

Maternal Healthcare Access in the Remote Regions of Northeast India: A Case Study of Rural Mizoram

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Abstract

Maternal health continues to be a crucial determinant of social development and the effectiveness of the health system in physically remote and socioculturally varied areas such as Northeast India. Mizoram still has structural and access-related issues in maternity healthcare, especially in rural and hilly areas, despite comparatively excellent social indices. With an emphasis on infrastructure, rural-urban differences, and the efficacy of significant maternal health programs, this policy-oriented study investigates maternal healthcare access in Mizoram. Schemes including JSY, JSSK, PMSMA, SUMAN, and the state-led Project BLOOM are analyzed using secondary data from NFHS, government reports, and program papers. The study adds to the scant regional health policy literature on Northeast India by highlighting important discrepancies between the intention of the legislation and its actual implementation on the ground and providing context-specific suggestions to improve the delivery of maternal healthcare in rural Mizoram.

Keywords: *Maternal health, Mizoram, rural healthcare, policy analysis, Northeast India*

Introduction

Maternal health is widely recognized as a fundamental component of both public health and human development. Women's health during pregnancy, childbirth, and the postnatal period, with an emphasis on access to high-quality, affordable care at every stage of this continuum, is how the World Health Organization defines it (WHO, 2016). Since the **National Rural Health Mission and the National Health Mission** were established in 2005, **maternal health** has been a primary policy priority in India.

Although maternal mortality has declined overall, regional variations are still discernible. In Northeast India, where there is limited infrastructure and difficult terrain, providing maternal healthcare is a persistent problem. **Mizoram**, a hilly and predominantly rural state, is a useful

case study for assessing the success of national maternal health programs in remote regions. This study evaluates how well key maternal health programs handle access barriers, assesses the condition of Mizoram's maternal health infrastructure, and identifies policy reforms needed to improve maternal healthcare outcomes in rural areas.

Review of Literature

Structural Determinants and Healthcare Utilisation

Numerous research studies have shown that **socioeconomic** and **educational** variables significantly impact maternal health service utilization. Research from all around the nation demonstrates that access to prenatal care, competent delivery attendance, and postnatal care are significantly influenced by maternal education, household wealth, and health awareness, with persistent inequalities in rural areas (Tripathi et al., 2024). Only 43.5% of rural women receive the full range of maternity and newborn care, making the northeastern states stand out as hotspots for low usage. These regional disparities are relevant to Mizoram. Socioeconomic inequities persist across the **NRHM's maternity care continuum**, indicating that national policies have not fully ensured equitable access (Gandhi, Dash, & Babu, 2022).

Social Determinants and Barriers in Rural India

Social factors, such as **women's autonomy**, **caste**, **religion**, and **rural domicile**, have a major impact on maternal health outcomes and service utilization. A scoping analysis by Gupta et al. (2020) shows that rural living remains a major barrier to emergency and preventative treatment and also shows how education, affluence, gender norms, and facility accessibility affect maternal mortality and care uptake. Similar to this, Rani, Trivedi, and Dwivedi (2025) note that despite the services' seeming accessibility, patriarchal norms, limited autonomy, remote location, and health system flaws impede prenatal and postnatal care in rural India.

Geographic Disparities in Maternal Healthcare

Maternal healthcare utilization differs by region, as is widely documented. Northeastern states including Nagaland, Assam, and Meghalaya, are low-utilization **"cold spots"** for the whole range of maternal care, indicating regional problems similar to those in Mizoram (Tripathi et al., 2024). This is supported by research showing how sociocultural norms and access constraints

affect maternal health uptake in tribal and hard-to-reach places like Odisha. According to a thorough analysis by Siva et al. (2025), systemic health system shortcomings and cultural barriers cause numerous disadvantages for tribal and remote groups.

