

## Data Note

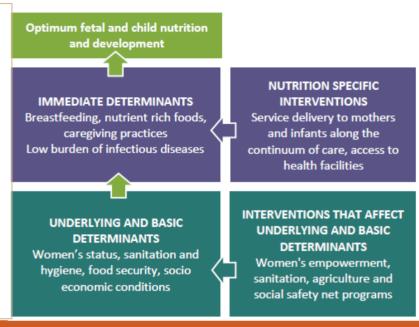
No. 79 | MARCH 2022

**ODISHA** 

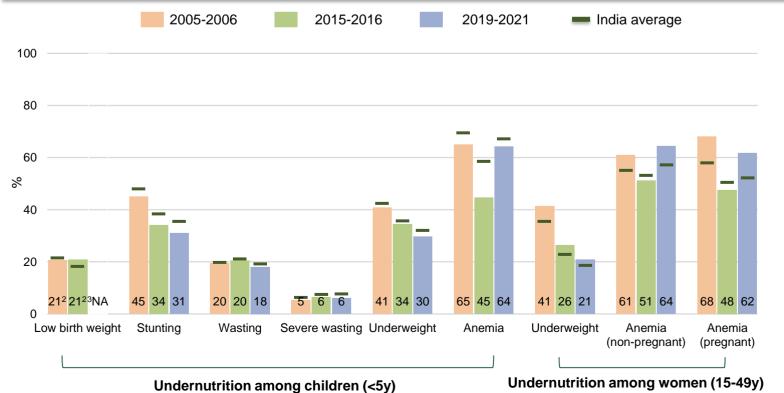
#### State Nutrition Profile: Odisha

#### **ABOUT THIS DATA NOTE**

This Data Note describes the trends for a set of key nutrition and health outcomes, determinants, and coverage of interventions. The findings are based on estimates using unit-level data, data from national and state reports from the National Family Health Survey (NFHS)-3 (2005-2006) and NFHS-4 (2015-2016), and data from state factsheets and reports from NFHS-5 (2019-2021). In addition to standard prevalence-based analyses, this Data Note includes headcount-based analyses aligned to the POSHAN Abhiyaan monitoring framework to provide evidence that helps identify priority districts and number of districts in the state with public health concern as per the WHO guidelines. 1 The Data Note includes a color-coded dashboard to compare the coverage of nutrition interventions across all the districts in the state. It concludes with key takeaways for children, women, and men, and identifies areas where the state has potential to improve.



## Figure 1. Trends in undernutrition outcomes 2005-2006, 2015-2016, 2019-2021



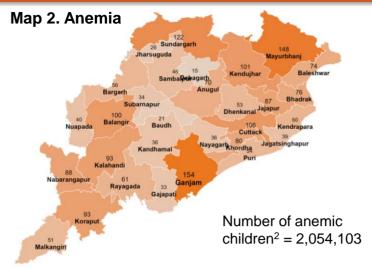
Source: NFHS-3 (2005-2006) national report and data [IFPRI estimates] and NFHS-5 (2019-2021) national and state factsheets. Anemia among non-pregnant and pregnant women for 2005-2006 are IFPRI estimates using woman. ¹WHO. Nutrition Landscape Information System (NLiS). Help Topic: Malnutrition in children. Stunting, wasting, overweight, and underweight. (<a href="https://apps.who.int/nutrition/landscape/help.aspx?menu=0&helpid=391&lang=EN">help.aspx?menu=0&helpid=391&lang=EN</a>). ²In NFHS-3, 60.4% of data were missing and 8.0% of data were missing in NFHS-4. ³NA refers to the unavailability of data for a particular indicator in the specified NFHS round.

#### Map 1 & 2. Number of stunted & anemic children <5y, 2019-2021



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	Highest burden dist	ricts
1	Mayurbhanj	84,437
2	Ganjam	66,993
3	Koraput	64,190
4	Kendujhar	62,998
5	Nabarangapur	61,101

No. of districts with public health concern<sup>1</sup>: 27 of 30



Note: Number in '000s in the above figure

	Highest burden districts	
1	Ganjam	154,046
2	Mayurbhanj	148,168
3	Sundargarh	122,259
4	Cuttack	105,779
5	Kendujhar	101,163

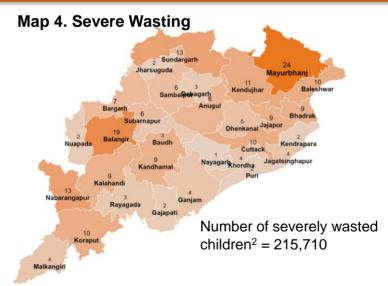
No. of districts with public health concern<sup>1</sup>: 30 of 30

#### Map 3 & 4. Number of wasted children <5y, 2019-2021



	Highest burden districts	
1	Mayurbhanj	65,466
2	Kendujhar	41,534
3	Balangir	37,871
4	Sundargarh	37,200
5	Nabarangapur	34,949

No. of districts with public health concern<sup>1</sup>: 28 of 30



Note: Number in '000s in the above figure

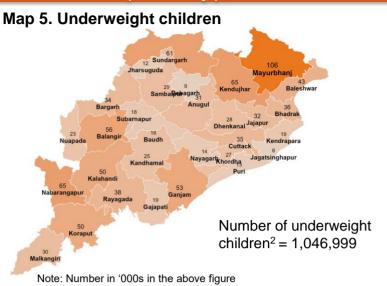
	Highest burden districts	
1	Mayurbhanj	23,846
2	Balangir	18,876
3	Nabarangapur	13,450
4	Sundargarh	12,983
5	Kendujhar	10,871

No. of districts with public health concern<sup>1</sup>: 26 of 30

Source: IFPRI estimates - The headcount was calculated as the product of the undernutrition prevalence, and the total eligible projected population for each district in 2019. Prevalence estimates were obtained from NFHS-5 (2019-2021) district factsheet, and the projected population for 2019 was estimated using Census 2011. Note: The newly formed districts, for which no spatial boundaries were available, were not depicted on the maps.
¹Public health concern is defined as ≥20% for stunting, ≥40% for anemia, ≥10% for wasting, and ≥2% for severe wasting (WHO 2011).

