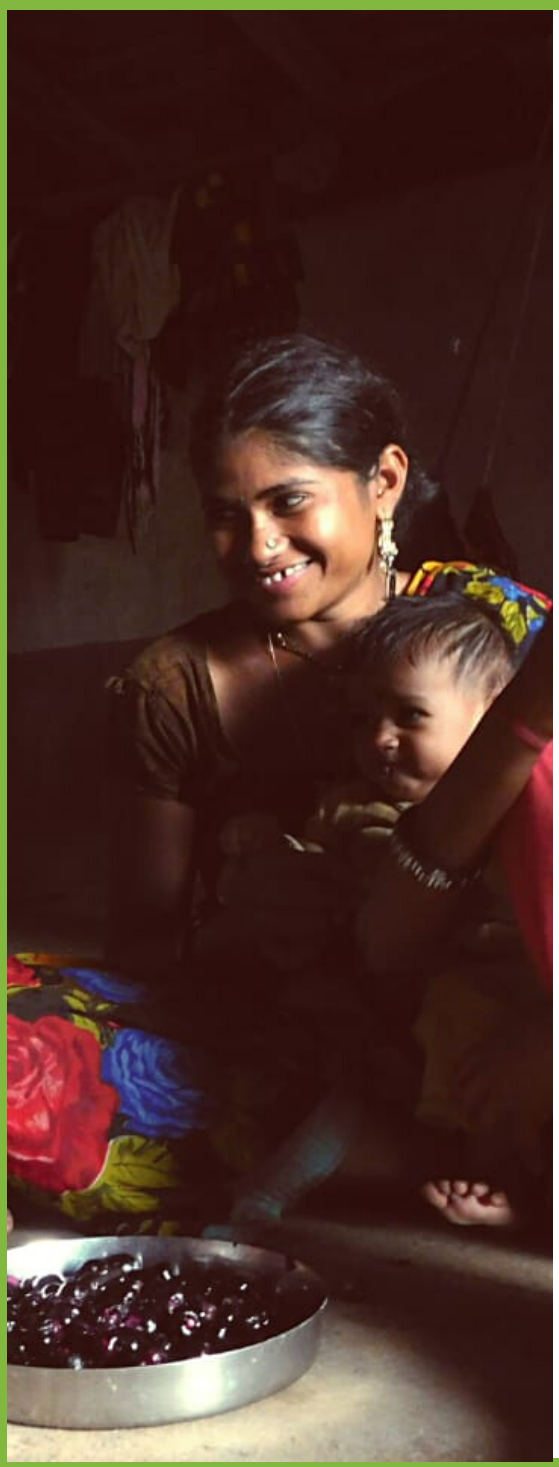
सत्यमेव जयते
Ministry of Health and Family Welfare
Government of India

MATERNAL HEALTH REPORT

Ending Preventable Maternal Mortality in India What should be the focus areas?

INTRODUCTION



In India, the maternal mortality ratio (MMR) declined from 556 per 100,000 live births in 1990 to 122 in 2015-17. This reduction is attributed to Government of India's concerted efforts in putting into action policies and programs that resonate with the targets set in developmental goals to reduce maternal and child mortality. However, the current levels of maternal mortality in India is about thrice higher than the MMR of Brazil (44), five times higher than the MMR of China (27) and Russia (25). Furthermore, the MMR in India varies starkly across the states – ranging from 42 in Kerala to as high as 229 in Assam (ORGI, 2019). Direct obstetric causes account for 87% of the maternal deaths; these include hemorrhage (13%), hypertensive disorders (12%), maternal abortion (11%) and miscarriage (11%), sepsis and other maternal infections (11%), ectopic pregnancy (11%) and other maternal disorders (29%) Global Burden of Disease study. Institute for Health Metrics and Evaluation, 2017). The indirect causes—account for rest of the 13% maternal deaths— and they include anemia, malaria, tuberculosis or chronic conditions like cardiac diseases or diabetes (Global Burden of Disease study. Institute for Health Metrics and Evaluation, 2017).Recognizing the high levels of MMR with stark regional variation and global efforts to end preventable maternal mortality, the Government of India is committed to achieve zero preventable maternal deaths by 2022. To achieve this goal, the Ministry of Health and Family Welfare (MoHFW) set I-WACH—India Strategy for Women's Adolescents' and Children's Health, leveraging the vision of 'Ayushman Bharat', to provide holistic care across life cycle and spanning primary, secondary, and tertiary care. Reviewing the I-WACH strategy, and in order to design appropriate interventions, the ministry in partnership with the World Health Organization (WHO) and Population Council, along with key stakeholders identified six domains which required further in-depth understanding to identify priority areas within each domain where the program should focus to achieve the goal of ending preventable maternal mortality. The six identified domains are (i) Leadership, governance, accountability, program management,(ii) Health care financing, (iii) Access to quality services, (iv) Intersectoral convergence (v) Community participation, and (vi) Improve measurement systems data quality.

