



# DECENTRALISING MATERNAL CARE IN INDIA

WHY IS IT REQUIRED AND WHAT WILL IT TAKE?

UNICEF-BHS-IIMU POLICY BRIEF SERIES



## INTRODUCTION

In 2005, for the first time, the Government of India incentivized institutional deliveries by launching the Janani Suraksha Yojana (JSY), an intervention under the National Rural Health Mission (NRHM) that promised cash assistance to women who deliver at public health facilities. While the implementation of JSY increased the number of institutional deliveries from 40.8 per cent in 2005-06 (NFHS III) to 88.6 per cent in 2019-21 (NFHS V),<sup>(1)</sup> the maternal and infant health indicators did not improve commensurately. Further, there are huge variations in levels of maternal and newborn mortality across different parts of the country, and higher than in other similar countries and economies. For instance, while India's Maternal Mortality Rate (MMR) was 145 in 2017, the comparative levels among other BRICS for the same year were better and as follows: Russia--17, China--29, Brazil--60, and South Africa—119.<sup>(2)</sup>

Apart from the persistence of poor maternal and infant mortality ratios, there has also been a growing concern about the rising rates of cesarean-section (C-section) deliveries. Overall, the C-section rates in India have crossed the World Health Organization's (WHO) threshold of 15 per cent.<sup>(3)</sup> On one hand, there are districts, regions, and states where C-Section facilities are not available even when required. On the other, there are States and regions where most childbirths occur through C-sections. In the State of Telangana, for example, 60 per cent of total

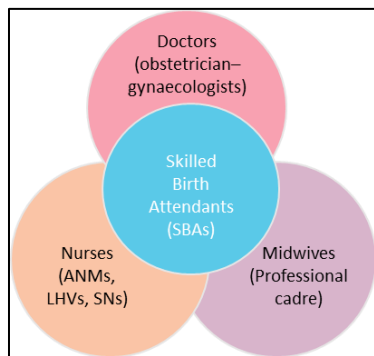
deliveries in 2021 occurred by C-section.<sup>(4)</sup> Such an 'over-medicalization' of childbirth is likely to result in increased costs and higher risks of childbirth.

Respectful maternity care is another cornerstone of quality care. However, reports of ill-treatment, abuse, and negative experience are commonly reported by expectant women who deliver in hospitals across India. A study conducted at public and private maternity facilities in Uttar Pradesh reveals that physical violence (slapping) often occurred while performing fundal pressure on expectant women.<sup>(5)</sup> It also reports verbal abuse, including speaking down to them, the use of insulting language, and threatening to perform a C-section if they did not stop screaming or weeping. Many women who seek care in hospitals are mistreated throughout pregnancy and childbirth, for example by conducting vaginal examination without their permission, during labor induction, and epidural anesthesia.<sup>(6)</sup>

## Decentralized Maternal Care

We define decentralization in the health system as one where local healthcare facilities and staff are given greater control over financial and human resources, and greater authority to provide a wider scope of services. Greater control over resources; and greater autonomy allows them to customize services and resources to meet the requirements and problems of their community.<sup>(7)</sup> A decentralized healthcare system is likely to be less expensive and more

responsive to people's needs. Decentralization is a necessary, though not sufficient, condition for the attainment of Primary Health Care (PHC) as broadly defined in the Alma-Ata Declaration.<sup>(8)</sup>



**Figure 1: Skilled Birth Attendants**

Primary health care is the most comprehensive, equitable, cost-effective, and efficient approach to improving people's physical and mental health and social well-being.<sup>(9)</sup> There is a pervasive and growing need for primary health care, especially in low- and middle-income countries such as India, where PHCs are the bedrock of rural health services, often being the first point of contact with the health care system. Maternal and infant health services are an essential component of the service package provided by the PHCs. To this end, PHCs could be the ideal setting for low-risk pregnancies as they are safe, cost-effective, and treat women with the lowest degree of complexity.

