

NATIONAL FAMILY HEALTH SURVEY 2019-21

Problem Statement

India is a country of striking contrasts and complexities in health, education, nutrition, fertility, and gender empowerment across states and socio-economic groups. While the National Family Health Survey (NFHS-5, 2019–21) offers a rich dataset covering over 400 indicators, its vastness and complexity often overwhelm policymakers, researchers, and NGOs trying to derive actionable insights. The core problem lies in the lack of an intuitive, comparative, and accessible platform that can decode these insights at state and regional levels without requiring technical expertise in raw data handling.

Objective

This project builds an interactive Power BI Dashboard to:

Simplify the interpretation of key NFHS-5 indicators across Indian states

Enable users to filter, switch, and compare indicators by area, gender, and state

Highlight regional disparities, gender gaps, and high-risk zones for health and development

Provide a tool to support evidence-based decisions and policy interventions

PAGE 1: HEAT MAP DASHBOARD

State-wise & Area -Wise Health Indicator Distribution

Purpose:

To offer a top-down geographic view of selected indicators using dynamic filtering and interactive maps.

Visuals Used:

1 Slicers Used

State, Area (Urban/Rural), Indicator Group, and Indicator Name

Helps filter indicators dynamically

2 Filled Map (Heatmap)

Shows state-wise distribution of the selected indicator
Color gradients help quickly spot high or low values

3 Dynamic Title (DAX-based)

Title updates automatically based on slicer selections

4 Dynamic Indicator Summary (DAX Based)

Provide the summary of filter applied and provide the values for indicator
Policymakers and researchers need a quick visual cue to identify regional imbalances. This page enables just that with minimal clicks and maximum visual clarity.

PAGE 2: DEMOGRAPHICS

1. KPI:

Following Indicator Column are used:

Number of Household Surveyed

Number of Men Surveyed

Number of Women Surveyed

Visual Used: CARD

This set of card visuals displays the number of households, men, and women surveyed, offering immediate context on sample size and state-level participation. These figures ground the dashboard in statistical credibility and help users interpret indicator trends with confidence

2. Basic Household Amenities by State and Area

Following Indicator Column are Used:

Population living in households with electricity (%)

Population living in households with an improved drinking-water source (%)

Population living in households that use an improved sanitation facility (%)

Households using clean fuel for cooking (%)

Households using iodized salt (%)

Visual Used: Matrix

This matrix visual presents household access to five essential services: electricity, improved drinking water, sanitation, clean cooking fuel, and iodized salt. Color-coded with data bars, it highlights deficiencies and variations across states, enabling rapid visual comparison and identification of underserved regions for targeted policy action.

3. Sex Ratio at birth and Sex Ratio by States

Following Indicator Column are Used:

Sex ratio of the total population (females per 1,000 males)

Sex ratio at birth for children born in the last five years (females per 1,000 males)

Visual Used: Clustered Bar Chart

This clustered bar chart compares the overall sex ratio and sex ratio at birth (females per 1,000 males) across states. It highlights gender balance trends and enables ranking of states based on performance.

4. Literacy Insights

Following Indicator Column are Used:

Women (age 15-49) who are literate (%)

Men (age 15-49) who are literate (%)

Visual Used: Matrix

It highlights key indicators such as overall, male, and female literacy rates, Gender Gap in Literacy, Urban Literacy, Rural Literacy and urban–rural literacy gap. Enables users to compare literacy and disparities effectively.

5. Education Insights by State and Area

Following Indicator Column are Used:

Women (age 15-49) with 10 or more years of schooling (%)

Men (age 15-49) with 10 or more years of schooling (%)

Visual Used: Matrix

This matrix visual presents the percentage of women and men (age 15–49) with 10 or more years of schooling, enabling analysis of educational attainment, the gender gap, and the Gender Parity

Index (GPI) across states and areas. It highlights regional disparities in long-term schooling and supports data-driven comparisons to identify areas where gender equity in education is progressing—or lagging.

