Pradhan Mantri Matru Vandana Yojana

Insights from Ranking of Key Performance Indicators, NFHS 2015–16 and NFHS 2019–21

INDIA POLICY insights

If you can see a problem, you can solve it.

Introduction

Launched in 2017, Pradhan Mantri Matru Vandana Yojana (PMMVY) is a maternity benefit scheme providing Direct Benefit Transfer (DBT), or the direct transfer of financial subsidies, to pregnant lactating women to tackle the problem of undernourishment in women. PMMVY plays a vital role in alleviating this severe issue by providing timely and adequate support for their first living child to pregnant women and mothers who are lactating.

The scheme is implemented by the Ministry of Women and Child Development. The funds for PMMVY are shared between the Government of India and states in the ratio of 60:40. This ratio changes to 90:10 for the eight North-eastern and three Himalayan states.

The primary goal of PMMVY is to compensate pregnant and lactating mothers for pay loss so that they may rest well before and after the birth of their first living child. Cash incentives for early pregnancy registration, cash transfers for nutrition assistance after six months of pregnancy, and ultimately cash transfers for birth registration are all included in this plan. PMMVY is a Centrally Sponsored Scheme, and benefits are directly transferred to the beneficiaries without the administrative complexity of additional intermediaries. Eligible beneficiaries also receive incentives under the Janani Suraksha Yojana (JSY).

Objective

"Once a problem can be seen, it can be solved." With this motivation, this policy brief aims to present an overview of key performance indicators (KPIs) in the Pradhan Mantri Matru Vandana Yojana (PMMVY) programme. For this purpose, we offer a KPI for state and district and rankings to facilitate a rapid review of the PMMVY to date and promote awareness of the programme across states and districts. This effort is part of the broader objective of the India Policy Insights (IPI) team to promote evidence-based policy deliberation, formulation and action using its comprehensive online geo-visual data platform.

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Data and Method

This analysis uses data from the National Family Health Survey (NFHS 2019–21 and NFHS 2015–16), which provides a diverse range of salient population and health developmental indicators. The following method was used to calculate the Key Performance Indicators (KPI) for the PMMVY. The first step was reviewing and selecting the indicators most relevant for the PMMVY. Second, we identified which indicators were available for most districts in both NFHS 2015–16 and NFHS 2019–21. Indicators that met both criteria were then selected and are listed as follows:

- Mothers who had an antenatal check-up (ANC) in the first trimester (%)
- Mothers who had at least 4 ANC visits (%)
- Mothers who received postnatal care from a skilled provider within 2 days of delivery (%)
- Women with low Body Mass Index (BMI<18.5) (%)
- Children age 6-59 months who are anemic (%)
- Mothers who consumed iron-folic acid (IFA) for 100 days or more when they were pregnant (%)
- Institutional Births (%)
- Births attended by skilled health personnel (%)
- Registered pregnancies for which the mother received a Mother and Child Protection card (%)
- Mothers with last birth protected against tetanus (%)

All indicators are transformed in the same direction (either positive or negative). To develop the KPI index, these indicators were then normalised to enable the comparison of districts across multiple indicators: states and districts were given a value between 0 and 1, with 0 being allotted to the lowest-performing district/state and 1 to the highest-performing district/state. Each indicator was normalised using the standard min-max method. After repeating this process for every indicator, the KPI for a district/state was calculated by taking a simple average of the normalised values for each indicator.

To review the district-level distribution of prevalence for each indicator, we also present a box plot based on NFHS 2019–21. To identify which indicators were *slow-moving*, the difference between the median for each indicator's values can be compared in the box plot. The indicators with the lowest median values are among the *slow-moving* indicators.

