	0	0	0	N App	NApp	NApp	N App
31	D & N Haveli	6	6	6	0	0	12	22	22	0	*
32	Daman & Diu	3	5	5	0	*					
33	Delhi	8	31	23	8	*	5	19	16	3	*
34	Jammu & Kashmir	334	668	643	25	*	891	1542	965	577	*
35	Ladakh	-	-	-	-	-	32	93	45	48	*
36	Lakshadweep	4	4	4	0	0	4	13	13	0	*
37	Puducherry	39	63	63	0	*	24	45	45	0	*
All India Total		23236	24476	20308	4282	1004	25140	40143	31716	8762	1084

Source: Rural Health Statistics 2021-2022

Table 9 Comparative of specialist at Community Health Centres (CHCs) between 2005 and 2022

S. No.	State/UT	2005					2022				
		[Surgeons, OB&GY, Physicians & Paediatricians]					[Surgeons, OB&GY, Physicians & Paediatricians]				
		Required I	Sanctioned	In Position	Vacant	Shortfall	Required I	Sanctioned	In Position	Vacant	Shortfall
		[R]	[S]	[P]	[S-P]	[R-P]	[R]	[S]	[P]	[S-P]	[R-P]
1	Andhra Pradesh	656	406	224	182	432	564	473	322	151	242
2	Arunachal Pradesh	124	4	0	4	124	228	17	19	*	209
3	Assam	400	NA	NA	NA	NA	788	300	174	126	614
4	Bihar	404	NA	NA	NA	NA	1224	836	106	730	1118
5	Chhattisgarh	464	464	18	446	446	664	606	104	502	560
6	Goa	20	14	7	7	13	24	16	5	11	19
7	Gujarat	1088	321	92	229	996	1332	366	135	231	1197
8	Haryana	288	288	49	239	239	496	0	22	*	474
9	Himachal Pradesh	264	NA	NA	NA	NA	392	NA	8	NA	384
10	Jharkhand	188	NA	NA	NA	NA	684	684	186	498	498
11	Karnataka	1016	843	691	152	325	728	462	219	243	509
12	Kerala	424	424	82	342	342	852	54	54	0	798
13	Madhya Pradesh	916	253	49	204	867	1180	945	43	902	1137
14	Maharashtra	1528	1987	1099	888	429	1080	483	337	146	743

15	Manipur	64	40	19	21	45	68	26	15	11	53
16	Meghalaya	96	1	1	0	95	112	3	3	0	109
17	Mizoram	36	0	0	0	36	36	0	0	0	36
18	Nagaland	84	0	0	0	84	84	10	7	3	77
19	Odisha	924	496	NA	NA	NA	1508	1511	309	1202	1199
20	Punjab	464	393	226	167	238	600	562	153	409	447
21	Rajasthan	1304	811	581	230	723	2356	1473	479	994	1877
22	Sikkim	16	16	4	12	12	8	24	0	24	8
23	Tamil Nadu	140	48	48	0	92	1540	326	251	75	1289
24	Telangana	-	-	-	-	-	340	625	258	367	82
25	Tripura	40	2	2	0	38	88	NA	4	NA	84
26	Uttarakhand	176	163	71	92	105	212	236	52	184	160
27	Uttar Pradesh	1544	NA	NA	NA	NA	3012	2902	872	2030	2140
28	West Bengal	380	310	133	177	247	1392	328	67	261	1325
29	A & N Islands	16	12	0	12	16	16	16	4	12	12
30	Chandigarh	4	4	4	0	0	0	N App	N App	N App	N App
31	D & N Haveli	4	2	2	0	2	12	0	0	0	12
32	Daman & Diu	4	0	0	0	4					
33	Delhi	0	0	0	0	0	0	N App	N App	N App	N App
34	Jammu & Kashmir	280	276	142	134	138	252	308	181	127	71
35	Ladakh	-	-	-	-	-	28	36	8	28	20
36	Lakshadweep	12	0	0	0	12	12	8	8	0	4
37	Puducherry	16	4	6	*	10	12	1	0	1	12
All India Total		13384	7582	3550	3538	6110	21924	13637	4405	9268	17519

Source: Rural Health Statistics 2021-2022

**Table 10 Comparison of radiographer at Community Health Centres (CHCs)
between 2005 and 2022**

S. No.	State/UT	2005					2022				
		Radiographer					Radiographer				
		Required1	Sanctioned	In Position	Vacant	Shortfall	Required1	Sanctioned	In Position	Vacant	Shortfall
		[R]	[S]	[P]	[S-P]	[R-P]	[R]	[S]	[P]	[S-P]	[R-P]
1	Andhra Pradesh	164	161	140	21	24	141	112	48	64	93
2	Arunachal Pradesh	31	22	22	0	9	57	12	16	*	41
3	Assam	100	NA	NA	NA	NA	197	138	122	16	75
4	Bihar	101	NA	NA	NA	NA	306	0	0	0	306
5	Chhattisgarh	116	116	95	21	21	166	174	153	21	13
6	Goa	5	7	7	0	*	6	6	5	1	1
7	Gujarat	272	271	113	158	159	333	26	8	18	325
8	Haryana	72	118	106	12	*	124	144	30	114	94

