



A Review of Health Outcome Inequalities in Key Indicators among Aspirational districts of Uttar Pradesh

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DOI : <https://doi.org/10.5281/zenodo.16811619>

ARTICLE DETAILS

Research Paper

Accepted: 24-07-2025

Published: 10-08-2025

Keywords:

health disparity, Sustainable Development Goals, Aspirational Districts Programme, outcome indicators, maternity care, iron deficiency.

ABSTRACT

Despite of various efforts to reducing regional inequality, it remains policy conundrum and obstacle to improve socio economic indicators as well as capacity building on a par with SDGs. Indian policy makers envisaged Aspirational Districts Programme (ADP) to improve human development challenges and aimed at localizing Sustainable Development Goals, to accelerating the inclusive development of the nation. In this context 112 most backwards districts identified as aspirational districts across the country to transform the regional disparity scenario through convergence of government programme and schemes. Among various types of inequalities health disparities are quite prevalent among these aspirational districts. This paper will evaluate and analyse the convergence of health outcome indicators among eight aspirational districts of Uttar Pradesh and examine the health disparity scenario with reference to outcome indicators of six categories including access to basic amenities, maternity care, nutritional status of children, iron deficiency (Anaemia) among vulnerable sections, child vaccination and adolescent health which

comprises of 16 indicators in the light of national family health survey, NFHS-5(2019-21) and NFHS-4(2015-16).

Introduction

Research on health inequalities has been instrumental in drawing attention to the regional disparity in India. It has set the agenda for public health action, emphasized convergence of public policy with greater spirit of cooperative competitive federalism. Moreover, research in health disparities enriches the understanding of cross sectional societal disparities among vulnerable sections such as children and women. It profoundly influences the public policy on health to overcome the differential among deprived.

India has made great strides towards Sustainable Development Goals (SDGs) in tandem with that Uttar Pradesh has to achieve their targets on a par with it. It is significant that even achieve such targets health disparity must be eradicated in concerning outcome indicators. To achieve quickly and effectively the SDGs targets and bridging the differentials in outcome indicators of human development, Government of India started Aspiration Districts Programme (ADP) in 2018 to transform 112 most underdeveloped districts. Uttar Pradesh have 8 such aspirational districts identified namely Bahraich, Balrampur, Chandauli, Chitrakoot, Fatehpur, SiddharthNagar, Sonbhadra, Sravasti.

It is worth mentioning that Uttar Pradesh has firmly moving towards SDG-3 target as it has reduced maternal mortality ratio (MMR) 167 with 14.7% mortality rate (2017-19) as per SRS bulletin (March 2022) in reference with UNDPs SDG target of MMR to less than 70 per 100,000 live births by 2030. Likewise in neonatal mortality (NNMR) 35.7 per 1000 live births (NFHS-5) in respect of the target (SDG-3) 12 per 1000 live births by 2030. Similarly 59.8 under-5 mortality rate (U5MR) NFHS-5 with reference to SDG target at least as 25 per 1000 live births.

Since, above targets are very crucial to achieve the health equity, the aspirational district programme (ADP) to identify and selection of aspirational districts , weightages have been accorded 30% for health and nutrition, 30% to education, 20% to agriculture and water resources, 10% to financial inclusion and 10% for skill development and basic infrastructure which prominently comprising the 11 indicators. separately, health and nutrition comprises with antenatal care (7.5%), institutional delivery (7.5%), stunting child below 5 years (7.5%) and wasting of children below 5 years (7.5%) .

Since, there are various factors of inequalities which have been largely responsible for enduring differentials in health outcomes. Among these various factors that affects mostly health disparities are availability, accessibility and affordability of health services. Improving critical health outcome require



conversions of various programme and schemes with key focus areas such as antenatal care, postnatal care, contagious disease care, nutritional awareness and growth of health infrastructure etc.

Under aspirational district programme health action plan based on three basic principles that is undertake decentralized planning, follow health systems approach and ensure participation of all stakeholders.

Literature Review

A number of studies has been conducted on regional disparity and health disparities with varied aspects can be classified on the basis on national, sub-national, districts, methodology use with different indicators and its interpretation, coverage (outcome indicators), findings (extant of disparities) etc.

Here, we are covering quite few important of them. The regional-health disparities raise equity attention may also have detrimental implications for efficiency of economy , as opportunity constrained for those adhered to the wrong place led to the under-utilization of capacity and restrict over all development (Floerkemeier et al, 2021). Economic concerns and welfare priorities differ sharply across the regions in underdeveloped economies are more rampant than advanced economies. The wider regional disparities includes the performance of human development such as education and health outcomes (Avitable et al, 2020). Necessities of improved human and physical infrastructure adherence to national standards affect health quality and outcome indicators by choice, quality and accountability in family planning services. India's populations growth rate have seen significant decline in last few decades. However, there are cases where quality is compromise, choice is violated and rights are disregarded in provision of services (UNFPA India Profile, 2018). The evidence for recent years shows 80% dependency on private health care, which is largely due to lapse in the public health services (Rao,2005). The institute of competitiveness (2020) underlined that health and nutrition and educations are closest to achieve their target 2022, while others require more attention. Moreover, the report also observed that sectors besides healthcare and education had more development partners across the districts than others such as skill development, financial inclusion and agriculture (Institute of competitiveness, 2020).

However, Borah et al, (2020) recognised the progress in health outcomes in Assam's Baksa district since the initiation of Aspirational District Programme. Author found the improvement in delta ranking. Similar scheme for addressing regional disparities by covering financial resources to minimise overall backwardness and livelihood conditions of districts like BRGF started though there were significant differences in concerning scale areas of development focus and approach of monitoring, most importantly BRGF fail to ground level progress monitoring consistently . while the ADP progress are constantly updated on Champions of change (COC) platform in the form of ranking and composite score indexing . This constant monitoring approach fostering the sense of accountability and competition



among the district, this type of monitoring mechanism has not been implemented erstwhile by any government schemes and programmes (Sinha S, 2019).

A study of magnitude of urban health disparity in Uttar Pradesh observed that despite distinct regional disparities in health, there is much scope to ameliorate the health conditions by providing need based policies and facilities to the regions (Gupta A, 2012). Inequity and disparity in access to health services in India seen in terms of burden of expenditure on health that affected worst to the poorest and drawn attention regarding targeted mechanism that focuses only on poorest, but argues for universal access to health services (Baru Ram et al, 2010).

