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Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India

Policy Note

No. 8 | AUGUST 2017

Improving Nutrition in Jharkhand

Insights from Examining Trends in Outcomes, Determinants and Interventions between 2006 and 2016

INTRODUCTION

India has made considerable progress in child nutrition outcomes in the last decade. These rates of improvement, however, have been highly variable across the states, likely due to variability in state-level changes in the determinants of nutrition and in the coverage of health and nutrition interventions. Although all of the states operate under a similar national policy and programmatic environment, the variability in trends in nutritional outcomes point to state-specific factors. An understanding of such factors can facilitate both state-specific learning and cross-state learning, and help to identify strategies to help India accelerate progress in nutrition. In a series of *Policy Notes*, we examine state-specific trends in nutrition outcomes, determinants and the coverage of interventions, with the overall goal of supporting the state. This *Policy Note* focuses on Jharkhand.

Jharkhand, situated on the Chota Nagpur Plateau, in the eastern part of central India, includes 24 districts subdivided into 260 blocks and 32,620 villages, and is home to more than 30 million people (3 percent of the population of India) (Government of Jharkhand 2017). The state, mostly covered in forests, is rich in natural resources and is a part of the tribal belt of India. Until recently, Jharkhand was a part of the state of Bihar; it became a state under the Republic of India in November 2000 (Government of Jharkhand 2017).

The purpose of this *Policy Note* is to examine the trends in undernutrition in Jharkhand and to document trends and geographic variability in the major determinants of nutrition and the coverage of key nutrition and health interventions. In doing this analysis, we aim to highlight key areas for actions to improve nutrition in Jharkhand.

METHODS

We used summary data from the recently released National Family Health Survey-4 (NFHS-4 2015–16) fact sheets (International Institute for Population Sciences 2017) and data from the NFHS-3 from 2005–2006 to compare trends in outcomes, determinants and interventions over a decade (International Institute for Population Sciences 2008). We also used information from fact sheets of the Rapid Survey on Children (RSoC 2013–2014) (Ministry of Women and Child Development 2015) for indicators that are currently not available in NFHS-4 fact sheets. We used summary data reported in the NFHS-4 district-level fact sheets to examine inter-district variability.

For outcome indicators, we examined progress on a set of global nutrition targets for maternal, infant and young child nutrition (WHO 2014). These include stunting, wasting, low birth weight, exclusive breastfeeding, and anemia status among women of reproductive age.

We also examined levels and changes in several immediate, underlying and basic determinants of nutrition (Black et al. 2013). For intervention coverage, we chose to examine a set of nutrition-specific

interventions across the lifecycle for which data are currently available. These include interventions affecting pregnant women, newborn babies, infants, and children.

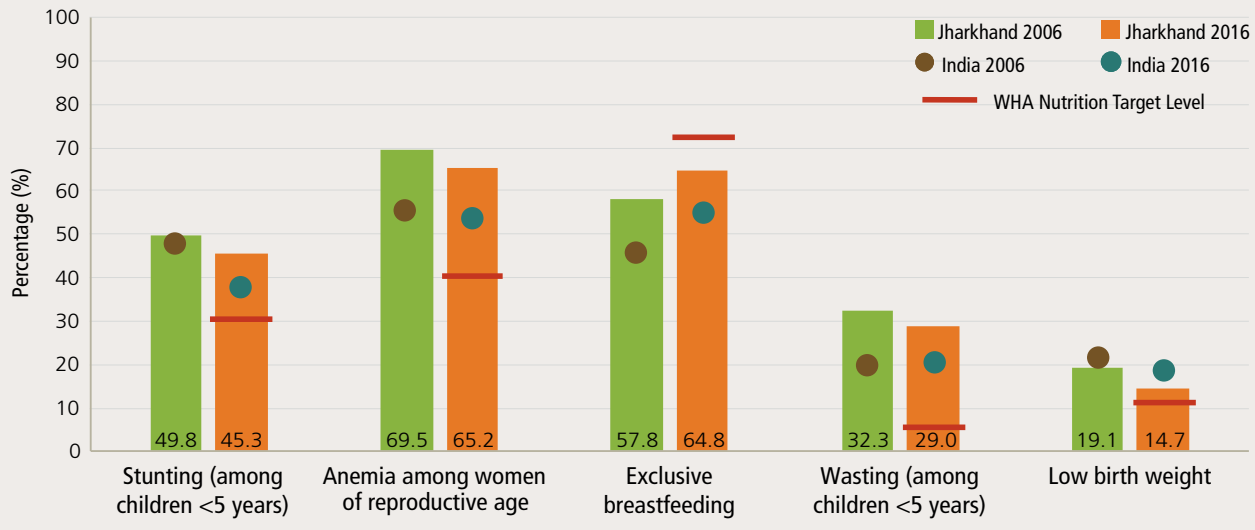
FINDINGS

Trends in nutrition outcomes and variability in outcomes by district

Overall, there has been little improvement in nutrition outcomes in Jharkhand between 2006 and 2016. Stunting prevalence is still very high (45.3 percent in 2016) and only saw a 4.5 percentage point decline from 2006 (Figure 1). Changes in the other nutritional outcomes are also minimal. Wasting declined from 32.3 percent to 29 percent and the prevalence of low birth weight fell from 19.1 percent to 14.7 percent. Of greatest concern is anemia among women of reproductive age, which saw minimal change from 69.5 percent in 2006 to 65.2 percent in 2016 and remains very high. Prevalence of exclusive breastfeeding (EBF), however, increased from 57.8 percent in 2006 to 64.8 percent in 2016.

There is variability in nutrition outcomes across the state. Stunting among children below five years varies among districts, ranging from 38.5 percent to 59.4 percent (Map 1) and is higher than 40 percent in almost all the districts. Pashchimi Singhbhum has the highest stunting rate (59.4 percent) in the state. The prevalence of anemia among women of reproductive age is higher than 50 percent across all districts in Jharkhand with little variability (Map 2). In majority of the districts, more than 60 percent of women are anemic. The prevalence of wasting ranges from 20.3 percent (Kodarma) to 43 percent (Khunti) (Map 3). In all the districts of Jharkhand, more than 20 percent of children are wasted, which indicates a significant public health concern. The prevalence of severe wasting ranges from 5.8 percent (Deoghar) to 27.3 percent (Khunti) (Map 4). The prevalence of EBF varies among districts in Jharkhand, ranging from 42.2 percent to 79.6 percent (Map 5). In 17 out of 24 districts the EBF prevalence is above 60 percent; it is lowest in Chatra (42.2 percent) and highest in Godda (79.6 percent).