9	Himachal Pradesh	66	66	54	12	12	98	60	37	23	61
10	Jharkhand	47	NA	NA	NA	NA	171	171	124	47	47
11	Karnataka	254	51	30	21	224	182	140	114	26	68
12	Kerala	106	17	16	1	90	213	17	12	5	201
13	Madhya Pradesh	229	NA	NA	NA	NA	295	295	191	104	104
14	Maharashtra	382	180	159	21	223	270	142	107	35	163
15	Manipur	16	5	5	0	11	17	11	7	4	10
16	Meghalaya	24	28	26	2	*	28	17	21	*	7
17	Mizoram	9	NA	NA	NA	NA	9	0	7	*	2
18	Nagaland	21	11	11	0	10	21	4	5	*	16
19	Odisha	231	26	8	18	223	377	158	70	88	307
20	Punjab	116	80	57	23	59	150	166	155	11	*
21	Rajasthan	326	269	269	0	57	589	700	329	371	260
22	Sikkim	4	8	5	3	*	2	4	4	0	*
23	Tamil Nadu	35	28	28	0	7	385	267	212	55	173
24	Telangana	-	-	-	-	-	85	99	44	55	41
25	Tripura	10	4	4	0	6	22	NA	12	NA	10
26	Uttarakhand	44	40	30	10	14	53	37	16	21	37
27	Uttar Pradesh	386	NA	NA	NA	NA	753	508	185	323	568
28	West Bengal	95	86	77	9	18	348	178	94	84	254
29	A& N Islands	4	4	4	0	0	4	4	4	0	0
30	Chandigarh	1	1	1	0	0	0	N App	N App	N App	N App
31	D & N Haveli	1	1	1	0	0	3	2	1	1	2
32	Daman & Diu	1	1	1	0	0					
33	Delhi	0	0	0	0	0	0	N App	N Ap	N Ap	N App
34	Jammu & Kashmir	70	61	61	0	9	63	320	251	69	*
35	Ladakh	-	-	-	-	-	7	27	26	1	*
36	Lakshadweep	3	3	3	0	0	3	6	5	1	*
37	Puducherry	4	4	4	0	0	3	3	3	0	0
All India Total		3346	1669	1337	332	1176	5481	3948	2418	1558	3279

Source: Rural Health Statistics 2021-2022

Table 11 Comparison of Pharmacist availability in rural healthcare supply between 2005 & 2022

S. No.	State/UT	2005					2022				
		Pharmacist					Pharmacist				
		Required	Sanctioned	In Position	Vacant	Shortfall	Required	Sanctioned	In Position	Vacant	Shortfall
		[R]	[S]	[P]	[S-P]	[R-P]	[R]	[S]	[P]	[S-P]	[R-P]
1	Andhra Pradesh	1734	1704	1637	67	97	1283	1421	1205	216	78

2	Arunachal Pradesh	116	31	31	0	85	179	84	101	*	78
3	Assam	710	NA	NA	NA	NA	1145	1402	1350	52	*
4	Bihar	1749	NA	NA	NA	NA	2238	4126	1077	3049	1161
5	Chhattisgarh	633	749	467	282	166	935	1061	818	243	117
6	Goa	24	28	27	1	*	29	60	56	4	*
7	Gujarat	1342	1413	807	606	535	1810	1810	1626	184	184
8	Haryana	480	480	464	16	16	508	667	388	279	120
9	Himachal Pradesh	505	505	375	130	130	651	694	529	165	122
10	Jharkhand	608	NA	NA	NA	NA	462	462	225	237	237
11	Karnataka	1935	1935	1880	55	55	2323	3935	2793	1142	*
12	Kerala	1017	1038	858	180	159	995	1200	1166	34	*
13	Madhya Pradesh	1421	1419	216	1203	1205	1529	1529	1437	92	92
14	Maharashtra	2162	2256	2055	201	107	2109	2213	1916	297	193
15	Manipur	88	111	88	23	0	103	166	166	0	*
16	Meghalaya	125	145	121	24	4	149	165	178	*	*
17	Mizoram	66	69	35	34	31	71	0	36	*	35
18	Nagaland	108	85	85	0	23	152	105	124	*	28
19	Odisha	1513	2040	1984	56	*	1665	2045	1701	344	*
20	Punjab	600	854	811	43	*	572	923	730	193	*
21	Rajasthan	2039	2375	2355	20	*	2719	2336	1193	1143	1526
22	Sikkim	28	28	3	25	25	26	24	21	3	5
23	Tamil Nadu	1415	1440	1252	188	163	1807	1877	1572	305	235
24	Telangana	-	-	-	-	-	721	675	442	233	279
25	Tripura	83	47	63	*	20	130	NA	166	NA	*
26	Uttarakhand	269	293	281	12	*	298	341	310	31	*
27	Uttar Pradesh	4046	NA	NA	NA	NA	3676	5296	4655	641	*
28	West Bengal	1268	1438	1231	207	37	1263	1648	1412	236	*
29	A& N Islands	24	28	28	0	*	26	32	34	*	*
30	Chandigarh	1	6	6	0	*	0	N App	N App	N Ap	N Ap
31	D & N Haveli	7	8	8	0	*	15	21	21	0	*
32	Daman & Diu	4	4	4	0	0					
33	Delhi	8	13	11	2	*	5	4	3	1	2
34	Jammu & Kashmir	404	456	456	0	*	954	1203	971	232	*
35	Ladakh	-	-	-	-	-	39	82	71	11	*
36	Lakshadweep	7	11	11	0	*	7	14	11	3	*
37	Puducherry	43	63	58	5	*	27	30	33	*	*
All India Total		26582	21072	17708	3380	2858	30621	37651	28537	9370	4492

