

District Nutrition Profile 2.0

Design process & Style guide

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Designation: Independent researcher

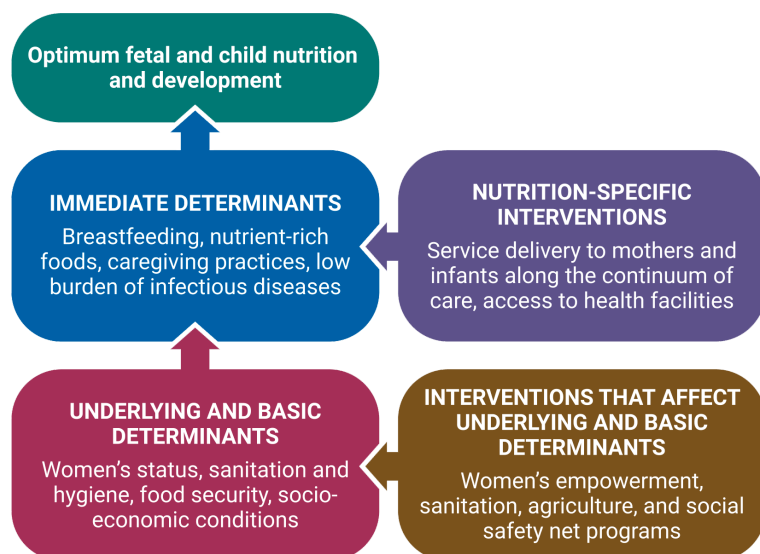
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Introduction

DNP 2.0 are created for 707 districts in India. Out of which, 575 are comparable and 132 are non-comparable districts. For comparable districts, we have NFHS data for the years 2016 and 2020 and for non-comparable districts we have NFHS data only for 2020. In addition to this, HMIS data is also used. The DNPs are generated in both English and Hindi.

The following framework is included in the DNP 2.0 (Source: Adapted from Black et al. (2008)).



The designs were created using Figma and developed using Python 3 and PyFPDF2. The program to generate the DNPs is available at https://github.com/namastevis/dnp_2022.

Visualisation



- Lollipop plots are used to visualise the district data.
- The grey vertical bars show the state average.
- The top green chart is for 2016 and the bottom orange chart is for 2020.
- The numbers on the right show the percentage value for the respective district. The values are rounded.

Text used

The following descriptive texts are used in the DNPs.

1. About District Nutrition Profiles:

District Nutrition Profiles (DNPs) are available for 707 districts in India. They present trends for key nutrition and health outcomes and their cross-sectoral determinants in a district. The DNPs are based on data from the National Family Health Survey (NFHS)-4 (2015-2016) and NFHS-5 (2019-2020). They are aimed primarily at district administrators, state functionaries, local leaders, and development actors working at the district level.

2. What factors lead to child undernutrition?

Given the focus of India's national nutrition mission on child undernutrition, the DNPs focus on the determinants of child undernutrition (Figure on the left). Multiple determinants of suboptimal child nutrition and development contribute to the outcomes seen at the district level. Different types of interventions can influence these determinants. Immediate determinants include inadequacies in food, health, and care for infants and young children, especially in the first two years of life. Nutrition-specific interventions such as health service delivery at the right time during pregnancy and early childhood can affect immediate determinants. Underlying and basic determinants include women's status, household food security, hygiene, and socio-economic conditions. Nutrition-sensitive interventions such as social safety nets, sanitation programs, women's empowerment, and agriculture programs can affect underlying and basic determinants.

3. Source:

- a. IFPRI estimates - The headcount was calculated as the product of the undernutrition prevalence and the total eligible projected population for each district in 2019. Projected population for 2019 was estimated using Census 2011.
- b. NFHS-4 (2015-16) & NFHS-5 district & state factsheets (2019-20).
- c.

4. Citation: Singh. N., P.H. Nguyen, M. Jangid, S.K. Singh, R. Sarwal, N. Bhatia, R. Johnston, W. Joe, and P. Menon. 2022. District Nutrition Profile: [District Name], [State Name]. New Delhi, India: International Food Policy Research Institute.