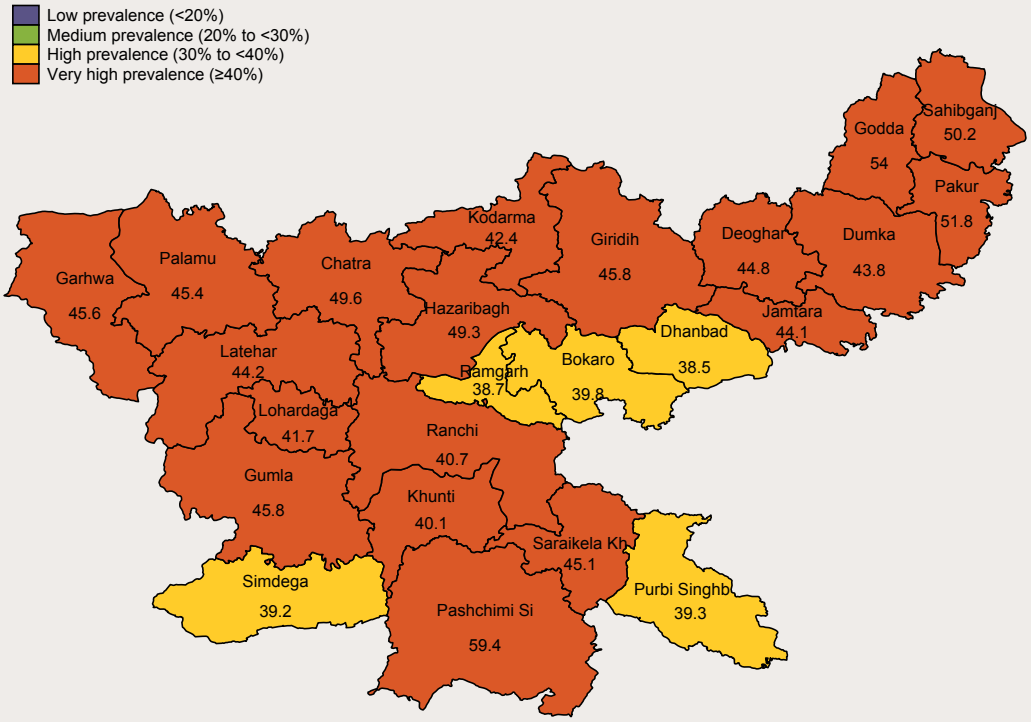
FIGURE 1 Trends in key nutrition outcomes in Jharkhand, 2006 to 2016



Sources: NFHS-3 and NFHS-4. RSoC for low birth weight.

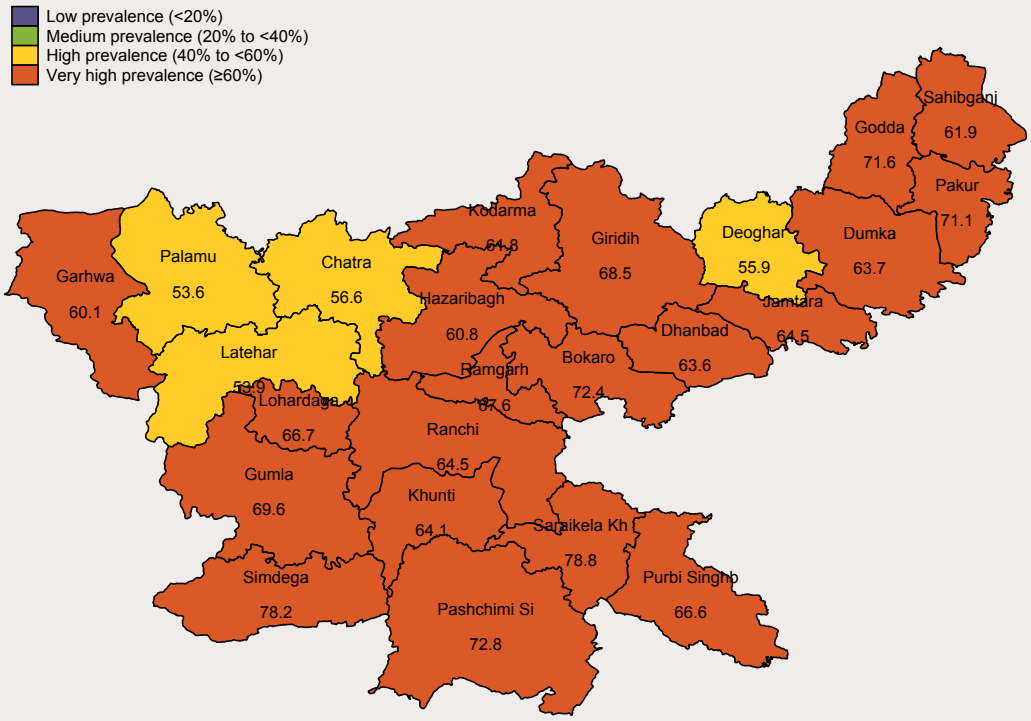
Notes: A set of global nutrition targets for maternal, infant and young child nutrition were endorsed by the World Health Assembly (WHA) in 2012. The red lines represent the WHA targets to be achieved by the state, by 2025. The baseline reference year for these targets is 2012. The state baseline estimates are based on the NFHS 4 (2016) as there is no survey data for 2012. Child overweight data is not available. Refer to endnotes for indicator definitions.