Regional and Northeastern Perspectives

Empirical research on Mizoram is limited, but regional studies indicate that Northeast India faces significant geographic barriers to maternal healthcare access. Nagaland, for instance, records some of the lowest utilisation rates of essential maternal services due to **difficult terrain, weak infrastructure**, and **limited service availability** (Rudra, 2018). Additionally, community-level factors such as education, income, and parity strongly influence care utilisation. Evidence from urban slums in Northeast India shows that maternal healthcare use is closely associated with mothers' age, education, and socioeconomic status, underscoring the multidimensional nature of access in disadvantaged settings (Chakraborty et al., 2024).

Policy Impact Studies

National-level evaluations provide evidence of the impact of maternal health policies. Pro-poor maternal health policies introduced since 2005 in India have been linked with substantial reductions in maternal mortality and improvements in key outcomes, although benefits vary across states and socioeconomic groups. For example, **BMC Pregnancy and Childbirth** studies report that targeted pro-poor interventions have contributed to notable **declines in mortality** but also reveal **supply-side challenges** that may limit full equity (Pro Poor Policies et al., 2021).

Maternal Health Policy in Context of Mizoram

Maternal health policy in Mizoram operates within the broader framework of national health initiatives while adapting to state-specific contexts. The state implements centrally sponsored schemes under the NHM, supplemented by regionally tailored interventions. **High literacy rates** and **strong community networks** offer advantages; however, geographical isolation, limited specialist availability, and transportation barriers complicate service delivery.

Mizoram's maternal health strategy prioritises institutional deliveries, antenatal care (ANC) coverage, and financial risk protection. According to NFHS-5 (2019-21), institutional deliveries in Mizoram exceed 90 percent, reflecting policy success in encouraging **facility-based childbirth** (International Institute for Population Sciences [IIPS] & ICF, 2021). However, aggregate figures often mask **intra-state inequalities**, particularly between urban centres like Aizawl and remote rural villages.

Maternal Health Facilities and Infrastructure in Mizoram

The maternal healthcare infrastructure in Mizoram consists of sub-centres, **Primary Health Centres (PHCs)**, **Community Health Centres (CHCs)**, **district hospitals**, and a limited number of referral hospitals. While the density of health facilities appears adequate on paper, functional capacity remains uneven. Rural PHCs often face shortages of skilled birth attendants,

obstetricians, and diagnostic facilities. Emergency obstetric care is largely concentrated in district hospitals, necessitating long-distance travel for rural women during childbirth. **Poor road connectivity** and **landslide-prone** terrain further exacerbate delays in accessing timely care, increasing obstetric risks.

Rural-Urban Disparities in Maternal Healthcare Access

Indicator	Rural Mizoram	Urban Mizoram	Key Disparity/Policy Implications
Access to Health Facilities	Limited PHCs and sub-centre's: long travel distances to CHC's and district hospitals.	Proximity to district hospitals and referral centres	Distance and Terrain delay timely care in rural areas
Institutional Delivery	High but lower than urban; dependence on government facilities	Very high; access to both public and private hospitals	Institutional delivery targets met, but quality differs
Antenatal Care (4+ ANC visits)	Lower coverage; irregular visits due to travel and staffing issues	Higher coverage; regular ANC and specialist access	PMSMA reach weaker in rural areas
Availability of Specialists	Severe shortage of obstetricians and radiologists	Specialists available in district/urban hospitals	Referral burden increases rural maternal risk
Emergency Obstetric Care	Limited; delayed referrals during complications	Readily available C-section and blood banks	Transport and referral gaps affect outcomes
Transportation Facilities (JSSK)	Inconsistent ambulance availability; difficult terrain	Better Ambulance access and road connectivity	JSSK Transportation facilities underutilised in rural areas
Unreimbursed expenditure	Higher indirect costs (travel, food, lodging)	Lower due to facility proximity	JSSK goal of zero of no funds from personal expense not fully achieved rurally
Awareness of Maternal Schemes	Moderate to low; relies on ASHA/ANM	Higher awareness via hospitals and media	Information asymmetry persists
Role of Community Health Workers	Crucial but overburdened	Supportive but less central	Strengthening rural ASH support is essential