Research from underdeveloped regions in developed countries shows that decentralization of maternal healthcare during pregnancy and childbirths, provided primarily by skilled birth attendants (Figure-1)<sup>(10)</sup> can lower maternal and infant mortality

rates, is less expensive, and more responsive and respectful to women.<sup>(11)</sup> On the other hand, there is a prevalent argument that childbirth in hospitals by physicians leads to improved outcomes for mothers and babies, as compared to those that occur in primary care facilities by non-physicians. This argument is based on studies from affluent countries and offers evidence of a volume-outcome linkage for deliveries with lower birth mortality at hospitals equipped with superior-level Neonatal Intensive Care Units.<sup>(12)</sup> One of the primary reasons attributed to the inadequate competence of non-physicians in “performing an assisted vaginal delivery” is that deliveries occur at low-volume centres.<sup>(13)</sup>

In this policy brief, we examine the evidence and experience on differences in effectiveness, costs, and provision of respectful care between decentralized and hospital-based models of maternal care. While doing so, we examined the contextual and systemic factors that explain the effectiveness of decentralized models.

Secondly, we examined why only a small fraction of deliveries occur at PHCs in India.

<sup>(14)</sup> According to the NFHS IV statistics, only 7 per cent of rural deliveries occur at PHCs.

<sup>(15)</sup> Based on the above exploration, we then distill the implications for India.

While there is no clear definition of a decentralized model of maternal care, we found several variations in different settings based on the following dimensions:

*Place of care:* In different models, most of the care during pregnancy or childbirth occurred at independent midwifery-led units, Primary Health Centers, or midwifery units attached to large hospitals.

*Providers of care:* They varied from a special cadre of professional midwives to professional nurses with additional training in skilled birth attendance. Nurses and midwives who were not professionally trained and qualified were excluded from this review.

*Nature of care:* While in most models, all care services during pregnancy and childbirth were delivered in the ‘decentralized’ system, only a few models from the underdeveloped regions of developed countries provide care during pregnancy in a decentralized system, but childbirth occurred in hospitals.

For the purposes of this review, any model where most of the maternal care was conducted in a community or a primary care setting and delivered by a nurse or midwife, or midwife-led units in hospitals was considered a decentralized model.

### Methods of Review

We conducted a thorough review of published and gray literature from developing and developed countries. The literature we included had sufficient description of the model of maternal care and some description of its impact in terms of one or more of the three outcomes: effectiveness, cost, and responsiveness. We also reviewed Indian guidelines and policy documents to assess the implications of these findings for maternal care in India.

## MAJOR FINDINGS

### Decentralized Maternal Care Improves Outcomes, Reduces Cost

In Alberta, Canada, integrating regulated, publicly funded, autonomous midwifery care into already established health services proved to be a successful and cost-effective intervention for low-risk women. The system is estimated to save \$1172 per course of care if midwifery care were used instead of standard care, with yearly provincial savings of over \$2.8 million.<sup>(16)</sup> Similarly, in Canada’s Quebec province, services given by midwives in birth facilities operating as ‘pilot projects’ in tandem with the existing hospital-based medical system were marginally cheaper than physician services, with cost-effectiveness ratios favoring the midwife group except for one clinical indication (neonatal ventilation).<sup>(17)</sup>

In Sri Lanka and Sweden, early professionalization of midwifery as a cadre has reduced maternal-infant mortality rates significantly over the years. The effective use of the midwifery cadre has been key to saving women’s lives on a modest budget in Sri Lanka. Due to the early professionalization of midwifery, the country has achieved far more than other countries of the same income level. For instance, in 2007, the maternal mortality ratio (MMR) of India was more than 400 per 100,000 lives, and spending on health constituted over 5 per cent of GNP. In Sri Lanka, the MMR for that period was less than one-quarter of that, and the country spent only 3 percent of GNP on health.<sup>(18)</sup> The lower MMR in Sri Lanka (as compared

to India), despite lower spending, was ascribed to their cadre of skilled midwives. Similarly, Sweden's long history of

professional midwifery care and improved obstetric care has contributed to the decline in maternal deaths over the past century.