<sup>&</sup>lt;sup>2</sup>The total number of children <5 years is 3,537,351.

# Map 5 & 6. Number of underweight children (<5y) & women (15-49y), 2019-2021



	Highest burden districts	
1	Mayurbhanj	105,569
2	Nabarangapur	64,564
3	Kendujhar	64,548
4	Sundargarh	61,223
5	Balangir	55,813

No. of districts with public health concern1: 24 of 30

Map 6. Underweight women

127
36 Sundargarh
Jharsuguda

80 20 Sambal Rebagart
Anugul

129 Baleshwar

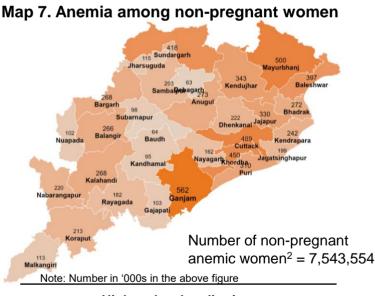
84 Anugul

127 Bhadrak
12

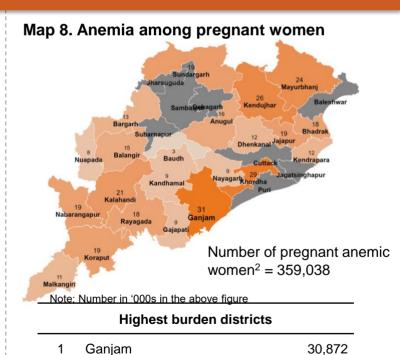
		Highest burden districts	
	1	Mayurbhanj	206,950
	2	Baleshwar	154,092
	3	Kendujhar	128,674
	4	Sundargarh	126,688
	5	Jajapur	126,687
NI.	- £		1- OO - F O

No. of districts with public health concern<sup>1</sup>: 29 of 30

### Map 7 & 8. Number of anemic women (15-49y), 2019-2021



Highest burden districts	
1 Ganjam	562,482
2 Mayurbhanj	500,066
3 Cuttack	489,287
4 Khordha	449,795
5 Sundargarh	418,357
No. of districts with public health conc	ern <sup>1</sup> : 30 of 30



No. of districts with public health concern<sup>1</sup>: 22 of 22

29,489

25,810

24,203

20,863

Source: IFPRI estimates - The headcount was calculated as the product of the undernutrition prevalence, and the total eligible projected population for each district in 2019. Prevalence estimates were obtained from NFHS-5 (2019-2021) district factsheets, and the projected population for 2019 was estimated using Census 2011. ¹Public health concern is defined as ≥20% for underweight (children), ≥10% for underweight (women), ≥40% for anemia among non-pregnant women, and ≥40% for anemia among pregnant women (WHO 2011). ²The total number of children <5 years is 3,537,351, pregnant women 15-49 years is 720,341, and non-pregnant women 15-49 years is 10,995,319. Note: Gray areas in map 8 indicates districts for which data are not available.

2

3

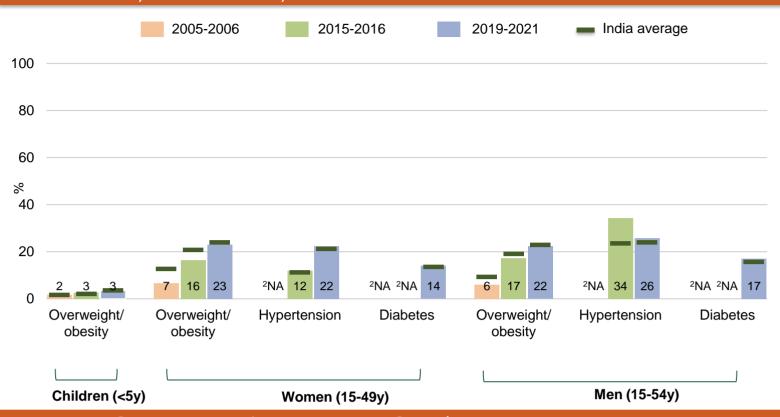
Khordha

Kendujhar

Mayurbhanj

Kalahandi

## Figure 2. Trends in overweight/obesity & NCDs<sup>1</sup> 2005-2006, 2015-2016, 2019-2021

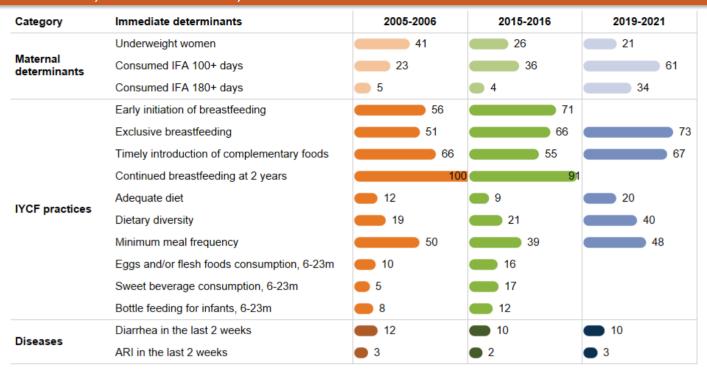


## Table 1. Overweight/obesity & NCDs<sup>1</sup> at district-level 2015-2016, 2019-2021

Category	Outcomes	Worst performing districts (pp)	Best performing districts (pp)	Highest burden districts (thousands) <sup>4</sup>	No of districts with public health concern <sup>5</sup> (total=30)
		Difference between (2019-2021) & (2015-2016) <sup>3</sup>	Difference between (2019-2021) & (2015-2016) <sup>3</sup>	2019-2021	2019-2021
Children <5 years	Overweight/ obesity	Dhenkanal: +5.2 Nabarangapur: +3.7	Khordha: -3.0 Rayagada: -2.9	Ganjam: 14 Cuttack: 10	0
Momon	Overweight/ obesity	Ganjam: +15.9 Puri: +15.1	Koraput: -1.0	Ganjam: 365 Khordha: 260	14
Women (15-49 years)	Hypertension	Kalahandi: +15.8 Kandhamal: +14.9	Debagarh: -1.8	Ganjam: 232 Mayurbhanj:179	26
	Diabetes	NA <sup>2</sup>		Ganjam:151 Khordha: 146	3
	Overweight /obesity	NA <sup>2</sup>			
Men (15-54 years)	Hypertension	Ganjam: +6.8 Sambalpur: +3.2	Anugul: -28.1 Debagarh: -26.3	Ganjam: 326 Cuttack: 240	29
	Diabetes	NA <sup>2</sup>		Ganjam: 240 Khordha: 194	7