In order to identify the priority areas within each of the domain, we undertook in-depth analysis of publicly available data on maternal health, conducted a review of literature and generated evidence matrix. This document summarizes evidence around problem areas under each domain for designing appropriate solutions.

KEY DOMAINS

Leadership, governance, accountability, program management preparedness

SStates with relatively high maternal mortality have less stability of key administrative officials, high rates of vacancy for specialists indicating the possible challenges in providing specialized health care.

Access to Quality services

Maternal health service utilization is not optimal and states such as Assam, Uttar Pradesh, Bihar, and Jharkhand require special attention. The quality of services in these states are sub-optimal. There is a missed opportunity to provide comprehensive health information by frontline workers, particularly for young couples in the absence of continuum of care approach.

Intersectoral coverage

n most of the EAG states, very few facilities are ready for CEmONC resulting into low rates of C-section in public sector. There is rise in uptake of services from private sector, however quality of care and inequity in private sector is an
issue – early neonatal mortality among deliveries conducted in private sector is much higher than in public sector

Health care financing

High out of pocket expenditure and low health insurance coverage specifically for maternal health services.

Community Participation

Across states, rural and poor women do not have access to effective communication by the front-line worker (FLWs).

Improve measurement systems, data quality; generate evidence for action

Inconsistencies in the HMIS data and lack of appropriate denominators are hindering the use of data and identifying the women requiring timely and efficient maternal health
services

KEY FINDINGS AND RELATED PROBLEM STATEMENTS FOR DEVELOPING SOLUTIONS

1

States with relatively high maternal mortality have less stability of key administrative officials, high rates of vacancy for specialists indicating the possible challenges in providing specialized health care.

2

High out of pocket expenditure and low health insurance coverage specifically for maternal health services.

3

Maternal health service utilization is not optimal and states such as Assam, Uttar Pradesh, Bihar, and Jharkhand require special attention. The quality of services in these states are sub-optimal. There is a missed opportunity to provide comprehensive health information by frontline workers, particularly for young couples in the absence of continuum of care approach.

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5

Inconsistencies in the HMIS data and lack of appropriate denominators are hindering the use of data and identifying the women requiring timely and efficient maternal health services

LEADERSHIP, GOVERNANCE, ACCOUNTABILITY, PROGRAM MANAGEMENT PREPAREDNESS

LEADERSHIP, GOVERNANCE, ACCOUNTABILITY, PROGRAM MANAGEMENT PREPAREDNESS

Problem statement

States with relatively high maternal mortality have less stability of key administrative officials, high rates of vacancy for specialists indicating the possible challenges in providing specialized health care

States	MMR	Average occupancy of key admin officials is <18 months	Vacancy of staff nurse above 15%	Vacancy of ANM above 15%	Vacancy of specialists in DH above 15%
Assam	229	14 months	12%	5%	47%
Uttar Pradesh	216	11 months	0%	0%	28%
Uttarakhand	89	10 months	16%	17%	68%
Rajasthan	186	17 months	51%	24%	22%
Odisha	168	14 months	0%	0%	27%
Madhya Pradesh	188	15 months	42%	14%	49%
Chhattisgarh	141	18 months	41%	10%	71%
Bihar	165	13 months	51%	60%	60%
Jharkhand	76	10 months	54%	19%	47%

KEY EVIDENCE

Stable tenure of key administrative officials, availability of adequate human resource and appropriate health infrastructure is essential for effective implementation of maternal health programs. While assessing leadership, governance, accountability and program management preparedness across states we,observed lack of key administrative officials, manpower and inadequate number of First Referral Units (FRUs) and PHCs which may pose challenges to maternal health service provision in the country.

