Led by IFPRI

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

Policy Note

No. 17 | NOVEMBER 2017

Improving Nutrition in Telangana

Insights from the Current Status of Outcomes, Determinants and Interventions in 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, mostly due to variabilities 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 points to state-specific factors. An understanding of such factors can facilitate both state-specific learning and cross-state learning, and assist in identifying 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 Telangana.

Telangana, the 29th state of India was formed on the 2nd of June 2014. The state has an area of 112,077 square kilometers and has a population of 35.19 million. Telangana comprises of 31 districts, 68 revenue divisions and 8778 gram panchayats. The sex ratio is 988 women per 1000 men and the literacy rate is 66.5 percent.

The purpose of this *Policy Note* is to examine the current status of undernutrition in Telangana and to document 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 the key areas of action to improve nutrition in Telangana.

METHODS

We used summary data from the recently released National Family Health Survey-4 (NFHS-4 2015–16) state and district fact sheets (International Institute for Population Science 2017), to understand the current status of outcomes, determinants and interventions as well as to examine the inter district variability (International Institute for Population Sciences 2008). Since NFHS-4 used the Census 2011 district boundaries, this Policy Note reports information for only 10 districts.

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

We also examined the levels of several immediate, underlying and basic determinants (Black et al. 2013). For intervention coverage, we chose a set of nutrition-specific interventions across the lifecycle, including interventions affecting pregnant women, newborn babies, infants, and children.

We do not analyze changes over time for outcomes, determinants and interventions in this Policy Note because unit level data are not available at this time. The NFHS-4 summary data is not comparable to NFHS-3 and Rapid Survey on Children (RSoC) data as the state of Telangana was founded only in 2014.

FINDINGS

Current status of nutrition outcomes and variability in outcomes by district

In Telangana, among children under five years, 28 percent are stunted (Figure 1) which is below the national average. The prevalence of wasting and severe wasting among children is 18 percent and 4.8 percent, respectively. Anemia among women of reproductive age is a serious public health concern at 56.7 percent, a figure higher than the national average (53 percent). Exclusive breastfeeding (EBF) for children under six months is at 67.3 percent which is higher than the national average (54.9 percent).

Stunting among children under five years varies across districts, ranging from 15.7 percent in Hyderabad to 38.3 percent in Adilabad (Map 1). However, none of the districts in Telangana have a very high prevalence of stunting (that is, higher than 40 percent).

More than half the population of women of reproductive age is anemic in Telangana (Map 2). Mahbubnagar has the lowest prevalence of anemia among women (50.6 percent) while Khammam has the highest prevalence (71.2 percent).

In seven out of ten districts in Telangana, there is a very high prevalence of wasting (higher than 15 percent) (Map 3). Khammam has the lowest prevalence of wasting (13.7 percent) and Nalgonda has the highest prevalence of wasting (23.1 percent). The prevalence of severe wasting is less than 7 percent in all the districts in Telangana (Map 4). Rangareddy has the lowest prevalence of severe wasting (2.3 percent) and Nalgonda has the highest prevalence (6.6 percent).

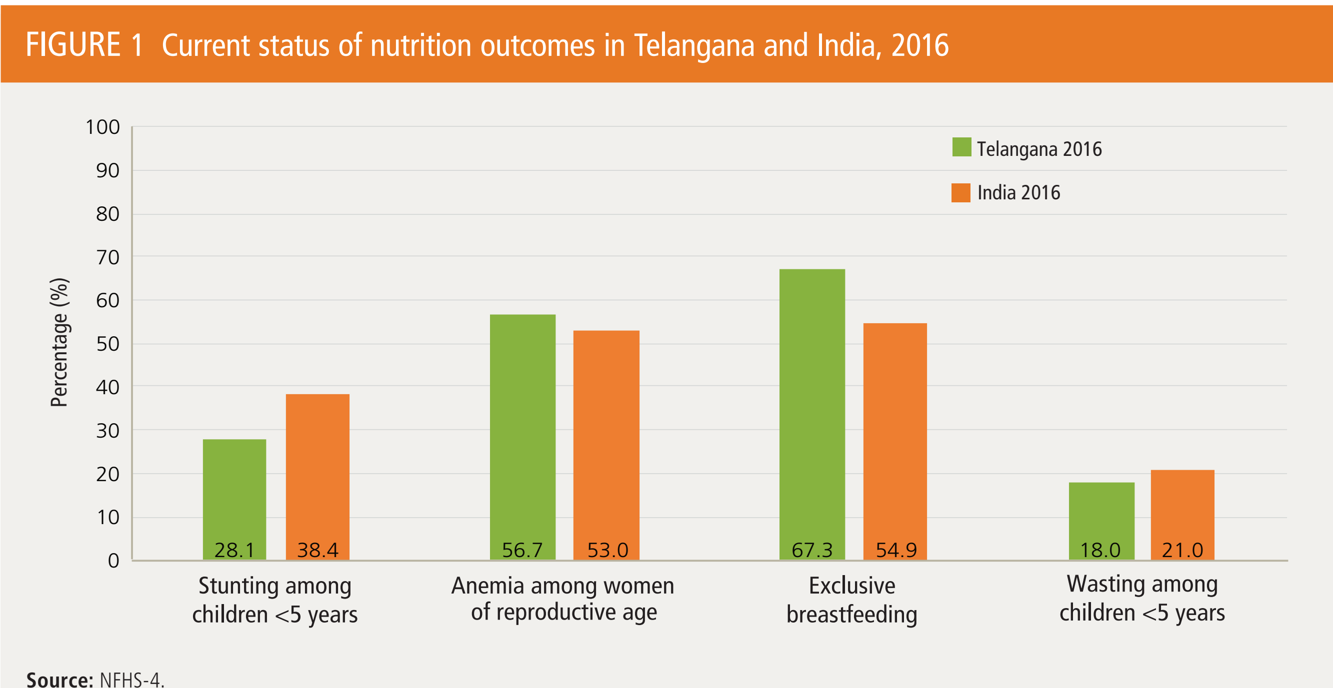
The summary data on EBF is available only for two districts (Adilabad and Mahbubnagar) making it difficult to assess inter-district variability for the entire state (Map 5). The prevalence of EBF in these two districts, however, is only about 55 percent.