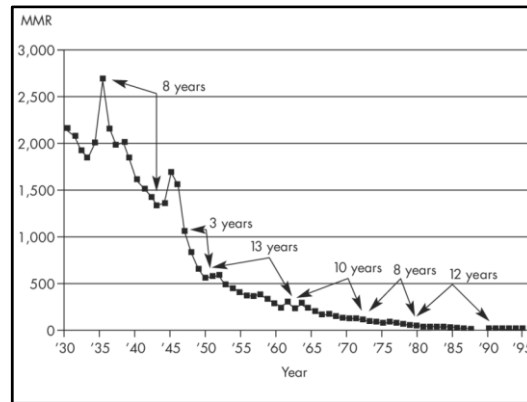


Figure 2: Decline in MMR in Sweden 1930 and 1995 <sup>(19)</sup>

### Decentralized Maternal Care Improves Access, Promotes Equity

Action Research and Training for Health (ARTH), a non-profit public health organization, set up two round-the-clock, midwife-led maternal and neonatal health services in remote and tribal areas of Rajasthan. The centers are run by nurse-midwives, <sup>(20)</sup> most of whom are tribals. They independently detect and manage pregnancy complications, and decide when to refer women for emergency care, based on telephonic consultation with a doctor, if required. Between 2000-2008, 2,771 women in labor and 202 women with maternal emergencies were attended at the two health centers, with only one maternal death in the nine years. <sup>(21)</sup> The ARTH health centers are an example of how decentralized maternal facilities managed by nurse-midwives in low-resource settings could provide responsive care to the most marginalized. Coupled with

access to emergency obstetric care and a robust referral system, it led to averting many maternal deaths. Besides, the ARTH model of having a functional referral system abates the delay in receiving adequate healthcare.

In Western Sydney, Australia, the midwifery programme by the *Daruk* community-controlled health service has improved perinatal and maternal outcomes of the *Daruk* aboriginal women. Staffed by a full-time aboriginal health worker, a non-aboriginal midwife, and two female General Practitioners, the programme offers regular antenatal check-ups, bookings-in, labor support, home visits, assistance with infant feeding, and management of high-risk pregnancies in the community in consultation with the medical team aboriginal clients.

Regarding outcomes, the gestational age at the first visit was lower, the mean number of antenatal visits was higher, and attendance for

routine antenatal visits was better for the clients at the *Daruk*-community-controlled midwifery service. The *Daruk* service was well-received by aboriginal clients in terms of connection and trust, accessibility, flexibility, providing transparent and pertinent information, continuity of care, empowerment, and family-centered care empowerment, and family-centered care pertinent information, continuity of care, empowerment, and family-centered care. <sup>(22)</sup>

Similarly, in the Northern Territory (NT) of Australia, the Midwifery Group Practice (MGP) was formed as an additional service to all at-risk women from seven aboriginal communities living in rural and remote regions. In NT, remote-dwelling aboriginal women with risky pregnancies often had to travel to Darwin for labour and delivery, with postpartum care sometimes being inconsistent and troublesome. The MGP offered prenatal care in Darwin in MGP rooms or hotels, delivered babies in hospitals, and then visited women to give postpartum care in MGP rooms or hotels. Although the savings in cost was not statistically significant for the Department of Health, the MGP programme proved to be cost-efficient for remote-dwelling aboriginal women of all risk groups who had to travel to Darwin for delivery. Women receiving MGP care showed a considerable increase in prenatal treatment, ultrasounds, hospital admission for antenatal care, and in-town postpartum care. <sup>(23)</sup>

### **Decentralized Care Reduces Unnecessary and Potentially Harmful Practices.**

In Telangana, India, the Fernandez Hospital, a private hospital providing maternal care, established a midwifery programme in 2011. Qualified nurses were trained under a postgraduate programme comprising 18 months of formal midwifery education and six months of supervised practice. During the time midwives provided care, the total rate of epidural anesthesia decreased from 70 to 32.8 per cent. From 2007 to 2011, the episiotomy rate was 40 per cent, but it dropped to 27.4 per cent between 2011 and 2022. The episiotomy rate among women with Spontaneous Vaginal Deliveries who were visited by physicians was 21.1 per cent. In contrast, it was 6.3 per cent among those who were attended by professional midwives or trainees. Also, a survey of women's satisfaction with professional midwifery revealed consistently high satisfaction levels, with 85.4 per cent reporting their midwifery care as excellent. <sup>(24)</sup>