Source: NFHS-3 (2005-2006) national report, NFHS-4 (2015-16) national report and data [IFPRI estimates], and NFHS-5 (2019-2021) national and state factsheets. Hypertension among men are IFPRI estimates for NFHS-4 using man dataset. Hypertension among women is estimated at the district-level for NFHS-4 using woman dataset. pp: percentage points. ¹NCDs: non-communicable diseases. ²NA refers to the unavailability of data for a particular indicator in the specified NFHS round. Diabetes data for NFHS-4 are not included in the NFHS-5 factsheet because definition of diabetes is not comparable between NFHS-4 and 5. ³The difference is calculated only between districts that are comparable between 2015-2016 and 2019-2021. ⁴Burden: The headcount was calculated as the product of the prevalence and the total eligible projected population for each district in 2019. Prevalence estimates were obtained from NFHS-5 (2019-2021) district factsheet and projected population for 2019 was estimated using Census 2011. ⁵Public health concern is defined as prevalence ≥15% for overweight/obesity (children), ≥20% for overweight/obesity (women and men), ≥20% hypertension (women and men), and ≥20% diabetes (women and men) (WHO 2011).

## Figure 3. Trends in immediate determinants (%) 2005-2006, 2015-2016, 2019-2021



# Table 2. Immediate determinants at district-level 2015-2016, 2019-2021

Category	Immediate determinants	Worst performing districts (pp)	Best performing districts (pp)	Top coverage districts (%) <sup>2</sup>
		Difference between (2019-2021) & (2015-2016) <sup>1</sup>	Difference between (2019-2021) & (2015-2016) <sup>1</sup>	2019-2021
Maternal	Underweight women	Gajapati: +1.4	Bargarh: -12.1 Subarnapur: -11.7	Khordha: 10.0 Ganjam: 11.2
determinants	Consumed IFA 100+ days	Not Applicable <sup>3</sup>	Nabarangapur: +47.4 Ganjam: +44.0	Jharsuguda: 84.7 Nabarangapur: 83.2
	Early initiation of breastfeeding	NA <sup>4</sup>		
IYCF	Exclusive breastfeeding	Jajapur: -16.9 Kandhamal: -13.1	Nuapada: +44.5 Gajapati: +29.5	Nuapada: 93.7 Rayagada: 86.7
practices	Timely introduction of complementary foods	NA <sup>4</sup>		Kendujhar: 85.2
	Adequate diet	Sundargarh: -0.6	Nuapada: +22.7 Balangir: +22.3	Jagatsinghapur: 31.2 Balangir: 29.6
Diagona	Diarrhea in the last two weeks	Anugul: +7.3 Koraput: +5.8	Nayagarh: -6.7 Balangir: -6.5	Balangir: 2.3 Nabarangapur: 3.6
Diseases	ARI in the last two weeks	Jajapur: +5.0 Bhadrak: +4.8	Nayagarh: -4.0 Kendujhar: -3.1	Puri: 0.0 Gajapati: 0.3

Source:NFHS-3 (2005-2006) national and state reports and data [IFPRI estimates], NFHS-4 (2015-2016) state report and data [IFPRI estimates], and NFHS-5 factsheets (2019-2021). Adequate diet was estimated for NFHS-3 using last child data. Early initiation of breastfeeding, dietary diversity, minimum meal frequency, egg and/or flesh consumption, sweet beverage consumption, and bottle feeding of infants were estimated for NFHS-3 and -4 using last child data. Consumption of IFA 100+ days and consumption of IFA 180+ days were estimated for NFHS-3 using woman data. pp: percentage points.

Note: Data on early initiation of breastfeeding (children born in last 2 years), continued breastfeeding at 2 years, egg and/or flesh foods consumption, sweet beverage consumption, and bottle feeding of infants not available in NFHS-5 factsheets (2019-21)/state report. Definition of early initiation of breastfeeding is based on WHO guidelines.

<sup>1</sup>The difference is calculated only between districts that are comparable between 2015-2016 and 2019-2021.

<sup>&</sup>lt;sup>2</sup>For all indicators, top coverage districts refer to the districts with the highest prevalence in immediate determinants, except for underweight women, diarrhea in the last two weeks, and ARI in the last two weeks, for which it refers to the districts with the lowest prevalence in coverage. <sup>4</sup>Prevalence did not decrease in any district. <sup>4</sup> NA refers to the unavailability of data for a particular indicator in the specified NFHS round. Data on timely introduction of complementary foods is only available for Kendujhar at the district-level.

### Figure 4. Trends in underlying determinants (%) 2005-2006, 2015-2016, 2019-2021

Category	Underlying determinants	2005-2006	2015-2016	2019-2021
	Women with ≥10 years of education	16	27	33
Maternal determinants	Women 20-24 years married before age of 18 years	36	21	20
	Women 15-19 years with child or pregnant		8	8
	HHs with improved drinking water source	78	89	91
	HHs using improved sanitation facility	<b>1</b> 5	30	60
	HHs with hand washing facility		28	
Household determinants	Open defecation	80	65	34
	Safe disposal of feces	7	<b>1</b> 3	
	HHs with BPL card	48	42	49
	HHs with electricity	45	87	97