Status of the determinants of nutrition

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

Among the ***immediate determinants of nutrition*** (Figure 2), Telangana demonstrates a mixed performance. The proportion of women with low body-mass index in the state (23.1 percent) is close to the national average (22.9 percent). Early initiation of breastfeeding is low with only 37.1 percent of children being breastfed within the first one hour of birth,

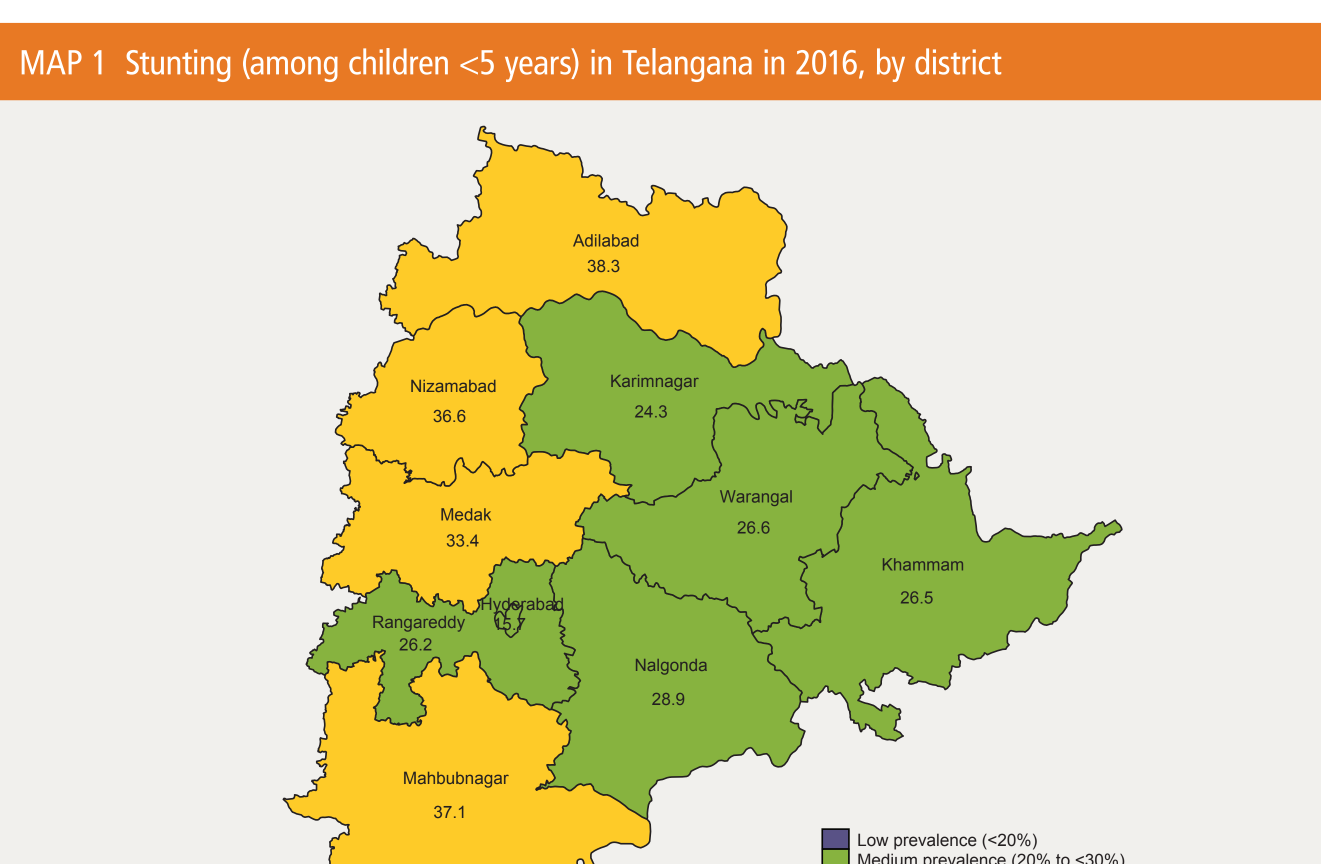
FIGURE 1 Current status of nutrition outcomes in Telangana and India, 2016



Source: NFHS-4.

Note: Child overweight data is not available; Low birth weight data for Telangana is not available; Refer to endnotes for indicator definitions.

