State-Level Trends of Malnutrition Burden and its Indicators
1990-2017

India State-Level Disease Burden Initiative Malnutrition Collaborators

18 September 2019
India State-Level Disease Burden Initiative

- Launched in October 2015 as a joint effort of the ICMR, PHFI and IHME, in collaboration with the Ministry of Health and Family Welfare
- Disease burden and risk factors estimation for all states of India as part of the Global Burden of Disease Study (GBD)
- Extensive exercise to engage relevant domain experts, policy makers and other stakeholders across India: 300 collaborators from over 100 institutions across India
- Clear guidelines for collaborators, including primary ownership of India-specific research outputs with domain experts
- Clearly defined roles for ICMR, PHFI and IHME
- Identify major data gaps and contribute to building long-term data systems
- Advisory Board comprising of senior level policy makers and stakeholders
### NNM 2022 and WHO/UNICEF 2030 Targets for Malnutrition Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>National Nutrition Mission 2022 targets</th>
<th>WHO/UNICEF 2030 targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low birthweight</td>
<td>2% points prevention annually: 2017-2022</td>
<td>30% prevention: 2012-2030</td>
</tr>
<tr>
<td>Child stunting</td>
<td>Prevalence of 25% by 2022</td>
<td>50% number of children under-5 who are stunted: 2012-2030</td>
</tr>
<tr>
<td>Child underweight</td>
<td>2% points prevention annually: 2017-2022</td>
<td></td>
</tr>
<tr>
<td>Child wasting</td>
<td></td>
<td>Prevalence of less than 3% by 2030</td>
</tr>
<tr>
<td>Anaemia</td>
<td>3% points prevention annually in children under-5 and reproductive age women: 2017-2022</td>
<td>50% prevalence in reproductive age women from 2012 to 2030</td>
</tr>
<tr>
<td>Exclusive breastfeeding</td>
<td></td>
<td>Prevalence of exclusive breastfeeding in the first 6 months of at least 70% by 2030</td>
</tr>
<tr>
<td>Child overweight</td>
<td></td>
<td>Prevalence of less than 3% by 2030</td>
</tr>
</tbody>
</table>
Malnutrition Burden in India

2017

- Under-5 DALY rate per 100,000
  - ≥60,000
  - 50,000-59,999
  - 40,000-49,999
  - 30,000-39,999
  - 20,000-29,999
  - <20,000

- 7-fold variation between the states in DALY rate

1990 to 2017
- Two-thirds reduction in under-5 DALY rate and death rate attributable to malnutrition
- Proportional contribution of malnutrition to DALYs in all ages reduced from 36% to 17%

2017
- Two-thirds of total DALYs and deaths in under-5 still attributable to malnutrition
- Malnutrition is the leading risk factor for DALYs in all ages as well
Percent of total malnutrition DALYs from specific diseases in India in 2017
Prevalence Trends of Malnutrition Indicators in India: 1990 to 2017

Low birthweight and short gestation largest contributor to child deaths among the malnutrition indicators
Low Birthweight: Prevalence and Rate of Change

Data shown for states with population over 25 million in 2017
Stunting: Prevalence and Rate of Change

Prevalence relative to median for all states in 2017

Ratio of state prevalence to median for all states
- <0.75
- 0.75-0.99
- 1.00-1.24
- 1.25-1.49
- ≥1.50

Data shown for states with population over 25 million in 2017
Wasting: Prevalence and Rate of Change

Data shown for states with population over 25 million in 2017
Anaemia: Prevalence and Rate of Change

Data shown for states with population over 25 million in 2017
Exclusive Breastfeeding: Prevalence and Rate of Change

Data shown for states with population over 25 million in 2017
Child Overweight: Prevalence and Rate of Change

Child overweight is increasing in a subset of children at 5% per year in India.

It is increasing in all states, with several EAG states having among the highest rates of increase.