Table 1.1- Inequalities in Maternal Healthcare Access Across Rural and Urban Settings

SCHEMES FOR MATERNAL HEALTH IN INDIA

1. Janani Suraksha Yojana

It was first released on April 12, 2005. It is part of the National Rural Health Mission. It is an adaptation of the National Maternity Benefit Scheme. Its primary goal is to reduce the **number of deaths** that occur during childbirth. A significant number of women die during childbirth. This scheme was introduced to help mothers during and after pregnancy, as well as to allow for safe delivery, in order to reduce maternal and infant mortality. This scheme gives cash to women who fall into the **Below Poverty Line** and **ST categories**. It also includes **ASHAs (Accredited Social Health Activists)**, who are female volunteers who work to ensure the safe delivery of pregnant women.

2. Janani Shishu Suraksha Karyakaram

It was first introduced on June 1, 2011. Its main goal is to provide **free and cashless delivery** as well as free drugs to pregnant women. This scheme also covers newborn babies who are sick for the first 30 days after birth. The programme also includes free transportation to and from hospitals. The programme has been expanded to include sick infants.

3. Pradhan Mantri Surakshit Matritva Abhiyan

This program was launched on 9 September 2016, with the primary objective of providing **free, comprehensive, and excellent prenatal care** on the ninth of every month. Through routine examinations, diagnostic testing, and expert consultations, the initiative seeks to identify and treat high-risk pregnancies early. It seeks to reduce mother and infant mortality by ensuring timely medical intervention and strengthening the antenatal care system.

4. Surakshit Matritva Aashwasan (SUMAN)

The Ministry of Health and Family Welfare initiated it on October 10, 2019. Its primary objective is to offer expectant moms, new mothers, and babies free, dignified, respectful, and high-quality treatment. **Free prenatal, delivery, and postnatal care**, including free medications, diagnostics, blood, food, and transportation services, is guaranteed under this program. It seeks to lower maternal and newborn mortality while eliminating direct expenses. Additionally, the program guarantees grievance redressal procedures and considerate maternity care.

5. Project BLOOM (Better Living through Outreach, Optimal Maternal and Child Health)

It was introduced by the Lunglei district of Mizoram on 17 June 2025 as its flagship program under child and maternal healthcare. Its main objective is to improve the access of **high-quality healthcare** for mothers and children, especially in the underserved and high-risk areas. It focuses on the early detection of high-risk pregnancies, better prenatal care and postnatal care, nutrition

support, and awareness generation. It collaborates with frontline healthcare workers to promote optimal maternal and child health outcomes.

6. Pradhan Mantri Matru Vandana Yojana

It was introduced as a maternity benefit program for pregnant and lactating mothers in 2017. The scheme's main objective is to promote mothers' and babies' health and nutrition while also offering some **wage compensation**. Under PMMVY, eligible women who register for pregnancies early, receive routine prenatal care, and give birth in an institution are given cash incentives in installments. In addition, the program also encourages healthy eating, rest, and breastfeeding, all of which lower mother and newborn mortality.

Policy Analysis of Maternal Health Programmes

- Financial incentive schemes such as JSY and PMMVY have increased institutional deliveries, indicating success in demand-side mobilisation.
- JSSK and SUMAN aim to provide free, cashless maternal services, but rural implementation remains inconsistent.
- PMSMA offers comprehensive antenatal care in policy design but is largely urban- and district-hospital centric.
- Rural areas face shortages of specialists, diagnostics, and emergency referral facilities, limiting programme effectiveness.
- Transport and referral systems under JSSK are weak in remote and hilly regions.
- Monitoring, awareness, and grievance redressal mechanisms are poorly developed in rural settings.
- Overall, strong policy intent contrasts with uneven execution, resulting in persistent access and quality gaps in rural Mizoram.