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



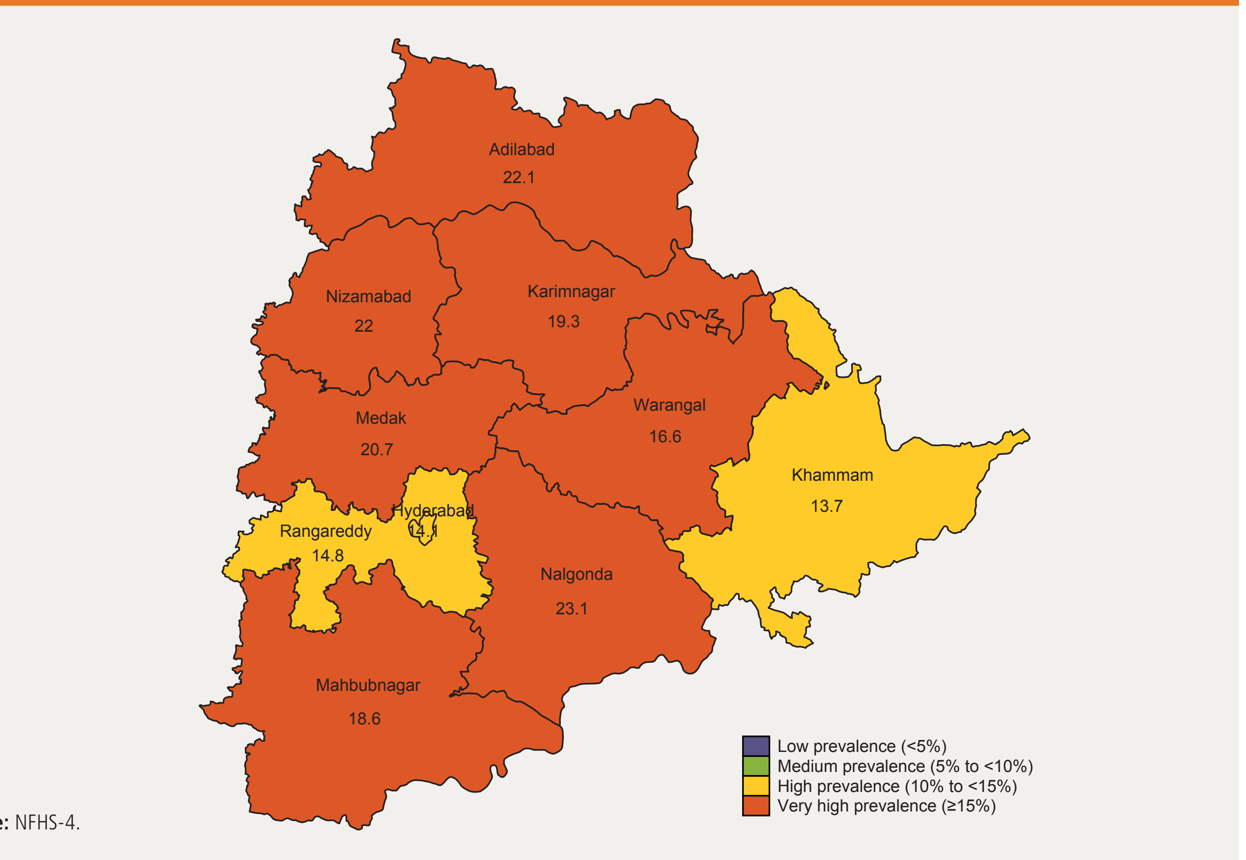
Source: NFHS-4.

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

Adilabad
63.7
Nizamabad
56
Karimnagar
52.3
Medak
57.3
Warangal
56.9
Khammam
71.2
Hyderabad
54
Rangareddy
54.9
Nalgonda
56.2
Mahbubnagar
50.6
Low prevalence (<20%)
Medium prevalence (20% to <40%)
High prevalence (40% to <60%)
Very high prevalence (≥60%)