A study on regional disparity and its policy responses revealed that various regions of India will surely benefited from regional development plans and there will also be outcome from growth center that influenced further into neighbouring areas. Though there are abundance of programs to address the backwardness issues. However, there are considerable inequalities in human development across Indian states (Josh. Ann Marry, 2019). A study observed that crisis faced by public health care system largely due to the accountability failure. It is important to note that effort to address this are best articulated by National Rural Health Mission (NRHM) that seeks to strengthen and empower local governments to manage and regulate public health services (Hammer Jeffrey et al, 2007).

Policy choices have played a critical role in displaying the potential of developmental programs to bring about transformation with implementation. simultaneously, conceptual understanding and acknowledging issues is important to human development and gender justice (Banu Ayesha, 2016). Addressing inequalities in health care needs active attention in the planning, execution and management of health systems. Appropriate actions for addressing health inequalities require complete coverage of monitoring, marginal exclusion actions targeted at the undeserved, incremental linear pattern that combined universal and targeted approach. The strategies should prioritise that the need of subgroup falling behind is addressed (WHO, 2021).

It has examined in Indian states the subnational variations in socio-economic development and their coalition with per capita social expenditure and per capita income . it has found that per capita expenditure in the social sphere has been more influential than per capita income in obtaining progress outcome in human development. The states which spend higher per capita on social sphere, was prolific than others (Gosh Madhusudan, 2011). In order to obtain subnational convergence firmly in critical health outcome indicators across the subnational, policies should be oriented towards all-round achievement of propagating basic education for women and strengthening nutritional attainment of



maternal and child in the part of north and central region of the country (Mukhopadhyay Debabrata, 2015). WHO recognized equity concern and importance of policy related research and practice underlined present generally established concept of justice is that of “substantive equality of opportunity”. Substantive equality of opportunity to the notion of that persons should have the same chance to obtain outcomes such as quality of life with longevity, but do not inevitably require to obtain the some consequences due to freedom of choice (WHO, 2013). In India the primary health centre network within district and subdistrict was motivated by Bandung Conference (1937), vertical transmission control programmes and the family planning came later in the 1950s under the impact of the Rockefeller Foundation, USAID, (Qadeer Imrana, 2021).

(Sen A, 1999) in his observation substantiated the crucial bond between economics and health. Economic prosperity evidently helps, improving health and human development. A study that underlined the role of the government machinery is restricted by the reality that most fact which pertinent to the choice of public policy is only improperly arranged by it. While, a great deal of pertinent fact is only known privately, (Dasgupta.Parth, 1990). Rural areas realised much progress in access to basic amenities between 1993 to 2008-2009, though condition of structure of houses was pathetic and other ability such as drinking water, sanitation, electricity was much better (Kumar Arjun, 2014). Oxfam India survey found that inequalities in access to quality care that persisted before pandemic have trickled into the impact of pandemic as well, it is found that higher socioeconomic strata have been able to safeguard themselves against the impact of the first wave of the pandemic much better than lower strata, (Oxfam India; Inequality Report 2021). Regional pattern of fertility variations in India evident that all northern states exhibit total fertility rates from 6-7 live per women which was higher than southern and eastern states, which was around five live per women. Likewise, infant mortality rates also showed a distinctive regional pattern in which northern state had higher mortality than southern state, (Dyson Tim et al, 1983).

It is widely acknowledged that SDG can not be realized solely with government interventions but achieving SDG requires unprecedented of cooperation and collaboration among civil society, NGOs, foundations, government and other stakeholders, (NITI Aayog, 2022).

Defining the outcome indicators refers to the procedure of applying in a reference scale to a variable or set of variables in respects of dimensions, extent, quantity of an attribute. While measuring health variables involves two ways, by direct individual observation, by observation of population groups are location based observations. Rates and proportions are generated, averages and medians among others (Pan American Health Organization).



Database and Methodology

Data for health outcome indicators taken from National Family Health Survey (NFHS). For this analysis data used from NFHS-5 (2019-21) and NFHS-4 (2015-16). The selections of two set of surveys includes a phase of PHEIC (IHR-2005) constitute a public health risk pandemic, in this phase India evident a health emergency which coherent with future uncertain health outcomes.

Indicators of health outcomes:

To investigate and analyse we have selected indicators which are crucial to assess the health disparity and deprivation. In the selection of indicators 6 categories with 16 key outcome indicators chosen, which are elaborated below:

1-Access to basic amenities:

- i. Household using clean fuel for cooking
- ii. Household using iodized salt.
- iii. Household having improve sanitation facility.
- iv. Household having health insurance at least one member.

2-Maternity care:

- i. Mothers had an antenatal check-up in the first trimester.
- ii. Mothers had at least 4 antenatal check-up visit.
- iii. Institutional births.

3-Nutritional status of children under 5 years:

- i. Stunted (height for age)
- ii. Wasted (Weight for height).
- iii. Under-weight (weight for age).

4-Iron deficiency (Anaemia) among children and women.

- i. Children anaemic age 6-59 months.
- ii. Anaemic non-pregnant women age 15-49 years.
- iii. Anaemic pregnant women age 15-49 years.

5-Child vaccination (immunization) status:

- i. Fully vaccinated children age 12-23 months.

6-Adolscent health:

- i. Teenage (15-19 years) pregnancy.

Summary of Findings:



All aspirational districts of Uttar Pradesh lagging behind in 4 basic amenities outcome indicators with respect to Uttar Pradesh and India as well. In the indicator of using clean fuel for cooking Chandauli district have largest access with 42.3% household coverage. while, Balrampur have shown a remarkable improvement with largest growth of coverage with 30.4%. In this respect holistic coverage of Uttar Pradesh with 49.5% is lagging behind the national coverage by 9.1%.