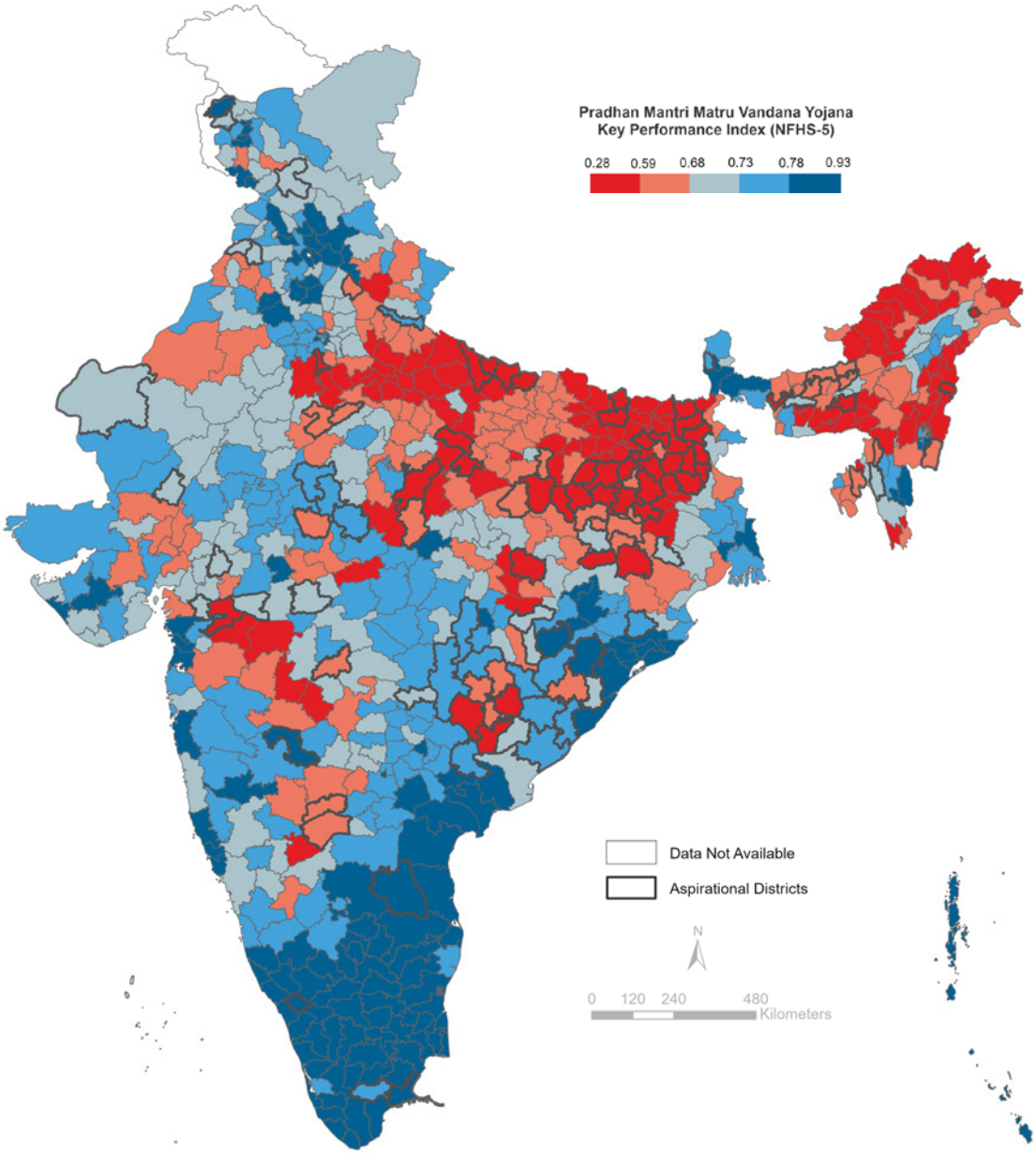
Table 1: PMMVY KPI Index Values and Rankings for Indian States, NFHS 2019-21

State	2015–16		2019–21		Rank Change
	KPI	Rank	KPI	Rank	
Kerala	0.912	1	0.878	1	= 0
Goa	0.873	2	0.857	2	= 0
Tamil Nadu	0.730	6	0.821	3	▲ 3
Andhra Pradesh	0.768	4	0.749	4	= 0
Odisha	0.660	12	0.711	5	▲ 7
Himachal Pradesh	0.666	11	0.701	6	▲ 5
Telangana	0.717	8	0.695	7	▲ 1
Haryana	0.604	16	0.693	8	▲ 8
Karnataka	0.668	10	0.681	9	▲ 1
Sikkim	0.825	3	0.679	10	▼ -7
West Bengal	0.625	13	0.679	11	▲ 2
Punjab	0.768	5	0.660	12	▼ -7
Mizoram	0.729	7	0.641	13	▼ -6
Gujarat	0.614	15	0.640	14	▲ 1
Rajasthan	0.543	20	0.631	15	▲ 5
Maharashtra	0.684	9	0.630	16	▼ -7
Uttarakhand	0.510	21	0.626	17	▲ 4
Manipur	0.624	14	0.619	18	▼ -4
Madhya Pradesh	0.484	23	0.613	19	▲ 4
Chhattisgarh	0.602	18	0.579	20	▼ -2
Assam	0.552	19	0.559	21	▼ -2
Tripura	0.603	17	0.557	22	▼ -5
Uttar Pradesh	0.406	24	0.496	23	▲ 1
Arunachal Pradesh	0.326	27	0.439	24	▲ 3
Jharkhand	0.391	25	0.428	25	= 0
Meghalaya	0.488	22	0.396	26	▼ -4
Bihar	0.336	26	0.323	27	▼ -1
Nagaland	0.229	28	0.255	28	= 0
Union Territories (UTs)					
Lakshadweep	0.889	1	0.873	1	= 0
A & N Islands	0.811	3	0.847	2	▲ 1
Puducherry	0.841	2	0.843	3	▼ -1
Chandigarh	0.738	4	0.802	4	= 0
NCT of Delhi	0.670	7	0.729	5	▲ 2
Jammu & Kashmir	0.709	6	0.727	6	= 0
Ladakh	0.723	5	0.681	7	▼ -2
DNH & DD	0.589	8	0.660	8	= 0