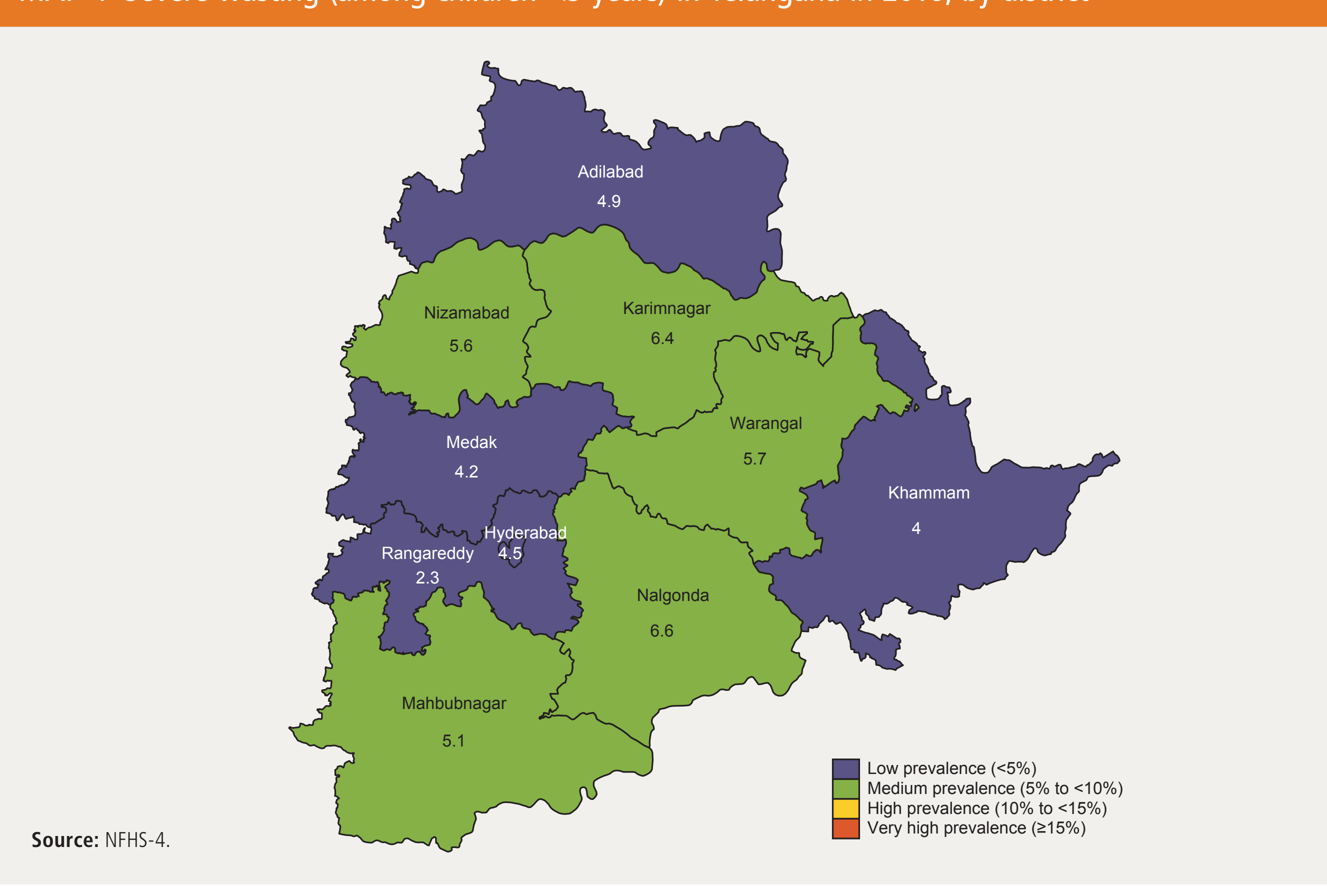
Source: NFHS-4.

MAP 3 Wasting (among children <5 years) in Telangana in 2016, by district



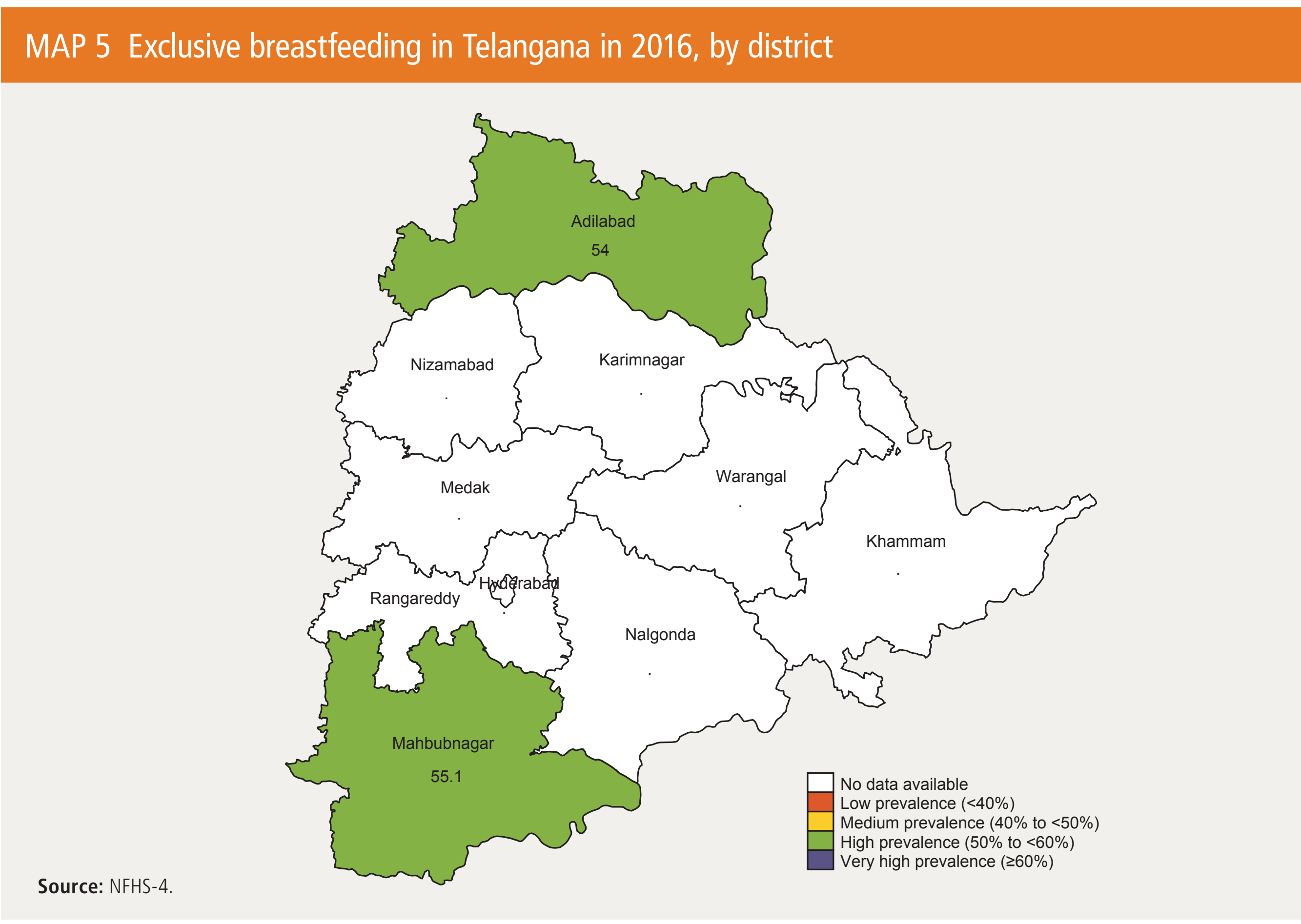
Source: NFHS-4.

