Global Health Equity

ORIGINAL RESEARCH

Improving Equity, Continuity and Quality of Maternal and Newborn Health Services in Nepal: A Call for Policy Reform

Resham Khatri PhD[1*]

[1]School of Public Health, University of Queensland, Brisbane, Australia.
*Contact: rkchettri@gmail.com

Received: January 16, 2025; Accepted: February 14, 2025

ABSTRACT:

Over the last three decades, Nepal has made huge progress in accessing maternal and newborn health (MNH) services. Despite improvements in access, persistent challenges remain. For instance, Nepal's maternal mortality ratio (259 per 100,000 births) and neonatal mortality rate (21 per 1,000 births) remain high, with widening equity gaps between advantaged and marginalized groups, particularly rural, ethnic minority, and socioeconomically disadvantaged populations. While uptake of the first antenatal care (ANC) visits is nearly universal, discontinuation across the MNH continuum—ANC, institutional delivery, and postnatal care—remains prevalent, driven by fragmented care quality and systemic barriers.

Key findings reveal stark disparities: marginalized groups face suboptimal service quality, influenced by ethnicity, language, birth order, and geographic remoteness. Health facilities (HFs) in peripheral areas and provinces like Karnali and Madhesh lack resources, trained staff, and infrastructure, while private HFs outperform public ones. Effective coverage, emphasizing intervention quality over mere contact, is critical. Centralizing intrapartum care in hospitals, rather than low-volume birthing centers, is urged to manage severe pregnancy and childbirth complications.

The paper calls for multisectoral policy reforms addressing macro-level corruption, meso-level decentralization, and micro-level service quality. Recommendations prioritize equity-focused strategies: targeting marginalized groups, enhancing HF capacity, improving respectful care, and integrating multisectoral actions. Strengthening political commitment, health workforce training, and infrastructure investment are vital to bridging inequities and achieving sustainable MNH improvements in Nepal.

Key Words: Maternal Health, Newborn Health, Health Equity, Service Quality, Policy Reforms

To Cite this Article: Khatri R. Improving Equity, Continuity and Quality of Maternal and Newborn Health Services in Nepal: A Call for Policy Reform. Global Health Equity. 2025;1(1):1-7.

INTRODUCTION

Nepal has made significant progress in access to maternal and newborn health (MNH) services, such as recommended antenatal care (ANC) visits, institutional delivery and postnatal care (PNC) visits. Nepal still has a high maternal mortality ratio (MMR) of 259 maternal deaths per 100,000 live births[1] and a neonatal mortality rate (NMR) of 21 per 1,000 live births[2] .The rates of reduction in MMR and NMR are slow, with increasing equity gaps between privileged and disadvantaged groups. For example, in the most recent two Nepal Demographic and Health Surveys (2016 and 2022))[1,2], NMR remained stagnant at 21 per 1,000 **[Figure 1]**, and significant equity gaps persist between the wealthiest quintiles and the poorest wealth quintile[1-4] **[Figure 2]**. . If the current rate of NMR reduction continues, it will take another 50 years for families in the poorest wealth quintile to reach the 2030 Every Newborn Action Plan target of 12 per 1,000 live births[5].

High MMR and NMR are due to a combination of factors, including limited access to quality health services, especially in rural areas, inadequate numbers of skilled healthcare providers such as skilled birth attendants, poor nutrition, and low health literacy[6,7]. The equity gap is increasing between marginalized and privileged population groups. Socioeconomic inequities and inadequate healthcare infrastructure further exacerbate the situation, leaving marginalized groups, such as women from remote or socioeconomically disadvantaged areas, at greater risk. Maternal and neonatal mortality in Nepal presents a paradox: despite improvements in MNH service utilization and reductions in maternal and newborn mortality, these gains come at the expense of deepening inequities. This paper explains why Nepal continues to experience persistent equity gaps and slow or no reduction in MMR and NMR, and how those equity can be addressed in Nepal.