- **Low average occupancy of district health official** – The presence of district Chief Medical Officer (CMO) is important for effective implementation of key public health programs, specifically in states with high burden of maternal mortality. During 2017-18, in 22 states/ UTs, the average duration of occupancy (in months) of CMO at district was 18 months or less. In states like Bihar, Madhya Pradesh, and Uttar Pradesh, the average occupancy was the shortest (- 15 months or less).

- **Lack of health personnel** – The shortage of health personnel has emerged as as one of the reasons for health care underutilization. Vacancy status in a state indicates the management of the state in terms of provision of supply side resources in comparison to the need. In the states of Bihar, Jharkhand and Rajasthan, more than 50% vacant position for staff nurses (vacancy at CHC and PHC level facilities) was reported. In Himachal Pradesh, Delhi, Madhya Pradesh, Chhattisgarh, Haryana, Sikkim, and Goa about 25-50% of staff nurse positions vacant. Most of these states have high maternal mortality rate. There was comparatively less vacant position for ANMs across the states – only in Karnataka, Bihar, and Manipur more 25% of ANM positions were reported as vacant at sub-centre . In 16 states/UTs, more than 25% of the position for Medical officers at the PHC level was reported to be vacant(NITI Aayog,2019 Healthy States Progressive India: Report on the ranks of states and union territories. New Delhi: Ministry of Health and Family Welfare, Government of India and The World Bank). Availability of specialists at the district hospital is critical, especially to manage complications during delivery and postnatal period. In most of the states, large proportion of specialists positions were vacant.In 23states/ UTs, more than 25% of the positions of specialists were vacant at district hospitals. Furthermore, huge intrastate variability in the availability of specialists was reported. For instance, Chhattisgarh has more than 1.9 times the recommended number of gynecologists at the state level, but nearly 19% of its districts were 'severely inadequate' with less than 0.5 gynecologists available per 500,000 population. Strangely, even in a state like Kerala, which reported adequate paediatricians at the state level, as much as 79% of the districts found to be 'inadequate' in terms of paediatrician availability.

- **Inadequate functional 24x7 PHC and Functional FRUs**– Often due to lack of availability of adequate services at lower level facilities, there is high influx of patients at district hospitals resulting in long ques and delays in timely treatment. Functional 24x7 PHCs help in providing the basic health services to the community and are critical in reducing workload at the higher-level facilities. Similarly, Functional FRUs provide dual role in health service delivery: it provides specialized services nearer to the community and reduces the client load at higher level facilities. Evidence suggest that 18 states/UTs do not have the required number of FRUs. In 7 states/UTs (Andaman & Nicobar Islands, Bihar, Uttar Pradesh, Chhattisgarh, Jharkhand, Rajasthan, and West Bengal), availability of functional FRUs was <50% compared to the the required. Many states – 30 out of 37 states/UTs lack the required number of functional 24x7 PHCs.

HEALTH CARE FINANCING

Problem statement

High out of pocket expenditure, delays in receipt of funds by the implementing agency, and low health insurance coverage specifically for maternal health services

State name	MMR	Delay in receipt of funds at the implementing agency level (delay in days)	Out of pocket expenditure in public health facility (INR)	Health insurance coverage (%)
Assam	229	28	3210	11
Uttar Pradesh	216	118	1956	6
Uttarakhand	89	109	2399	19
Rajasthan	186	109	3052	20
Odisha	168	19	4225	50
Madhya Pradesh	188	37	1387	18
Chhattisgarh	141	61	1480	71
Bihar	165	191	1724	13
Jharkhand	76	187	1476	14

"Economic burden of maternal healthcare expenditure is one of the critical reasons preventing women to access care from health facilities" (Singh and Kumar 2017)

"Furthermore, insured individuals are less likely to incur out of pocket expenditure" (Nandi et al., 2017)

KEY EVIDENCE

- **Delays in transfer of funds from centre to implementing agency** – – One of the reasons for lack of uniform implementation of maternal health programs across the country could be due to delay in transfer of NHM funds from state treasury to state health society or implementing agency. In 17 states, a delay of 3 months in the transfer of the funds was observed. Wide variability across states was observed in the receipt of NHM funds by the implementing agency ranging from 0 to 191 days. In 2017-18, highest delay in transfer of funds was observed in Bihar and Jharkhand (more than 6 months). Given the substantial delays, expenditure for maternal health services can present a barrier in accessing healthcare during pregnancy and childbirth (Goli, et.al, 2018), particularly the states with highest delays and low coverage of maternal health service utilization.