6. Prevalence of Early Marriages

Following Indicator Column are Used:

Women age 20-24 years married before age 18 years (%)

Men age 25-29 years married before age 21 years (%)

Visual Used: Pie Chart

This pie chart visualizes the proportion of women (20–24 years) married before age 18 and men (25–29 years) married before age 21. It highlights gendered patterns in early marriage, with significantly higher prevalence among young women.

7. Under-Five Mortality Breakdown by Category

Following Indicator Column are Used:

Neonatal mortality rate (per 1000 live births) Infant mortality rate (per 1000 live births) Under-five mortality rate (per 1000 live births)

Visual Used: Clustered Bar Chart

This clustered bar chart visualizes five key child mortality metrics: neonatal, postneonatal, infant, child (1–5 years), and under-five mortality rates (per 1,000 live births). This visual helps identify gaps in early childhood health outcomes and supports targeted action to reduce preventable deaths.

8. Population under 15 years

Following Indicator Column are Used:

Population below age 15 years (%)

Visual Used: Gauge

This gauge visual displays the percentage of the population below age 15, offering a quick snapshot of the child demographic burden across states. It highlights regions with a high youth population, signaling future demand for education, health, and employment infrastructure.

9. Registered births

Following Indicator Column are Used:

Children under age 5 years whose birth was registered with the civil authority (%)

Visual Used: Gauge

This gauge visual displays the percentage of children under age 5 whose births are registered with civil authorities, offering a quick snapshot of legal identity coverage across states.

10. Registered deaths

Following Indicator Column are Used:

Deaths in the last 3 years registered with the civil authority (%)

Visual Used: Gauge

This gauge visual displays the percentage of deaths in the last three years registered with civil authorities, offering a quick snapshot of legal documentation and vital statistics coverage.

11. Average Internet usage

Following Indicator Column are Used:

Women (age 15-49) who have ever used the internet (%)

Men (age 15-49) who have ever used the internet (%)

Visual Used: Gauge

This gauge visual displays the percentage of women and men (age 15–49) who have ever used the internet, highlighting the digital gender divide across states.

PAGE 3: PUBLIC HEALTH

1. Body Measurement Statistics by Gender (15–49 Years)

Following Indicator Column are Used:

Women (age 15-49 years) whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m²)21 (%)

Men (age 15-49 years) whose Body Mass Index (BMI) is below normal (BMI <18.5 kg/m²)

(%)

Women (age 15-49 years) who are overweight or obese (BMI 25.0 kg/m²) (%)

Men (age 15-49 years) who are overweight or obese (BMI 25.0 kg/m²) (%)

Women (age 15-49 years) who have high risk waist-to-hip ratio (0.85) (%)

Men (age 15-49 years) who have high risk waist-to-hip ratio (0.90) (%)

Visual Used: Matrix

This matrix visual presents gender-disaggregated data on BMI and waist-to-hip ratio for individuals aged 15–49. It highlights the dual burden of undernutrition and obesity, along with central obesity risks. The visual enables comparison across states, revealing patterns in nutritional status and identifying regions where public health interventions are needed to address both underweight and overweight populations.

2. Nutritional Status of Children Under 5 Years

Following Indicator Column are Used:

Children under 5 years who are stunted (height-for-age) (%)

Children under 5 years who are wasted (weight-for-height)(%)

Children under 5 years who are severely wasted (weight-for-height) (%)

Children under 5 years who are underweight (weight-for-age) (%)

Children under 5 years who are overweight (weight-for-height) (%)

Visual Used: Matrix

This matrix visual presents five key indicators of child nutrition—stunting, wasting, severe wasting, underweight, and overweight—for children under age 5. It highlights the dual burden of undernutrition and emerging overnutrition, enabling comparison across states to identify regions with critical child health challenges and guide targeted nutrition interventions.