Source: Rural Health Statistics 2021-2022

Table 12 Comparison of Nursing Staff status between 2005 and 2022

S. No.	State/UT	Nursing Staff -2005					Nursing Staff-2022				
		Required1	Sanctioned	In Position	Vacant	Shortfall	Required1	Sanctioned	In Position	Vacant	Shortfall
		[R]	[S]	[P]	[S-P]	[R-P]	[R]	[S]	[P]	[S-P]	[R-P]
1	Andhra Pradesh	2718	2309	2053	256	665	2129	4466	3770	696	*
2	Arunachal Prad	302	105	105	0	197	521	538	681	*	*
3	Assam	1310	NA	NA	NA	NA	2327	3864	3403	461	*
4	Bihar	2355	NA	NA	NA	NA	4074	15864	4956	10908	*
5	Chhattisgarh	1329	601	540	61	789	1931	3847	3500	347	*
6	Goa	54	129	119	10	*	65	265	260	5	*
7	Gujarat	2974	2769	1453	1316	1521	3808	4310	3799	511	9
8	Haryana	912	1530	1160	370	*	1252	3437	2438	999	*
9	Himachal Pr	901	1540	1259	281	*	1239	743	452	291	787
10	Jharkhand	890	NA	NA	NA	NA	1488	462	1205	*	283
11	Karnataka	3459	3229	3100	129	359	3415	4773	4133	640	*
12	Kerala	1653	2811	2578	233	*	2273	3090	2826	264	*
13	Madhya Prad	2795	908	902	6	1893	3299	3594	3418	176	*
14	Maharashtra	4454	2766	2575	191	1879	3729	4218	3298	920	431
15	Manipur	184	83	62	21	122	205	465	424	41	*
16	Meghalaya	269	355	263	92	6	317	718	782	*	*
17	Mizoram	120	270	122	148	*	125	0	230	*	*
18	Nagaland	234	520	520	0	*	278	329	398	*	*
19	Odisha	2899	657	637	20	2262	3927	4469	2279	2190	1648
20	Punjab	1296	697	640	57	656	1472	2899	1912	987	*
21	Rajasthan	3995	9891	8425	1466	*	6253	11286	9239	2047	*
22	Sikkim	52	45	45	0	7	38	124	128	*	*
23	Tamil Nadu	1625	167	167	0	1458	4117	8733	7811	922	*
24	Telangana	-	-	-	-	-	1231	2412	2076	336	*
25	Tripura	143	125	274	*	*	262	NA	759	NA	*
26	Uttarakhand	533	145	129	16	404	616	631	383	248	233
27	Uttar Pradesh	6362	NA	NA	NA	NA	8194	11251	6512	4739	1682
28	West Bengal	1838	1901	1479	422	359	3351	7597	5909	1688	*
29	A& N Islands	48	108	108	0	*	50	152	151	1	*
30	Chandigarh	7	13	13	0	*	0	N App	N App	N App	N A
31	D & N Haveli	13	12	10	2	3	33	78	78	0	*
32	Daman & Diu	10	12	12	0	*					
33	Delhi	8	10	4	6	4	5	6	6	0	*

34	Jammu & Kas	824	244	68	176	756	1332	1779	1525	254	*
35	Ladakh	-	-	-	-	-	81	134	109	25	*
36	Lakshadwe	25	13	13	0	12	25	58	46	12	*
37	Puducherry	67	96	95	1	*	45	133	148	*	*
All India2/ Total		46658	34061	28930	5280	13352	63507	106725	79044	29708	5073

Source: Rural Health Statistics 2021-2022

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