Table-1 access to basic amenities

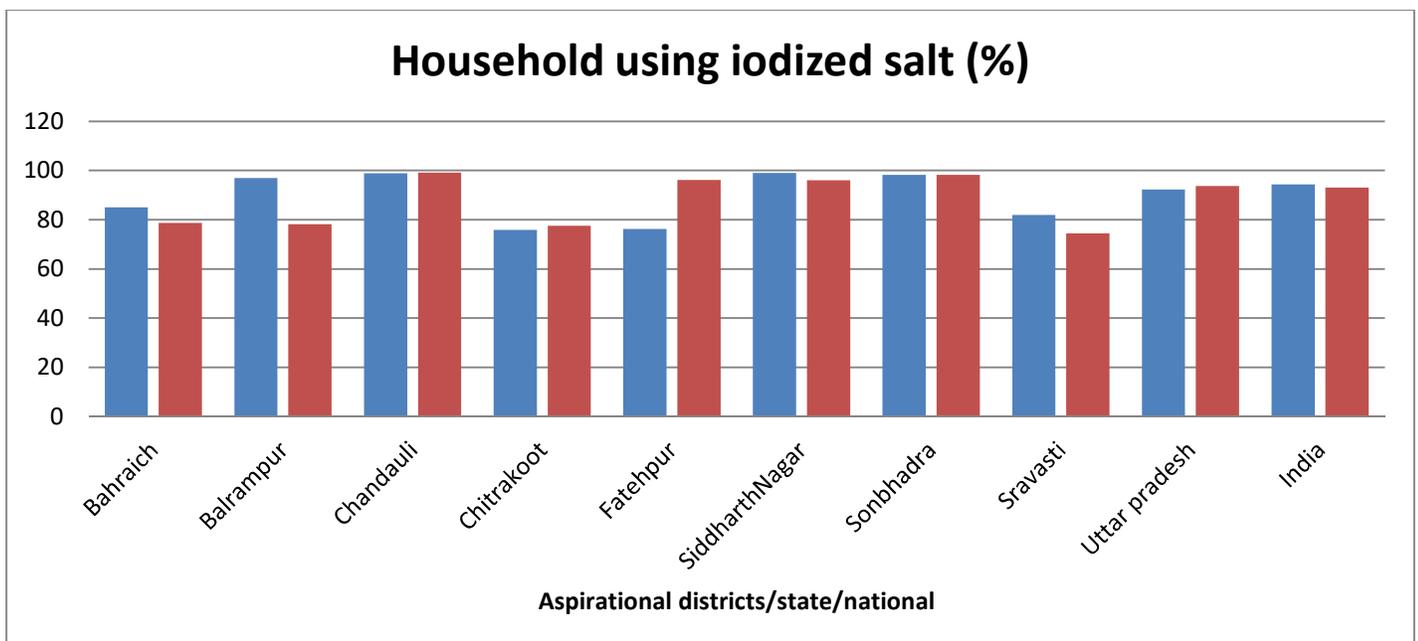
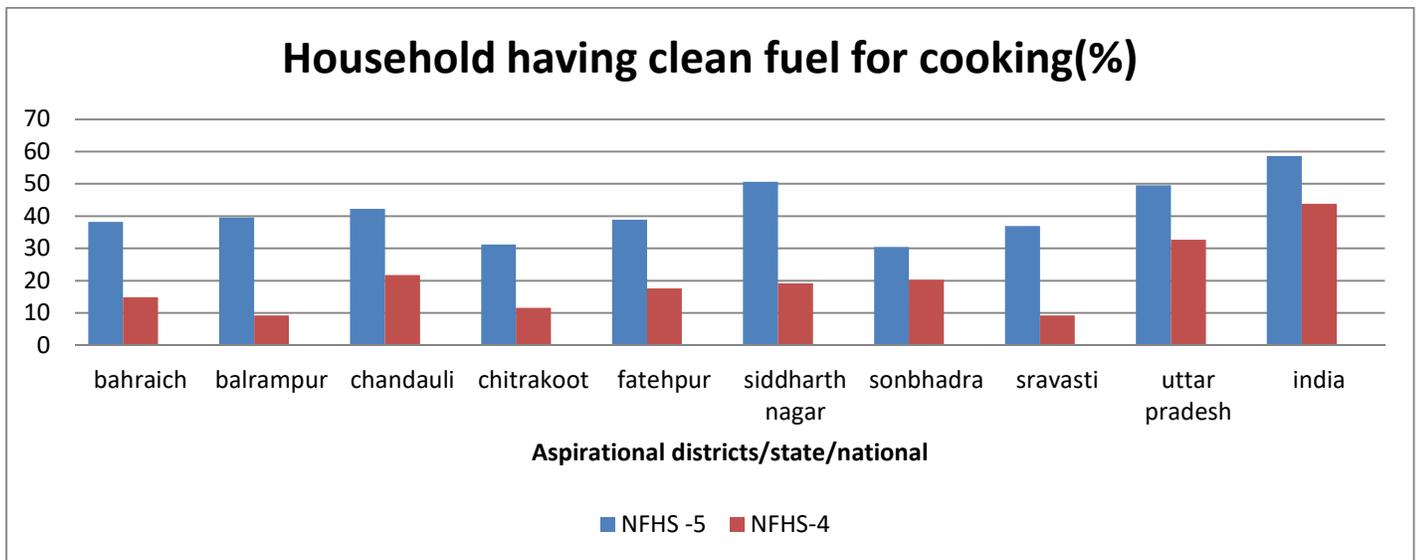
Key outcome indicators (%)	Bahraich	Balrampur	Chandauli	Chitrakoot	Fatehpur	Siddharth Nagar	Sonbhadra	Sravasti	Uttar Pradesh	India
Household using clean fuel for cooking	38.2 (14.9)	39.6 (9.2)	42.3 (21.8)	31.2 (11.6)	38.9 (17.6)	50.6 (19.2)	30.4 (20.3)	36.9 (9.2)	49.5 (32.7)	58.6 (43.8)
Household using iodized salt	85.1 (78.7)	96.9 (78.2)	98.9 (99.1)	75.8 (77.6)	76.2 (96.1)	99.0 (96.0)	98.2 (98.2)	81.9 (74.4)	92.3 (93.7)	94.3 (93.1)
Household Improved Sanitation facility	44.2 (14)	59.7 (14.7)	66.7 (32.5)	56.7 (16.2)	63.1 (27.7)	42.8 (16.3)	70.6 (21.7)	58.1 (10.6)	68.8 (36.4)	70.2 (48.5)
Household having health insurance	10.1 (9.2)	13.0 (5.1)	28.1 (8.5)	17.4 (2.7)	16.8 (1.2)	12.2 (5.3)	19.7 (15.1)	13.5 (8.4)	15.9 (6.1)	41.0 (28.7)