### Table 3. Underlying determinants at district-level 2015-2016, 2019-2021

Category	Underlying determinants	Worst performing districts (pp)	Best performing districts (pp)	Top coverage districts (%) <sup>2</sup>
		Difference between (2019-2021) & (2015-2016)1	Difference between (2019-2021) & (2015-2016)1	2019-2021
	Women with ≥10 years education	Dhenkanal: -0.2	Bargarh: +12.9 Kendrapara: +12.2	Jagatsinghapur:46.6 Khordha: 43.2
Maternal determinants	Women 20-24 years married before age of 18 years	Nayagarh: +4.4 Bhadrak: +4.2	Ganjam: -7.6 Malkangiri: -6.9	Sambalpur: 7.4 Jharsuguda: 8.5
	Women 15-19 years with child or pregnant	Baudh: +5.4 Jajapur: +5.4	Nayagarh: -5.9 Kandhamal: -4.8	Sambalpur: 0.9 Jharsuguda: 1.0
	HHs with improved drinking water source	Jharsuguda: -4.6 Subarnapur: -2.2	Khordha: +10.0 Gajapati: +9.4	Bhadrak: 100.0 Kendrapara: 99.7
Household determinants	HHs using improved sanitation facility	Not Applicable <sup>3</sup>	Balangir: +51.7 Kalahandi: +49.9	Khordha: 73.2 Ganjam: 72.9
	HHs with electricity	Not Applicable <sup>3</sup>	Kalahandi: +29.0 Nabarangapur: +27.2	Kendrapara: 99.5 Khordha: 99.5

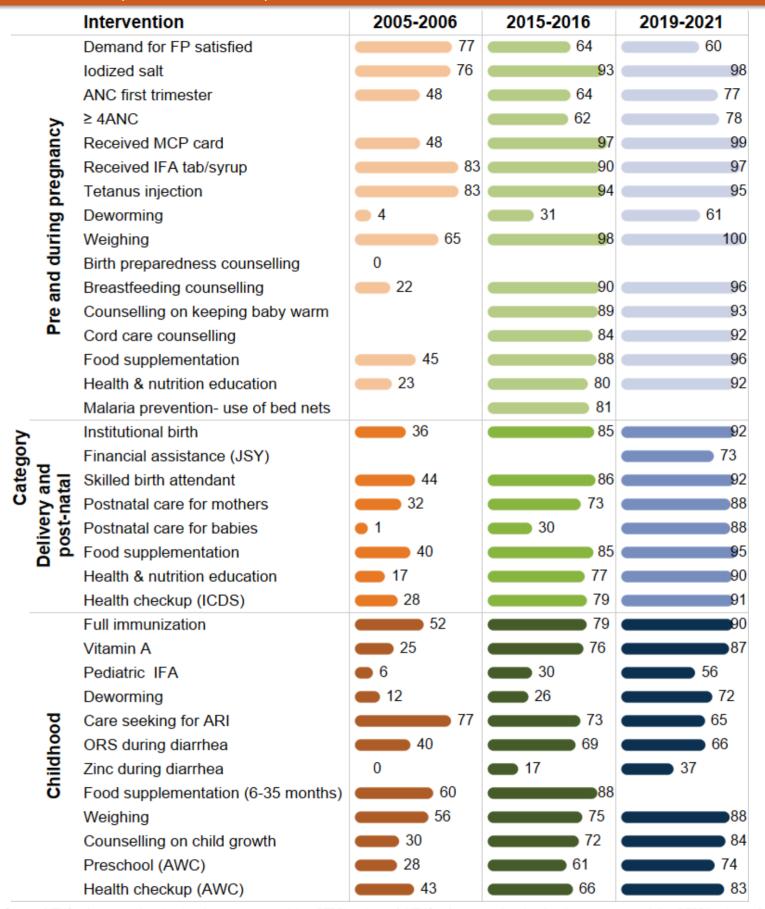
Source:NFHS-3 (2005-2006) national and state reports and data [IFPRI estimates], NFHS-4 (2015-2016) national and state reports and data [IFPRI estimates], and NFHS-5 (2019-2021) state factsheets and report. Women 20-24 years married before age 18 was estimated for NFHS-3 using women data. pp. percentage points. Note: Safe disposal of feces not available in NFHS-5 factsheets (2019-21)/state report and data on HHs with hand washing facility not available in NFHS-3 (2005-06) and NFHS-5 factsheets (2019-21)/state report. Data on women 15-19 years with child or pregnant not available in NFHS-3 (2005-06).

<sup>&</sup>lt;sup>1</sup>The difference is calculated only between districts that are comparable between 2015-2016 and 2019-2021.

<sup>&</sup>lt;sup>2</sup>For all indicators, top coverage districts refer to the districts with the highest prevalence in underlying determinants, except for women 20-24 years married before age of 18 years and women 15-19 years with child or pregnant for which it refers to the districts with the lowest prevalence in coverage.

<sup>&</sup>lt;sup>3</sup>Prevalence did not decrease in any of the districts.

## Figure 5. Trends in interventions across the first 1,000 days (%) 2005-2006, 2015-2016, 2019-2021



Source: NFHS-3 (2005-2006) national and state reports and data [IFPRI estimates], NFHS-4 (2015-2016) national and state reports and data [IFPRI estimates], and NFHS-5 (2019-2021) state factsheet and report. Note 1: Received MCP card, birth preparedness counselling, breastfeeding counselling, counselling on keeping baby warm, cord care counselling, and postnatal care for mothers were estimated for NFHS-3 using woman data. Malaria prevention-use of bed nets was estimated for NFHS-4 using woman data. Vitamin A-early childhood was estimated for NFHS-3 using last child data. Postnatal care for babies, food supplementation-early childhood, pediatric IFA, and deworming-early childhood were estimated for NFHS-3 and 4 using last child data. Note 2: The following information is not available in the NFHS-5 factsheets and state reports (2019-21): birth preparedness counselling, malaria prevention, and food supplementation (6-35m). Information on counselling on keeping baby warm and cord care, use of bed nets during pregnancy, and financial assistance under JSY are not available in NFHS-3 data (2005-06). Note 3: Data on demand for family planning satisfied, received IFA, deworming, weighing, counselling on breastfeeding, keeping baby warm, cord care during pregnancy, food supplementation, health and nutrition education during pregnancy and post-natal phases, financial assistance under JSY, pediatric IFA, deworming during early childhood, weight measurement during childhood, and counselling on child growth for 2019-2021 are taken from NFHS-5 state reports. Note 4: Refer to district dashboard for the inter-district variability in the coverage of interventions.