In 2006, the Ministry of Health and Population in Nepal approved the establishment of midwifery as a new cadre. <sup>(25)</sup> It was established to improve the country's maternal and newborn health outcomes. In a study conducted in Nepal to evaluate the intrapartum care provided at the nation's first autonomous midwifery facility as against that offered at the consultant-led maternity hospital, midwifery projects led to lower rates of iatrogenic procedures, perineal trauma, and fetal distress during intrapartum and early postpartum care for low-risk pregnancies. <sup>(26)</sup>

### Village-Based Midwife Programme Failed To Make An Impact On Maternal-Neonatal Care

All the successful models described above were those where many investments were made in adequate training, mentoring, and supervision of nurses/midwives. Besides, all these models included strong referral linkages to emergency obstetric care facilities. When these factors are not addressed, such as in the case of the village-based midwife programme in Indonesia, the decentralized models fail to improve access to care or improve maternal-neonatal outcomes.

### Policy Guidelines for Decentralized Maternal Care in India

In 2007, the Government of India adopted policy reforms to enable Auxiliary Nurse-Midwives, Lady Health Visitors, and Staff Nurses the authority and competence to carry out specific life-saving procedures, including the “permission to use uterotonic medications in PPH prophylaxis, the permission to use drugs in emergencies before referral for stabilizing the patient, and the permission to perform basic procedures at the community level in emergency situations.”<sup>(28)</sup>

In 2018, India released a guide on expanding and enhancing midwifery services in India. This shows how far the country has come in realizing the need for professionally trained midwives. However, midwifery is yet to gain autonomy as it is not professionalized in the country and is viewed as part of the nursing cadre. Although midwifery training is part of the training curricula for Auxiliary Nurse Midwives and General Nurse Midwives,

India does not have an exclusive midwifery training programme yet. Currently, only 35 per cent of the entire ANM course and 18.5 per cent of the GNM course are devoted to midwifery education.<sup>(29)</sup>

### The Village-based Midwife Programme in Indonesia<sup>(27)</sup>

In 1989, Indonesia established a village-based midwife programme to increase the rate of professional delivery care and redress the urban-rural divide in the availability of SBAs. Between 1986 and 1996, while the midwife density increased from 0.2 to 2.6 per 10000 people, the progress in terms of maternal and neonatal mortality ratio can be better even after 20 years of investment. There is still no equitable provision of health professionals in rural areas, and the deficit of midwives in remote villages continues. In addition, midwives assigned to rural areas were less experienced and spent more days on clinical work, with fewer than 30 per cent of the providers residing in the village they were allocated to. Rapid deployment, lack of clinical training and experience, insufficient mentoring and monitoring, and lack of access and financial assistance for referral to EmoC facilities are ascribed to the programme's failure. While Indonesia achieved an appropriate density of midwives (similar to Sri Lanka and Malaysia where professional midwifery has contributed significantly to the reduction in maternal deaths), the country lagged in the density of doctors, nurses, and referral facilities.

### Why Do Only a Small Proportion of Births in India Occur at PHCs Or CHCs?

The answer lies in “bypassing”. When seeking healthcare, bypassing occurs when a person opts for a facility further away from home. Bypassing could happen due to the unavailability of services at the facility (PHC) that is closer or the perception that secondary and tertiary facilities are superior to primary health centers in terms of resources. A study analyzing the data from 488 rural districts of India’s 17 major States revealed a significant shortfall in child-related facilities at PHCs in rural India. Out of the 24,354 PHCs analyzed in the study, only 6590 PHCs have a functioning room. Similarly, only 14,720 PHCs out of 24,876 offered round-the-clock delivery service, and out of 17,233 PHCs, the doctor/nurse/staff was unavailable in 4602 PHCs. <sup>(30)</sup>

Overall, secondary and tertiary health facilities are preferred because PHCs and CHCs lack specialists, neonatal resuscitation and complication-management services. The other reasons that push away patient traffic from PHCs are frequent referrals and their need for expert intervention, the public perception that they are small centers with few resources, and higher absenteeism. <sup>(31)</sup> Besides, the midwifery model is often viewed with apprehension--the common assumption is that a model that is not physician-led offers diluted care.