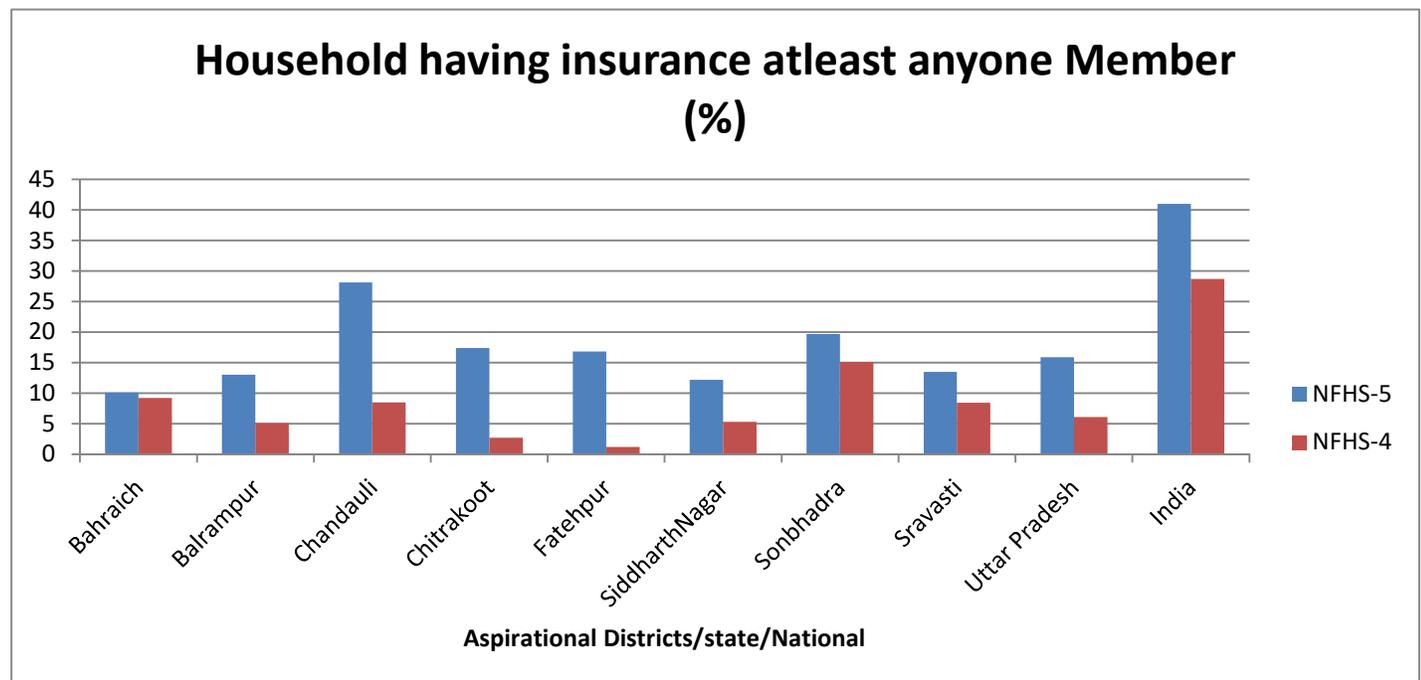
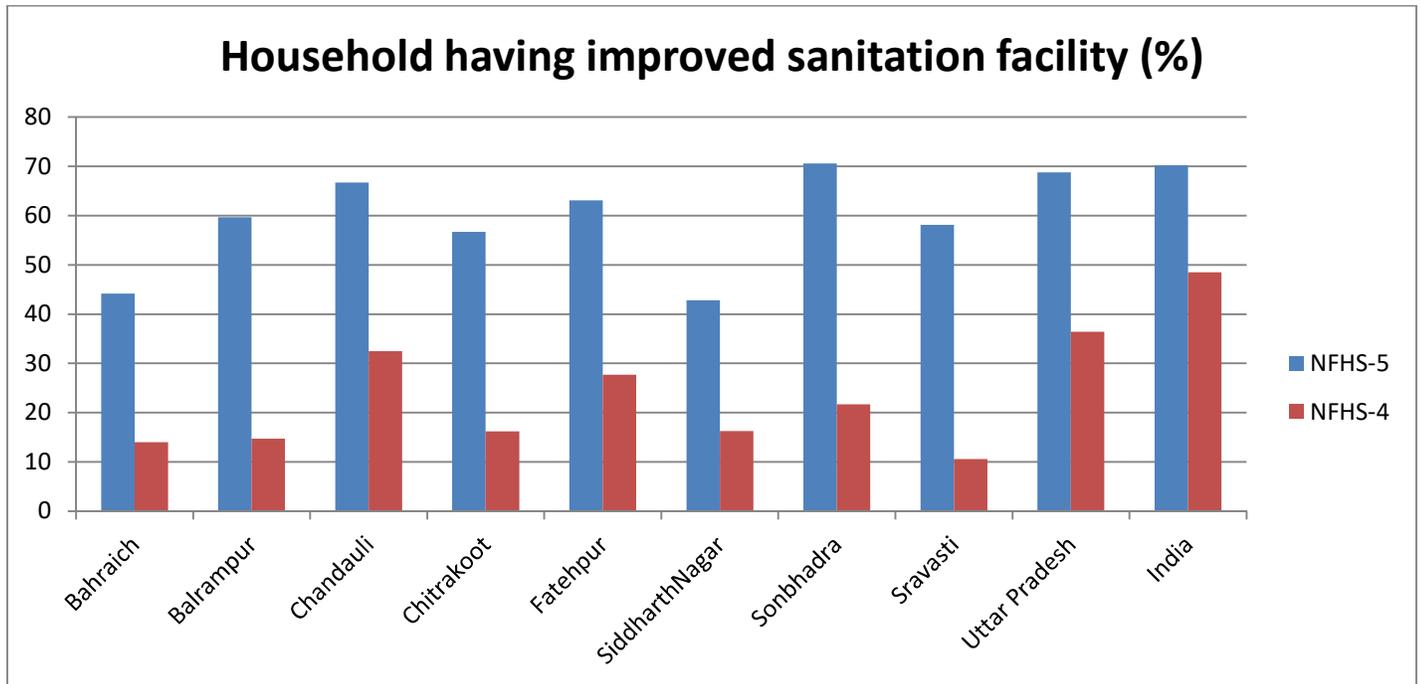


at least
one
person

Data Source: NFHS-5 (NFHS-4)

Likewise, in using iodized salt coverage Chandauli district was outperformed and it has topped even holistic coverage of Uttar Pradesh with 98.98% in comparison to UPs 92.3%, almost all districts have performed well in this category. Similarly, in reference to coverage of sanitation facility varied much among the districts. In this segment Sonbhadra district was out performed. In reference with insurance coverage all aspirational districts showing poor performance.





