Maternal and Reproductive Health in India: Challenges and the Road ahead

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23 July 2024

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Abstract:

India has achieved significant improvement in indicators such as Maternal Mortality Ratio (MMR), Institutional Deliveries, Skilled Attendance at birth, Ante-Natal and Post-Natal care since its independence. However, several challenges constrain maternal and reproductive health in India. Of them, three important ones are discussed in this review paper: spatial inequity, their diverse underlying causalities, and the quality of care. India cannot actualise the true spirit of 'Viksit Bharat' by 2047 if the condition of its women, and especially that of mothers is not improved. Policy suggestions that enable such an improvement have been elaborated in this paper through demand augmentation and supply expansion lens.

JEL Codes: I14, I18

Keywords: Maternal and Reproductive Health, Spatial Inequity, India

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I. Introduction

India has significantly improved since the 1950s on the maternal and reproductive health front. Maternal Mortality Ratio, henceforth MMR defined by the World Health Organization (WHO) as the number of maternal deaths per 100,000 live births in the same period, was 2000 in British India, was 212 in 2007-09 (Srivastava et al., 2014), 130 in 2014-15 and as per the latest available statistics so far, stands at 97 in 2018-20 (Press Information Bureau, 2023). Skilled birth attendance (SBA), which was a meagre 18.5 percent in 1981 improved to 52.7 percent in 2007-08 (Srivastava et al., 2014) figures at 89.4 percent as per National Family Health Survey or NFHS 5 (International Institute for Population Sciences or IIPS, 2021).

Institutional deliveries were 26 percent in 1992-93 as per NFHS 1 fact sheet (IIPS, 1995), and currently stand at 88.6 percent as per NFHS 5 (IIPS, 2021). Mothers who received post-natal care within two days of delivery at the hands of skilled medical professionals was 16 percent in 1998-99 as per NFHS 2 (IIPS, 2000) and has increased to 78 percent in 2019-21 as per NFHS 5 (IIPS 2021).

While these figures show a positive trend of improvement over the decades, maternal and reproductive health in India is plagued with several issues, of which three interconnected themes of spatial inequity, their diverse underlying causalities and the quality of care are discussed here.

This review paper aims to provide a bird's eye view of the above-mentioned issues and elaborates on suggestions to address them through demand augmentation and supply expansion lens, both of which require simultaneous policy attention.

Section II elaborates on these issues in sub-sections A, B, and C. Section III provides key policy suggestions in subparts III A and B through demand augmentation and supply expansion lenses, respectively. Section IV concludes.

II. Challenges:

II A. The problem of regional inequities.

Bhatia et al. (2021) in their analysis of trends in maternal mortality from 1997 to 2017 between Empowered Action Group (EAG)[1] and non-EAG states have found a reduction in the gap for maternal mortality between rich and poorer wealth quintiles even in some of EAG states such as Bihar, Odisha, Assam and Rajasthan. However, an uneven distribution of gains in the reduction of maternal mortality across the country and a continued prevalence of higher levels of maternal mortality in EAG states has been noted.

MMR in states such as Kerela, Maharashtra and Telangana stand at 19, 33 and 43 per lakh live births respectively while those in the worst-off states of Assam, Madhya Pradesh and Uttar Pradesh are 195, 173 and 167 per lakh live births respectively. MMR in some of the other EAG states such as Chhattisgarh, Orissa, Bihar and Rajasthan are 137, 119,118 and 113 per lakh live births respectively (RBI, 2022-23).

Some of the worst performing states such as Assam, Madhya Pradesh, Uttar Pradesh and Chhattisgarh on MMR are worse off even when compared to some of the African countries such as Mozambique and Zambia with its MMR of 127 and 135 respectively (WHO, 2023).

Similar observations for spatial inequity can be made for other indicators as well.

NFHS 5 round conducted in 2019-21 by IIPS (2021) reveals large state-wise disparities in terms of skilled providers for Ante Natal Care ranging from 68 and 70 percent in Bihar and Nagaland respectively to 98 percent and more in Goa, Kerala and Lakshadweep.

Post Natal Care facility was availed by only 48 and 56 percent women in Nagaland and Meghalaya respectively, whereas its utilization was 95 percent in Goa and 93 percent in Puducherry, Lakshadweep, Tamil Nadu, Odisha, Haryana and Kerela.