### Why Do families in Tamil Nadu Prefer to Deliver at PHCs?

An analysis conducted in 2013 of the documents and reports published by the Tamil Nadu government indicated a four-fold increase in the utilization of PHCs for deliveries since 2006. Women-centered policies, effective governance, efficient managerial systems, quality care, and innovative marketing of services are attributed to the increased utilization of PHCs for birthing. A study on the factors contributing to the fourfold increase in childbirths at PHCs in Tamil Nadu reveals that Village Health Nurses, as the first point of contact, had a major role in motivating women to deliver at PHCs. Expectant women from the catchment area of the respective VHNs were taken on maternity picnics—they were acquainted with the PHC staff from the first antenatal visit onwards. This increased their confidence in the team and PHCs. Cases were attended to immediately and, even in case of referrals to a higher facility, expectant mothers were accompanied by a nurse from the local PHC, to support her navigate the ecosystem of secondary and tertiary health facilities. Further, PHCs permitted birth companions, and the behavior of the staff was marked by empathy and courtesy. <sup>(32)</sup>

The Tamil Nadu model exemplifies how respectful, responsive, and prompt care is a requisite, along with substantial funding efforts to increase the uptake of PHCs for deliveries in India.



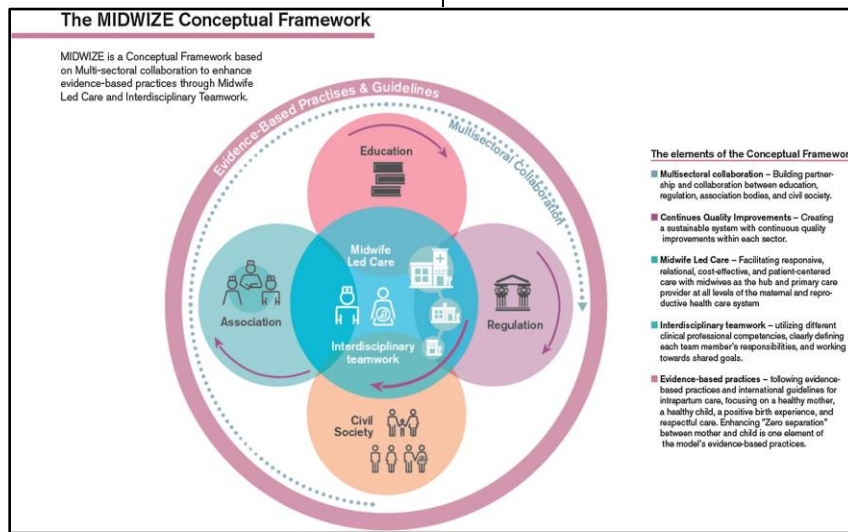
**CONCLUSIONS AND WAY FORWARD**

Most childbirths in India occur in large hospitals led by obstetricians (*centralized* models), far from where people live. Such care during childbirth is difficult to access, expensive, and often unresponsive, especially for the marginalized. It also has a risk of over-medicalizing childbirth, as evidenced by rising rates of cesarean sections in many States.

The policy brief provides clear evidence that care during pregnancy and childbirth in community-based facilities and provided by nurses or midwives (*decentralized* models)

are equally effective, more equitable and responsive, less expensive, and less likely to be over-medicalized.

The MIDWIZE model, a conceptual framework based on the Swedish maternity care system (Figure 3), provided it is contextualized for other countries, has the potential to strengthen maternal and neonatal outcomes in different settings. (33) It provides effective guidance for India and its States if they wish to advance the decentralized models of maternal care.