Table 2a: 10 Highest Ranking Districts (as per NFHS 2019–21)	2015–16		2019–21	
	KPI	Rank	KPI	Rank
Wayanad, Kerala	0.869	13	0.933	1
Kasaragod, Kerala	0.885	7	0.930	2
Kozhikode, Kerala	0.881	9	0.930	3
Kollam, Kerala	0.887	6	0.910	4
Malappuram, Kerala	0.857	16	0.910	5
Yanam, Puducherry	0.849	22	0.910	6
Mahe, Puducherry	0.836	27	0.909	7
Erode, Tamil Nadu	0.781	84	0.903	8
Theni, Tamil Nadu	0.664	330	0.899	9
Idukki, Kerala	0.877	11	0.898	10

Table 2b: 10 Lowest Ranking Districts (as per NFHS 2019–21)	2015–16		2019–21	
	KPI	Rank	KPI	Rank
Araria, Bihar	0.417	670	0.414	695
Phek, Nagaland	0.332	695	0.412	696
Saharsa, Bihar	0.422	665	0.391	697
Zunheboto, Nagaland	0.333	694	0.386	698
Purnia, Bihar	0.437	652	0.382	699
Longleng, Nagaland	0.278	701	0.357	700
Kishanganj, Bihar	0.403	678	0.356	701
Mon, Nagaland	0.209	704	0.346	702
Tuensang, Nagaland	0.360	688	0.296	703
Kiphire, Nagaland	0.321	697	0.282	704