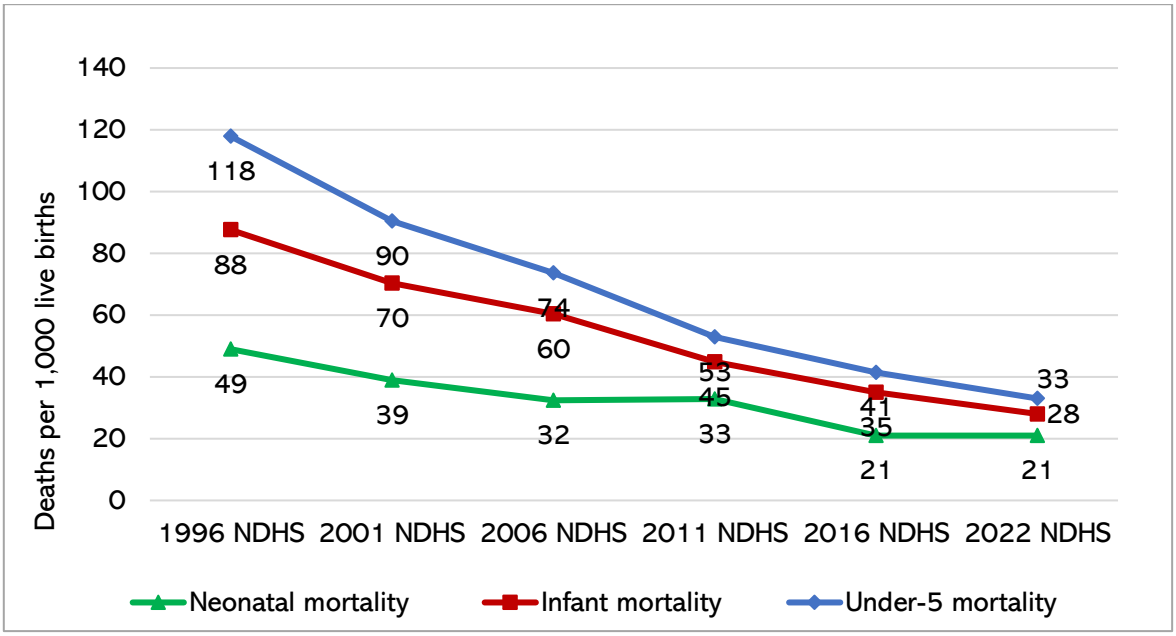

Figure 1: Trends in under-five, infant, and neonatal mortality rates since 1996 in Nepal