MAP 1 Stunting (among children <5 years) in Jharkhand in 2016, by district



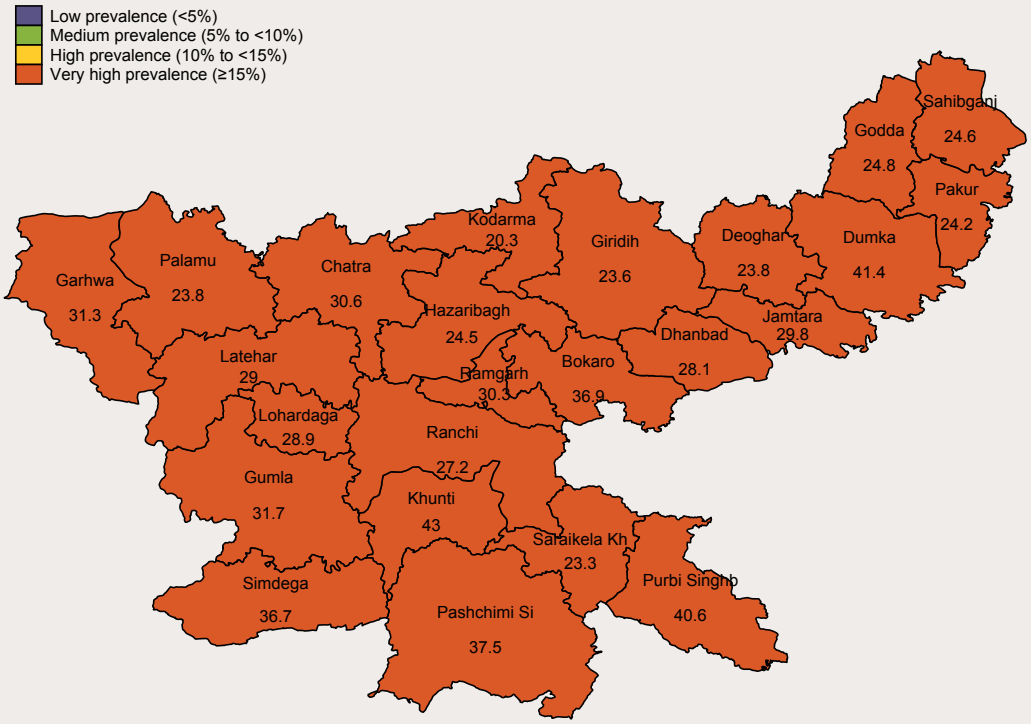
Source: NFHS-4.

MAP 2 Anemia (among women of reproductive age) in Jharkhand in 2016, by district



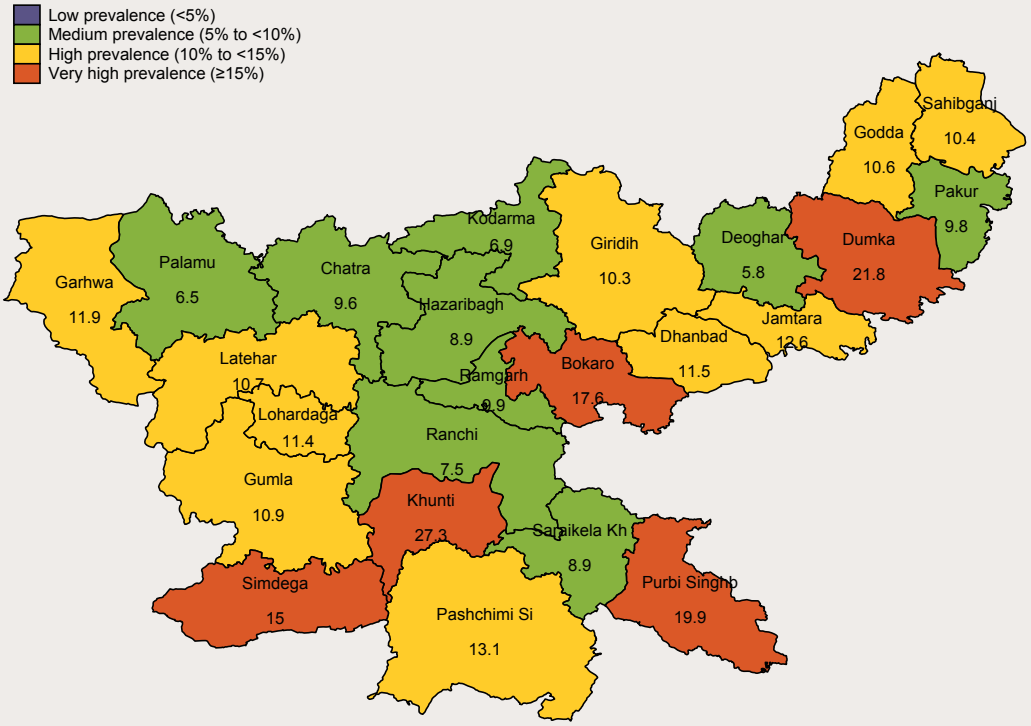
Source: NFHS-4.

MAP 3 Childhood wasting (among children <5 years) in Jharkhand in 2016, by district



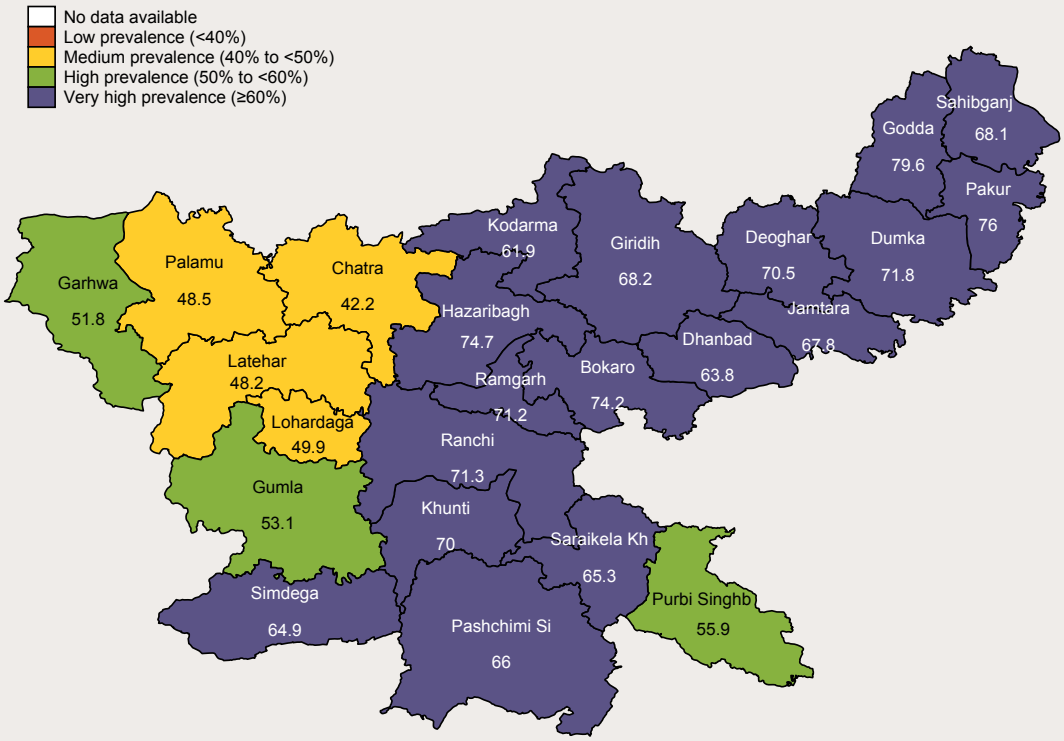
Source: NFHS-4.

MAP 4 Severe wasting (among children <5 years) in Jharkhand in 2016, by district



Source: NFHS-4.