- **High out of pocket expenditure (OOPE) for delivery care in public health facilities** – The evidence shows that people spend money for delivery care at public health facility. On an average, women reported spending INR 3198 for delivery care in public health facilities in 2015-16. three out of four women (76%) who delivered in public health facility incurred OOPE for accessing delivery related services. Among the different types of expenditure, higher proportion of women reported spending for transportation. As per the policy, women should not be charged fee for maternal health services. Despite this policy, the OOPE continues to remain high. This perhaps can be also linked with delayed transfer of funds to the implementing agencies and lack of adequate resources at the facilities. Wide inter-state variability has been observed in average OOPE for delivery care in public health facility, ranging from INR 1,283 to 11,729. The top states with high OOPE (OOPE >INR 6000) were Nagaland, Kerala, Arunachal Pradesh, Goa, West Bengal and Delhi.

- **Low coverage of health insurance**– Having a health insurance can reduce OOPE and improve health seeking behaviours. The evidence shows that In India only 28% women of reproductive age were covered under any health insurance in 2015-16. Coverage of the health insurance varied starkly across the states – 6% in Uttar Pradesh to 76% in Andhra Pradesh. In 30 states and UTs the health insurance coverage was found to be below 50%. Out of those who reported having health insurance, RSBY & State health insurance (84%) cover majority of the share.

- **Less women received assistance under JSY scheme** – – In 2015-16, only 36% of women who delivered in last five years received financial assistance from JSY scheme. Though there was huge interstate variability – the financial assistance received under JSY scheme varied from 7% in Delhi to 73% in Odisha, the coverage was higher among EAG states. Furthermore, the coverage of JSY scheme was higher among women who belonged to poorest households (59%) than richest households (15%), women with no schooling (51%) than women who reported 10+ years of schooling (23%) and rural women (41%) than urban women (21%).

- A study based on Bihar, further indicates considerable intra-state variation in terms of receiving financial assistance for delivery care. In 2017-18, while 61% women received JSBY payments in Bihar, it varied from 44% in East Champaran to 91% in Shekhpura district. Among those who did not receive the incentive amount, immediately after the delivery, only 59% checked their bank account to find out about the incentive amount. Among the deliveries conducted 5-6 months prior to the survey, one-fourth never checked bank account to know the receipt of incentives. This indicated the need to look at the JSY scheme and probe whether such incentives are required universally or some selected group of women. Research highlighted economic burden of maternal healthcare expenditure to be one of the critical reasons preventing women from accessing care from health facilities (Singh and Kumar 2017). Evidence from our analysis using multiple data sources, highlighted key issues such as delays in transfer of funds and low insurance coverage as possible reasons for high OOPE among women accessing maternal health services.

ACCESS TO QUALITY SERVICES

Problem statement

Maternal health service utilization is not optimal and states such as Assam, Uttar Pradesh, Bihar, and Jharkhand require special attention

The quality of services in these states are sub-optimal.
There is a missed opportunity to provide comprehensive health information by frontline workers, particularly for young couples in the absence of continuum of care approach.