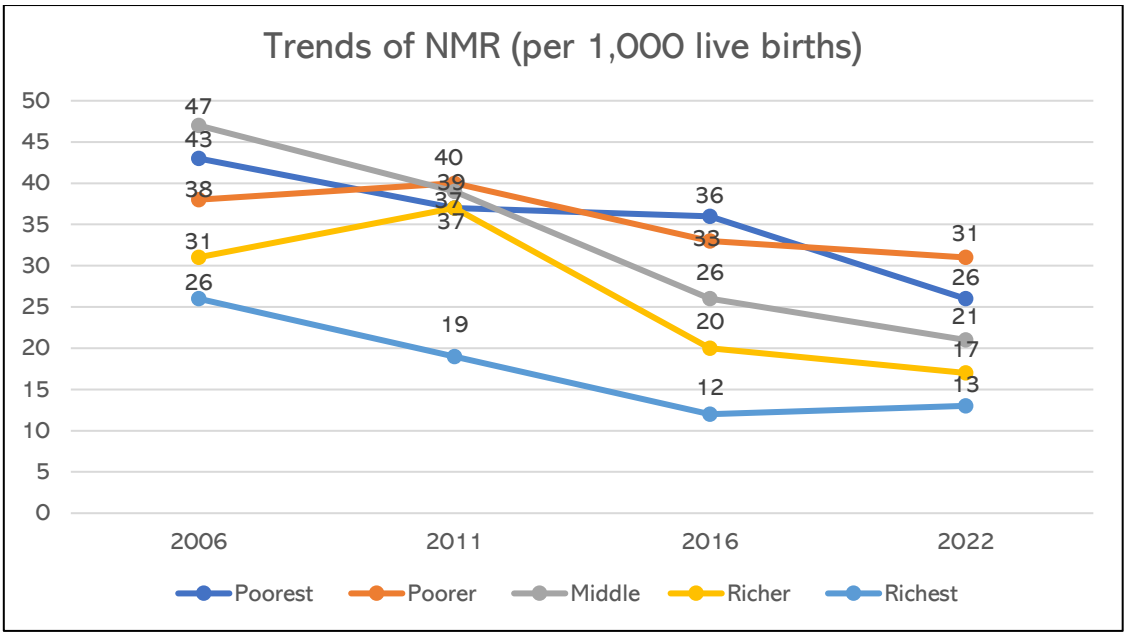

Figure 2: Trends in NMR stratified by wealth quintile in the most recent four NDHs.

ADDRESSING INTERSECTIONAL INEQUITY

Despite increased coverage of routine MNH services during pregnancy and childbirth, those who are already marginalized still do have poor access to these services[8]. For instance, women who face multiple forms of disadvantage (such as those living in rural areas, belonging to ethnic minorities, being illiterate, and living in poverty) have lower coverage of MNH services compared to women who have one or more forms of advantage[9]. These are the population groups that are in greatest need of services but lack access to them, resulting in high maternal and neonatal deaths.

REVERSING INVERSE EQUITY LAW

Nepal has difficult geography and contextual challenges in Nepal. most health policies and programs are implemented nationwide with a blanket approach. In such a context, advantaged groups receive policy interventions first, and only once coverage has saturated among these populations do interventions extend to disadvantaged groups. In many instances, disadvantaged groups are more likely to receive suboptimal healthcare and face financial barriers[9,10]. Targeted policy and programmatic approaches and interventions are required for disadvantaged populations.

CRACKING DISCONTINUITY OF CARE ALONG THE MNH CONTINUUM

Interventions received during conception to the first six weeks of childbirth are effective in reducing maternal and neonatal deaths[11,12]. Uptake of interventions during the intrapartum period, primarily health facility-based interventions, are highly effective in improving MNH outcomes [13]. Women need to complete all recommended ANC visits, deliver babies in health facilities assisted by skilled birth attendants, and receive at least three PNC visits within 42 days of childbirth. A recent study revealed that the coverage of the first ANC visit was almost universal; however, as the pregnancy progressed, care was discontinued during the MNH continuum [14]. For instance, one in four women discontinued care before completing at least four 4ANC visits, one in ten women further dropped out during institutional delivery and PNC, respectively, and only two in five women completed all three MNH visits (at least four ANC visits, childbirth in a health facility, and at least one PNC visit within 48 hours of childbirth).

FOCUSSING ON EFFECTIVE COVERAGE OVER CONTACT COVERAGE

Only improving access to HFs or health workers increases contact coverage and is not adequate for improved MNH outcomes; women must receive recommended interventions during pregnancy, childbirth, and the PNC period.

Programmatic efforts in Nepal focus on improving the contact coverage of MNH services but have limited focus on the uptake of recommended interventions. A study analysed the contact coverage and composite coverage of uptake of recommended interventions during routine MNH visits, where contact coverage was higher than intervention-specific and quality-adjusted coverage across all MNH service [15]. Women from advantaged ethnic groups or with access to bank accounts were more likely to receive optimal quality MNH services. In contrast, women speaking Maithili or with higher birth orders (≥4) had lower odds of receiving quality ANC. Women from remote provinces and those with higher birth orders received poor quality PNC, particularly when female providers were unavailable. It is vital to improve the quality of MNH services, targeting disadvantaged groups and ensuring access to female providers, particularly in remote areas.