In the category of maternity care, antenatal check-up in first trimester was more varied among 8 aspirational districts, in which Bahraich had poor access in this indicator outcome. While, Chandauli had highest access. Likewise, in 4 antenatal check-up visit indicator SiddharthNagar was highest performed district among these. Similarly, in institutional births access the variation among districts seemed low and Chandauli district was best performer of them, which showed nearly National level of

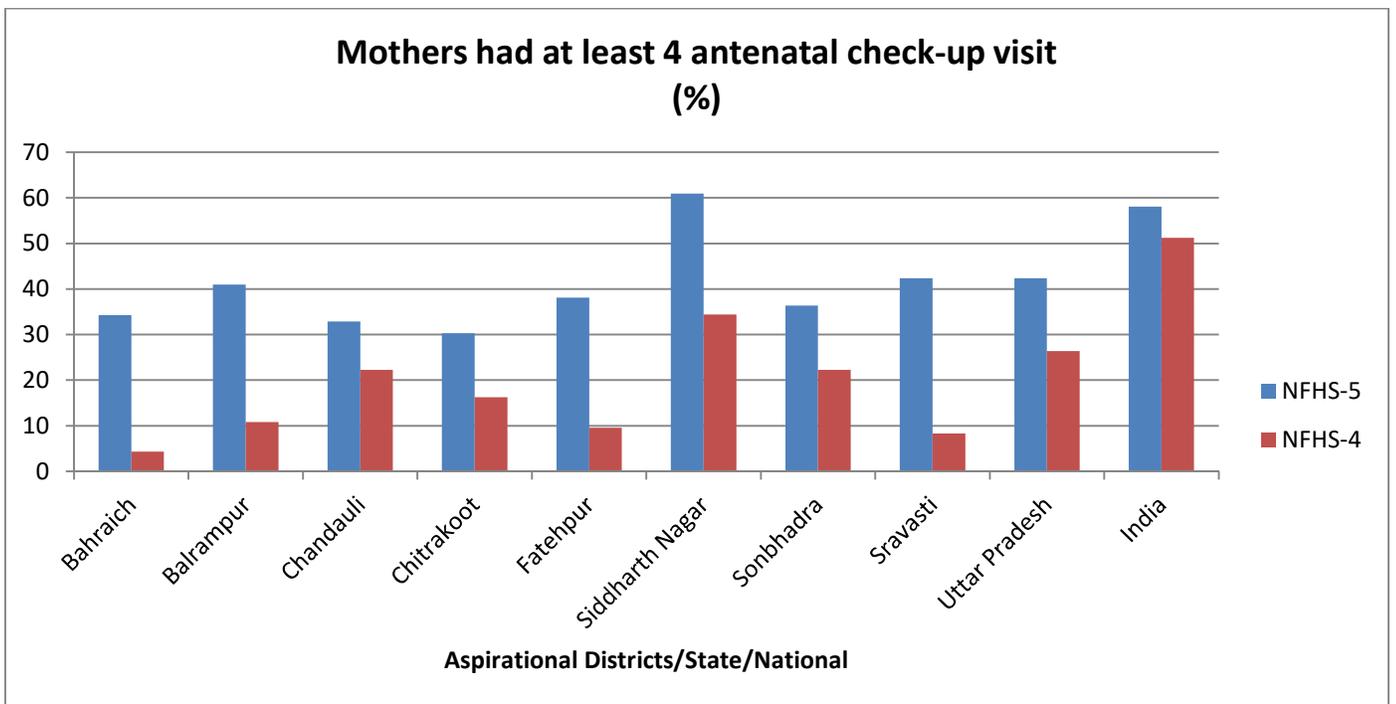
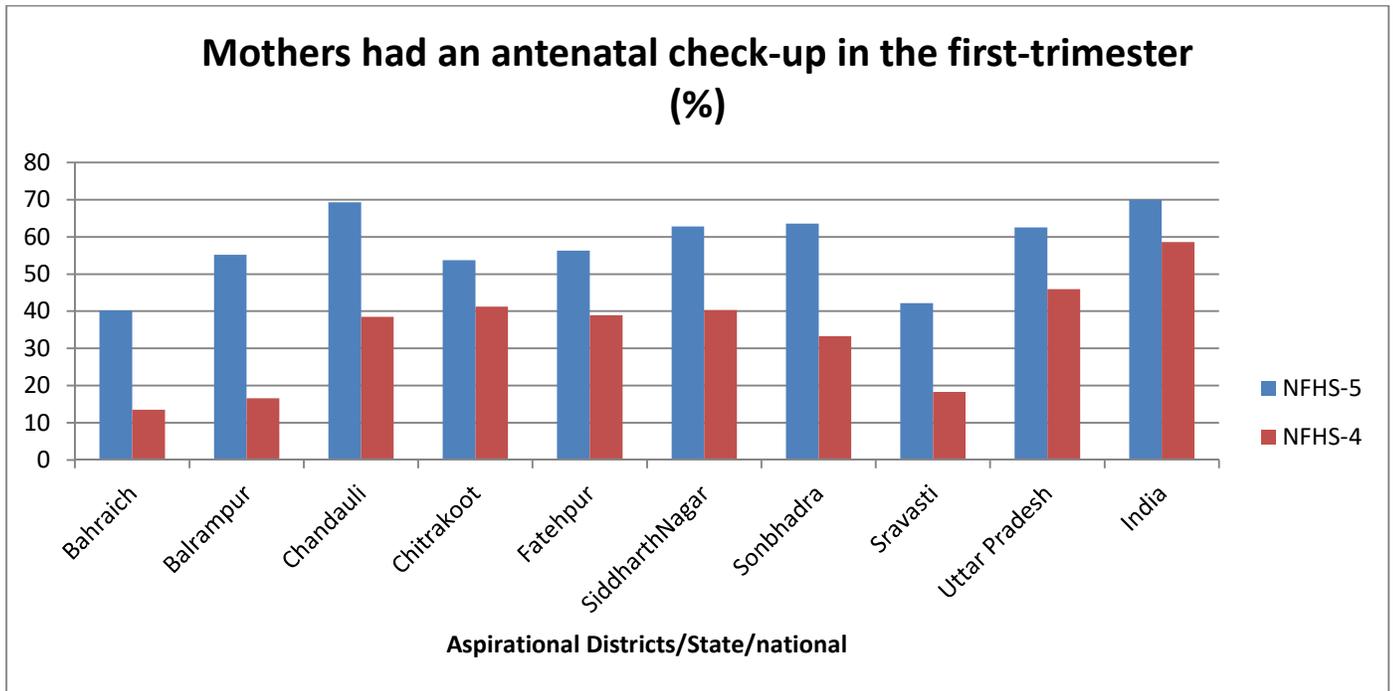


access for institutional births, while Balrampur district was poor performer, though the growth comparison in access of institutional birth of this districts was phenomenal.