EAG states	MMR	BEmONC in CHC+ facilities (%)	CEmONC in CHC+ facilities (%)	Received 4+ ANC (%)	Received PNC (for mother) in two days after delivery (%)	Quality of care (score out of 17)	mCPR (%)	Women with BMI (15-49 years) < 18.5 kg/m^2 (%)	Women (15-49 years) who were anemic (%)
Assam	229	26	8	47	54	12	37	26	46
Uttar Pradesh	216	5	1	27	54	9	32	25	52
Uttarakhand	89	67	33	31	55	10	50	18	45
Rajasthan	186	14	6	39	64	11	54	27	47
Odisha	168	14	4	62	73	14	45	26	51
Madhya Pradesh	188	13	7	36	55	11	50	28	53
Chhattisgarh	141	15	3	59	64	13	55	27	47
Bihar	165	16	8	14	42	8	23	30	60
Jharkhand	76	8	2	30	44	10	38	32	65

"Assam records the highest MMR at 237. Uttar Pradesh records 1% readiness for CEmONC in CHC+ facilities and 5% readiness for BEmONC in CHC+ facilities."

KEY EVIDENCE

Coverage of maternal and child healthcare utilization has increased over the past decade in India; however, huge geographic and socioeconomic disparity persist. The geography and socio-cultural diversity of the country also influence coverage and quality of maternal health care services. Each state is unique, and success of the program is likely dependent on the understanding of ground realities to ensure effective implementation of the programme. Inequities across various RMNCH indicators was observed, which may influence maternal mortality rate differently across geography of the country.

- **Geographic disparities in coverage** of RMNCH indicators – Interstate disparities were observed in the coverage of maternal healthcare service utilization. For example, in 2015-16, about 51% of women in the reproductive age received 4+ antenatal checkup, however, high interstate variability was observed ranging from 14-90% across states. Similarly, institutional delivery varied from 32-100% and use of modern contraceptives varied from 13-69% across states. The variability was also observed in terms of the quality of antenatal care, between states. Overall, 64% of women reported taking all recommended five tests during their last pregnancy—BP measurement, weight measurement, blood test, urine test, and abdominal checkup, however it ranged from as low as 27% in Bihar to 97% in Kerala. Similarly, variability was observed in the receipt of IFA tablets/syrup during previous pregnancy. Furthermore, intrastate variability was observed in the coverage of the healthcare utilization in some states. Low coverage districts were situated in central (Uttar Pradesh, Uttarakhand, Madhya Pradesh and Rajasthan), eastern (Bihar, Jharkhand) and north-eastern states (Arunachal Pradesh) of the country. In nearly half of the districts (47%) ANC coverage was less than 50%, in 22% of the districts, PNC within 2 days of delivery was less than 50%, and in about 28% of the districts the use of modern contraceptive was less than 25%.

- **Socioeconomic disparity in service coverage declined overtime (2005-06 to 2015-16), but persist**-Apart from the geographic disparity, the service coverage also differed by socioeconomic status. Sixty four percent of women belonging to the poorest households received or bought IFA tablets/ syrup during their last pregnancy, as compared to 88% of women from the richest households. Similarly, lower proportion (62%) of women with no schooling reported receiving or buying IFA tablets / syrup as compared to women who completed 10+ years of schooling (89%). But, the socioeconomic disparity in healthcare coverage declined in the past decade. For example, In Bihar, economic inequality (gap between richest and poorest wealth quintiles) in 4+ antenatal checkup, reduced from 39% in 2005-06 to 27% in 2015-16. Similar pattern was observed in other states like Assam, Chhattisgarh, Madhya Pradesh, and Rajasthan. In contrast, in Uttar Pradesh, the inequity in ANC coverage increased from 36% point in 2005-06 to 46% point in 2015-16. The socio-economic inequity in institutional delivery and postnatal check-up decreased over time across all the states. Similar to the trend observed in terms of decrease in inequity in maternal health coverage indicators by household wealth, the decrease was also observed by by education status of women (gap in coverage of services between women who completed 10+ years of schooling and women with no schooling) . For example, in Rajasthan the gap in ANC coverage reduced from 72% point in 2005-06 to 32% point in 2015-16. Similar decline in inequity was observed by the place of residence (rural vs urban). Further, our analysis indicated that urban poor are at par with rural poor in terms of maternal healthcare service utilization. For example, in Uttar Pradesh, coverage of 4+ ANC care was 14% among rural poor and 13% among urban poor women. Similarly, the PNC coverage was 45% and 39% among rural poor and urban poor respectively.