Map 1: PMMVY KPI Index Values and Rankings for Indian Districts, NFHS 2019-21



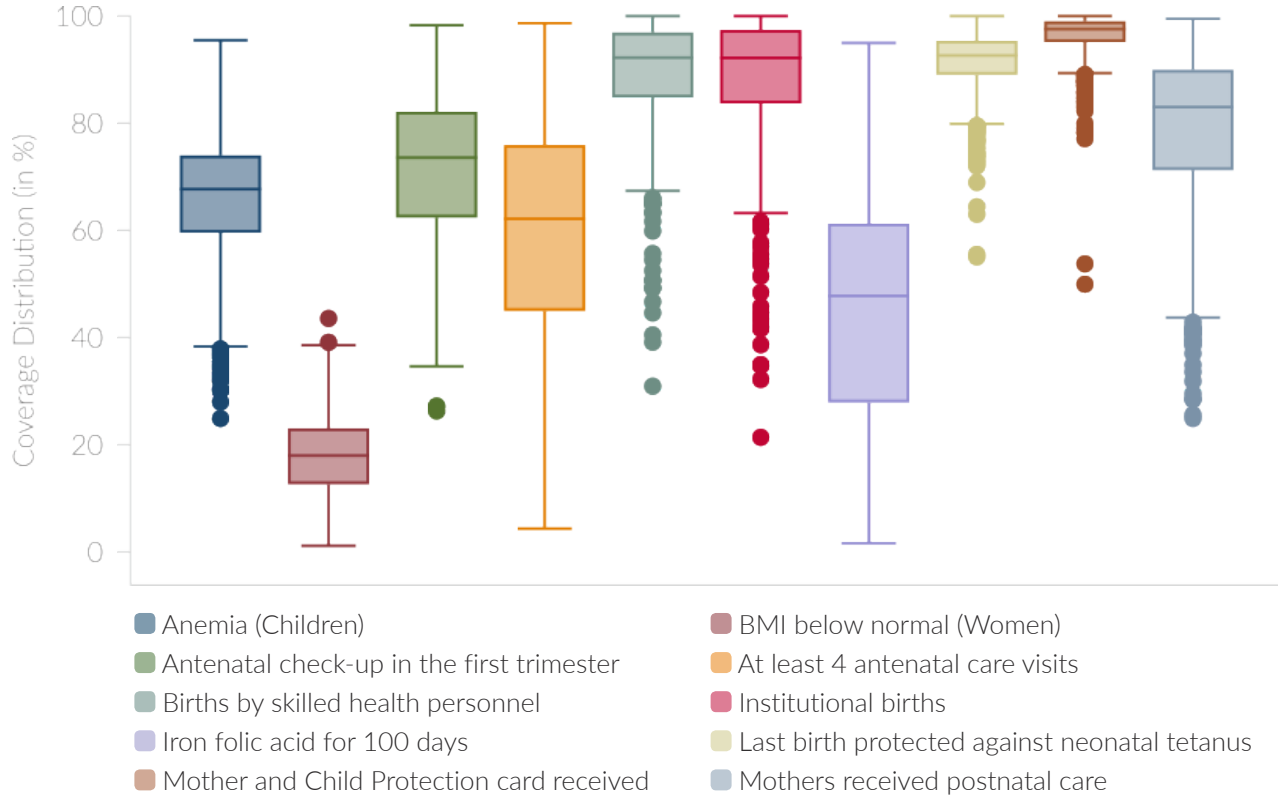
Key Findings

Kerala (KPI 0.878), Goa (0.857) and Tamil Nadu (0.821) are among the best performing states in the PMMVY KPI index for NFHS 2019–21 (Table 1). In contrast, Nagaland (0.255), Bihar (0.323) and Meghalaya (0.396) have relatively low KPI index values and are at the bottom of the state-level rankings. In NFHS 2015–16, Kerala and Goa were likewise ranked first and second. Haryana and Himachal Pradesh show a gain of eight and seven places, respectively. Conversely, Sikkim, Punjab and Maharashtra slip in their rankings by seven places each, compared to NFHS 2015–16. Lakshadweep (0.873), Dadra and Nagar Haveli, and Daman and Diu (0.660) were the highest and lowest performers among union territories in 2019–21.

The district-level KPI index rankings for NFHS 2019–21 are led by the Wayanad, Kerala (0.933), followed by the Kasaragod (0.9299) and Kozhikode (0.9298) districts of the same state (Table 2a). With a KPI index value of 0.282, the Kiphire district in Nagaland places at the bottom of the district level rankings, followed by the Tuensang (0.296) and Mon districts (0.346) from the same state, two other low performers (Table 2b). Notably, six of the top ten districts are from Kerala, whereas all ten of the poorest performing districts are from Nagaland (6 districts) or Bihar (4 districts).

Finally, among the ten KPIs reviewed here, the indicator *mothers who consumed iron-folic acid for 100 days or more during pregnancy* shows the highest disparities across districts (standard deviation of 21.1).

Figure 1: Box plot for distribution of prevalence of key indicators across districts, NFHS 2019-21



Note: The median value is denoted by the horizontal line in the box. The lower and upper end of the box represents 25th and 75th percentile, respectively. Whisker lengths are suggestive of distribution bias towards lower or upper end.

Conclusion and Recommendations

- PMMVY provides cash transfers to ensure coverage of essential primary health care services for maternal health and nutrition. However, with targeted counselling provided to the beneficiaries, these subsidies could also be leveraged to promote IFA supplementation during pregnancy. This indicator currently shows wide variation across districts.
- Similarly, the PMMVY transfers could be extended to incentivise children's IFA supplementation status. Presently, the prevalence of anemia among children is widespread, whereas the coverage of child IFA supplementation is very low across several districts. Financial incentives and conditions attached to the PMMVY scheme can become an effective tool to help improve the status of child anemia in India.
- More than 10% of the districts have more than 25% home-based births and are thus lagging in covering institutional deliveries (women giving birth in a health facility instead of at home) and the availability of skilled attendants at birth. The PMMVY scheme should be targeted for strategies to better understand and improve these deficiencies. Similarly, low levels of PMMVY coverage for Mother and Child Protection card and protection against neonatal tetanus are of significant concern in certain districts.

Contributions

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India Policy Insights (IPI) is a web-based knowledge platform for policy research in population health and development. IPI provides tools to visualize and analyze performance of policy indicators at district, parliamentary and assembly constituency, and village levels in India, with the aim of fostering evidence-based policy deliberation, formulation and action. It is led by the *Geographic Insights Lab* at the *Harvard Center for Population and Development Studies*, *Center for Geographic Analysis* at *Harvard*, and *Korea University*.

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