MAP 5 Exclusive breastfeeding in Jharkhand in 2016, by district



Source: NFHS-4.

Changes in the determinants of undernutrition

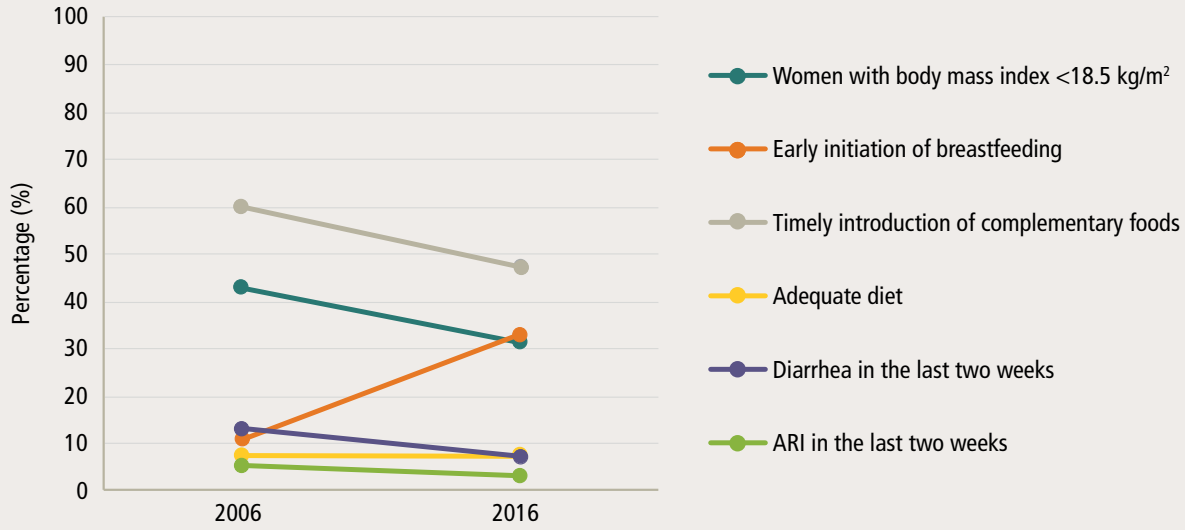
Improving nutrition for women and children requires that investments be made in changing the determinants of poor nutrition, using a variety of policy instruments and other efforts. Here, we examine changes in the immediate determinants and of nutrition-specific interventions to address those determinants. We also describe changes in the underlying determinants of nutrition. We do not examine coverage data on programs to improve the underlying determinants in this Note because data on those are not available at this time.

Changes in ***immediate determinants*** of nutrition in Jharkhand are described in Figure 2. The prevalence of low body mass index (BMI < 18.5 kg/m^2) among women declined from 42.9 percent to 31.5 percent. Early initiation of breastfeeding has improved considerably in the last decade from 10.9 percent in 2006 to 33.2 percent in 2016. The proportion of children with diarrhea has declined over time (from 13.3 percent in 2006 to 6.9 percent in 2016), and the proportion of children with acute respiratory infection declined from 5.2 to 3.2 percent for the same time period.

Complementary feeding for infants six months and older is of great concern in Jharkhand, as it is for the rest of India. Timely introduction of complementary foods (between 6 and 8 months of age) declined over the last decade (from 60.2 percent to 47.2 percent). In 2016, only 7.2 percent of children (between 6 and 23 months of age) received an adequate diet.

The coverage of all ***nutrition-specific interventions*** in Jharkhand improved during the last decade (Figure 3). During pregnancy, the proportion of women who received antenatal care during the first trimester and received at least four antenatal visits improved by 12 to 18 percentage points. Despite these changes, only half of women received antennal care during the first trimester and only a third of women received at least four antenatal visits in 2016. Iron and folic acid (IFA) consumption during pregnancy was very low and made only little improvement from 9.5 percent in 2006 to 15.3 percent in 2016. Although care during delivery was very low in 2006 (18.3 percent for

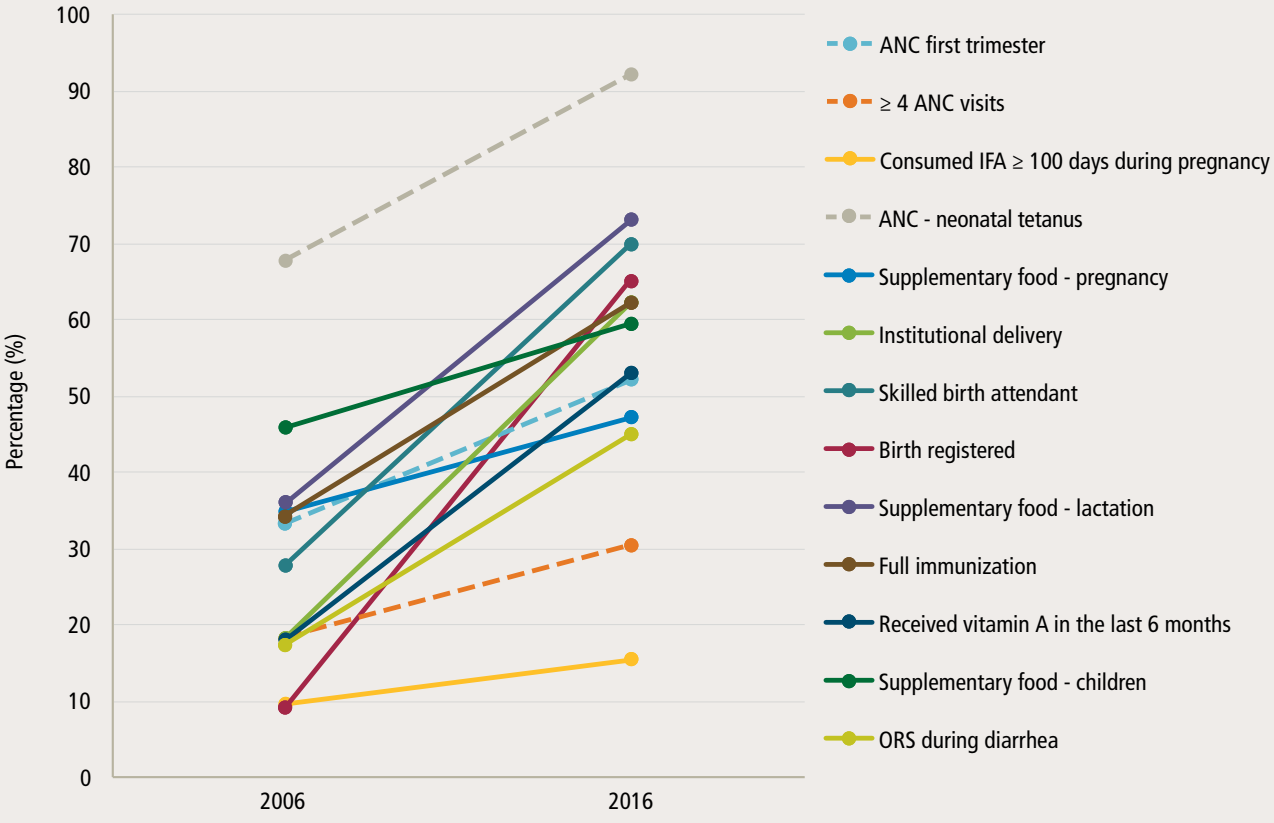
FIGURE 2 Changes in immediate determinants of nutrition in Jharkhand, 2006 to 2016