KEY EVIDENCE

- **Adolescents are more vulnerable** – The findings clearly indicated that use of maternal health services are low among adolescents. For example, in Uttar Pradesh, only 45% of adolescents had their first ANC check-up during the first trimester of their pregnancy and even lower proportion (22%) received at least 4 ANC check-ups in 2015-16. Similar findings were observed across all the states. Despite having high unmet need for family planning, use of contraceptives was reported to be very low among adolescents. For example, in Bihar 29% of the adolescents had unmet need for family planning, however, use of modern contraceptives was only 2%. The findings indicate that attention needs to be given on pregnancy and childbearing among adolescents and their unmet need for contraceptives

- **Missed opportunity to promote continuum of care** – Understanding the continuum of care in maternal healthcare services helps us identity the missed opportunities in providing quality maternal health care to women. Findings from our analysis indicated that out of every 100 pregnant women 83 received at least one ANC check-up, 71 delivered in a health institution, and only 55 received postnatal check-up. The findings highlighted that out of 100 pregnant women, only 55 received continuum of care and rest 45 were missed by the system in the continuum of care. Although coverage of care is critical for maternal health, however, quality of maternal care is equally important to prevent maternal death. To understand the quality of care in maternal healthcare services utilization, a composite index was created using 17 indicators. The index included four dimensions – evidence-based maternal care, information system, effective communication and competent human resources. These dimensions were further sub-divided. For example: evidence based maternal care included 7 indicators: (1)ANC visit in 1st trimester, (2) 4 or more ANC visits, (3) received TT, (4) received recommended IFA (100+), (5) Tests and check-ups, (6) institutional delivery, and (7) postnatal check-ups for mother. Similarly, other sections were also divided into sub-sections. Findings showed that overall cumulative score for quality of maternal care has improved overtime, but still needs to be accelerated. Our results highlighted that women in 211 districts, received 'poor quality' (score ranged between 2-10, out of the total score of 17) of maternal care services. The composite score increased from 8 to 11 (out of possible 17) in the last decade. The improvement in composite score varied across states. Pace of improvement was faster in some states like Bihar, Uttar Pradesh, and Jharkhand (improvement of 4-5 point), however, the current scores are still lower than the national average of 11. Across the country the quality of maternal health care services continued to be relatively poor. Districts demonstrating poor quality of maternal health services are all in high focus states located in the North. However, in 40 districts which are not in high focus states, we observed high neonatal mortality in spite of having high maternal care services.

- **Less facilities were ready for providing comprehensive care** – In order to measure the quality of care, public health facilities with readiness for c-section was taken into consideration. As per the WHO recommended signal functions, very few facilities were ready to provide BEmONC/CEmONC services. Only 18% of public health facilities (CHC+) were ready to provide BEmONC services and 7% were ready to provide CEmONC services. Among the individual signal functions, the availability of services related to post-partum haemorrhage, assisted delivery, removal of retained products, and blood-bank were found to be low across states. In many public health facilities (CHC+), C-sections were being conducted without full readiness for CEmONC. For example, 47% of CHC+ in Bihar were performing C-Sections, but only 25% had blood bank and only 8% were ready for CEmONC.

COMMUNITY PARTICIPATION

PROBLEM STATEMENT

Across states, rural and poor women do not have access to effective communication bythe front-line worker (FLWs)

KEY EVIDENCE

Low outreach of community health workers – Community health workers play a pivotal role in connecting the communities with the public health system, in addition to informing and counselling them about health schemes and services. However, in some situations community health workers lack proper training to facilitate dialogue and are often overburdened due to the multiple tasks they are expected to perform (Grabman et.al, 2017). Despite the important role, the health workers playing, their outreach for maternal healthcare is far from universal in India (2015-16). For example, only 50% of women reported contact with health workers in the last 3 months of pregnancy prior to the NFHS-4 survey. The quality of contact in terms of counselling on pregnancy complication and its management was even lower. Out of those who were contacted by Front Line Workers (FLWs), only 56% received advise on institutional delivery, cord care, breastfeeding, keeping baby warm and family planning. Overall, only 35% of pregnant women were told about signs of pregnancy complications by the FLWs. Contact with a health worker was lower in hilly areas, among rural women and among women belonging to poor households as comparted to their counterparts. The communication by FLWs was much lower among adolescents. For example, only 22% of adolescents were informed about safe delivery, 18% received information on nutrition, 22% on safe pregnancy and 18% received IFA tablets from FLWs.