### Intervention coverage at district-level, 2019-2021

District name	Pre- pregnancy	ucy .						Pregnancy	ncy							Delivery	Delivery & postnatal	atal							Early childhood	poodpli				
	94 hor bnemed beitsites	tles bəzibol	SNA first trimester	DNA 4≤	Received MCP card AAI bevieceived IFA	qunys\def	Tetanus injection	Deworming Weighing	Birth preparedness	Breastfeeding counselling Counselling on keeping baby warm	Sord care counselling	Food supplementation Health & nutrition ducation	Malaria prevention- use of bed nets	Institutional birth Financial assistance	(JSY) Skilled birth attendant	Postnatal care for	mothers Postnatal care for babies	Food supplementation	Health & nutrition education	Health checkup	noitesinummi llu4	A4I oirteibee9	Deworming	IAA 101 griyəəz 9187	69Arring diarrhea	Earrhea Ginrub Sinc during diarrhea	(sdtnom 25-3)	Weighing W	Mtworg SWA ts loodseary	Health checkup
Odisha	60.0	98.0	76.9	78.1	99.4	97.2	95.2 60	9.66 6.09	2	95.7 93.4	91.6 95.	5.6 91.6		92.2 73	3 91.	88 88	.4 88.1	94.6	89.9	91.1 90.	0.5 87.1	1 56.3	71.9	65.4	65.7	36.9	87	7.6 83	.8 74.	.0 82.
Anugul		97.1	78.7 83	83.7 9	9.66	97.7	97.0 53	51.1						85.7 72.	68 6.9	8 84	.8 85.1			87.	.0 88.	6		75.5	61.9	26.5				
Balangir			89.1 99	95.4 10	100.0	100.00	97.1 78	78.9						97.9 80	.5 98.	2 96.	.5 94.0			95.	8 91	.4								
Baleshwar		95.2 6	62.5	9.95	98.2	94.9	94.0 49	49.1						97.6	4 93	5 87.	6.98 9.			94	1 85	.5		68.1	62.7	20.1				
Bargarh			80.9	70.1	100.0	98.5	.9 6.06	67.2						9.66	79.1 96.	.2 92.7	7 94.0			95.	6 6	6.								
Baudh		95.5	78.8 79	79.0	9.66	98.7 9	95.7 79	79.1						93.4 79	.7 95	.0 89.	6 90.9			6	91.8 93.7	7		72.1						
Bhadrak		98.8	75.9 74	74.9	9.66	95.9	94.2 49	49.5						96.1 71	3 97.	.2 89.	.0 94.4			83.	3.7 89.7	7		67.9	0.89	43.5				
Cuttack		98.9	73.6 84	84.2 10	100.0	98.4 96	96.2 53.	3.9						98.9 74	.4 98	9 92.	5 92.2			9.	90.4 71.7	7		63.3						
Debagarh		98.8	75.2 7.	77.5	100.0	96.2 94	94.2 52.	2.4						91.2 70	70.0	88.	5 89.0			10	100.0 80.9	6		84.6	62.2	43.4				
Dhenkanal		98.0	72.4 79	75.8 10	100.0 9	95.5	95.6 49.	9.3						94.8 74	74.0 93.	.2 90.7	7 89.8			88	8.6 86.4	4		73.4						
Gajapati			79.3 83		99.5	97.1 99		71.4						76.4 71	9.	4 78.	2 74.2			6	92.6 80.0	0								
Ganjam			77.6 8;	82.7 9		95.3	96.8 4	45.4						93.0 62	.7 92	.4 89.	3 91.1			88	8.5 88.4	4		9.99	66.7	43.5				
Jagatsinghapur			71.6 8.				95.4 54.	4.5						98.3 75.	6	7 89.	2 92.1			91	εį	9		68.9						
Jajapur		98.7 6	65.2 73	73.8 9	99.2	93.9	94.7 43	42.7						93.8 72.	.5 96.	1 92	.4 91.8			79.	9.5 90.0	0		62.6	57.4	28.8				
Jharsuguda		6 6:86	92.6	94.1 10	100.0 99	99.4 90	96.9	77.3						98.6 65.	2 96	8 96	.4 96.4			97.	7.6 92.7	7								
Kalahandi			80.1 8;			97.9		82.0						92.8 73	7.	2 94	0			91	91.	9								
Kandhamal			74.7 8:	81.1 1(	100.0	99.0		87.2						93.9 83	.1 94	.06 6	.6 90.5			6	96.8 87.2	2								
Kendrapara			76.2 7.	77.1 9	99.1 98	98.1 90	90.8 41.	1.8						96.7 73	1 94	.6 85.	5 91.7			82.	.8 78.	2		72.7	9.08	29.5				
Kendujhar					$\neg$	_		50.5						4.	70.4 79.	9 75	4			86.	0 81	6.		62.1	9.05	25.6				1
Khordha		$\dashv$			$\exists$	-	_	51.2						97.8 72	.6 97	4 95	4			87.	68 6	0.		73.8						+
Koraput							7	81.1						82.1 72.	0	.3 83.	2			- 38	.0 89.	9			57.6	65.7				
Malkangiri			81.7 8.	82.8	7	99.1	95.0	92.3						90.7 73.	93	.8 89.	5 86.4			94	88	0.		60.5						_
Mayurbhanj								55.1						91.7 79	∞.	.1 86.	3 81.2			84	4 78	6.		49.1	59.5	34.7				
Nabarangapur		96.7 8	82.1 8.	87.7 10	100.0 99	99.7 98	98.9	73.2						87.6 78.	.6 87	.5 89.	3 88.7			94.	4.8 86.7	7								
Nayagarh		98.1 8	86.0 90	90.3	100.0	98.3 90	96.1 8:	81.5						98.3 69	.2 98	4 96.	2 96.1			6	96.1 92.0	0		76.6	52.8	27.6				
Nuapada		99.0	76.6 7:	71.7	100.00	97.7	95.4 69	69.7						89.8 76.	.1 92.	7 85.	9 86.5			97.	7.0 89.2	2								
Puri		97.7	83.3	94.9	99.5	98.5	97.6	0.09						77 7.76	.8 94	.9 93.	9 92.4			95.	5.8 94.1	_		55.8						
Rayagada			74.1 8	85.3	9.66	97.3		85.1						68.9 65	.6 72	.1 69.7	7 70.4			92.	2.7 90.4	4		65.1						
Sambalpur								66.2							97	90	2			- 86	-	1								
Subarnapur		$\dashv$		87.8 10		_		77.8						_	78.6 95.	.0 93.1	7			6	-	0								+
Sundargarh		99.4 8	81.3 73	73.1 9	99.1   98	98.0   93	93.1 64	64.0						91.3 67	88 6:	2 79.7	7 82.0			∞	82.0   90.1	1		0.89						