Table-2 Maternity care status

Key outcome indicators (%)	Bahraich	Balrampur	Chandauli	Chitrakoot	Fatehpur	Siddharth Nagar	Sonbhadra	Sravasti	Uttar Pradesh	India
Mothers had an antenatal check-up in the first-trimester	40.2 (13.5)	55.2 (16.6)	69.3 (38.5)	53.7 (41.2)	56.3 (38.9)	62.8 (40.3)	63.6 (33.3)	42.2 (18.3)	62.5 (45.9)	70.0 (58.6)
Mothers had at least 4 antenatal check-up visit	34.3 (4.3)	41.0 (10.8)	32.9 (22.3)	30.3 (16.3)	38.1 (9.6)	60.9 (34.4)	36.4 (22.3)	42.4 (8.3)	42.4 (26.4)	58.1 (51.2)
Institutional births	67.7 (37.4)	69.7 (30.8)	86.2 (77.4)	81.1 (74.1)	81.4 (69.0)	69.7 (45.3)	76.8 (57.4)	80.4 (48.4)	83.4 (67.8)	88.6 (78.9)

Data Source: NFHS-5 & (NFHS-4)



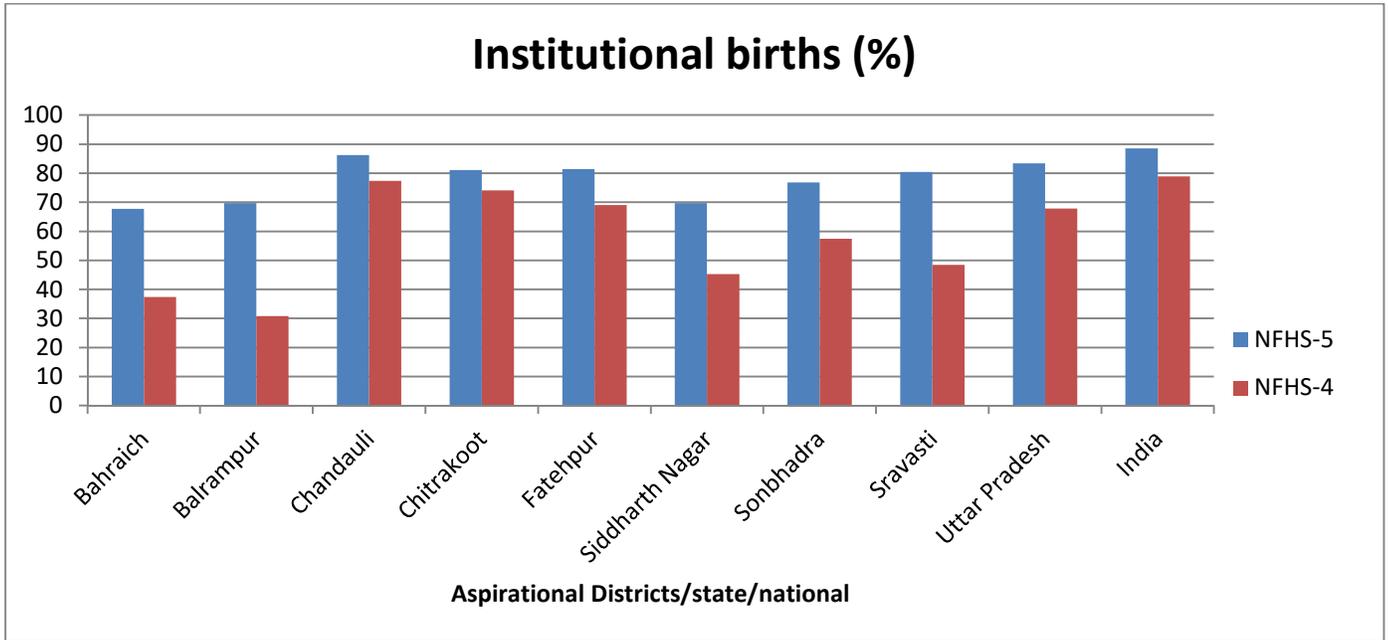


Table-3 Nutritional Status of Children under five years (%)

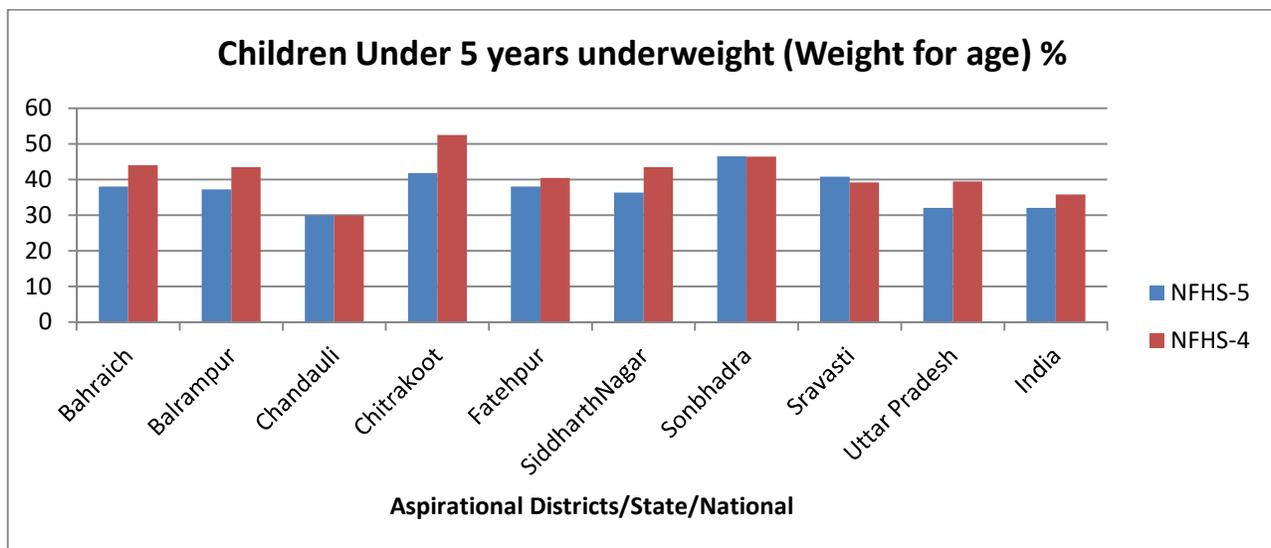
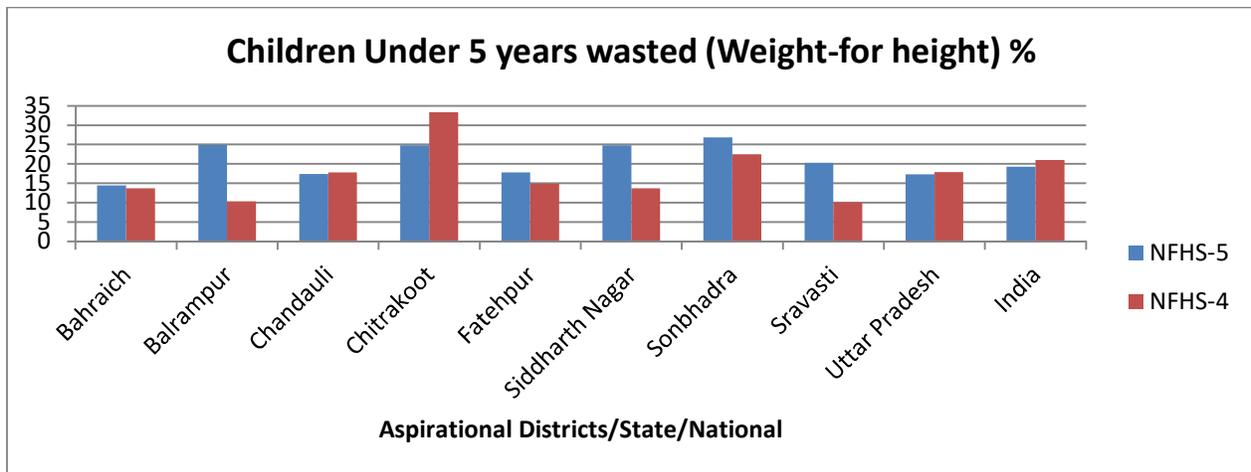
Key outcome indicators (%)	Bahraich	Balrampur	Chandauli	Chitrakoot	Fatehpur	Siddharth Nagar	Sonbhadra	Sravasti	Uttar Pradesh	India
Stunted (Height-for age)	52.1 (65.1)	41.2 (62.8)	39.5 (43.3)	47.5 (50.9)	51.1 (52.4)	37.2 (57.9)	38.3 (45.9)	50.9 (63.5)	39.7 (46.3)	35.5 (38.4)
Wasted (Weight-for height)	14.4 (13.7)	24.9 (10.3)	17.4 (17.8)	24.8 (33.3)	17.8 (14.9)	24.8 (13.7)	26.8 (22.5)	20.3 (10.1)	17.3 (17.9)	19.3 (21.0)
Underweight (Weight for age)	38.0 (44.0)	37.2 (43.5)	29.9 (29.9)	41.8 (52.5)	38.0 (40.4)	36.3 (43.5)	46.5 (46.4)	40.8 (39.2)	32.1 (39.5)	32.1 (35.8)