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



Source: NFHS-4.

MAP 5 Exclusive breastfeeding in Telangana in 2016, by district



Source: NFHS-4.

which is lower than the national average (41.6 percent). Although 57.1 percent of children (between 6 and 8 months of age) were introduced to complementary foods at the right time, less than 10 percent of children (between 6 and 23 months of age) received an adequate diet. The disease burden among children below five years is lower than the national average. The prevalence of diarrhea is 8.4 percent and the prevalence of Acute Respiratory Infection (ARI) is only 2.1 percent.

Coverage of all ***nutrition specific interventions*** in the state is higher than the national average for all the interventions except for receiving cash transfers under the Janani Suraksha Yojana (JSY) (Figure 3). The coverage of most interventions during pregnancy is high. The proportion of women who received antenatal care (ANC) in the first trimester is 83.1 percent, and those who had four or more ANC visits is 75 percent. 89 percent of pregnant women received neonatal tetanus. However, the proportion of women who consumed IFA tablets for 100 or more days is only 52.8 percent. The coverage is more than 90 percent for interventions related to delivery, such as the proportion of women who delivered in health facilities (91.5 percent) and the proportion of births assisted by skilled birth attendants (91.4 percent).

Coverage of nutrition-specific interventions for children in Telangana portrays a mixed picture. On the positive end, Vitamin A supplementation is at 76.3 percent. However, immunization levels need to be improved. Only 68.1 percent of the children have been fully immunized. More than half of the children (56.8 percent) under five years received ORS during diarrhea and 31.6 percent of the children received zinc supplementation during diarrhea.

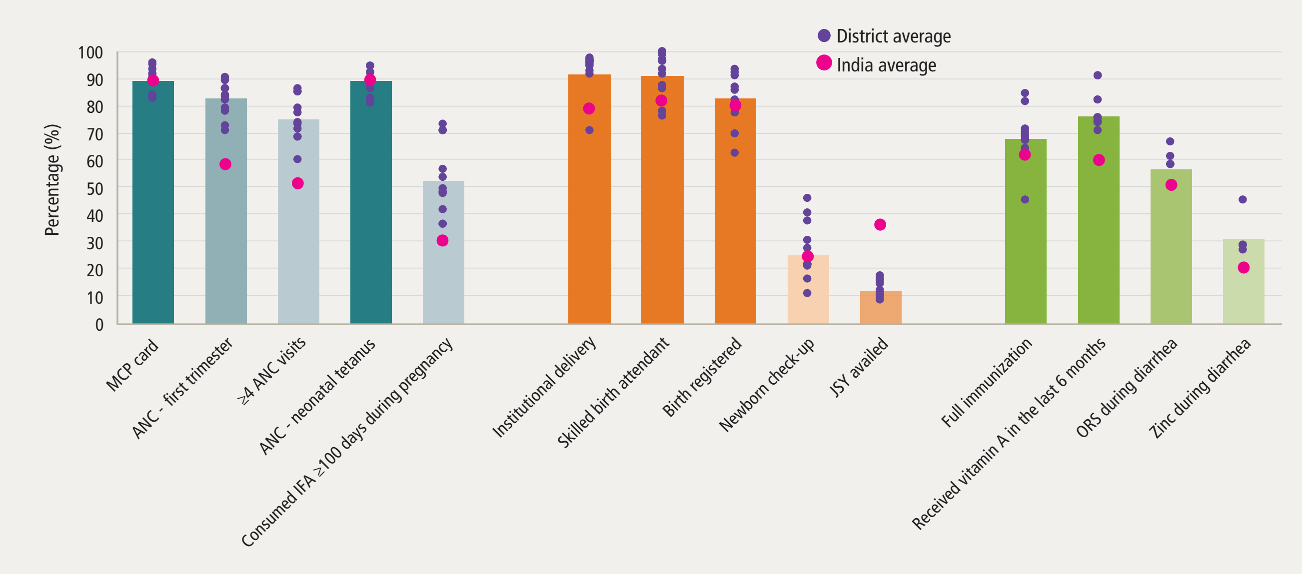
The performance of the state is mixed for the ***underlying determinants of nutrition*** (Figure 4). Telangana has performed relatively well on the household-level determinants compared to the individual-level determinants. Almost all households have electricity (98.2 percent), more than three-quarters of the households have an improved drinking source and 50 percent of the households use improved sanitation facilities. However, only 65.2 percent of women in the state are literate and 43.3 percent of women have more than ten years of education. Nearly a quarter of the women are married before the age of 18, which is almost equal to the national average.

FIGURE 2 Inter-district variability in immediate determinants in Telangana, in 2016

Source: NFHS-4.