Sources: NFHS-3 and NFHS-4.

Notes: ARI= Acute respiratory infection. Refer to endnotes for indicator definitions.

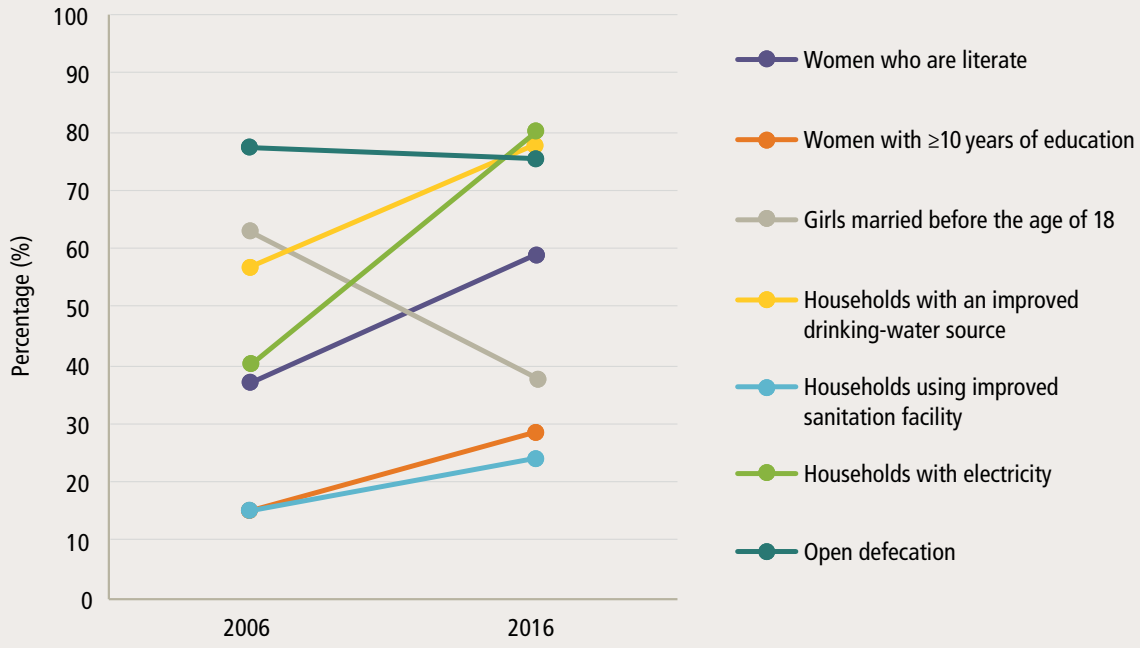
FIGURE 3 Changes in coverage of nutrition-specific interventions along the continuum of care in Jharkhand, 2006 to 2016



Sources: NFHS-3 and NFHS-4. RSoC data used for food supplementation.

Notes: ANC= Antental care; IFA= Iron and folic acid; ORS= Oral rehydration salts. Refer to endnotes for indicator definitions.

FIGURE 4 Changes in underlying determinants of nutrition in Jharkhand, 2006 to 2016



Sources: NFHS-3 and NFHS-4. RSoC data used for open defecation.

Note: Refer to endnotes for indicator definitions.

institutional deliveries and 27.8 percent for skilled birth attendant) compared to other states in India, it has improved substantially with over 40 percentage points increase in 2016. Coverage of food supplementation increased for pregnant women (from 34.7 percent to 47 percent), lactating women (from 35.9 percent to 72.9 percent) and children (from 45.7 percent to 59.3 percent) between 2006 and 2016. Nutrition interventions focused on children have improved in the last ten years. The proportion of children receiving vitamin A supplementation increased substantially from 18 percent to 52.9 percent, and children with diarrhea receiving ORS also increased from 17.4 percent to 44.8 percent. The proportion of children who were fully immunized increased substantially (from 34.2 percent to 61.9 percent).

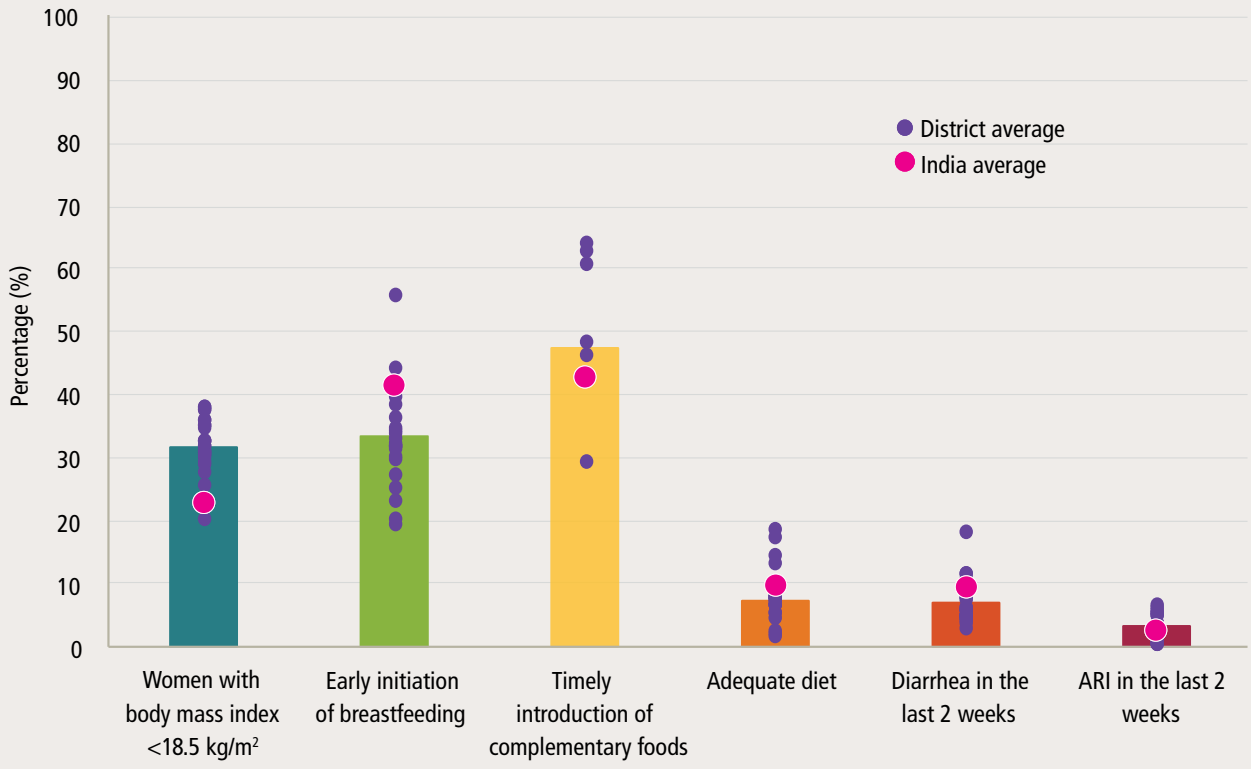
Changes in ***underlying determinants*** of nutrition are presented in Figure 4. There has been an increase in the proportion of women who are literate (from 37.1 percent to 59 percent) and the proportion of women with more than 10 years of education (from 15.1 percent to 28.7 percent). Early marriage in girls has dropped considerably in the last decade from 63.2 percent in 2006 to 38 percent in 2016.