3. Child Immunization Coverage (Ages 12–35 Months)

Following Indicator Column are Used:

Children age 12-23 months who have received BCG (%)

Children age 12-23 months who have received 3 doses of polio vaccine¹³ (%)

Children age 12-23 months who have received 3 doses of penta or DPT vaccine (%)

Children age 12-23 months who have received the first dose of measles-containing vaccine (MCV) (%)

Children age 24-35 months who have received a second dose of measles-containing vaccine (MCV) (%)

Children age 12-23 months who have received 3 doses of rotavirus vaccine¹⁴ (%)

Children age 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)

Visual Used: Matrix

This matrix visual presents immunization rates for children aged 12–35 months across seven key vaccines, including BCG, polio, DPT/penta, measles, rotavirus, and hepatitis B. It highlights progress toward full immunization and this visual enables state-wise comparison to identify regions needing intensified outreach and vaccine equity efforts.

4. Family Planning Method Usage Among Married Women (Age 15–49)

Following Indicator Column are Used:

Current Use of Family Planning Methods (Currently Married Women Age 15-49 years) - Any method (%)

Current Use of Family Planning Methods (Currently Married Women Age 15-49 years) - Any modern method(%)

Current Use of Family Planning Methods (Currently Married Women Age 15-49 years) - Female sterilization (%)

Current Use of Family Planning Methods (Currently Married Women Age 15-49 years) - Male sterilization (%)

Current Use of Family Planning Methods (Currently Married Women Age 15-49 years) - IUD/P-PIUD (%)

Current Use of Family Planning Methods (Currently Married Women Age 15-49 years) - Pill (%)

Current Use of Family Planning Methods (Currently Married Women Age 15-49 years) - Condom (%)

Current Use of Family Planning Methods (Currently Married Women Age 15-49 years) - Injectables (%)

Visual Used: Matrix

This matrix visual presents the usage patterns of family planning methods among currently married women (age 15–49), covering both modern and traditional methods. It highlights the dominance of female sterilization, limited uptake of male sterilization, and varying adoption of temporary methods like IUDs, pills, condoms, and injectables. The visual enables comparison across states, helping identify gaps in method mix, gender participation, and access to reproductive health services.

5. Anaemia Prevalence Among Children, Women, and Men (%)

Following Indicator Column are Used:

Children age 6-59 months who are anaemic (<11.0 g/dl) (%)

Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) (%)

Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) (%)

All women age 15-49 years who are anaemic (%)

All women age 15-19 years who are anaemic(%)

Men age 15-49 years who are anaemic (<13.0 g/dl) (%)

Men age 15-19 years who are anaemic (<13.0 g/dl) (%)

Visual Used: Clustered Bar Chart

This clustered bar chart shows anaemia rates among children (6–59 months), women, and men (15–49 years). It highlights widespread deficiency, especially among young children and adolescent girls, enabling state-wise comparison to guide nutrition and health interventions.

6. Health Facility Visits for Diarrhoea (Under 5 years)(%)

Following Indicator Column are Used:

Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (Children under age 5 years) (%)

Visual Used: Gauge

This gauge visual shows the percentage of under-5 children with diarrhoea taken to a health facility, offering a quick view of care-seeking behavior.

7. Card-Based Vaccination Coverage (12–23 Months)(%)

Following Indicator Column are Used:

Children age 12-23 months fully vaccinated based on information from vaccination card only (%)

Visual Used: Gauge

This gauge shows the percentage of children (12–23 months) fully vaccinated based on card records, offering a quick view of reliable immunization documentation across states.

8. Health Facility Visits – Fever/ARI (Under 5 years)(%)

Following Indicator Column are Used:

Children with diarrhoea in the 2 weeks preceding the survey taken to a health facility or health provider (Children under age 5 years) (%)

Visual Used: Gauge

This gauge shows the percentage of children (12–23 months) fully vaccinated based on card records, offering a quick view of reliable immunization documentation across states.