**Figure 3: THE MIDWIZE conceptual framework: promoting evidence-based maternal care through Midwives** (34)

Based on the above review and considering the context of India, especially its remote and rural areas, we propose three directions to promote effective, responsive, and equitable care for women and newborns:

**1. Strengthen Primary Healthcare Facilities.**

Many women and their families bypass PHCs and CHCs for maternal care because these facilities lack basic amenities and witness

high staff absenteeism. Primary healthcare, as the first level of contact of individuals and the first element of a continuing healthcare process, <sup>(35)</sup> must be strengthened to reduce the likelihood of bypassing. Through its policies and innovations, Tamil Nadu has managed to increase the uptake of birthing in PHCs by progressively investing in their primary healthcare. The expansion of 24-hour services across all PHCs, improvements in PHCs' infrastructure and availability of human resources, and women-friendly services have enhanced their PHCs' reputation as safe places for deliveries. As a result, women have been drawn to the pro-women policies of PHCs in Tamil Nadu such as permitting a birth companion, incentive schemes, maternity picnics, and the requirement to stay for 48 hours after the delivery. <sup>(36)</sup> It is clear from the case of Tamil Nadu that an additional service in the name does not help; however, strong primary health care helps in increased utilization of PHCs and simultaneously brings down the proportion of MMR and IMR. If this happens, people can prefer to go to PHCs, and the proportion of MMR and IMR will also fall simultaneously.

## 2. Enhance the Quality of Training and Supervision

Early professionalization of the midwife cadre has reduced maternal mortality significantly in Sri Lanka, Sweden, and Malaysia, among others. However, the potential influence of midwifery on avoiding and lowering maternal and newborn mortality depends on the degree to which

midwives learn essential competencies for safe and effective practices.

Pre-service training for midwives in Sri Lanka, for instance, consists of an 18-month curriculum, 12 months of theoretical instruction at Nurse Training Schools (NTS), and 6 months of fieldwork experience affixed to a Regional Training Center of the National Institute of Health Sciences (NIHS). The training is conducted in Tamil and Sinhala, and each participant receives a monthly stipend. The Public Health Midwives' in-service training includes a five-day module on sexual-and-gender-based violence, programs from various health systems and development partners, and monthly training at the level of the Medical Officer of Health (MOH). <sup>(37)</sup> In Alberta province, Canada, the College of Midwives of Alberta continuing education requirements must be regularly met by all registered midwives. Currently, this entails ongoing certification for Neonatal Resuscitation, Obstetrical Emergency Skills, and CPR. <sup>(38)</sup>

Contrastingly, the quick deployment of midwives in Indonesia put the quality of training and candidate selection in jeopardy. The ability of midwives to solve delivery-related issues was limited, especially due to lack of clinical training and expertise.

In India, there is an urgent need to strengthen the competence based pre-service and in-service training of General-Nurse-Midwives (GNMs) and Auxiliary Nurse Midwives (ANMs) in midwifery and mandated to perform safe childbirths. In addition,

simultaneously, a proportion of them would be further skilled through more extensive midwifery training, as per the new midwifery curriculum. Equally important is the need to handhold and support them on the job and deploy them in PHCs where access to safe childbirth services is currently limited.

### 3. Promote Easy Access to EmoC

To avoid maternal mortality, a referral system that links emergency obstetric care with primary healthcare facilities is regarded as crucial. <sup>(39)</sup>A proportion of women at high risk would require EmoC services, but inefficient referral linkages and difficult access to EmoC services reduces the credibility and effectiveness of the system. The ARTH health centers run by nurse-midwives in Southern Rajasthan could successfully manage maternal complications

because of the reduced delay in linking expectant mothers with emergency obstetric care, when required.

On the other hand, the Indonesian village-midwife model failed because of a lack of access to emergency obstetric care facilities. Their access to life-saving emergency obstetric treatment was significantly hampered because emergency treatment was not a statutory requirement.

Besides promoting maternal care at the PHC level through the above three steps, there is also a case for setting up midwifery-run centers that are adjacent to hospitals with full-service emergency care facilities. <sup>(40)</sup> Such centers would enhance the competence of midwives and build their confidence and image. They would also help reduce costs and unnecessary interventions such as C-sections and epidural anesthesia, as the experience from Telangana and Nepal suggests.

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