Infrastructure has improved in Jharkhand in the last decade. In 2016, 77.8 percent of households had an improved drinking-water source. Access to electricity was low at 40.2 percent in 2006 but it improved in 2016, reaching 80 percent. Although the use of improved sanitation facilities by households improved between 2006 and 2016 (from 15.1 percent to 24.4 percent), more than three quarters of households are still not able to use improved sanitation facilities. The proportion of households practising open defecation, therefore, is high in Jharkhand (75.6 percent) and saw minimal change in the last decade (RSoC 2013–14).

Inter-district variability in selected determinants and coverage of interventions in Jharkhand in 2016

The 24 districts of Jharkhand for which NFHS-4 data is available cover a range of socio-economic characteristics. Among these districts there is a high degree of inter-district variability for many of the determinants (i.e. care during pregnancy, diarrhea treatment, age at marriage, access to electricity, drinking water etc.) (Figure 5-7). There is less inter-district variability for determinants where the levels are high across majority of districts (i.e. institutional deliveries, births assisted

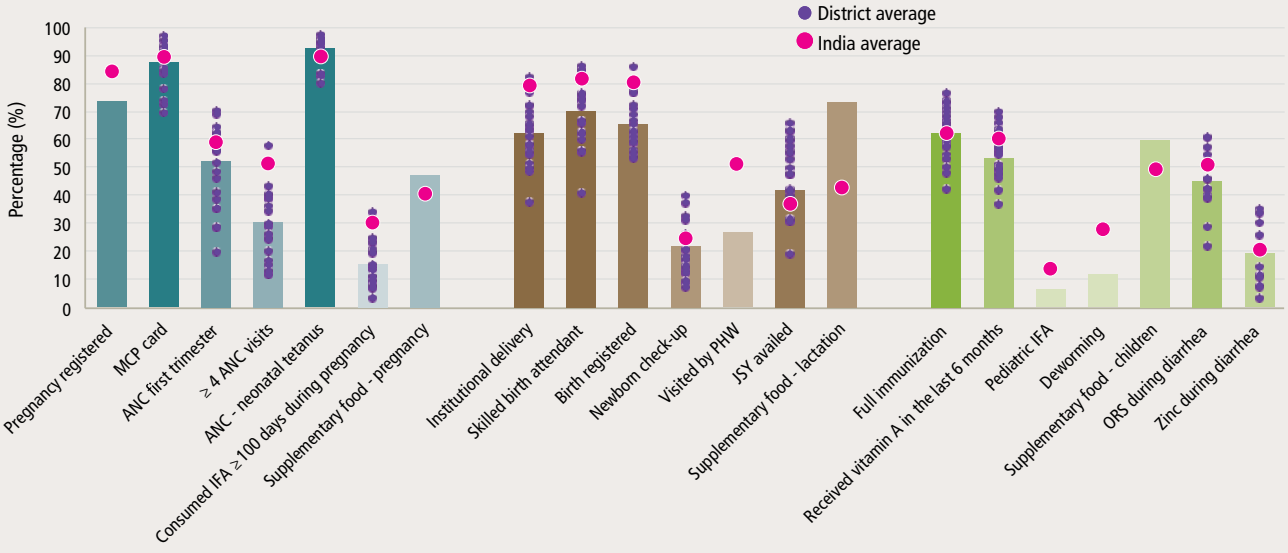
FIGURE 5 Inter-district variability in immediate determinants in Jharkhand, in 2016



Source: NFHS-4.

Notes: ARI= Acute respiratory infection. Refer to endnotes for indicator definitions.