5. Acknowledgement: Financial support was provided by the Bill & Melinda Gates Foundation through POSHAN, led by the International Food Policy Research Institute. We thank Amit Jena (Independent Researcher) for design and programming support.

6. Source: Adapted from Black et al. (2008)

7. Note: NA refers to data are unavailable for a given round of NFHS data.

Data Preparation

1. Maps

- Comparable maps are with .jpg extension.
- Non-comparable maps are with .jpeg extension.
- Maps are named as per district code.

- There are a total of 707 maps (575 comparable and 132 non-comparable districts).
- 2. CSV for district and state data
 - All the 2016 and 2019 data are merged to create one CSV file each for
 - Comparable district
 - Comparable state
 - Non-comparable district
 - Non-comparable state
 - If an indicator has no data for all the districts then it is not included in the CSV file.
 - For missing values, the cell has an empty string in the CSV file.
 - HMIS data are missing for the following
 - Comparable districts
 - Mumbai (519)
 - Mumbai Suburban (518)
 - Non-comparable districts
 - Biswanath (665)
 - Charaideo (666)
 - Hojai (667)
 - Majuli (668)
 - South Samara Mancachar (669)
 - West Karbi Anglong (670)

Points for discussion

- The state of nutrition outcomes among children (<5 years)
 - a. What are the trends in undernutrition among children under five years of age (stunting, wasting, underweight, and anemia)?
 - b. What are the trends in overweight/obesity among children under five years of age in the district?
- The state of nutrition outcomes among women (15-49 years)
 - a. What are the trends in underweight and anemia among women (15-49 yrs) in the district?
 - b. What are the trends in overweight/obesity and other nutrition-related non-communicable diseases in the district?
- Immediate determinants
 - a. What are the trends in infant and young child feeding (timely initiation of breastfeeding, exclusive breastfeeding, timely initiation of complementary feeding, and adequate diet)? What can be done to improve infant and young child feeding?
 - b. What are the trends in IFA consumption among pregnant women in the district? How can the consumption be improved?
 - c. What additional data are needed to understand diets and/or other determinants?

- Underlying determinants
 - a. How can the district increase women's literacy, and reduce early marriage, if needed?
 - b. How does the district perform on providing drinking water and sanitation to its residents? Since sanitation and hygiene play an important role in improving nutrition outcomes, how can all aspects of sanitation be improved?
 - c. How can programs that address underlying and basic determinants (education, poverty, gender) be strengthened?
 - d. What additional data are needed on food systems, poverty or other underlying determinants?
- Trends in coverage of interventions across the first 1,000 days
 - a. How does the district perform on health and nutrition interventions along the continuum of care? Does it adequately provide both prenatal and postnatal services to women of reproductive age, pregnant women, new mothers and newborns?
 - b. How has access to health and ICDS services changed over time (food supplementation, health and nutrition education and health checkups)?

List of indicators

S no	Indicator	label	Domain
1	Sex ratio of the total population (females per 1,000 males)- 2019	Sex ratio (females per 1,000 males) of the total population	Demographic
2	Number of women in reproductive age - 2019	Number of women in reproductive age (15-49 ys)	Demographic
3	Number of pregnant women (2019)	Number of pregnant women	Demographic
4	Number of births (2019)	Number of live births	Demographic
5	Number of children under 5 yrs	Total number of children under 5 yrs	Demographic
6	Children under age 5 years whose birth was registered with the civil authority	Children under age 5 years whose birth was registered	Demographic
7	Children < 5 years with low-birth weight (<2500g)	Low-birth weight	Nutrition Status
8	Children (<5 years) who are stunted	Stunted	Nutrition Status
9	Children (<5 years) who are wasted	Wasted	Nutrition Status
10	Children (<5 years) who are severely wasted	Severely wasted	Nutrition Status
11	Children (<5 years) who are underweight	Underweight	Nutrition Status
12	Children (<5 years) who are overweight	Overweight/obesity	Nutrition Status
13	Anemia among children < 5 years	Anemia	Nutrition Status
14	Women who are underweight i.e. (BMI) <18.5 kg/m ²	Underweight (BMI<18.5 kg/m ²)	Nutrition Status
15	Women who are overweight or obese	Overweight/obesity	Nutrition Status
16	94. Elevated blood pressure (Systolic ≥140 mm of Hg and/or Diastolic ≥90 mm of Hg) or taking medicine to control blood pressure (%)	Hypertension	Nutrition Status