PAGE 4: EMPOWERMENT & HEALTH

1. Public vs Private Vaccination Coverage (%)

Following Indicator Column are Used:

Children age 12-23 months who received most of their vaccinations in a public health facility (%)

Children age 12-23 months who received most of their vaccinations in a private health facility (%)

Visual Used: Pie Chart

This pie chart shows where children (12–23 months) received most vaccinations—public vs private facilities—highlighting access patterns across states.

2. Caesarean Deliveries by Facility Type (%)

Following Indicator Column are Used:

Births in a private health facility that were delivered by caesarean section (in the 5 years before the survey) (%)

Births in a public health facility that were delivered by caesarean section (in the 5 years before the survey) (%)

Visual Used: Pie Chart

This pie chart shows the share of births delivered by C-section in public vs private health facilities, highlighting stark differences in delivery practices. It helps identify states with high reliance on private-sector caesareans and supports analysis of access, affordability, and medical decision-making patterns

3. Gender-wise Alcohol Use (%)

Following Indicator Column are Used:

Women age 15 years and above who consume alcohol (%)

Men age 15 years and above who consume alcohol (%)

Visual Used: Pie Chart

This pie chart shows the percentage of men and women (15+ years) who consume alcohol, revealing a clear gender gap.

4. Prevalence of Tobacco Use by Gender (%)

Following Indicator Column are Used:

Women age 15 years and above who use any kind of tobacco (%)

Men age 15 years and above who use any kind of tobacco (%)

Visual Used: Pie Chart

This pie chart shows the percentage of men and women (15+ years) who use any form of tobacco, highlighting a significant gender gap in usage patterns.

5. Women facing Spousal Violence (%)

Following Indicator Column are Used:

Ever-married women age 18-49 years who have ever experienced spousal violence (%)

Visual Used: Gauge Chart

This pie chart shows the percentage of ever-married women (18–49 years) who have experienced spousal violence, highlighting the scale of gender-based violence across states.

6. Children Vitamin A Coverage (9–35 Months) (%)

Following Indicator Column are Used:

Children age 9-35 months who received a vitamin A dose in the last 6 months (%)

Visual Used: Gauge Chart

This gauge chart shows the percentage of children aged 9–35 months who received a vitamin A dose in the past 6 months, offering a quick view of supplementation coverage and helping identify states needing improved outreach for child nutrition.

7. Women’s Empowerment Access to Resources by Area (%)

Following Indicator Column are Used:

Currently married women (age 15-49 years) who usually participate in three household decisions (%)

Women (age 15-49 years) who worked in the last 12 months and were paid in cash (%)

Women (age 15-49 years) owning a house and/or land (alone or jointly with others) (%)

Women (age 15-49 years) having a bank or savings account that they themselves use (%)

Women (age 15-49 years) having a mobile phone that they themselves use (%)

Women age 15-24 years who use hygienic methods of protection during their menstrual period²⁶ (%)

Visual Used: Matrix Chart

This visual compares rural and urban women’s access to decision-making, work, property, finances, phones, and hygiene—highlighting urban advantages in digital and financial inclusion, and rural strengths in labor participation

8. Hypertension Levels in Adults by Category and Gender (%)

Following Indicator Column are Used:

Women age 15 years and above with Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)

Women age 15 years and above with Moderately or severely elevated blood pressure (Systolic 160 mm of Hg and/or Diastolic 100 mm of Hg) (%)

Women age 15 years and above with Elevated blood pressure (Systolic 140 mm of Hg and/or Diastolic 90 mm of Hg) or taking medicine to control blood pressure (%)

Men age 15 years and above with Mildly elevated blood pressure (Systolic 140-159 mm of Hg and/or Diastolic 90-99 mm of Hg) (%)

Men age 15 years and above with Moderately or severely elevated blood pressure (Systolic 160 mm of Hg and/or Diastolic 100 mm of Hg) (%)

Men age 15 years and above with Elevated blood pressure (Systolic 140 mm of Hg and/or Diastolic 90 mm of Hg) or taking medicine to control blood pressure (%)

Visual Used: Matrix Chart

This matrix visual presents national-level percentages of men and women (15+ years) with mild, moderate, or elevated blood pressure, highlighting gender differences and the overall burden of hypertension in the adult population.