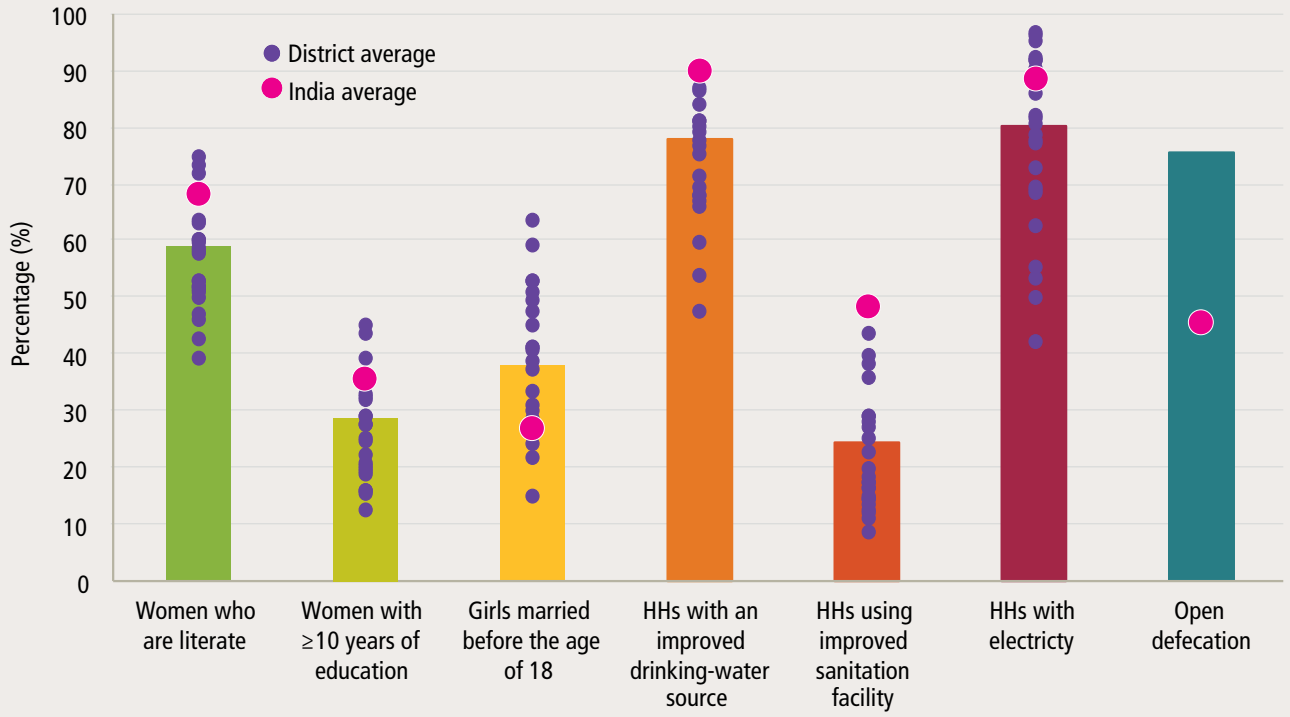
FIGURE 6 Inter-district variability in coverage of selected interventions in Jharkhand, in 2016



Sources: NFHS-4. RSoC data was used for indicators on pregnancy registration, food supplementation during pregnancy, lactation; and for children, visits by a health worker, pediatric IFA and deworming.

Notes: As RSoC data is not representative at the district level, district variablity is unavailable for these indicators. ANC= Antenatal care; IFA= Iron and folic acid; JSY= Janani Suraksha Yojana; ORS= Oral rehydration salts; MCP= Mother and child protection; PHW= Primary health worker. Refer to endnotes for indicator definitions.

FIGURE 7 Inter-district variability in underlying determinants in Jharkhand, in 2016



Sources: NFHS-4. RSoC data is used for indicator for open defecation.

Notes: HH= Household. Refer to endnotes for indicator definitions.

by a health professional and birth registration). The variability for adequate diet among children 6–23 months old or consumption of IFA during pregnancy is low because challenges are uniform across all districts and these determinants are significant areas of concern across the state. For some indicators, e.g., low BMI (BMI <18.5kg/m^2) among women and early initiation of breastfeeding, most districts in Jharkhand are doing much worse than the India average. For others, such as adequate diet and diarrhea among children, districts within Jharkhand fall around the national average.

LOOKING FORWARD: IMPLICATIONS & RECOMMENDATIONS

In the era where India has now embraced the sustainable development goals, it is an opportune time for Jharkhand to set its own nutrition targets to be achieved by 2025 and to set in motion accelerated actions for improved nutrition. In the last ten years, the state has seen significant improvements in the coverage of some nutrition-specific interventions, especially care during delivery, which were very low in the beginning of the decade. In addition, immunization coverage and vitamin A supplementation have also seen improvement. However, these improvements don't seem to commensurate with the minimal progress in reducing stunting and wasting, which are still very high and higher than the national average even. The reduction in anemia prevalence in women has also not seen much improvement.

To achieve progress in nutrition, the state should invest in improving the coverage of interventions targeting the first one thousand days of life. On nutrition-specific interventions, special efforts are needed to strengthen interventions related to maternal care during pregnancy such as antenatal care, IFA consumption (which saw little progress in the last ten years and is currently far from optimal), and food supplementation. The state also needs to continue to invest in sustaining and further improving adequate

care during delivery where coverage has improved but only around two thirds of the population receives adequate care during delivery. Given the suboptimal coverage of several postnatal interventions (full immunization, vitamin A, ORS and zinc) and especially inadequate complementary feeding practices, an all-out effort is needed to strengthen actions to support child health. On underlying determinants, low usage of an improved sanitation facility and high open defecation rates make sanitation a grave concern in Jharkhand, calling for urgent attention. Special efforts are also needed to improve women's education, and reduce the proportion of girls getting married before the age of 18. Overall, there seems to be a high inter-district variability across the outcomes and determinants, especially care during pregnancy, diarrhea treatment, age at marriage, access to electricity, and drinking water, which indicates the need to explore district-specific strategies.

Alongside investments in improving early nutrition, it is also important for Jharkhand to consider the challenge of non-communicable diseases. As Figure 8 below shows, the challenge is slowly emerging, with 10.3 percent of women and 11.1 percent of men in Jharkhand being overweight or obese. The challenges of high blood pressure and high blood sugar, which are close to the national average for men, can also be seen. This suggests that Jharkhand needs to consider ways to simultaneously address undernutrition and emerging non-communicable diseases related to nutrition.

NOTE

1. Indicator definitions, in alphabetical order:

Acute respiratory infection (ARI) in the last two weeks: Percentage of children below 5 years of age with symptoms of ARI in 15 days preceding the survey.