17	88. Blood sugar level - high or very high (>140 mg/dl) or taking medicine to control blood sugar level ²³ (%)	Diabetes	Nutrition Status
18	Anemia among non-pregnant women	Anemia (non-pregnant)	Nutrition Status
19	Anemia among pregnant women	Anemia (pregnant)	Nutrition Status
20	Women consumed IFA for 100+ days during last pregnancy	Consumed IFA 100+ days (pregnant women)	Immediate determinants
21	Women consumed IFA for 180+ days during last pregnancy	Consumed IFA 180+ days (pregnant women)	Immediate determinants
22	Early initiation of breastfeeding i.e. children under 2 yr/ 3yr who were breastfed within one hour of birth	Early initiation of breastfeeding	Immediate determinants
23	Exclusive breastfeeding of youngest child < 6 months	Exclusive breastfeeding	Immediate determinants
24	Continued breastfeeding of youngest child until 2 years	Continued breastfeeding at 2 years	Immediate determinants
25	Timely introduction of complementary feeding	Timely introduction of complementary foods	Immediate determinants
26	Minimum acceptable diet/ minimum adequate diet	Adequate diet (children)	Immediate determinants
27	Minimum dietary diversity - children under age 2 yrs	Dietary diversity (children)	Immediate determinants
28	Minimum meal frequency - children under age 2 yrs	Minimum meal frequency (children)	Immediate determinants
29	Children who were given eggs/fleshy food	Eggs and/or flesh foods consumption 6-23 m	Immediate determinants
30	Children sweet beverage consumption	Sweet beverage consumption, 6-23 m	Immediate determinants
31	Children who were bottle fed	Bottle feeding of infants, 6-23 m	Immediate determinants
32	Women with at least 10 years of education	Women with ≥10 years of education	Underlying determinants
33	Women age 20-24 years married before age 18 years	Women 20-24 years married before the age of 18	Underlying determinants
34	Women age 15-19 years with child or pregnant	Women 15-19 years with child or pregnant	Underlying determinants
35	HHs using of improved toilet facility	HHs using improved sanitation facility	Underlying determinants
36	Has access to improved source of drinking water	HHs with improved drinking water source	Underlying determinants
37	Practices safe disposal of feces	Safe disposal of feces	Underlying determinants
38	HHs with BPL cards (proxy of poverty)	HHs with BPL Card	Underlying determinants
39	HHs with health insurance	HHs with health insurance	
40	Demand for family planning satisfied by modern methods	Demand for FP satisfied	Intervention coverage
41	HHs that use iodized salt / Food fortification	Iodized salt	Intervention coverage
42	Pregnancy registered	Pregnancy registered	