Note: Bars represent state averages; ARI= Acute respiratory infection; Refer to endnotes for indicator definitions.

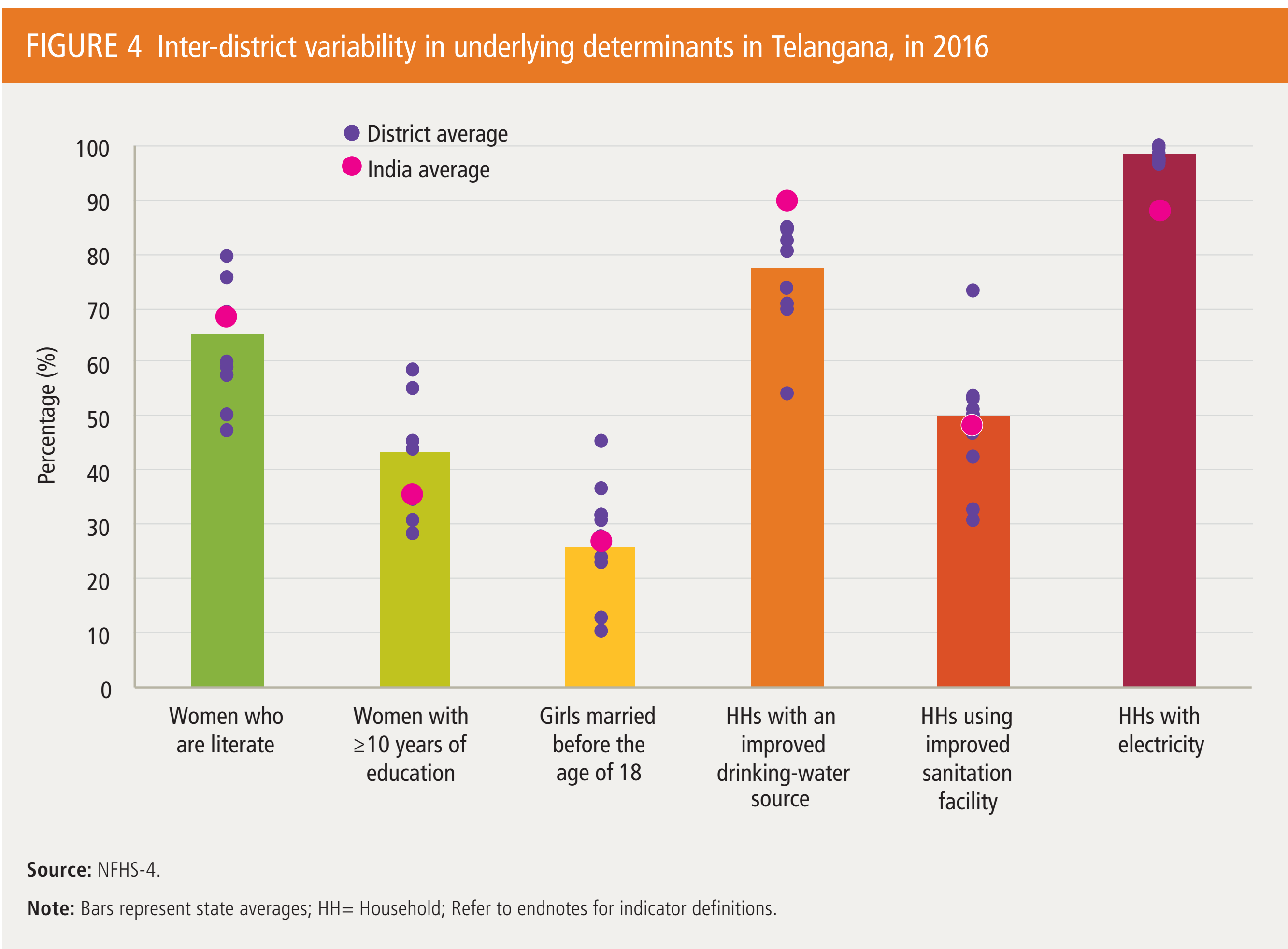
FIGURE 3 Inter-district variability in selected coverage of interventions in Telangana, in 2016



Source: NFHS-4

Note: Bars represent state averages; ANC= Antenatal care; IFA= Iron and folic acid; JSY= Janani Suraksha Yojana; ORS= Oral rehydration salts; MCP= Mother and child protection; Refer to endnotes for indicator definitions.

FIGURE 4 Inter-district variability in underlying determinants in Telangana, in 2016



Source: NFHS-4.

Note: Bars represent state averages; HH= Household; Refer to endnotes for indicator definitions.

The inter-district variability in immediate determinants, coverage of health and nutrition interventions and underlying determinants is highlighted in Figure 2, 3 and 4. Among the 10 districts in Telangana, high inter-district variation is observed for many key determinants of nutrition (women with low body-mass index, early initiation of breastfeeding, adequate diet, ANC first trimester, 4 or more ANC visits, IFA during pregnancy, birth registration, skilled birth attendance, newborn check-up, full immunization, Vitamin A supplementation, women's education (literacy and more than 10 years of education), girls married before the age of 18 years, households with an improved drinking water source, and households using improved sanitation facility). In contrast, there is limited inter-district variability for some other determinants (diarrhea, ARI, neonatal tetanus, institutional delivery, JSY, and household with access to electricity).