Not Available

%08>-09

40-<60%

Source: NFHS-5 district factsheets and state reports (2019-21).

weighing, birth preparedness and breastfeeding counselling, counselling on keeping baby warm, cord care counselling, food supplementation, health and nutrition education, and malaria prevention; (2) lactation-Note 2: The following information is not available in the NFHS-5 factsheets and state reports (2019-21): (1) Information on preconception and pregnancy-related indicators, including demand for FP satisfied, Note 1: Data on received IFA tab/syrup, deworming during pregnancy and financial assistance (JSY) for 2019-21 are taken from NFHS-5 state reports. Data on remaining indicators are taken from NFHS-5 factsheets (2019-21).

related indicators, including food supplementation, health and nutrition education, and health checkups; and (3) early childhood-related indicators, including pediatric IFA, deworming, food supplementation (6-35m),

preschool attendance, health checkups, weighing, and counselling on child growth.

#### Table 4. Intervention coverage at district-level 2015-2016, 2019-2021

Category	Interventions	Worst performing districts (pp)	Best performing districts (pp)	Top coverage districts (%)
		Difference between (2019-2021) & (2015-2016) <sup>2</sup>	Difference between (2019-2021) & (2015-2016) <sup>2</sup>	2019-2021
	ANC first trimester	Jagatsinghapur: -5.2	Nayagarh: +37.6 Koraput: +31.3	Jharsuguda: 92.6 Balangir: 89.1
Pregnancy	≥4 ANC visits	Mayurbhanj: -18.7 Sundargarh: -7.6	Bhadrak: +40.1 Kalahandi: +36.1	Balangir: 95.4 Puri: 94.9
	Received MCP Card	Not Applicable <sup>1</sup>	Nabarangapur: +8.0 2 Districts <sup>4</sup> : +5.0	13 Districts <sup>3</sup> : 100.0
	Tetanus injection	Sambalpur: -7.9 Bargarh: -7.2	Kendujhar: +7.3 Gajapati: +6.2	Gajapati: 99.2 Nabarangapur: 98.9
Delivery and post-natal	Institutional birth	Anugul: -4.6 Rayagada: -2.6	Nabarangapur: +23.2 Malkangiri: +22.9	Bargarh: 99.6 Sambalpur: 99.5
	Skilled birth attendant	Rayagada: -7.9 Anugul: -3.0	Nabarangapur: +18.9 Kandhamal: +18.1	Cuttack: 98.9 Nayagarh: 98.4
	Postnatal care for mothers	Jagatsinghapur: -3.4 Anugul: -0.4	Kalahandi: +35.2 Koraput: +34.5	Balangir: 96.5 Jharsuguda: 96.4
	Postnatal care for babies	Not Applicable <sup>1</sup>	Khordha: +80.9 Kalahandi: +79.9	Jharsuguda: 96.4 Nayagarh: 96.1
Early childhood	Full immunization	Jajapur: -10.5 Bhadrak: -4.7	Gajapati: +46.2 Ganjam: +34.3	Debagarh: 100.0 Sambalpur: 98.0
	Vitamin A supplementation	Cuttack: -16.1 Mayurbhanj: -0.5	Balangir: +35.5 Ganjam: +30.8	Puri: 94.1 Baudh: 93.7
	Care seeking for ARI	Mayurbhanj: -31.1 Puri: -15.9	Debagarh: +18.7 Kendujhar: +5.1	Debagarh: 84.6 Nayagarh: 76.6
	ORS treatment during diarrhea	Nayagarh: -15.0 Jajapur: -6.1	Kendrapara: +15.0 Mayurbhanj: +1.8	Kendrapara: 80.6 Bhadrak: 68.0
	Zinc treatment during diarrhea	Not Applicable <sup>1</sup>	Debagarh: +34.5 Bhadrak: +25.8	Koraput: 65.7 Ganjam: 43.5

#### Key takeaways

Children: Stunting and underweight declined by 11 percentage points (pp) and 7pp between 2006 and 2016 and by 3pp and 4pp between 2016 and 2021, respectively. Wasting remained stable between 2006 and 2016 before declining by 2pp between 2016 and 2021. Anemia declined by 20pp between 2006 and 2016 but increased by 19pp between 2016 and 2021. Overweight/obesity increased by 1pp between 2006 and 2016 and remained stable thereafter.

Women: Underweight declined by 15pp between 2006 and 2016 and by 5pp between 2016 and 2021. Anemia among non-pregnant and pregnant women declined by 10pp and 20pp between 2006 and 2016 but increased by 13pp and 14pp between 2016 and 2021, respectively. Overweight/obesity increased by 7-9pp between 2006 and 2016 and between 2016 and 2021.

Men: Overweight/obesity increased by 11pp between 2006 and 2016 and by 5pp between 2016 and 2021. Attention is needed to improve (%s in 2021):

- Outcomes: Stunting (31%); anemia in children (64%); anemia in women (62-64%)
- Immediate determinants: 180+ IFA (34%); adequate diet (20%); dietary diversity (40%)
- *Underlying determinants:* Women with ≥10 years education (33%); HHs using improved sanitation facility (60%)
- Coverage of interventions: Deworming during pregnancy (61%); pediatric IFA (56%); zinc during diarrhea (37%)

Source: NFHS-3 state and national reports and data [IFPRI estimates], NFHS-4 (2015-2016) state and national reports and data [IFPRI estimates], and NFHS-5 (2019-2021) state reports/factsheets. Postnatal care for babies was estimated for NFHS-4 using last child data at the state- and district-level, pp. percentage points. Note: Interventions' coverage are based on the last child data. ¹Prevalence did not increase or decrease in any of the districts. ²The difference is calculated only between districts that are comparable between 2015-2016 and 2019-2021. 3Subarnapur, Nuapada, Sambalpur, Bargarh, Dhenkanal, Cuttack, Balangir, Jharsuguda, Nayagarh, Kandhamal, Debagarh, Nabarangapur, Khordha. <sup>4</sup>Kandhamal, Gajapati.