43	Antenatal care (ANC) visit -first trimester	ANC first trimester	Intervention coverage
44	Received >- 4 ANC visits	> 4ANC	Intervention coverage
45	Weighed during pregnancy	Weighing	Intervention coverage
46	Received counselling on birth preparedness from any FLW	Birth preparedness counselling	Intervention coverage
47	Received counselling on breastfeeding from any FLW (during pregnancy)	Breast feeding counselling	Intervention coverage
48	Pregnancy protected against Tetanus / Neonatal tetanus protection	Tetanus injection	Intervention coverage
49	Received Iron Folic Acid (IFA) Supplementation during pregnancy	Received IFA tab /syrup	Intervention coverage
50	Deworming / Received deworming medicine during pregnancy	Deworming	Intervention coverage
51	Received food Supplementation during pregnancy - from ICDS	Food supplementation	Intervention coverage
52	Institutional delivery	Institutional birth	Intervention coverage
53	Received financial assistance under JSY (Janani) for delivering at institutional facility	Financial assistance (JSY)	Intervention coverage
54	Delivery attended by a skilled birth attendant	Skilled birth attendant	Intervention coverage
55	Postnatal care for women at home/facility	Postnatal care for mothers	Intervention coverage
56	Postnatal care for babies	Postnatal care for babies	Intervention coverage
57	Received food supplementation while breastfeeding	Food supplementation	Intervention coverage
58	Received health & nutrition education while breastfeeding	Health and nutrition education	Intervention coverage
59	Health checkup (ICDS) while breastfeeding	Health checkup (ICDS)	Intervention coverage
60	Full immunization of children age 12-23 months	Full immunization	Intervention coverage
61	Children age 9-35 months received Vitamin A supplementation in last 6 months / Vit A supplementation	Vitamin A	Intervention coverage
62	Children age 6-59 months received IFA supplementation in last 7 days / Pediatric IFA	Pediatric IFA	Intervention coverage
63	Children age 6-59 months received deworming medication in last 6 months	Deworming	Intervention coverage
64	Children under age 6 years received food supplementation (from ICDS for NFHS)	Food supplementation (6-35 months)	Intervention coverage
65	Growth of children monitored / Weighed ICDS	Weighing	Intervention coverage
66	Mother received counselling on nutritional status after child was weighed (ICDS)	Counselling on child growth	Intervention coverage
67	Children under age 5 years received ORS treatment for Diarrhea	ORS during diarrhea	Intervention coverage

68	Children under age 5 years received zinc treatment for Diarrhea (6-59 months)	Zinc during diarrhoea	Intervention coverage
69	Children under age 5 with fever/ARI symptoms who received treatment	Careseeking for ARI	Intervention coverage
70	Preschool at AWC	Preschool at AWC	Intervention coverage
71	Health checkup from AWC	Health checkup from AWC	Intervention coverage

Appendix

- Style guide
- Previous design iterations - 8 versions

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[MONTH YEAR]