INTERSECTORAL COVERAGE

PROBLEM STATEMENT

In most of the EAG states, very few facilities are ready for CEmONC resulting into low rates of C-section in public sector.

There is a rise in uptake of services from private sector, however quality of care and inequity in private sector continues to be an issue– early neonatal mortality among deliveries conducted in private sector is much higher than in public sector

- Prolonged labour, excessive bleeding and convulsions were found to be higher among deliveries conducted in
- private facilities (Kumar et al., 2014)
- Quality of care" in private sector may be an issue, but there is lack of data to assess
- Provider qualifications are inconsistent in private sector
- Lack of enough data to judge the private sector Information
- on the nature of MNCH services are scarce
- Lack of information on qualifications of MNCH service providers in the private sector
- Limited data to capture quality of services provided by private sector, particularly for the deliveries with complications

KEY EVIDENCE

- **Private sector use for maternal health services is on the rise** – While public sector offers free health care services or services at nominal costs, due to lack of adequate infrastructure and quality concerns, people tend to access services from the private sector which is unaffordable and expensive (Diwan et. al., 2019). Findings indicated that 36% of women received any ANC services from private sector and 26% delivered in the private sector. Out of those who received ANC from only private facility, nearly 22% went to public facility for delivery, increasing the load on public facility for delivery care services. It was found that women go to private sector more for ANC services than delivery services. Overall, use of private sector for delivery has increased overtime, even among urban poor.

- **Private sector is associated with higher c-section services and higher neonatal mortality** – Findings highlighted that higher proportion of C-sections being conducted at private sector compared to public facilities. Further, higher ENMR was reported in the private sector compared to public sector. For example, in Bihar 31% of C-section deliveries were conducted in private health facilities and only 2% were conducted in public health facilities. Similarly, neonatal mortality rate was 56 per 1000 live births among deliveries conducted in private health facilities compared to 31 per 1000 live births among deliveries conducted in public health facilities. This pattern is similar across the states except for Assam. Higher proportion of women who accessed abortion services in private sector reported abortion related complications compared to those who accessed these services from public health facility (19% vs 15%). This points out the need to look at the quality of care provided by the private health sector. A key part of improving the maternal health across the country can be through leveraging public-private partnerships. However, structural issues with no clear staffing norms in private facility and the haphazard compliance are impediments for successful partnerships. Private providers empanelled under JSY, RSBY etc. often drop out due to low or delayed reimbursement. There is poor knowledge among beneficiaries regarding the availability of free services in private facilities. There are a large number of unqualified providers offering MNCH services in the private sector and the lack of determined leadership or accountability in public sector often hinders the smooth execution of the contracts with the private sector. The failure of PPP can also be attributed to the lack of trust between the public and private heath sectors. In some instances, wherein BPL cards were distributed to non-poor households demoralising the private practitioners that had joined the PPP for altruistic purposes (Diwan et. al., 2019).

- **Low coverage of the Clinical Establishment Act 2010** – In order to create a check on the private health system, the Clinical Establishment Act (CEA) bill was introduced. However, the guidelines for the CEA are rigid and difficult to follow. CEA demands high compliance standards that is perceived as extra work without appointment of a dedicated staff. Budget constraints and lack of information hinder the implementation of the CEA. Limited steps have been taken to spread awareness about the act, by keeping the civil society out of the mandated committees making the CEA less transparency (Nandi, et al., 2016). Most of the legislations in health are centrally driven hence the state is not bound to accept the mandate set by the centre. With the lack of an overarching system in regulation, it affects the implementation of the CEA (Baru, 2013). The private bodies in health care continue to oppose the CEA preventing universal health care in India. The Indian Medical Association (IMA) has opposed the CEA highlighting that the act raises the cost of patient care and will ultimately lead to the closure of several small and medium hospitals. IMA stated that the current CEA is not patient or doctor friendly and will ultimately be counterproductive (Rana, 2015) . The states which have adopted the CEA include Arunachal Pradesh, Himachal Pradesh, Mizoram, Sikkim, Bihar, Rajasthan, Uttar Pradesh, Uttarakhand, Jharkhand, Assam, Haryana. The act although aims at improving the health care system, does not provide any technical assistance for implementation. Capacity building of the staff needs to be undertaken to ensure dialogue amongst various stakeholders and policy makers about various provisions under the act. Limited information is available in India regarding the quality of health care. There is prevalence of widespread unqualified doctors, lack of untrained staff and absentee doctors, regulation is a key to ensure quality health care to the individuals (Nair, Timmons, & Evans, 2016).

