Newborns are perhaps the most vulnerable population the world over. Preterm or babies born too early, less than 37 weeks gestation, are particularly at risk. Currently, prematurity is the leading cause of death among children under five around the world, and a leading cause of disability and ill health later in life. Sub-Saharan Africa and south Asia account for over 80 percent of preterm births worldwide. Of the fifteen million babies born too early each year, more than one million die due to complications related to preterm birth. Low birth weight (newborns weighing less than 2,500 grams at birth), due to prematurity and/or restricted growth in utero, is also a major contributor of newborn and child deaths, as well as disability and non-communicable diseases globally.

Nearly 85 percent of preterm babies are born between 32 and 37 weeks gestation and most of these babies do not need intensive care to survive. Solutions to improve the survival and health of vulnerable preterm and low birth weight babies exist. Essential newborn care (drying, warming, immediate and exclusive breastfeeding, hygiene and cord care) as well as basic care for feeding support, infections and breathing difficulties can mean the difference between life and death for small babies. More effort is needed to identify women at risk of preterm labor and support them to give birth in a health facility that can offer extra care when needed, such as support for adequate feeding with breast milk, continuous skin to skin contact, antibiotics, and antenatal corticosteroids. To do this, it is critical that families, communities and health care workers value small babies so that they receive the life-saving care they need. To turn the tide on these preventable deaths, we need action across the spectrum of care from adolescence and preconception, pregnancy, the safe management of labor and delivery, and effective immediate and later postnatal care.

Current, local data are crucial to inform priorities and drive scale-up. This national level profile provides the most current national-level information on the status of prevention and care for preterm birth and low birth weight in India. Data presented highlight a number of risk factors relevant to preterm and low birth weight in India as well as the coverage of important care for women and newborns from pregnancy, labor and delivery and the postnatal period. There is also information that provides insights into the health workforce, health policies, health information and community mobilization relevant to preterm birth and low birth weight.

The information provided here can be used to understand the current situation, increase attention to preterm births in India and to inform dialogue and action among stakeholders. Data can be used to identify the most important risk factors to target and gaps in care in order to identify and implement solutions for improved outcomes.

Much is already being done to prevent preterm birth and low birth weight and to improve outcomes for small babies. A safe and healthy start to life is at the heart of human capital and economic progress in every country, making care for small babies an essential investment in both the short- and long-term. As government leaders, civil society organizations, health workers, families, communities and other partners come together to enact change, we can prevent babies from being born too early and too small, and ensure that small babies get the critical life-saving care and nurturing they need.

In India, 3,520,000 babies are born too soon each year and 329,900 children under five die due to direct preterm complications.
### India

#### Profile of Preterm and Low Birth Weight Prevention and Care

**Risk Factors for Preterm Birth**
- Adolescent birth rate per 1,000 girls: 56
- Birth interval <24 months: 27%
- Short stature among women of childbearing age: 11%
- Anemia among women of childbearing age: 55%
- Obesity in women of childbearing age: 21%
- Adult diabetes prevalence: 6%
- Hypertension in women: 11%
- Adult HIV prevalence: <1%
- Tobacco use amongst women: 7%
- Households with place to wash hands, soap and water: 60%
- Solid fuel used for indoor cooking: 55%
- Violence during pregnancy: 4%

#### Reproductive Health & Care During Pregnancy
- Contraceptive prevalence rate (all methods): 54%
- Met need for birth spacing: 6%
- At least 1 antenatal care visit: 83%
- 4+ antenatal care visits: 51%
- First antenatal care visit <4 months: 59%
- ITN use in pregnancy: 60%
- HIV+ pregnant women receiving ARVs: No Data
- Pregnant women <34 weeks receiving ACS for threatened preterm labor: No Data

#### Birth & Postnatal Care
- Births attended by skilled attendant: 81%
- Births by caesarean section: 17%
- Infants weighed at birth: 78%
- Newborns initiated on KMC: No Data
- Early initiation of breastfeeding within 1 hour: 42%
- Exclusive breastfeeding up to 6 months: 55%
- PNC within 2 days (mothers): 65%
- PNC within 2 days (newborns): 27%

#### Preterm Births and Deaths
- Preterm birth rate (babies born <37 weeks): 13.6%
- Low birth weight rate (babies born <2,500g): 28%
- Babies born preterm per year: 3,520,000
- Ratio of boys to girls born preterm: 1.23
- Babies born per year <28 weeks: 165,800
- Impaired preterm survivors per year: 80,700
- Direct preterm child deaths per year: 329,900

#### Demographics
- Total population: 1,324,171,000
- Annual births: 25,244,000
- Total fertility rate per woman: 2.3

#### Health Facility Readiness
- Delivery facilities with ACS in stock: No Data
- Delivery facilities with neonatal bag and mask in stock: No Data

#### Health Workforce
- Number of physicians, nurses and midwives per 10,000 population: 28.5
- National plan for RMNCAH: Yes
- Clinical standards for preterm care at hospital level: 4/10
- Policy for kangaroo care: Yes
- Nursing students receive formal education in neonatal care: Yes
- Policy for antenatal corticosteroids use: Yes
- Policy for safe oxygen use and CPAP: No
- Perinatal mortality audit in policy: Yes
- Birthweight captured in health management information system: Yes
- Gestational age captured in health management information system: Yes