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District Map

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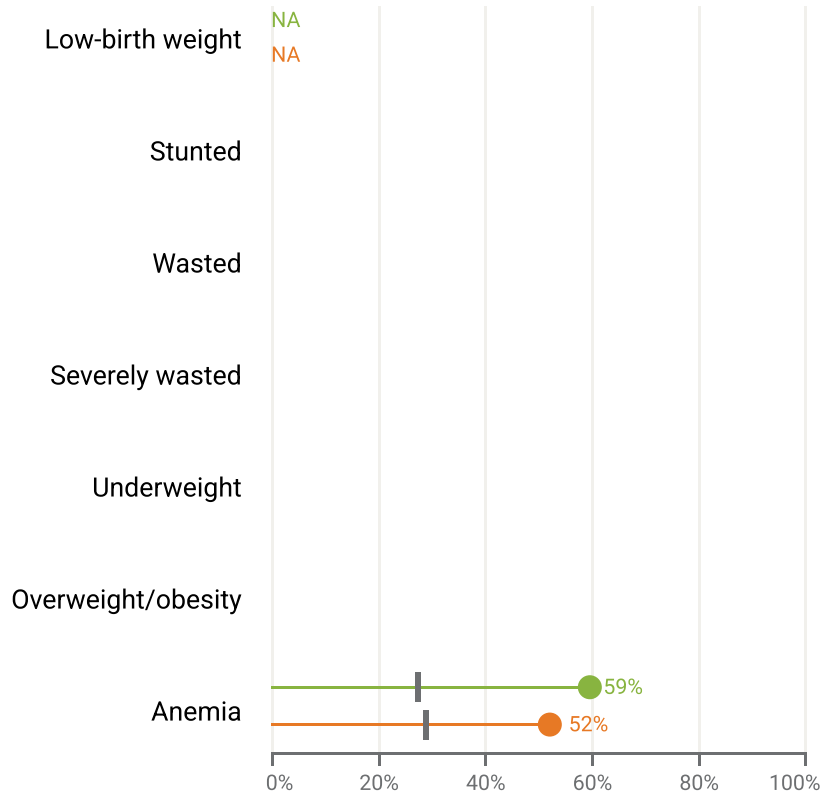
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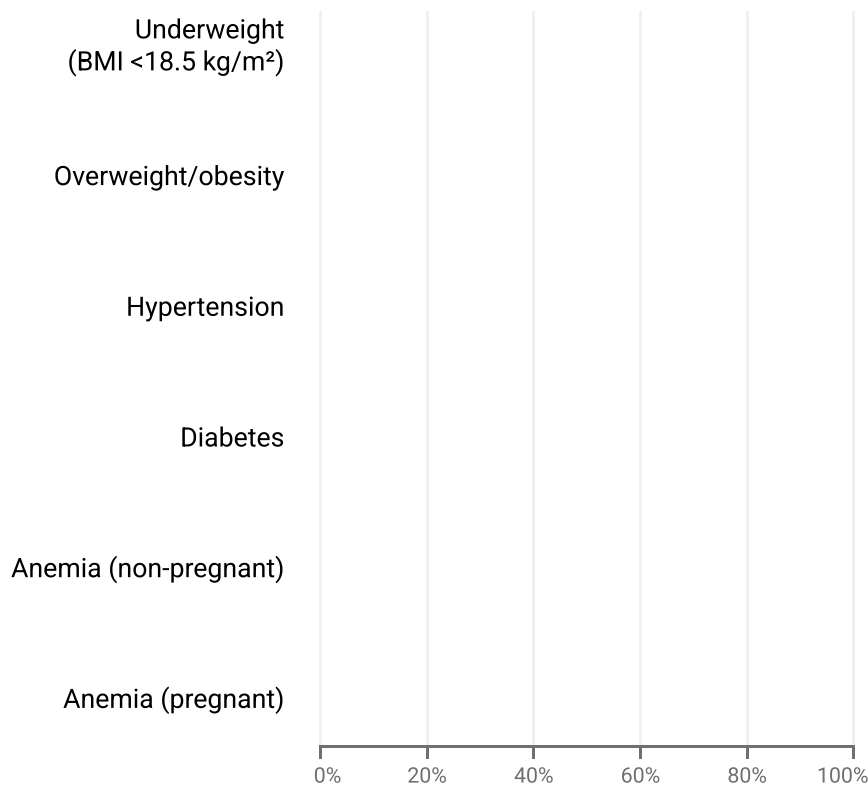
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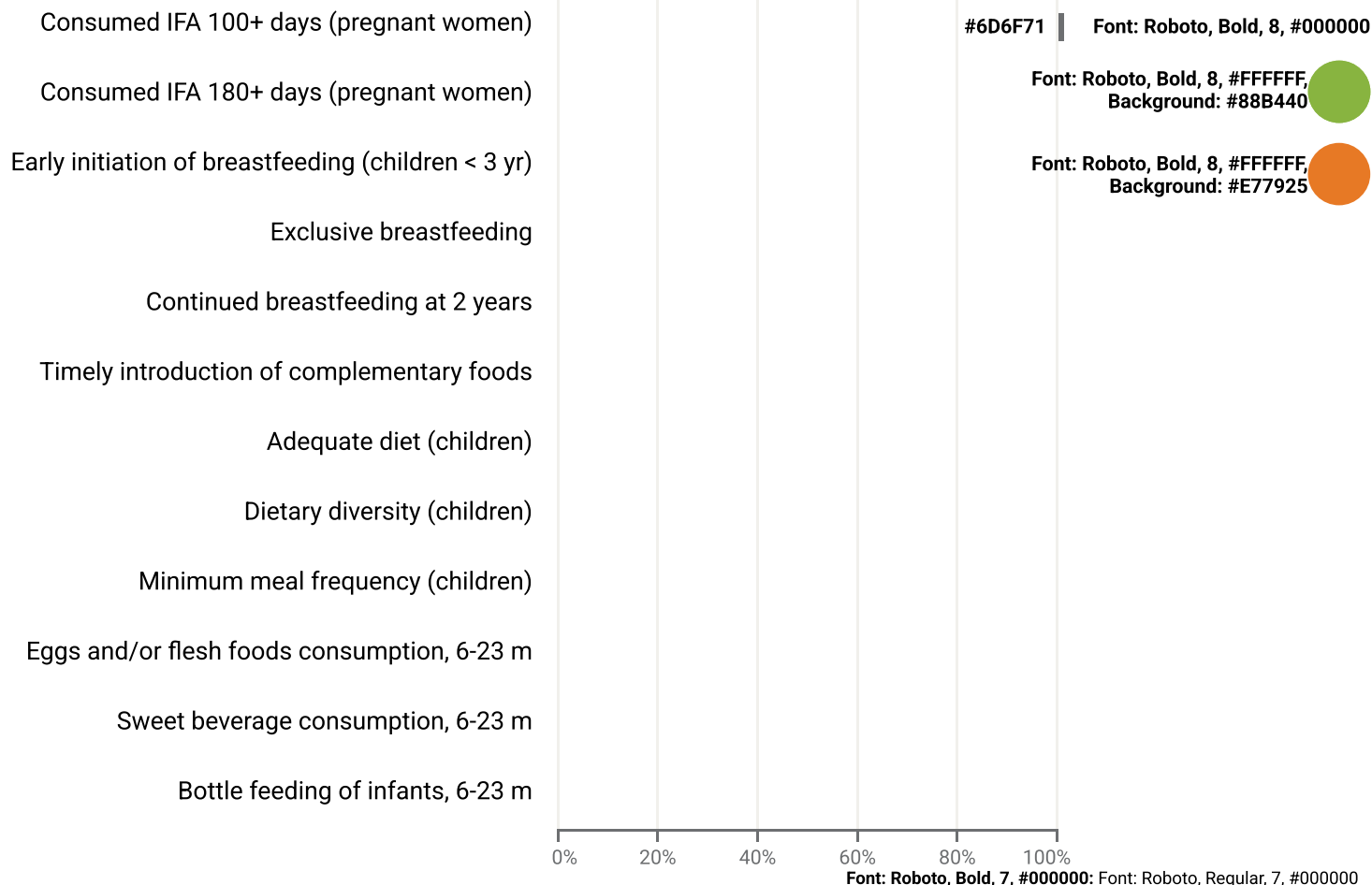
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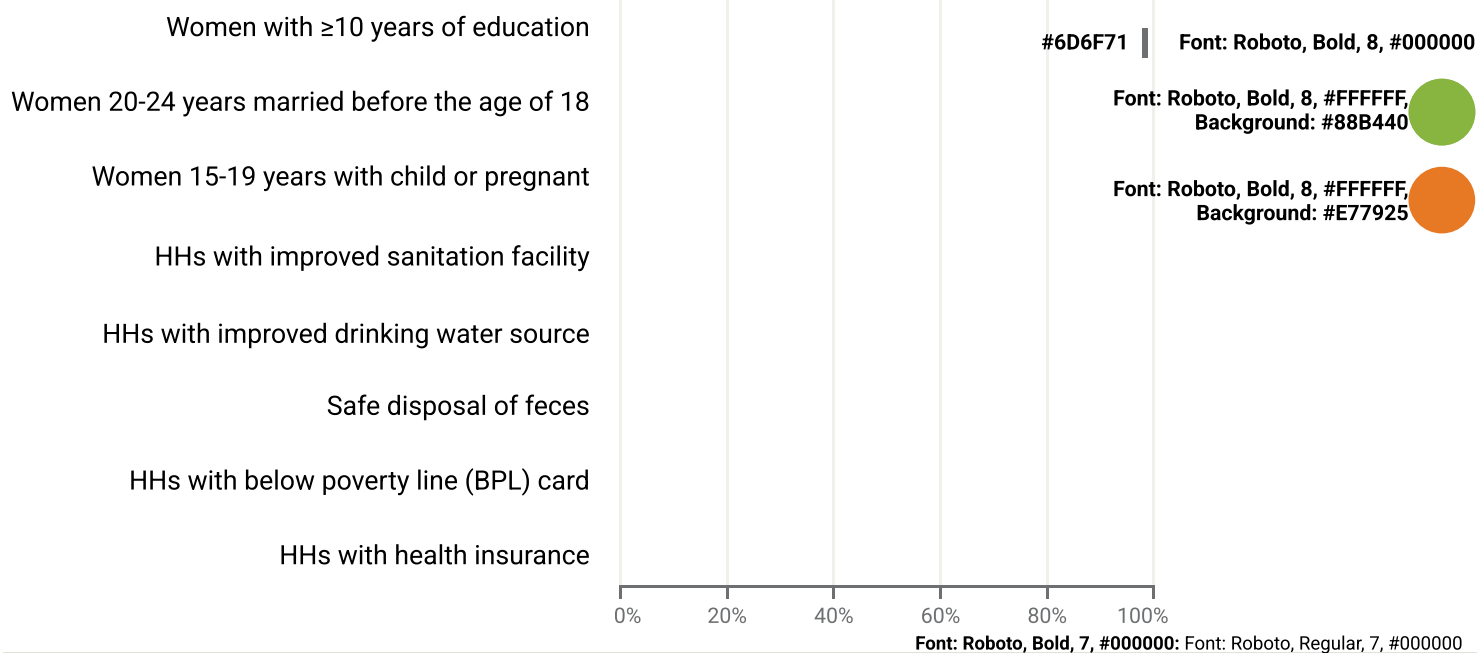