9. Blood Sugar Levels by Gender (%)

Following Indicator Column are Used:

Women age 15 years and above with high (141-160 mg/dl) Blood sugar level (%)

Women age 15 years and above with very high (>160 mg/dl) Blood sugar level (%)

Women age 15 years and above with high or very high (>140 mg/dl) Blood sugar level or taking medicine to control blood sugar level (%)

Men age 15 years and above with high (141-160 mg/dl) Blood sugar level (%)

Men (age 15 years and above with very high (>160 mg/dl) Blood sugar level (%)

Men age 15 years and above with high or very high (>140 mg/dl) Blood sugar level or taking medicine to control blood sugar level (%)

Visual Used: Matrix Chart

This matrix visual presents national-level percentages of men and women (15+ years) with high, very high, or treated blood sugar levels, highlighting gender differences and the overall burden of elevated glucose in the adult population.

10. Cancer Screening Coverage Among Adults (Age 30–49 Years) (%)

Following Indicator Column are Used:

Women (age 30-49 years) Ever undergone a screening test for cervical cancer (%)

Women (age 30-49 years) Ever undergone a breast examination for breast cancer (%)

Women (age 30-49 years) Ever undergone an oral cavity examination for oral cancer (%)

Men (age 30-49 years) Ever undergone an oral cavity examination for oral cancer (%)

Visual Used: Clustered Bar Chart

This clustered bar chart shows the percentage of adults (30–49 years) screened for cervical, breast, and oral cancers, highlighting gender-specific screening uptake and gaps in early detection efforts

11. Institutional Births (Last 5 Years) (%)

Following Indicator Column are Used:

Institutional births (in the 5 years before the survey) (%)

Visual Used: Gauge Chart

This gauge shows the percentage of births in the last 5 years that occurred in health facilities, reflecting access to safe and skilled delivery care

13. Tetanus Protection (Last Birth, 5 Years) (%)

Following Indicator Column are Used:

Mothers whose last birth was protected against neonatal tetanus (for last birth in the 5 years before the survey) (%)

Visual Used: Gauge Chart

This gauge shows the percentage of mothers whose last birth (in the past 5 years) was protected against neonatal tetanus, reflecting immunization coverage for safe childbirth.

14. Average Delivery Cost – Public Facility (Rs

Following Indicator Column are Used:

Average out-of-pocket expenditure per delivery in a public health facility (for last birth in the 5 years before the survey) (Rs.)

Visual Used: Gauge Chart

This gauge shows the average out-of-pocket cost per delivery in public health facilities over the past 5 years, reflecting financial burden on mothers using government services.

15. Teenage Mothers or Pregnant (15–19 years)(%)

Following Indicator Column are Used:

Average of Women age 15-19 years who were already mothers or pregnant at the time of the survey (%)

Visual Used: Gauge Chart

This gauge shows the percentage of girls aged 15–19 who were already mothers or pregnant at the time of the survey, reflecting early childbearing trends and adolescent reproductive health risks.

16. MCP Card Coverage (Last 5 Years) (%)

Following Indicator Column are Used:

Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (for last birth in the 5 years before the survey) (%)

Visual Used: Gauge Chart

This gauge shows the percentage of registered pregnancies (last 5 years) where mothers received a Mother and Child Protection (MCP) card, reflecting outreach and tracking of maternal and child health services.

17. Adolescent Fertility Rate (15–19 yrs)

Following Indicator Column are Used:

Adolescent Fertility Rate (15–19 yrs)

Visual Used: Gauge Chart

This gauge shows the number of births per 1,000 girls aged 15–19, reflecting early childbearing trends and the need for improved adolescent reproductive health services.

18.Total Fertility Rate

Following Indicator Column are Used:

Total Fertility Rate (number of children per woman)

Visual Used: Gauge Chart

This gauge shows the average number of children per woman, reflecting overall fertility levels and population growth trends in the country.