#### Health Policy
- National advocacy group for parents of preterm babies: No
- Preterm included in national RMNCAH behaviour change strategy: Yes

#### Health Information
- National plan for RMNCAH: Yes

#### Community Engagement
- National advocacy group for parents of preterm babies: No

- Preterm included in national RMNCAH behaviour change strategy: Yes

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DEFINITIONS AND DATA SOURCES

**RISK FACTORS FOR PRETERM BIRTH**

<table>
<thead>
<tr>
<th>Adolescent birth rate</th>
<th>Number of births per 1,000 teenage girls aged 15-19. (9a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth interval &gt;24 months</td>
<td>Percentage of women with two live births within 24 months. (9a)</td>
</tr>
<tr>
<td>Female short stature</td>
<td>Percentage of women aged 15-19 years with a body mass index (BMI) of more than 25.0 kg/m². (9a)</td>
</tr>
<tr>
<td>Anemia in women of childbearing age</td>
<td>Percentage of women aged 15-19 years with a hemoglobin (Hb) concentration of less than 12.0 g/dl. (9a)</td>
</tr>
<tr>
<td>Female obesity</td>
<td>Percentage of women aged 15-19 years with a body mass index (BMI) of more than 25.0 kg/m². (9a)</td>
</tr>
<tr>
<td>Diabetes prevalence in women</td>
<td>Percentage of women with diabetes mellitus type 1 or type 2. (9a)</td>
</tr>
<tr>
<td>Hypertension in women</td>
<td>Percentage of women with hypertension during pregnancy. (9a)</td>
</tr>
<tr>
<td>Adult HIV prevalence</td>
<td>Percentage of women with HIV. (9a)</td>
</tr>
<tr>
<td>Tobacco use amongst women</td>
<td>Percentage of women aged 15-19 years who smoke cigarettes or a pipe or use other tobacco products. (9a)</td>
</tr>
<tr>
<td>Households with place to wash hands, soap and water</td>
<td>Percentage of households with a washbasin or sink with soap and water. (9a)</td>
</tr>
<tr>
<td>Households with solid fuel for indoor cooking</td>
<td>Percentage of households using solid fuel for cooking indoors. (9a)</td>
</tr>
<tr>
<td>Violence against women in pregnancy</td>
<td>Percentage of women aged 15-19 years who have experienced physical violence during pregnancy. (9a)</td>
</tr>
</tbody>
</table>

**HEALTH WORKFORCE**

- **Health worker density per 10,000 population**: Number of medical doctors (physicians), including generalist and specialist medical practitioners and midwifery personnel per 10,000 population. (12)
- **Clinical standards for preterm care at hospital level**: Number of critical elements of perinatal care (antenatal corticosteroids, surfactants, magnesium sulphate, antibiotics for preterm premature rupture of membranes, no antibiotics with intact membranes, vaginal birth preference, kangaroo mother care, continuous positive airway pressure for respiratory distress, neonatal intensive care unit, intravenous therapy, surfactant) included in national clinical standards or guidelines. (13)
- **Nursing students receive formal education in neonatal care**: Yes: Diploma or certificate program available for nurses in neonatal care / No: No formal additional certification. (13)

**HEALTH POLICY**

- **National plan for RMNCH**: Yes: Cost-shared plans to scale up maternal, newborn and child health interventions available at the national level. (Part of & Costed plan available but not for all components. / No: No costed implementation plan for maternal, newborn and child health available. (14)
- **RMNCH plans include antenatal care**: Yes: RMNCH strategy includes mention of any critical elements of preterm care. / No: No mention of any critical elements of preterm care. (13)
- **Policy for ACS use**: Yes: National policy recommends antenatal corticosteroids for preterm labor. / No: National policy does not recommend use of antenatal corticosteroids for preterm labor. (13)
- **Policy for safe oxygen use and CPAP**: Yes: National policy specifies safe oxygen use when continuous positive airway pressure is administered. / No: National policy does not specify safe oxygen use. (13)

**HEALTH INFORMATION**

- **Perinatal mortality audit in policy**: National policy adopted agreeing health workers to review perinatal deaths occurring in health facilities. Yes: National policy in place / No: No national policy. (13)
- **Birthweight captured in health management information system**: Place to capture birthweight on facility registers, or in annual health sector reports, where forms or registers were not available. (13)
- **Gestational age captured in health management information system**: Place to capture gestational age in weeks, on facility registers, or in annual health sector reports, where forms or registers were not available. (13)

**COMMUNITY ENGAGEMENT**

- **National advocacy group for parents of preterm babies**: Yes: Existence of at least one support group for parents and family members affected by perinatal death / No: No group information available. (13)
- **Preterm included in national RMNCH behaviour change strategy**: Yes: Messages regarding perinatal birth are included in national strategy. / No: National behaviour change strategy does not include preterm birth messages OR national behaviour change strategy. (13)

**DATA SOURCES**

8. doi:10.1016/S2214-109X(18)30451-0
12. doi:10.1016/S2214-109X(18)30451-0