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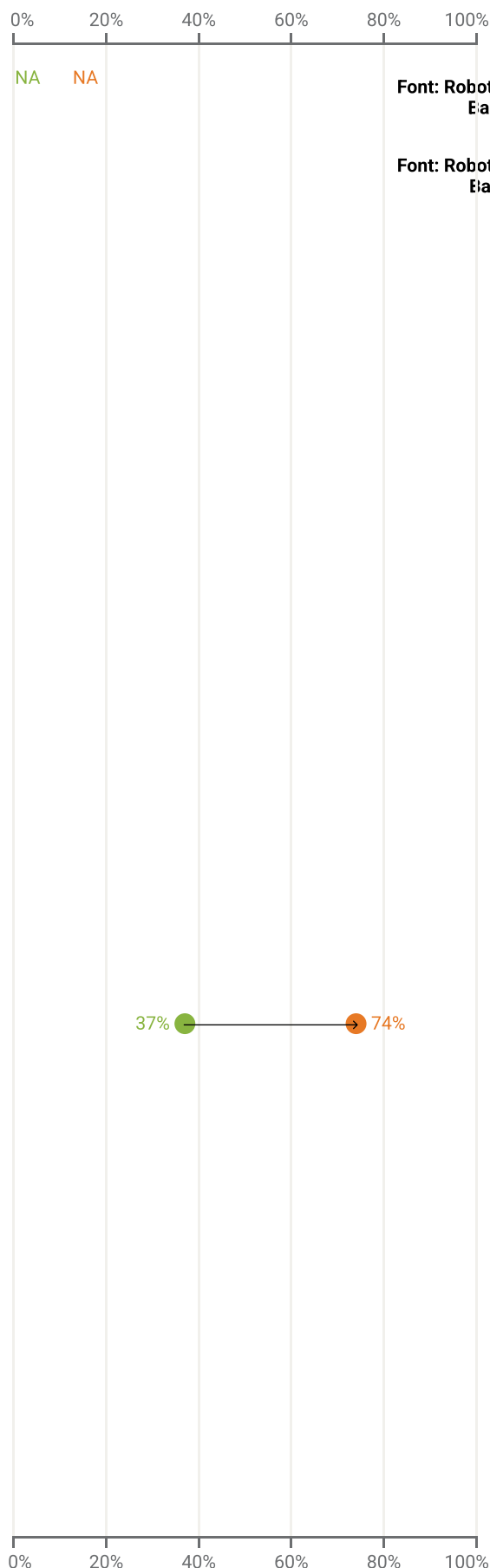
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Demand for FP satisfied
 Iodized salt
 Pregnancy registered (MPC card)
 ANC first trimester
 > 4 ANC visits
 Weighing
 Birth preparedness counselling
 Breastfeeding counselling
 Tetanus injection
 Received IFA tab/syrup
 Deworming
 Food supplementation
 Institutional birth
 Financial assistance (JSY)
 Skilled birth attendant
 Postnatal care for mothers
 Postnatal care for babies
 Food supplementation
 Health & nutrition education
 Health checkup (ICDS)
 Full immunization
 Vitamin A
 Pediatric IFA
 Deworming
 Food supplementation (6-35 months)
 Weighing
 Counselling on child growth
 ORS during diarrhea
 Zinc during diarrhea
 Careseeking for ARI
 Preschool at AWC
 Health checkup from AWC