Further, IIPS (2021) brings out that Institutional births were only 46 and 58 percent in Nagaland and Meghalaya but 100 percent in Puducherry, Goa, Kerela, Lakshadweep and Tamil Nadu.

The inequalities in accessing facilities for maternal and reproductive care operate through differing dimensions of space (based on rural-urban dichotomy), class (based on the wealth quintiles) (Vora et al., 2009), caste (Sanneving et al., 2013) and mother's education (Ghosh & Ghosh, 2020 and Vora et al. 2009).

NFHS 5 (IIPS 2021) reveals that 68.6 percent urban women in the age group 15-49 years who had a live birth in the five years preceding the survey availed four or more Ante Natal Care visits. This was true only for 54.5 percent in the rural counterpart. The same figures for women having no school education and those having completed 12 or more years of education were 39.9 and 68.6 percent respectively; that between women belonging to the lowest wealth quintile and the highest wealth quintile was 41.8 and 71.8 percent respectively. While 55.3 and 57.6 percent women of reproductive age among the SC and ST communities availed a minimum of four Ante Natal Care visits, this was true for 58.5 and 86.9 percent women among Hindu and Jain communities.

A similar kind of deprivation can be observed for other indicators such as Post Natal Care access and delivery at a health facility.

17.9 (11.9), 25.4 (12.6), 26.3 (7.9) and 17 (15.4) percent women of reproductive age in rural (urban) areas, women with no school education (with 12-plus years of education), those in the lowest (highest) wealth quintile and those among SC (Hindu) community respectively availed absolutely no kind of Post Natal Care.

Delivery at a health facility has been noted for 86.7 (93.8), 74.8 (96.9) and 82.3 (89.5) percent women of reproductive age for rural (urban), with no formal schooling (with 12 plus years of schooling) and among ST (Hindu) community respectively.

A study by Panda et al. (2020) notes that the Coverage Gap Index (CGI) i.e. a gap between universal achievement and the composite coverage of an index of eight preventive and curative interventions along a continuum of care bifurcated into four categories namely: Reproductive services (Family planning coverage or need for family planning satisfied), Maternal and Newborn Care (Ante Natal Care, Skilled Birth Attendant), Immunization (BCG, three doses of Diphtheria, Pertussis and Tetanus (DPT) and Measles) and Management of Illness (Oral Rehydration Therapy, care seeking for Pneumonia) for 640 districts in India was 26.23 percent.

Kerela had the lowest CGI level of 10.48 percent while Nagaland's CGI was 55.07 percent. About 14 states which composed around 49 percent of the population had CGI levels above the national average. These are mainly EAG and North-Eastern states.

This study also notes a statistically significant negative relationship between the socio-economic development index (SDI) of the district (using an index of twenty assets at the household level, coverage of safe drinking water, sanitation, electricity, female literacy and level of urbanization) and its CGI. The CGI was reported to be 2.3 times higher among the poorest compared to the rich[2] and that of the urban areas was 0.72 times lower compared to the rural areas.

Panda et al. (2020) report a statistically significant positive spatial autocorrelation for CGI (Global Moran's I 0.70) indicating a strong geographical clustering, with a local hotspot (high deprivation districts surrounded by similarly deprived ones, also termed 'High-High') of 122 districts. A bivariate Local Indicator for Spatial Association (LISA), in the same study, between CGI and SDI was found to have moderate positive spatial autocorrelation with 100 districts as hotspots and 126 districts as coldspots (Low-Low).

II B. Causalities

An enquiry into the causal relationship among factors that impact maternal and reproductive health in India reveals that the age of the mother, birth order (Ghosh & Ghosh, 2020), education of the mother (Ghosh & Ghosh, 2020 and Vora et al. 2009), the wealth of the household (Vora et al., 2009), sex of the head of the household (Ghatak & Datta, 2024) and achievement of socio-economic development in the district (Panda et al., 2020) are significant.

Shariff and Singh (2007, p. 5) highlight that 'education and information variables significantly increase the utilisation rates for prenatal, child delivery and postnatal health care'. Ghosh (2011) notes that direct governmental intervention through developmental schemes that improve hygiene, sanitation and safe drinking water also termed as WASH (Water, Sanitation and Hygiene) positively influences maternal health.