### Indicator definition

Nutrition outcomes	Definition
Low birth weight\$%	Percentage of live births in the five years preceding the survey with a reported birth weight less than 2.5 kg, based on
Stunting among children	either a written record or the mother's recall  Percentage of children aged 0-59 months who are stunted i.e., height-for-age z score < -2SD
Wasting among children	Percentage of children aged 0-59 months who are wasted i.e., weight-for-height z score < -2SD
Severe wasting among children	Percentage of children aged 0-59 months who are wasted i.e., weight-for-height z score < -3SD
Underweight children Anemia among children	Percentage of children aged 0-59 months who are underweight i.e., weight-for-age z score < -2SD Percentage of children aged 6-59 months who are anemic i.e., (Hb <11.0 g/dl)
-	Percentage of women aged 15-49 whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m²); sample
Underweight women	excluded pregnant women and women with a birth in the preceding 2 months.
Anemia among non-pregnant women*	Percentage of non-pregnant women aged 15-49 who are anemic (<12.0 g/dl)
Anemia among pregnant women* Overweight/obesity - children	Percentage of pregnant women aged 15-49 who are anemic (<11.0 g/dl) Percentage of children aged 0-59 months who are overweight i.e., weight-for-height z score > 2SD
Overweight/obesity - women	Percentage of women aged 15-49 who are overweight or obese (BMI ≥25.0 kg/m2); sample excluded pregnant women and women with a birth in the preceding 2 months.
Overweight/obesity – men	Percentage of men aged 15-49 who are overweight or obese (BMI ≥25.0 kg/m²)
Hypertension among women^*%	Percentage of women aged 15-49 with elevated blood pressure (Systolic ≥140 mm Hg or diastolic ≥90 mm Hg) or is
,,	currently taking medication to control blood pressure.  Percentage of men aged 15-54 with elevated blood pressure (Systolic ≥140 mm Hg or diastolic ≥90 mm Hg) or is
Hypertension among men^*	currently taking medication to control blood pressure.
Diabetes among women <sup>0</sup>	Percentage of women aged 15-49 with high (>140 mg/dl) or very high (>160 mg/dl) blood sugar or taking medicine to control blood sugar.
Diabetes among men <sup>0</sup>	Percentage of men aged 15-54 with high (>140 mg/dl) or very high (>160 mg/dl) blood sugar or taking medicine to control blood sugar.
Immediate determinants	
Underweight women	Percentage of women aged 15-49 whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m²); sample excluded pregnant women and women with a birth in the preceding 2 months.
Consumed IFA 100+ days*	Percentage of mothers aged 15-49 who consumed iron folic acid for 100 days or more during the last pregnancy in
Consumed if A 100+ days	last five years preceding the survey Percentage of mothers aged 15-49 who consumed iron folic acid for 180 days or more during the last pregnancy in
Consumed IFA 180+ days*	last five years preceding the survey
Early initiation of breastfeeding#*	Percentage of children breastfed within one hour of birth for the last child born in the 2 years before the survey
Exclusive breastfeeding	Percentage of youngest children under age 6 months living with mother who were exclusively breastfed
Timely introduction of complementary foods	Percentage of youngest children aged 6-8 months living with mother who received solid or semi-solid food and breastmilk
Continued breastfeeding at 2	Percentage of youngest children 12–23 months of age living with mother who were fed breast milk during the
years <sup>\$*</sup> %	previous day
Adequate diet*	Percentage of youngest children 6–23 months of age who consumed a minimum acceptable diet during the previous day
Dietary diversity*®	Percentage of youngest children 6-23 months of age who were fed a diet that met minimum dietary diversity during the previous day.
Minimum meal frequency*@	Percentage of youngest children 6-23 months of age who were fed the minimum recommended number of times during the previous day
Eggs and/or flesh foods consumption\$ * #	Percentage of youngest children 6–23 months of age who consumed egg and/or flesh food during the previous day
Sweet beverage <sup>\$ * #</sup>	Percentage of youngest children 6–23 months of age who consumed a sweet beverage during the previous day
Bottle feeding for infants\$ * #	Percentage of youngest children 0–23 months of age who were fed from a bottle with a nipple during the previous day
Diarrhea in the last two weeks	Percentage of children under age 5 who had diarrhea in the 2 weeks preceding the survey
Diamilea in the last two weeks	
ARI in the last two weeks	Percentage of children under age 5 who had symptoms of acute respiratory infection (ARI) in the 2 weeks preceding the survey
Underlying determinants	
Women with ≥10 years education	Percentage of women aged 15-49 with 10 or more years of schooling
Women 20-24 years married before	Percentage of women aged 20-24 years who were married before age 18 years
age of 18 years* Women 15-19 years with child or	Percentage of currently married women aged 15-49 who had their first birth before age 20 years and in the five years
pregnant^	preceding the survey
HHs with improved drinking water source	Population living in households with an improved drinking-water source
HHs using improved sanitation facility	Population living in households that use an improved sanitation facility
HHs with hand washing facility <sup>\s</sup>	Percentage of households in which a place for washing hands was observed.
Open defecation <sup>@%</sup>	Percentage of households that have no toilet facility/defecates in open
Safe disposal of feces <sup>\$%</sup>	Percentage of youngest children living with mother whose stools were disposed of safely
HHs with BPL card <sup>@%</sup>	Percentage of households with BPL card
HHs with electricity	Population living in households with electricity

Note: Unless specified, indicators values for NFHS-3 taken from either NFHS-3 national or state reports.

^Indicator cannot be constructed using unit-level NFHS-3 data. Ondicator cannot be constructed using unit-level NFHS-4 data. Indicator not available in NFHS-5 factsheet/report. Indicator not available in NFHS-5 factsheet but in NFHS-5 report. Indicator not available in NFHS-5 factsheet but available in NFHS-4 report. Indicator estimated using NFHS-3 and/or NFHS-4 unit-level data Indicator constructed based on WHO guidelines.