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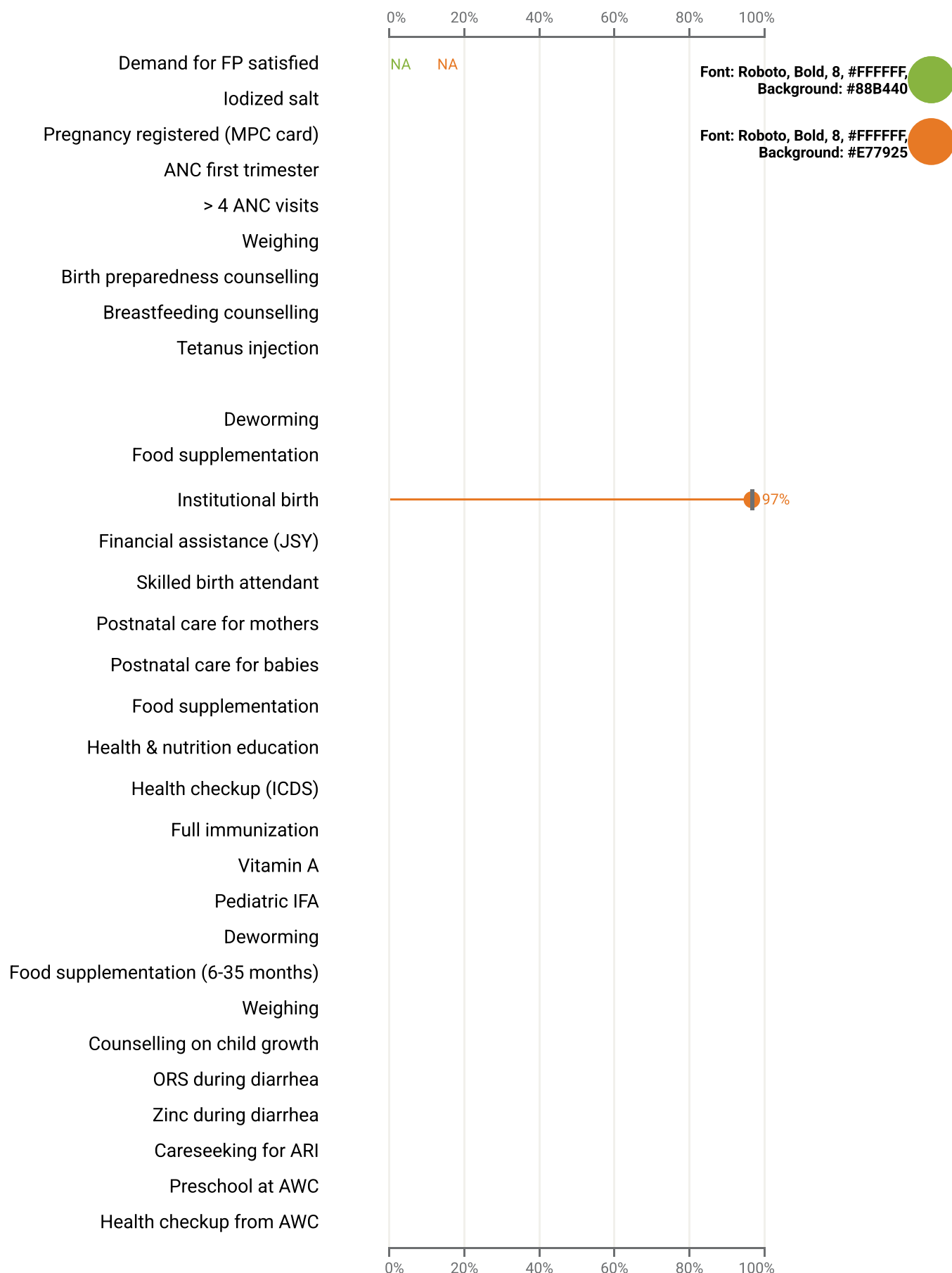
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