Bhan et al. (2020) highlight that the presence of Lady Medical Officers (LMOs) improves the uptake of maternal and reproductive facilities.

II C. Quality of care

While there has been a greater emphasis on the numbers, that is, improvement in the coverage of public healthcare facilities for maternal and reproductive health amongst media and various government organizations, the need for focusing on the 'quality of care' has received less prominence.

The attention towards improving the qualitative aspects of Mother and Child Health (MCH) policies was initiated only during the 1980s and 1990s under various 'primary health and reproductive rights movements' (Srivastava et al., 2014). Reproductive and Child Health (RCH) I program in 1997, the National Rural Health Mission in 2005 and the National Health Mission in 2013 operationalised strategies to achieve a minimum standard of service delivery. Norms by Indian Public Health Standards (IPHS), Quality Assurance Committees (QAC) at

the district and state levels and the setting up of the National Accreditation Board for Hospitals and Health Care Providers (NABH) stepped up efforts in that direction.

With the demand for maternal care outpacing its supply due to policies such as Janani Suraksha Yojana, the scarce infrastructure has been overstressed causing a compromise in its quality. Other factors that have negatively impacted the ‘quality of care’ apart from insufficient infrastructure are the lack of ancillary support systems for obstetrics and speedy transport of the medical officers in case of emergency (Srivastava et al, 2014).

III. Discussion: The Road Ahead

Solutions to the above-mentioned challenges can be thought of through the 'demand augmentation' and 'supply expansion' lens.

III A. Demand Augmentation:

The discussion on covariates shows that uptake of maternal and reproductive services is typically lower for female-headed households than male-headed households (Ghatak & Dutta, 2024) and it improves with increased levels of education of the women, urban dwelling, and higher wealth quintiles (Ghatak & Dutta, 2024 and Singh et al. 2021).

This makes for a direct case for strengthening educational interventions for females in rural and underperforming areas, providing a support system in those villages where males typically migrate for seasonal agricultural work or to urban areas leaving behind females with a burden of farm, home and care-taking responsibilities.

Since behavioural change is an important element driving the demand for maternal and reproductive services, generating awareness through appropriate media platforms is crucial. In communities where an open discussion on reproductive and sexual health is taboo, various stakeholders (Community-Based Organizations and Non-Governmental Organizations, Local Government Bodies and women's self-help groups) need to fill the informational gap.

Research shows that conditional cash transfers through the Janani Suraksha Yojna for institutional delivery have increased demand at the Primary Health Centre (PHCs). However, as an unintended consequence, this policy has led to higher out-of-pocket expenditure for institutional delivery causing some beneficiaries to even sell their assets such as jewellery to pay for its cost (Das et al., 2011).

Janani Shishu Suraksha Karyakram, a government policy that eliminates out-of-pocket expenditure for all pregnant women who deliver at public institutions is a welcome step in this direction. Services such as transportation from home to the institution, medicines, diet for three days (normal delivery) and seven days (for caesarean deliveries), and diagnostics are provided for free under this scheme (National Health Mission, 2024).

However, Chaudhary et al. (2017) observed in their primary study of women in the rural areas of Mewat district of Haryana that a significantly large number of women incurred out-of-pocket expenditure with a median amount of Rs. 1100. While the out-of-pocket expenditure for institutional deliveries may have reduced owing to this scheme, their research also reveals that many women were prompted to avail private health care facility, despite the free provisioning due to non-cooperative staff and crowdedness at the public health care facility.

III B. Supply Expansion:

Increasing the supply of health infrastructure requires both funding and fund utilization.

It has been generally found that states with better capacities utilize the allocated funds better compared to those that have weak management and operational capacities. The more underutilized the funds are, the less likely they are to get additional funds thereby creating a trap-like situation.

Improving the management capacities and encouraging commitment of those in the leadership positions at various hierarchies is important.

Kumar and Reshmi (2022) observe both low levels of availability and utilization of Mother and Child public health care facilities for ANC, Institutional Delivery and Full Immunization in districts of states such as Jharkhand, Bihar, Uttar Pradesh, Madhya Pradesh, Chhattisgarh and Northeastern states as compared to the country-wide average.