Reproductive and Child Health

Indicator	2022-2023	2023-2024	2024-2025
Infant Mortality Rate (IMR)	18	16	14
Neonatal Mortality Rate (NNMR)	10	10	9
Under-5 Mortality Rate (U5MR)	24	20	19
Maternal Deaths	18	22	18

Table 1.2- Physical Achievement of RCH

Maternal Health Expenditure (NHM)-Northeast States

S. No	STATES	FY (2022-2023)	FY (2023-2024)	FY (2024-2025)
1	Arunachal Pradesh	2,338.14	475.78	1,114.00
2	Mizoram	122.67	346.48	181.17
3	Assam	19,155.49	19,334.93	21,652.64
4	Manipur	578.97	449.33	1,015.77
5	Nagaland	499.49	810.18	1,132.21
6	Tripura	1,573.45	1,696.22	1,804.04
7	Meghalaya	2,172.33	2,317.96	3,114.44

Table 1.3-State expenditure under Maternal Health Programme (NHM) for FY 2022-23 to FY 2024-25

Maternal Health as a Pillar of Human Security

Globally, **maternal health** is becoming more widely acknowledged as a fundamental aspect of human security; talks at the World Economic Forum 2026 highlighted how underinvestment compromises institutional resilience, social cohesion, and economic productivity. Given that access to maternal services is still restricted in Northeast India due to challenging terrain, inadequate connectivity, and unequal healthcare capability, this viewpoint is particularly pertinent. These disparities erode public confidence in government agencies and perpetuate feelings of exclusion in a strategically significant area.

Maternal Healthcare and Governance in Northeastern Borderlands

Access to maternity healthcare is strongly correlated with **state presence** and **governance** in the border regions of northeast India. Insufficient services can force populations to seek care informally or across borders, which makes regulation more difficult and compromises governmental monitoring. These issues are reflected in Mizoram, which shares borders with Bangladesh and Myanmar, because of its challenging topography and low referral capacity. In India's northeastern borderlands, strengthening maternity healthcare in the state is crucial for improving health outcomes as well as bolstering stability, governmental legitimacy, and human security.

Key Policy Gaps and Challenges

Geographical isolation, a lack of human resources, ineffective referral systems, and inadequate programme implementation monitoring are some of the main obstacles. State-level data aggregation frequently hides weaknesses at the district level.

Policy Recommendations

- In rural regions, improve emergency referral and transportation networks.
- Promote the placement of experts to remote regions.
- Use ASHA and local groups to raise awareness in the community.
- Improve SUMAN's grievance resolution and oversight processes.
- National strategies should incorporate state initiatives like Project BLOOM.

Limitations of the study

The primary secondary data used in this analysis, such as NFHS and NHM reports, might not adequately reflect intra-district differences. A lack of qualitative interviews with beneficiaries and frontline workers hinders understanding of lived experiences, and the scarcity of recent rural–urban disaggregated maternal mortality data limits in-depth research.

Conclusion

This study highlights the disparity in rural Mizoram's implementation of robust maternal health policies; there are still notable differences between rural and urban areas as well as within districts, even with high rates of institutional delivery. Access to high-quality maternity care is restricted for women living in rural places due to obstacles such as challenging terrain, inadequate connectivity, a lack of qualified staff, and delayed emergency referrals.

Evaluations of initiatives such as Project BLOOM, JSY, JSSK, PMSMA, SUMAN, PMMVY, and PMSMA show increased service utilization but inconsistent efficacy by region. While the quality of prenatal and postnatal care, service continuity, and specialised care are all lower in rural locations, even when institutional delivery targets are mostly reached. In order to close access gaps, frontline employees like ASHAs and ANMs are essential, but they are limited by their enormous workloads and inadequate infrastructure. In rural Mizoram, strengthening maternity healthcare necessitates context-specific reforms centered on community participation, transportation, and the deployment of specialists.

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