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SPECIAL BULLETIN ON MATERNAL MORTALITY IN INDIA 2019-21

SAMPLE REGISTRATION SYSTEM

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Maternal mortality in a region is a measure of the reproductive health of women in the area. Many women in reproductive age-span die due to complications during and following pregnancy and childbirth or abortion. As per World Health Organization, "**Maternal death** is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes".

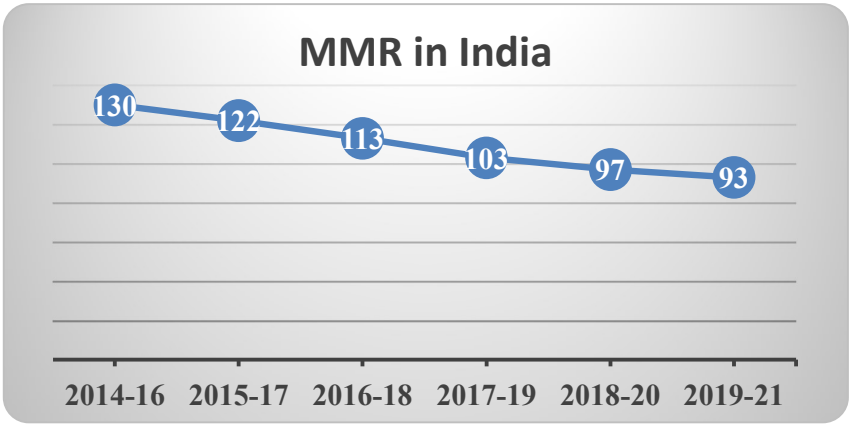
2. One of the key indicators of maternal mortality is the ***Maternal Mortality Ratio (MMR)*** which is defined as the number of maternal deaths during a given time period per 100,000 live births during the same time period. The target 3.1 of Sustainable Development Goals (SDG) set by United Nations aims at reducing the global maternal mortality ratio to less than 70 per 100,000 live births.

3. The Office of the Registrar General, India under the Ministry of Home Affairs, apart from conducting the Population Census and monitoring the implementation of the Registration of Births and Deaths Act in the country, has been giving estimates on fertility and mortality using the Sample Registration System (SRS). SRS is one of the largest demographic sample survey in the country that , among other indicators, provide direct estimates of maternal mortality through a nationally representative sample. Verbal Autopsy (VA) instruments are administered for the deaths reported under the SRS on a regular basis to yield cause-specific mortality profile in the country. The present bulletin provides the level of maternal mortality for the period 2019-2021.



For 2019-21, MMR estimate for India is 93.

4. In order to understand the maternal mortality situation in the country better and to map the changes that have taken place, especially at the regional levels, States have been categorized into three groups namely, "Empowered Action Group" (EAG) States comprising Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Odisha, Rajasthan, Uttar Pradesh & Uttarakhand and Assam; "Southern" States which include Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu; and "Other" States covering the remaining States/UTs; as was done in the previous reports. It is heartening that the Maternal Mortality Ratio in India has declined over the years to 93 in 2019-21 from 97 in 2018-20 and 103 in 2017-2019, as indicated in the graph below.



5. The key statistics presented in this Bulletin on Maternal Mortality are as follows:

- **Maternal Mortality Ratio (MMR):** This is derived as the proportion of maternal deaths per 1,00,000 live births, reported under the SRS.
- **Maternal Mortality Rate:** This is calculated as maternal deaths to women in the ages 15-49 per lakh of women in that age group, reported under SRS.
- **The life time risk** is defined as the probability that at least one women of reproductive age (15-49 years) will die due to child birth or puerperium assuming that chance of death is uniformly distributed across the entire reproductive span and has been worked out using the following formula:

$$\text{Life Time Risk} = 1 - \left(1 - \frac{\text{Maternal Mortality Rate}}{100000}\right)^{35}$$

6. Maternal deaths being a rare event require prohibitively large sample size to provide robust estimates. In order to enhance the SRS sample size, the results have been derived by following the practice of pooling the three years data to yield reliable estimates of maternal mortality. Further, in order to take care of the undercount, mainly on account of out-migration as VA forms during the period were administered after the conduct of the SRS Half Yearly Surveys, the actual number of maternal deaths for each state has been multiplied by a "Correction Factor". This correction factor, which is the ratio of total female deaths in a particular age group in SRS to the counts for the corresponding age group as yielded from VA forms, has been applied separately for different reproductive age groups as was done in the past.

Table 1: Maternal Mortality Ratio (MMR), Maternal Mortality Rate and Life Time Risk; India, EAG & Assam, South and Other states, 2019-21

India & Major States	MMR	95% CI	Maternal Mortality Rate	Lifetime risk
INDIA	**93**	**(84 - 103)**	**6.0**	**0.20%**
Assam	167	(96,238)	10	0.35%
Bihar	100	(64,137)	9	0.33%
Jharkhand	51	(8,95)	4	0.13%
Madhya Pradesh	175	(128,222)	15	0.53%
Chhattisgarh	132	(51,212)	9	0.33%
Odisha	135	(83,186)	8	0.28%
Rajasthan	102	(62,141)	9	0.30%
Uttar Pradesh	151	(113,190)	13	0.45%
Uttarakhand	100	(50,150)	6	0.21%
EAG AND ASSAM SUBTOTAL	**131**	**(114,147)**	**10**	**0.35%**
Andhra Pradesh	46	(13,79)	2	0.08%
Telangana	45	(4,85)	2	0.08%
Karnataka	63	(30,96)	3	0.11%
Kerala	20	(0,43)	1	0.03%
Tamil Nadu	49	(20,78)	2	0.08%
SOUTH SUBTOTAL	**47**	**(32,61)**	**2**	**0.08%**
Gujarat	53	(25,81)	4	0.13%
Haryana	106	(56,156)	8	0.26%
Maharashtra	38	(14,63)	2	0.07%
Punjab	98	(35,160)	5	0.17%
West Bengal	109	(68,150)	5	0.18%
Other states	71	(50,92)	4	0.12%
OTHER SUBTOTAL	**74**	**(61,87)**	**4**	**0.14%**

7. The table-2 given below presents the age-distribution of maternal and non-maternal deaths in India for the period 2019-21.

Table 2: Age Distribution of Maternal and Non-Maternal deaths, India, 2019-21

Age Group	Maternal Deaths		Non Maternal Deaths	
	Proportion	95% of CI	Proportion*	95% of CI
15-19	4%	(2,7)	8%	(7,9)
20-24	30%	(26,35)	11%	(11,12)
25-29	30%	(25,34)	11%	(11,12)
30-34	23%	(19,27)	12%	(12,13)
35-39	8%	(5,11)	15%	(14,15)
40-44	3%	(1,4)	18%	(18,19)
45-49	2%	(0,3)	23%	(23,24)
15-49	**100%**		**100%**	

*Due to rounding, percentages may not appear to add up to 100%.

Website link: https://censusindia.gov.in/