For some determinants of nutrition such as cash transfers availed through JSY and households with an improved drinking water source, all the districts in Telangana fall below the national average. For other indicators, such as ANC in the first trimester, four or more ANCs, institutional delivery, consumption of IFA during pregnancy, skilled birth attendance, full immunization, consumption of Vitamin A, consumption of ORS and zinc during diarrhea, and households with electricity, all or nearly all the districts are above the national average.

LOOKING FORWARD: IMPLICATIONS & RECOMMENDATIONS

In the era of India's commitment to global nutrition targets, it is an opportune time for Telangana to set its own nutrition targets to be achieved by 2025, to examine progress within and across the state, and to accelerate actions necessary to improve all forms of malnutrition. Overall, Telangana performs well in nutrition and health outcomes. However, the current level of anemia among women is an area of concern with a high prevalence of anemia (40 to 60 percent) in all the districts of Telangana. The state needs to invest resources to identify factors contributing to the high levels of anemia and introduce solutions in a timely manner. Special efforts are needed to address the high prevalence of wasting, which is more than 15 percent in nearly all the districts.

To achieve progress on nutrition, Telangana should invest in improving the coverage of interventions targeting the first 1000 days of life and continue to invest in sustaining adequate delivery where coverage is already high. On nutrition-specific interventions during pregnancy, mechanisms to address the low IFA consumption need to be identified. Furthermore, it is important to sustain the achieved progress on institutional delivery and skilled birth attendance during delivery. The coverage of JSY program is very low and it is imperative that the program implementation is examined so that the women in need can avail the benefits.

Significant efforts are required to strengthen the coverage of several postnatal interventions, especially on improving the coverage of newborn check-ups, full immunization, and use of ORS and zinc during diarrhea. This needs to be complemented with efforts to promote infant and young child feeding practices. On underlying determinants, women's education, early marriage of girls, and households using improved sanitation facilities require immediate attention. Lessons can be learnt from the districts which are performing exceptionally well in certain indicators and additional efforts need to be focused on helping districts which are falling behind.

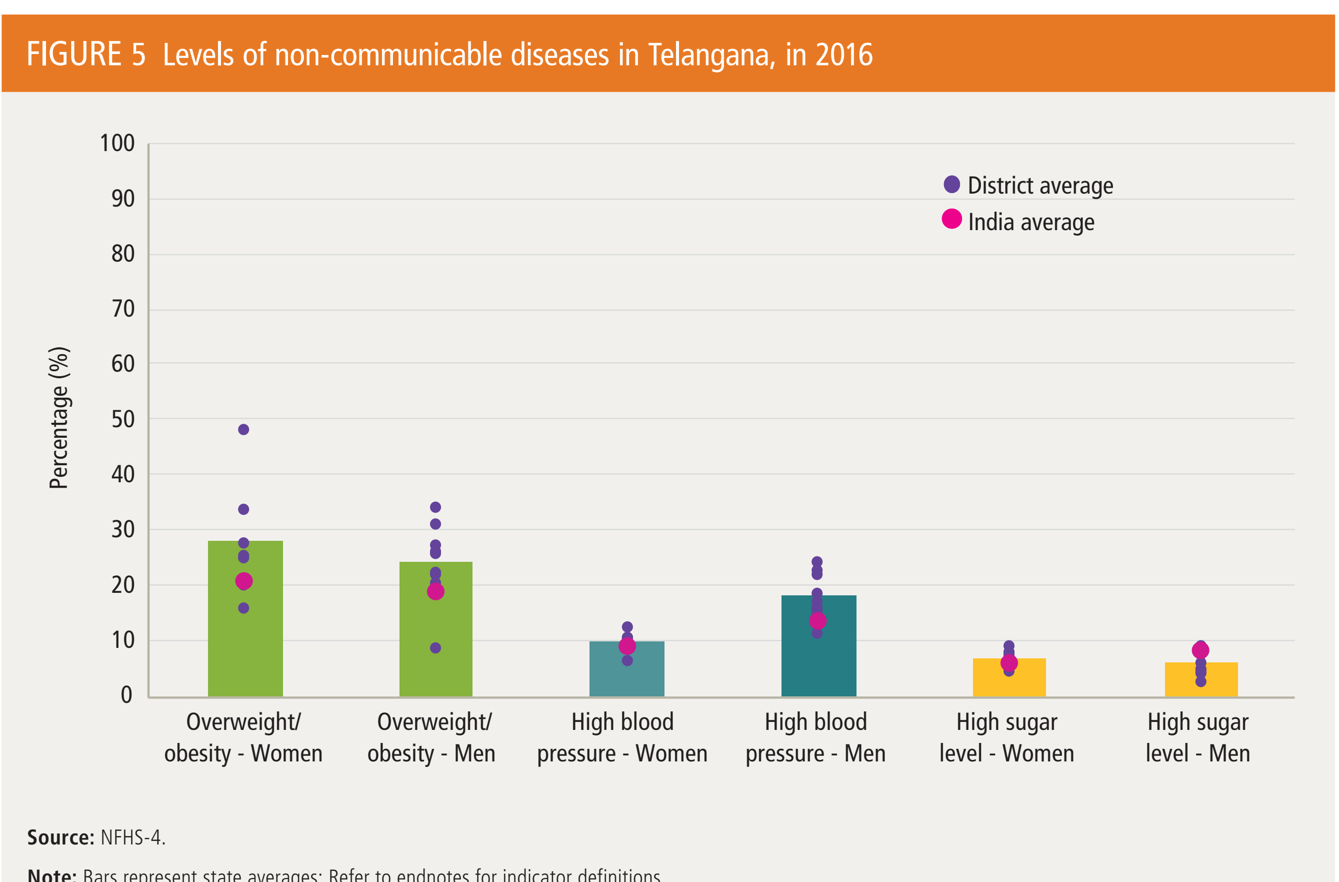
The challenge of non-communicable diseases is pervasive across Telangana (Figure 5). Telangana performs poorly compared to the national average on at least three indicators of non-communicable diseases. The current rate of overweight and obesity among men and women in Telangana is higher than the national average. The prevalence of overweight among women in Hyderabad is particularly alarming as it stands at 47.9 percent. Issues pertaining to high blood pressure are greater for men than women – 18.2 percent of men suffer from high blood pressure while only 10.1 percent of women suffer from high blood pressure. The challenge of high sugar levels is emerging with 6.8 percent of women and 6 percent of men suffering from it. The prevalence of overweight and obesity needs to be tackled along with complementary mechanisms to address the challenges of high blood pressure. The prevalence rates indicate an urgent need for a comprehensive state nutrition and health strategy that simultaneously addresses undernutrition and the emerging non-communicable diseases related to nutrition.