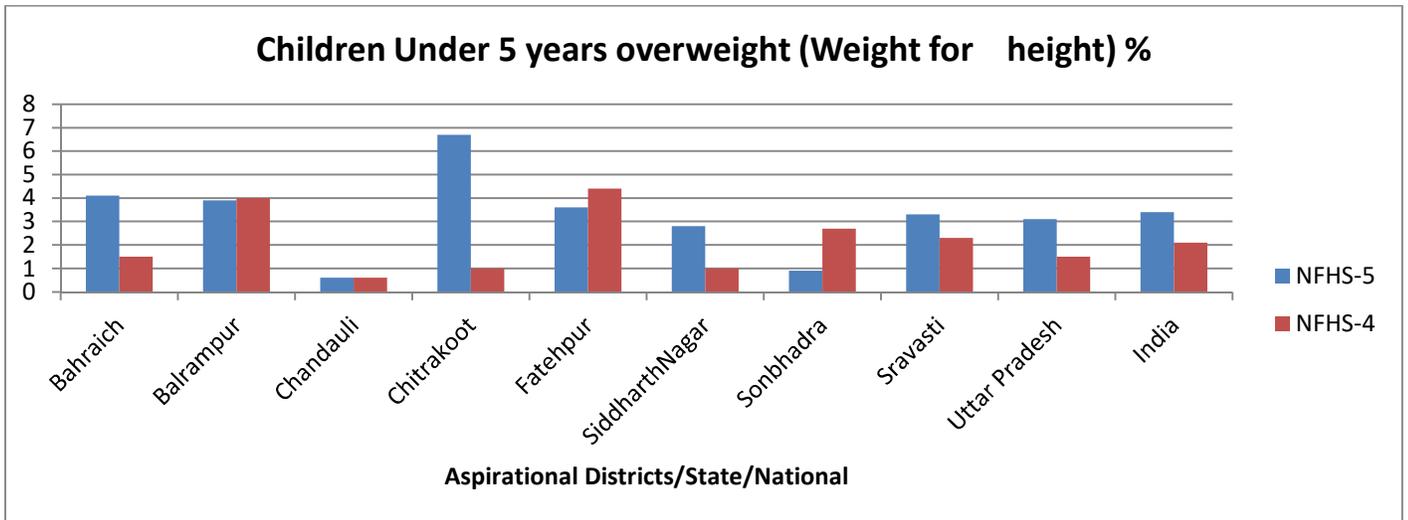


Overweight (Weight for height)	4.1 (1.5)	3.9 (4.0)	0.6 (0.6)	6.7 (1.0)	3.6 (4.4)	2.8 (1.0)	0.9 (2.7)	3.3 (2.3)	3.1 (1.5)	3.4 (2.1)
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Data Source: NFHS-5 (NFHS-4)

In the category of nutritional status of children under-5 years Bahraich, Shravasti and Balrampur districts had high stunted percentage, though improvement in this outcome had visualised. Likewise in reference to wasted scenario Balrampur, Chitrakoot, Sonbhadra and SiddharthNagar was high percentage though Chitrakoot, SiddharthNagar and Balrampur showed significant decline. Similarly, in underweight outcome situation Sonbhadra, Chitrakoot, Bahraich, Balrampur, Shravasti had decimal situation though Chitrakoot had shown significant improvement. However, in overweight outcome Chitrakoot had highest percentage followed by Bahraich and Balrampur respectively