IMPROVE MEASUREMENT SYSTEMS, DATA QUALITY; GENERATE EVIDENCE FOR ACTION

PROBLEM STATEMENT

Inconsistencies in the HMIS data and lack of appropriate denominators are hindering the use of data and in identifying the women requiring timely and efficient health services.

- Lack of appropriate denominators in HMIS data
- There is inconsistency in data recording and repeat entries observed in HMIS data
- Lack of data on service uptake from private health sectors in HMIS
- Discrepancy between estimation from service statistic and population-based data are more in recent years for PPIUCD, but not for PPFS
- Low maternal death review, and reporting in HMIS

KEY EVIDENCE

- **Discrepancy in services statistics (HMIS) and surveys (i.e. NFHS)** – There is discrepancy between HMIS 2015-16 and NFHS 2015-16 and in nearly one-third of states/ UTs % deviation of 25% or more between HMIS and NFHS-4 was reported for ANC registration within first trimester. Deviation was highest in Nagaland (108%), Jharkhand (54%), and Puducherry (49%) (Niti Ayog, 2019). Inconsistency in number of PPIUCD insertion was observed when estimated from the HMIS 2015-16 and NFHS 2015-16 4 data. Over the years, service statistic shows higher acceptance for PPIUCD than population-based estimates. However, for PPFS the trends show the opposite. Discrepancy exists in coverage of maternal and child health services between HMIS and evaluations. For example, discordance for IFA supplementation and 3 or more ANC visits was 41% and 16%, respectively. Prior research also highlighted the issue of over-reporting of key coverage indicators. Poor capacity of grass-roots level workers, lack of regular and repeated trainings of data entry operators and allied health workers was some of the reasons highlighted in literature for issues related to HMIS.

- **Service statistics do not provide some important health information** – The existing format of HMIS excludes information about tribal population and the grouping of social categories (SCs, STs and other) leading to overlooking culture-specific issues (Dehri & Chatterjee,2008). The maternal death review coverage reported in HMIS is low (24 %). In 19 state/ UTs, death review reporting was less than the national level.The evidence suggests that the quality of HMIS needs to be improved in terms of consistency between the central and state data, coverage of private sector data, data scrutiny, thrust area indicators and data definitions. The HMIS also needs strengthening to provide appropriate denominators. For example, HMIS captures the number of anaemic women but does not provide data on the appropriate denominator (i.e. total number of women tested for anaemia): Repeat entries are observed in HMIS data and there has been inconsistency in data recording.

INNOVATION CHALLENGES

Although, MNCH indicators have improved across the country overtime, however there is lot of room for improvement. There is a need for innovative strategies that can improve maternal health, and this can be done by focusing on capacity building programs in the health sector. Community dynamics and cultural norms of the geographical location need to be taken into consideration before program implementation. Focus needs to be aligned towards the marginalized population which includes adolescents, urban-poor, poor and women with no schooling. While government has introduced several schemes to improve maternal health in the country, it has several bottlenecks and that can be improved by streamlining procedures and ensuring that the states get the requisite funding in time. The health system of the country is in need for a major overhaul to improve the current situation. Lack of system readiness across health system at different levels: administrative, facility readiness, human resources poses a major implementation challenge.With implementation dependent on NHM funds, the delay in the transfer of funds to the state treasury leads to catastrophic out of pocket expenditure for delivery and other maternal health services. Private-public partnerships should be explored, as research demonstrates that shortage of resources can be reduced with such partnerships. Knowledge exchange between states can help improve maternal health outcomes and strategies can be developed using program strengths and failures from across the country. While, efforts have been made in improving maternal health in the country, by streamlining the procedures, addressing the current challenges and with innovative interventions, further improvement in maternal health care could be achieved.

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