NOTES

1. Telangana currently consists of 31 districts. Since National Family Health Survey-4 used the Census 2011 district boundaries, this Policy Note reports information for only 10 districts.

2. Indicator definitions, in alphabetical order:

FIGURE 5 Levels of non-communicable diseases in Telangana, in 2016



Source: NFHS-4.

Note: Bars represent state averages; Refer to endnotes for indicator definitions.

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.

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

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 the age of 5 years whose birth was registered.

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.

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 years old men and women with systolic ≥140 mm of Hg and/or diastolic ≥90 mm of Hg.

High blood sugar: 15–49 years 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 facility: 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 years 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 the age of 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 the age of 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/m^2: 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.

REFERENCES

Black, R.E., C.G Victora, S.P. Walker, Z.A. Bhutta, P. Christian, M.D. Onis, M. Ezzati, et al. 2013. "Maternal and Child Undernutrition and Overweight in Low-Income and Middle-Income Countries." *The Lancet* 382 (9890): 427–51.

Global Targets 2025. World Health Organization. 2014. Accessed April 2017. http://www.who.int/nutrition/global-target-2025/en/

India Fact Sheet. NFHS-4 (National Family Health Survey-4), International Institute for Population Studies. 2017. Accessed April 2017. http://rchiips.org/NFHS/pdf/NFHS4/India.pdf

Telangana District Fact Sheets. NFHS-4 (National Family Health Survey-4), International Institute for Population Studies. 2016. Accessed April 2017. http://rchiips.org/NFHS/TG.shtml

Telangana Fact Sheet. NFHS-4 (National Family Health Survey-4), International Institute for Population Studies. 2017. Accessed April 2017. http://rchiips.org/NFHS/pdf/NFHS4/TG_FactSheet.pdf

Telangana State Portal. Telangana State Government. Accessed May 2017. http://www.telangana.gov.in/About/State-Profile

Led by IFPRI

Partnership members:
Institute of Development Studies (IDS)
Public Health Foundation of India (PHFI)
One World South Asia
Vikas Samvad
The Coalition for Food and Nutrition Security (CFNS)
Save the Children, India
Public Health Resource Network (PHRN)
Vatsalya
Centre for Equity Studies

WRITTEN BY

Sneha Mani, Senior Research Assistant, IFPRI

Rasmi Avula, Research Fellow, IFPRI

Phuong Hong Nguyen, Research Fellow, IFPRI

Lan Mai Tran, Independent Consultant

Purnima Menon, Senior Research Fellow, IFPRI.

SUGGESTED CITATION

Please cite this Note as: Mani, S., R. Avula, P.H. Nguyen, L.M. Tran and P. Menon. 2017. *Improving Nutrition in Telangana: Insights from Examining Current Status in Outcomes, Determinants and Interventions.* POSHAN Policy Note 17. New Delhi: International Food Policy Research Institute.

ACKNOWLEDGEMENTS

Financial support for this Policy Note was provided by the Bill & Melinda Gates Foundation through POSHAN, led by the International Food Policy Research Institute. The funder played no role in decisions about the scope of the analysis or the contents of this Note. We thank Abhilasha Vaid (IFPRI) for her help in reviewing this Note.

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 decision-making. 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.

CONTACT US

Email us at IFPRI-POSHAN@cgiar.org

IFPRI-NEW DELHI

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

NASC Complex, CG Block,
Dev Prakash Shastri Road,
Pusa, New Delhi 110012, India
T +91.11.66166565
F +91.11.66781699

IFPRI-HEADQUARTERS

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

2033 K Street, NW,
Washington, DC 20006-1002 USA
T. +1.202.862.5600
F. +1.202.467.4439
Skype: IFPRIhomeoffice
ifpri@cgiar.org
www.ifpri.org

This publication has been prepared by POSHAN. It has not been peer reviewed. Any opinions stated herein are those of the author(s) and do not necessarily reflect the policies of the International Food Policy Research Institute.

Copyright © 2017 International Food Policy Research Institute. All rights reserved. For permission to republish, contact ifpri-copyright@cgiar.org.