IMPROVING HEALTH FACILITY READINESS FOR QUALITY MNH SERVICES

Input quality or HF capacity, such as the provision of skilled human resources, supplies, infrastructure, medicines, and equipment, is needed to produce good quality MNH services. Better HF capacity or structural quality is a precondition for delivering quality services. A study in Nepal revealed that the mean structural quality scores for ANC and perinatal services were 0.62 and 0.67, respectively [16]. The lowest average score (0.37) was for staff availability (e.g., training) and guideline-related items. Private facilities or services delivered from supervised HFs had higher odds of providing optimal quality antenatal and perinatal services. HFs in peripheral areas and Karnali had lower odds of providing optimal services. Local and provincial governments should focus on increasing staff training, providing guidelines and equipment, and enhancing supervision and coaching in peripheral areas.

DELIVERING OPTIMUM QUALITY MNH SERVICES

Better HF capacity provides the opportunity to produce better quality health services such as MNH services. A study found that the mean score for the technical quality of antenatal and perinatal services in HF was 0.55 (out of 1.00)[17]. There were provincial differences in the delivery of the quality of MNH services. For instance, HFs in Madhesh had 4% lower odds of providing better quality MNH services compared to those in Koshi and Gandaki. Private HFs were more likely to provide better quality perinatal services than public HFs. Tailored strategies, including recruitment, supervision, and better equipment, are needed, along with extending the safe delivery incentive program to private facilities.

IMPROVING SOCIAL QUALITY TO IMPROVE UTILIZATION

Having better HF capacity or delivering optimal quality technical interventions may not necessarily ensure the uptake of better-quality services and improved MNH outcomes. Indeed, it is essential to consider the social quality of health services, including perceived client satisfaction, effective communication, the attitude of healthcare providers, and respectful care [18]. A recent study in Nepal found that women were more likely to use quality MNH services at facilities with better HF capacity, particularly private HFs [19], services provided by nursing staff and those at supervised HFs were associated with better quality care. However, women in Madhesh province received poorer quality delivery and PNC services. Strengthening HF capacities and recruiting trained staff is crucial.

FOCUS ON FACILITY-BASED INTERVENTIONS FOR IMPROVED INTRAPARTUM CARE

Several communities- and facility-level MNH interventions have been found to be effective in improving MNH outcomes. Most ANC interventions can be provided either at the community or peripheral level HFs or in clinic settings[20]. Facility-based intrapartum interventions (such as skilled birth attendants, newborn resuscitation, or management of the third stage of labor) are most effective in reducing MN deaths, as most of the deaths occur during the intrapartum period or within the first 24 hours of childbirth [21,22]. Delivery of optimal quality intrapartum care requires better infrastructure, skilled care providers, and an enabling environment (such as road and transportation facilities, power supply, and equipment). Most institutional deliveries occur in

peripheral-level HFs in Nepal [23]. In fact, birthing centres either lack resources or are not properly functioning, while referral hospitals are overcrowded due to the high volume of childbirth services. Women bypass these centres and seek care in larger hospitals for better quality care. These conditions indicate a fragmentation of resources for childbirth services in the name of birthing centers, even though the annual volume of childbirth services is minimal in some of the birthing center. Women routinely bypass local facilities in search of higher quality care, even if it means incurring additional costs[24]. Investment is needed for such interventions, especially in intrapartum care, including the need for a trained health workforce and improved infrastructure. The dominant model of childbirth care in low-income countries today, in which many women give birth in primary care facilities, is not supported by accumulating global evidence. For all women, childbirth services should be provided in or near hospitals that offer definitive care for complications (such as c-sections, blood transfusions, and newborn resuscitation) with an adequate volume to support excellent care[24]. The approach for redesigning childbirth services is underpinned by the assumption that the centralization of childbirth services to hospitals will result in more efficient delivery care, more skilled maternity providers, and more timely emergency care interventions, including blood transfusions and caesarean sections [25].