### Indicator definition

Interventions	Definition			
Demand for FP satisfied <sup>@%</sup>	Percentage of currently married women aged 15-49 with demand for family planning satisfied by modern methods			
lodized salt	Percentage of households using iodized salt			
ANC first trimester	Percentage of women (15-49 years of age) attended by any provider during the first trimester of pregnancy that led to the birth of the youngest child in the last 2 years			
≥ 4ANC^	Percentage of mothers aged 15-49 who had at least 4 antenatal care visits for last birth in the 5 years before the survey			
Received MCP card	Percentage of mothers who registered last pregnancy in the 5 years preceding the survey for which she received a Mother and Child Protection (MCP) card			
Received IFA tab/syrup <sup>@%</sup>	Percentage of women who received IFA (given or purchased) tablets during the pregnancy for their most recent live birth in the 5 years preceding the survey			
Tetanus injection	Percentage of women whose last birth was protected against neonatal tetanus (for last birth in the five years preceding the survey)			
Deworming- pregnancy <sup>@%</sup>	Percentage of women who took an intestinal parasite drug during the pregnancy for their most recent live birth in the 5 years preceding the survey			
Weighing- pregnancy <sup>@%</sup>	Percentage of women aged 15-49 with a live birth in the five years preceding the survey who were weighed during ANC for the last birth			
Birth preparedness counselling <sup>0\$</sup>	Percentage of women who had at least one contact with a health worker in the three months preceding the survey and were counselled on birth preparedness (for the last pregnancy in the five years preceding the survey)			
Breastfeeding counselling <sup>@%</sup>	Percentage of women who met with a community health worker in the last three months of pregnancy and received advice on breastfeeding (for the last pregnancy in the five years preceding the survey)			
Counselling on keeping baby warm <sup>^@</sup> %	Percentage of women who met with a community health worker in the last three months of pregnancy and received advice on keeping the baby warm for their most recent live birth in the five years preceding the survey			
Cord care counselling^@%	Percentage of women who met with a community health worker in the last three months of pregnancy and received advice on cord care for their most recent live birth in the five years preceding the survey			
Food supplementation - pregnancy <sup>@%</sup>	Among children under 6 years, percentage whose mother received specific benefits from AWC during pregnancy: supplementary food			
Health & nutrition education – pregnancy <sup>@</sup> %	Among children under 6 years, percentage whose mother received specific benefits from AWC during pregnancy: health and nutrition education			
Malaria prevention- use of bed nets^\$*	Percentage of women who used mosquito net during the pregnancy for their most recent live birth in the 5 years preceding the survey			
Institutional birth	Percentage of live births to women aged 15-49 in the five years preceding the survey that took place in a health/institutional facility			
Financial assistance (JSY) <sup>®</sup>	Percentage of women who received financial assistance under JSY for their most recent live birth that took place in institutional facility in the 5 years preceding the survey			
Skilled birth attendant	Percentage of births attended by skilled health personnel for births in the 5 years before the survey			
Postnatal care for mothers*	Percentage of mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery for their most recent live birth in the five years preceding the survey			
Postnatal care for babies*	Percentage of children who received postnatal care from a doctor /nurse /LHV /ANM /midwife /other health personnel within 2 days of delivery for last birth in the 5 years before the survey			
Food supplementation – postnatal <sup>@</sup> %	Among children under 6 years, percentage whose mother received specific benefits from AWC while breastfeeding: supplementary food			
Health & nutrition education – postnatal <sup>@%</sup>	Among children under 6 years, percentage whose mother received specific benefits from AWC while breastfeeding: health and nutrition education			
Health checkup (ICDS) <sup>@%</sup>	Among children under 6 years, percentage whose mother received specific benefits from AWC while breastfeeding: health checkup.			
Full immunization	Percentage of children aged 12-23 months fully vaccinated based on information from either vaccination card or mother's recall			
Vitamin A – early childhood*	Percentage of children aged 9-35 months who received a vitamin A dose in the last 6 months			
Pediatric IFA*@%	Percentage of youngest children aged 6-23 months who received iron supplements in the past 7 days preceding the survey.			
Deworming – early childhood*@%	Percentage of youngest children aged 6-23 months who received deworming tablets in the last 6 months preceding the survey.			
Care seeking for ARI	Percentage of children under age 5 years with fever or symptoms of ARI in the 2 weeks preceding the survey taken to a health facility or health provider			
ORS during diarrhea	Percentage of children under age 5 years with diarrhea in the 2 weeks preceding the survey who received ORS			
Zinc during diarrhea	Percentage of children under age 5 years with diarrhea in the 2 weeks preceding the survey who received zinc			
Food supplementation (children 6-35 months) \$*	Percentage of youngest children aged 6-35 months who received food supplements from AWC in the 12 months preceding the survey			
Weighing – early childhood <sup>®%</sup> Counselling on child growth <sup>®%</sup>	Percentage of youngest children under age 5 who were weighed at AWC in the 12 months preceding the survey Percentage of youngest children under age 5 whose mother received counselling from an AWC after child was weighed in the 12 months preceding the survey			
Preschool at AWC <sup>@%</sup>	Percentage of children age 36-71 months who went for early childhood care/preschool at an AWC in the 12 months preceding the survey.			
Health checkup (AWC) <sup>@%</sup>	Percentage of children age under 6 years who received health checkups from an AWC in the 12 months preceding the survey			
Note: Unless specified, indicators values for NEHS-3 taken from either NEHS-3 national or state reports				

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Disclaimer: The maps used in this Data Note are based on the districts in NFHS-5 factsheets/reports. The boundaries shown do not imply any official endorsement or acceptance by IFPRI.

#### **ABOUT POSHAN**

Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India (POSHAN) is a multi-year initiative that aims to support the use of data and evidence in decision-making for nutrition in India. It is supported by the Bill & Melinda Gates Foundation and led by IFPRI in India. http://poshan.ifpri.info/

#### **ABOUT DATA NOTES**

POSHAN Data Notes focus on data visualization to highlight geographic and/or thematic issues related to nutrition in India. They draw on multiple sources of publically available data.

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