Along with physical resources, human resources also need to be improved. The need for training and skilling of the medical and paramedical officers for emergencies such as emergency obstetric care, counselling and communication with the patients and their families cannot be under-emphasised.

Given that development policies related to WASH positively affect maternal health, districts with poor sanitation infrastructure must catch up soon.

In a report by Water Aid India (undated), a large proportion of maternal and neonatal mortality is attributed to sepsis which is an infection associated with poor hygienic practice during childbirth and after. The report summarises its assessment of observations conducted between 2014-16 across 343 healthcare facilities spread in 12 districts of India and notes that 'Water, sanitation and hygiene amenities may be available in health care facilities, but their adequacy, accessibility, functionality and quality are often questionable' (Water Aid India, undated p.3) and further that 'functional and adequate number of toilets in patient care areas, labour rooms and maternity wards, as well as for the caregiver were lacking' (Water Aid India, undated p.3).

The need for ensuring efficient WASH facilities, especially at Primary Health Centres (PHCs) and Community Health Centres (CHCs) and its Sub Centres is highly crucial. Simultaneously, it is also essential that adequate training be given to the hospital staff in terms of hygiene protocols since they can contribute to reducing infections during and after deliveries significantly.

One of the factors that lead to low levels of patient satisfaction or dissatisfaction at various public health centres is 'poor staff behaviour' (Srivastava et al., 2014).

A host of issues concerning filling up vacancies for various posts, easing the burden of the overworked health care personnel, and timely supply of medicines, machines and equipment needs to be addressed using modern technology such as real-time data collection using GIS.

Kumar and Reshmi (2022) evidence of a shortage of hospital beds, doctors and paramedical staff for addressing maternal and child health concerns that negatively impacted the use of Mother and Child Health indicators across various districts in India.

Since rural areas rely heavily on public provisioning of health care (Kumar & Reshmi, 2022), it is important to address the continued shortage of physical infrastructure, and medical and paramedical staff, especially in those districts of the low-performing states.

Since the underlying causes of low maternal and reproductive health care are heterogeneous from region to region, a more granularized causal analysis must be made. Policy orientation must thus be truly decentralized.

Geo-spatial analysis is helpful in this regard (Panda et al., 2020 and Kumar & Reshmi, 2022). They enable the identification and mapping of clusters of hotspots, cold spots and spatial outliers thereby allowing for targeted policy interventions. They also are useful in accounting for spatial dependence and spatial heterogeneity in the outcomes of maternal and reproductive healthcare.

It is important to look at maternal and reproductive health policies using a gendered lens. Studies show that the presence of more female doctors increases the uptake of maternal services due to a sense of comfort among mothers and pregnant ladies. However, this also calls for providing an institutional structure to overcome the several constraints that female doctors and paramedical staff face to serve in rural and relatively inaccessible interior areas.

IV. Conclusion:

As per the Indian Association of Preventive and Social Medicine (2024), a little more than one-fifth of the Indian population includes women of childbearing age. The dream of 'Viksit Bharat' by 2047 cannot be materialised if their healthcare needs during the critical phases of pregnancy and delivery cannot be improved.

Issues such as overcrowded public medical facilities, pressure on overworked hospital staff and general unhygienic premises of public healthcare centres are certainly detrimental to improving maternal and reproductive health. Unless adequate funding provision is ensured to step up both physical infrastructure and fill the gap of the required medical and paramedical staff, improvement of the country's maternal health will be a distant dream.

Due to the interconnectedness of maternal and reproductive health care with multiple socio-economic covariates, concerted policy attention in several women-centric developmental interventions that include education and awareness, improving the public health care services, investment in public health infrastructure, WASH facilities and ensuring inclusive growth across different regions in the country is essential.

Notes:

1. EAG consists of 8 states such as Uttarakhand, Uttar Pradesh, Rajasthan, Madhya Pradesh, Bihar, Chhattisgarh, Jharkhand and Orissa
2. Of all the indicators in the CGI, the difference in the access between the rich and the poor was highest for Ante Natal Care and Skilled Birth Attendant and this inequality was the lowest for BCG vaccine immunization.

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