ADDRESSING MULTILEVEL AND MULTIDOMAIN SYSTEMIC CHALLENGES

Most of the challenges discussed earlier are related to service delivery. Service delivery redesign is not a single intervention, nor is there a single model—it is a structural health system reform at multiple levels that could save lives. To achieve this, it is essential to understand the challenges at different levels of how systems work. A study revealed that several underlying factors at the health system's micro, meso, and macro levels contribute to inequity in MNH services in Nepal [7]. At the macro (federal) level, key challenges included corruption, poor accountability, weak digital governance, and the politicization of the health workforce. There were also issues with poor regulation of private MNH services, weak health management, and insufficient integration of health into broader policies. At the meso (provincial) level, weak decentralization, inadequate evidence-based planning, and a lack of context-specific health services were noted. At the micro (local) level, challenges included poor-quality healthcare, inadequate household decision-making empowerment, and limited community participation. Structural factors, such as political influences, primarily operated at the macro level, while intermediary challenges from the non-health sector affected both supply and demand in health systems. The study reveals that systemic and organizational challenges across multiple health system levels impact the equitable provision of MNH services in Nepal. Policy reforms and institutional arrangements aligned with the federalized health system are needed to bridge the gap[26]. These reforms should address the federal-level policy framework, decentralize power and resources to provincial levels, and implement context-specific health service delivery at the local level. Strong political commitment, accountability, and the integration of health into all policies are essential for improving the health system.

CALL FOR POLICY REFORMS

While there has been progress in increasing access to MNH services, significant barriers persist for marginalized populations, particularly in terms of quality and continuity of care. Addressing these challenges requires systemic reforms, targeted interventions, and investments in infrastructure and training to ensure equitable and high-quality MNH services across all areas of Nepal. The successful redesign of the health system for MNH service delivery requires systems thinking, political leadership, locally specific solutions, funding, skilled providers, and time. The recommendations **[Figure 3]** can be considered while improving system quality and reducing maternal and newborn deaths in Nepal.

DECLARATION

None

FUNDING

Authors have not received any funding for this work.

Figure 3: Recommendations for improved health MNH outcomes in Nepal

REFERENCES

1. Ministry of Health and Population, New ERA, ICF International Inc. Nepal demographic and health survey 2016. Kathmandu, Nepal :Ministry of Health and Population, New ERA, and ICF International, Calverton, Maryland2017.
2. Ministry of Health and Population, New ERA, ICF International Inc. Nepal Demographic and Health Survey 2022 Kathmandu, Nepal :Ministry of Health and Population, New ERA, and ICF International, Calverton, Maryland2022.
3. Ministry of Health and Population, New ERA, ICF International Inc. Nepal demographic and health survey 2011. Kathmandu, Nepal :Ministry of Health and Population, New ERA, and ICF International, Calverton, Maryland2012.
4. Ministry of Health and Population, New ERA, ICF International Inc. Nepal demographic and health survey 2006. Kathmandu, Nepal :Ministry of Health and Population, New ERA, and ICF International, Calverton, Maryland2007.
5. Kc A, Jha AK, Shrestha MP, et al. Trends for Neonatal Deaths in Nepal (2001–2016) to Project Progress Towards the SDG Target in 2030, and Risk Factor Analyses to Focus Action. Maternal and Child Health Journal. 2020;24(1):5-14.
6. Karkee R, Tumbahanghe KM, Morgan A, Maharjan N, Budhathoki B, Manandhar DS. Policies and actions to reduce maternal mortality in Nepal: perspectives of key informants. Sexual and Reproductive Health Matters. 2022;29(2):1907026.
7. Khatri RB, Assefa Y, Durham J. Multidomain and multilevel strategies to improve equity in maternal and newborn health services in Nepal: perspectives of health managers and policymakers. Int J Equity Health. 2023;22(1):105.
8. Khatri RB, Alemu Y, Protani MM, Karkee R, Durham J. Intersectional (in) equities in contact coverage of maternal and newborn health services in Nepal: insights from a nationwide cross-sectional household survey. BMC Public Health. 2021;21(1):1098.