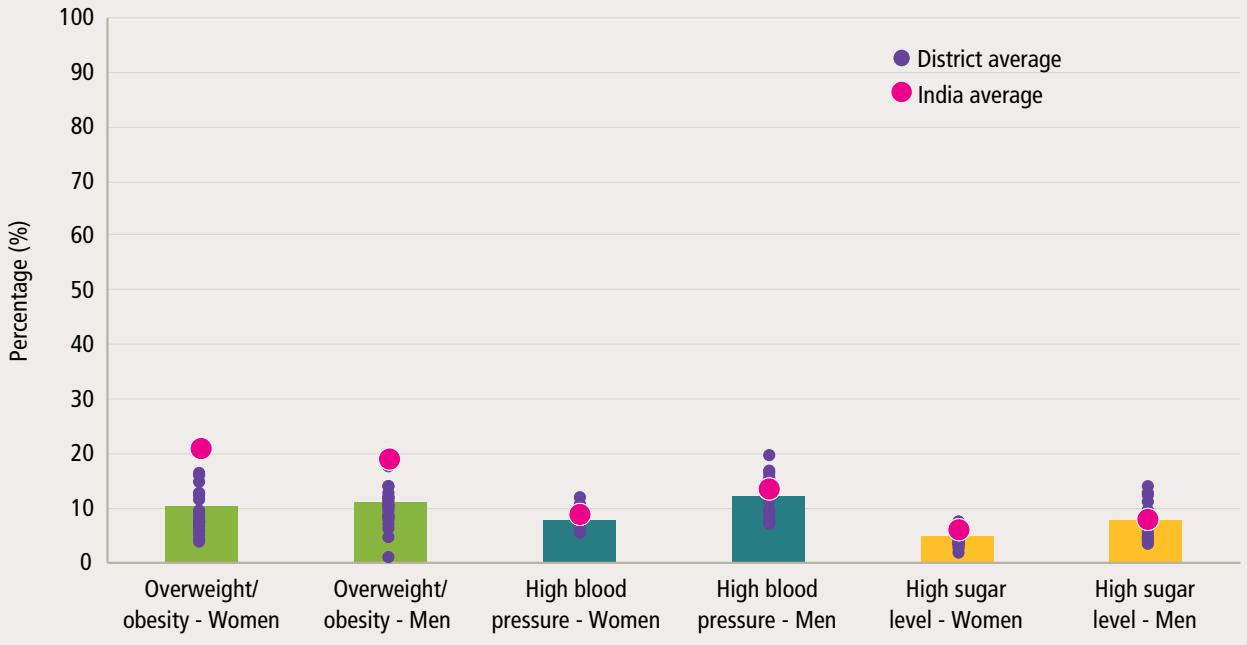
Adequate diet: Percentage of children 6–23 months old who received 4 or more food groups and a minimum meal frequency.

ANC (4 or more visits): Percentage of mothers receiving at least 4 ANCs for the last birth in the last 5 years.

Consumed IFA ≥ 100 days during pregnancy: Percentage of mothers who took IFA supplements for at least 100 days for the last birth in the last 5 years.

ANC (first trimester): Percentage of mothers who received ANC during the first trimester of pregnancy for the last birth in the last 5 years.

FIGURE 8 Levels of non-communicable disease in Jharkhand and India in 2016



Source: NFHS-4.

Note: Refer to endnotes for indicator definitions.

ANC-neonatal tetanus injections: Percentage of mothers who were protected against neonatal tetanus for the last birth in the last 5 years.

Anemia among women of reproductive age: Percentage of women 15–49 years old who are anemic (<12.0 g/dl for non-pregnant women and <11.0 g/dl for pregnant women).

Birth registered: Percentage of children under age 5 years whose birth was registered.

Deworming: Percentage of children 6–59 months old who were given deworming medication in the last 6 months.

Diarrhea in the last two weeks: Percentage of children below 5 years of age who had diarrhea in 15 days preceding the survey.

Early initiation of breastfeeding: Percentage of children who were breastfed within one hour of birth.

Exclusive breastfeeding: Percentage of infants 0–5 months old who were exclusively breastfed.

Full immunization: Percentage of children 12–23 months old who received BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth).

Girls married before the age of 18 years: Percentage of women 20–24 years old married before the age of 18 years.

High blood pressure: 15–49 year old men and women with systolic ≥140 mm of Hg and/or diastolic ≥90 mm of Hg.

High blood sugar:15–49 year old men and women with blood sugar level >140 mg/dl.

Households with an improved drinking-water source: Percent distribution of households with an improved drinking water source.

Households with electricity: Percentage of households with electricity.

Households using improved sanitation facilities: Percent distribution of households using improved sanitation facilities.

Institutional delivery: Percentage of births delivered in a health facility for births in the last 5 years.

Janani Suraksha Yojana (JSY) availed: Percentage of women who received financial assistance under JSY for births delivered in an institution for the last birth in the last 5 years.

Low birth weight: Percentage of live births in the last 5 years weighing less than 2,500 grams at birth.

Mother Child Protection (MCP) card: Percentage of registered pregnancies for which the mother received an MCP card.

Newborn check-up: Percentage of children who received a health check after birth from a doctor/nurse/LHV/ANM/midwife/ other health personnel within 2 days of birth.

Open defecation: Percentage of household having no sanitation facilities.

ORS during diarrhea: Percentage of children below 5 years of age who received ORS during diarrhea.

Overweight/obesity: 15–49 year old men and women with body mass index ≥25 kg/m^2.

Pediatric IFA: Percentage of children 6-59 months old who received iron and folic acid supplement in the last 6 months.

Pregnancy registered: Percentage of pregnancies registered among women who had a live birth in the 35 months preceding the survey.

Severe wasting: Percentage of children 0–59 months old who are <-3SD from median weight for height of the WHO Child Growth Standards.

Skilled birth attendant: Percentage of births assisted by a doctor/nurse/LHV/ANM/other health personnel.

Stunting: Percentage of children 0–59 months old who are <-2SD from median height for age of the WHO Child Growth Standards.

Supplementary food (children): Percentage of children 6–35 months old covered by an Anganwadi center (AWC) who received supplementary food provided at the AWC in the last 12 months.

Supplementary food (lactation): Percentage of mothers with children under age 6 years in areas covered by an AWC who received supplementary nutrition from the AWC during lactation.

Supplementary food (pregnancy): Percentage of mothers with children under age 6 years in areas covered by an AWC who received supplementary nutrition from the AWC during pregnancy.

Timely introduction of complementary foods: Percentage of infants 6–8 months old who received solid and semi-solid foods and breastmilk.

Visited by primary health worker (PHW): Percentage of women who were visited by a primary health worker (AWW/ ASHA/ANM) at home within one week of delivery/discharge from health institution, among those who had a live birth in 35 months preceding the survey.

Vitamin A: Percentage of children 9–59 months old who received vitamin A supplements in the last six months.

Wasting: Percentage of children 0–59 months old who are <-2SD from median weight for height of the WHO Child Growth Standards.

Women who are literate: Percentage of women who are literate.

Women with at least 10 years of education: Percentage of women 15–49 years old having at least 10 years of schooling.

Women with body mass index (BMI)<18.5kg/m2: Percentage of women 15–49 years old with BMI less than 18.5 kg/m^2.

Zinc during diarrhea: Percentage of children below 5 years of age who received zinc during diarrhea.

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ABOUT POSHAN

Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India (POSHAN) is a multi-year initiative that aims to build evidence on effective actions for nutrition and support the use of evidence in decisionmaking. It is supported by the Bill & Melinda Gates Foundation and led by IFPRI in India.

ABOUT POLICY NOTES

POSHAN Policy Notes aim to provide evidence-based guidance to support policy and program actions for nutrition in India.

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