Data shown for states with population over 25 million in 2017.
## States Projected to Achieve Targets if the Trends up to 2017 Continue

<table>
<thead>
<tr>
<th>Health Indicator</th>
<th>Year</th>
<th>Achieving States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low birthweight</td>
<td>NNM 2022</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>WHO/UNICEF 2030</td>
<td>Maharashtra, Sikkim</td>
</tr>
<tr>
<td>Child stunting</td>
<td>NNM 2022</td>
<td>Goa, Kerala, Sikkim, Tamil Nadu</td>
</tr>
<tr>
<td></td>
<td>WHO/UNICEF 2030</td>
<td>Kerala, Uttarakhand, West Bengal</td>
</tr>
<tr>
<td>Child wasting</td>
<td>WHO/UNICEF 2030</td>
<td>None</td>
</tr>
<tr>
<td>Child underweight</td>
<td>NNM 2022</td>
<td>None</td>
</tr>
<tr>
<td>Child anaemia</td>
<td>NNM 2022</td>
<td>None</td>
</tr>
<tr>
<td>Anaemia in women</td>
<td>NNM 2022</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>WHO/UNICEF 2030</td>
<td>None</td>
</tr>
<tr>
<td>Exclusive breastfeeding</td>
<td>WHO/UNICEF 2030</td>
<td>Andhra Pradesh, Assam, Chhattisgarh, Himachal Pradesh, Jammu &amp; Kashmir, Manipur, Odisha, Telangana, Tripura</td>
</tr>
<tr>
<td>Child overweight</td>
<td>WHO/UNICEF 2030</td>
<td>None</td>
</tr>
</tbody>
</table>

With POSHAN Abhiyaan efforts since last year the number of states that would achievement targets is expected to higher than projected above with past trends.
Annual Rate of Change 2010-2017 in India versus Targets

<table>
<thead>
<tr>
<th>Condition</th>
<th>Annual Rate of Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low birthweight</td>
<td>-1.1</td>
</tr>
<tr>
<td>Child stunting</td>
<td>-2.3</td>
</tr>
<tr>
<td>Child underweight</td>
<td>-2.6</td>
</tr>
<tr>
<td>Child wasting</td>
<td>-3.2</td>
</tr>
</tbody>
</table>

During 2010-2017

Needed to achieve NNM 2022 target

Needed to achieve WHO/UNICEF 2030 target
Annual Rate of Change 2010-2017 in India versus Targets

<table>
<thead>
<tr>
<th>Metric</th>
<th>Annual Rate of Change (%)</th>
<th>Needed to achieve NNM 2022 target</th>
<th>Needed to achieve WHO/UNICEF 2030 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child anaemia</td>
<td>-1.8</td>
<td>-5.6</td>
<td>-6.2</td>
</tr>
<tr>
<td>Anaemia in women</td>
<td>-0.7</td>
<td>-4.9</td>
<td>-6.2</td>
</tr>
<tr>
<td>Exclusive breastfeeding</td>
<td>1.2</td>
<td>2.1</td>
<td>5.0</td>
</tr>
<tr>
<td>Child overweight</td>
<td>5.0</td>
<td></td>
<td>-9.8</td>
</tr>
</tbody>
</table>

-1.8
-5.6
-6.2
-4.9
1.2
2.1
5.0
-9.8

During 2010-2017
Needed to achieve NNM 2022 target
Needed to achieve WHO/UNICEF 2030 target
Summary

- Child mortality attributable to malnutrition has dropped by two-thirds since 1990
- The proportional contribution of malnutrition to disease burden in all ages together has dropped by half since 1990
- However, malnutrition continues to be the predominant underlying risk for child mortality and the leading risk for disease burden in all ages
- The prevalence of malnutrition indicators varies considerably across the states, as does the rate of improvement
- Low birthweight needs particular attention because of its large contribution to child mortality and slow rate of improvement
- The trends reported in this paper enable understanding of the additional effort needed in each state to achieve the national and global targets for malnutrition reduction
- Using multiple sources of data to arrive at composite estimates of malnutrition trends is likely to provide more robust findings than obtained with use of single sources of data
India State-Level Disease Burden Initiative Malnutrition Collaborators

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