9. Khatri R, Dulal KP, Timelsena K, Tamrakar M, Rosenberg R, Tuladhar S. Equity Analysis of Maternal Health Services in Nepal: Trends and Determinants, 2011–2022 Nepal DHS Surveys. 2024.
10. Khatri RB. Towards equity of maternal and newborn health services in Nepal. 2021.
11. Bhutta ZA, Das JK, Bahl R, et al. Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost? The Lancet. 2014;384(9940):347-370.
12. Lassi ZS, Mansoor T, Salam RA, Das JK, Bhutta ZA. Essential pre-pregnancy and pregnancy interventions for improved maternal, newborn and child health. Reproductive Health. 2014;11(1):S2.
13. Dickson KE, Kinney MV, Moxon SG, et al. Scaling up quality care for mothers and newborns around the time of birth: an overview of methods and analyses of intervention-specific bottlenecks and solutions. BMC Pregnancy and Childbirth. 2015;15(2):S1.
14. Khatri RB, Karkee R, Durham J, Assefa Y. Universal coverage of the first antenatal care visit but poor continuity of care across the maternal and newborn health continuum among Nepalese women: analysis of levels and correlates. Global Health. 2021;17(1):141.
15. Khatri RB, Durham J, Karkee R, Assefa Y. High coverage but low quality of maternal and newborn health services in the coverage cascade: who is benefitted and left behind in accessing better quality health services in Nepal? Reprod Health. 2022;19(1):163.
16. Khatri RB, Assefa Y, Durham J. Assessment of health system readiness for routine maternal and newborn health services in Nepal: Analysis of a nationally representative health facility survey, 2015. PLOS Glob Public Health. 2022;2(11):e0001298.
17. Khatri RB, Durham J, Assefa Y. Investigation of technical quality of antenatal and perinatal services in a nationally representative sample of health facilities in Nepal. Arch Public Health. 2022;80(1):162.
18. Miller S, Abalos E, Chamillard M, et al. Beyond too little, too late and too much, too soon: a pathway towards evidence-based, respectful maternity care worldwide. The Lancet. 2016;388(10056):2176-2192.
19. Khatri RB, Durham J, Assefa Y. Utilisation of quality antenatal, delivery and postnatal care services in Nepal: An analysis of Service Provision Assessment. Global Health. 2021;17(1):102.
20. Mbuagbaw L, Medley N, Darzi AJ, Richardson M, Habiba Garga K, Ongolo-Zogo P. Health system and community level interventions for improving antenatal care coverage and health outcomes. Cochrane Database Syst Rev. 2015;2015(12):Cd010994.
21. who. WHO recommendations: intrapartum care for a positive childbirth experience. In:2018.
22. Munabi-Babigumira S, Glenton C, Lewin S, Fretheim A, Nabudere H. Factors that influence the provision of intrapartum and postnatal care by skilled birth attendants in low- and middle-income countries: a qualitative evidence synthesis. Cochrane Database Syst Rev. 2017;11(11):Cd011558.
23. Jha D, Adhikari M, Gautam JS, Tinkari BS, Mishra SR, Khatri RB. Effect of COVID-19 on maternal and neonatal services. The Lancet Global Health. 2021;9(2):e114-e115.
24. Roder-DeWan S, Nimako K, Twum-Danso NA, Amatya A, Langer A, Kruk M. Health system redesign for maternal and newborn survival: rethinking care models to close the global equity gap. BMJ Global Health. 2020;5(10):e002539.
25. Hanson C, Schellenberg J. Redesigning maternal health services: is centralisation the answer in low-resource settings? BMJ global health. 2019;4(3):e001488.
26. Khatri RB, Mengistu TS, Assefa Y. Input, process, and output factors contributing to quality of antenatal care services: a scoping review of evidence. BMC Pregnancy Childbirth. 2022;22(1):977.