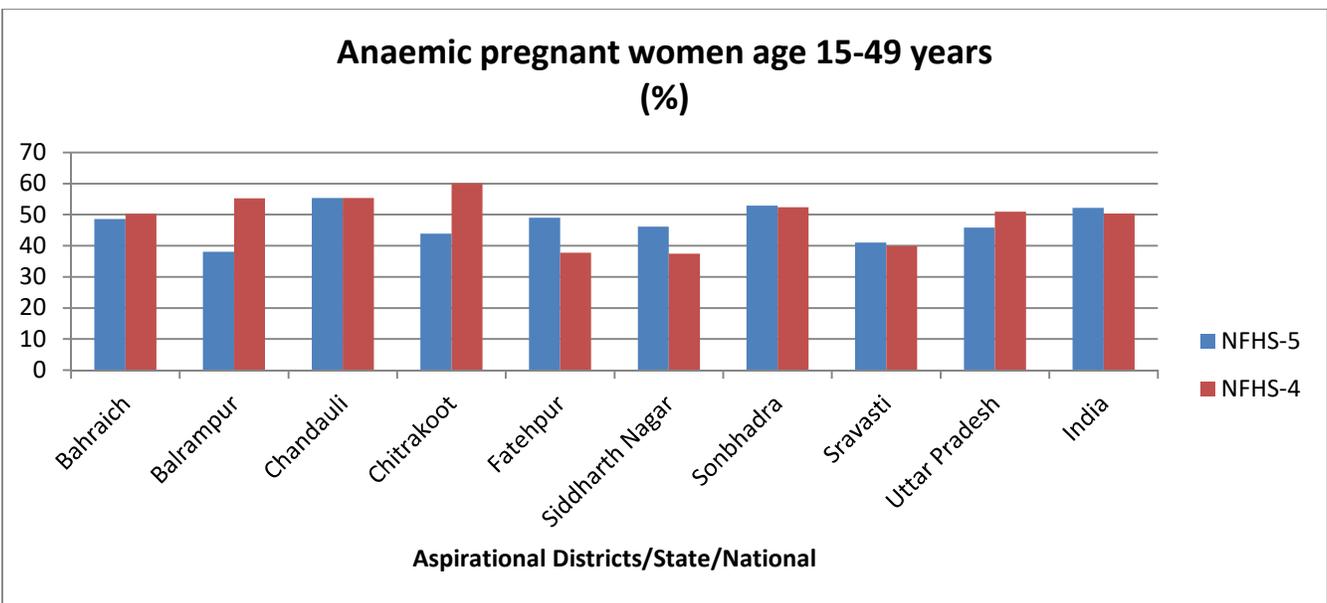
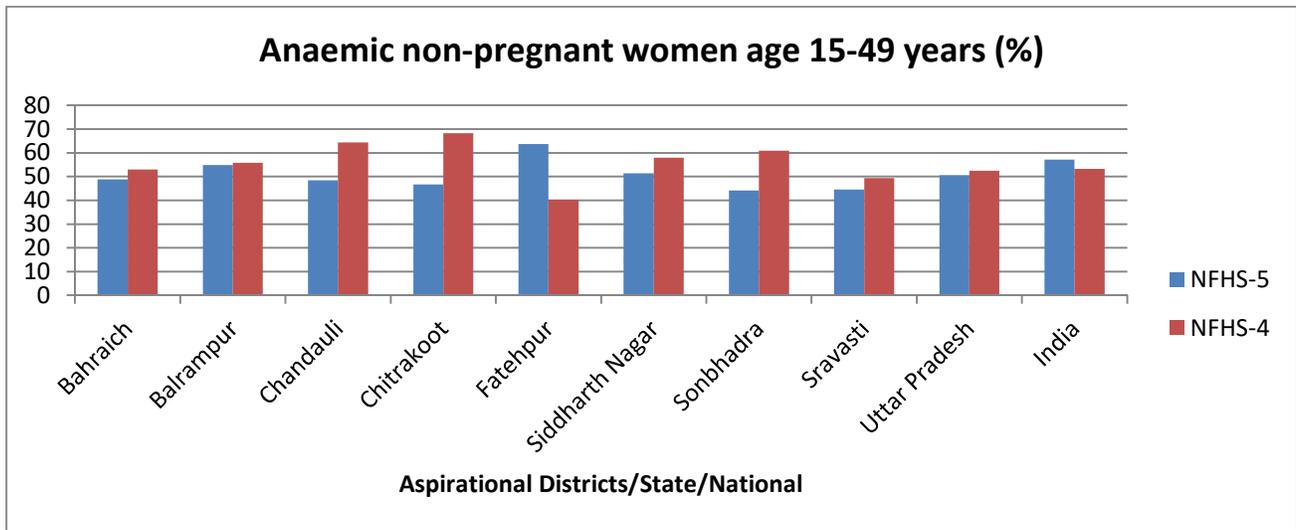
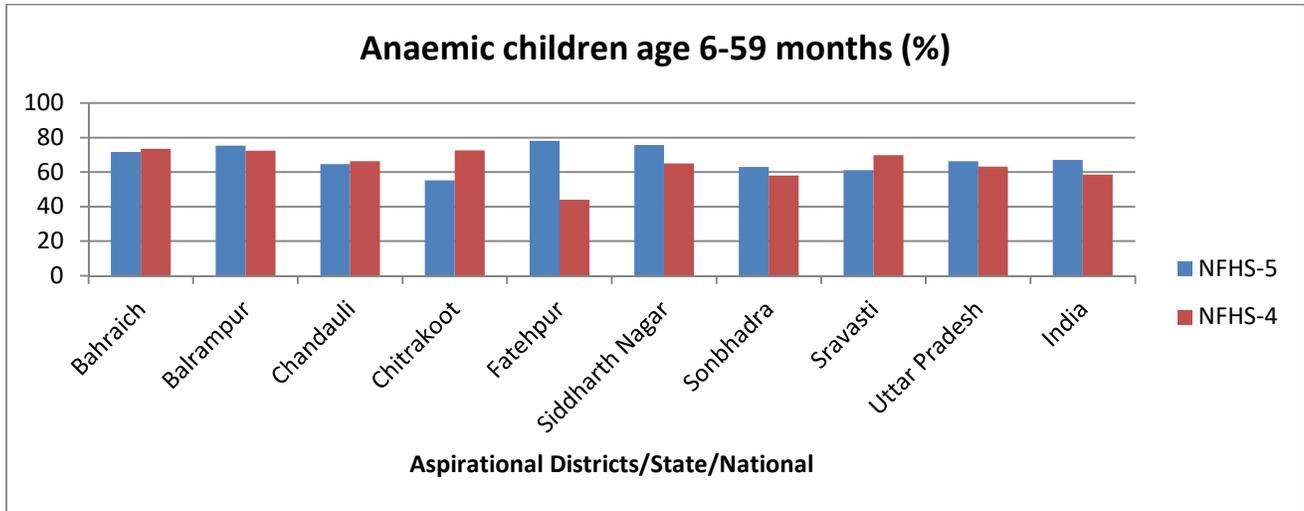
In category of iron deficiency, most of the districts excluding Chitrakoot had widespread iron deficiency among children 6-59 months. Likewise, among non-pregnant women age 15-49 years had similar situation. In pregnant women of 15-49 years the differential among districts seemed the low.

Table-4 Iron Deficiency (Anaemia) among children & Women (%)

Key outcome indicators (%)	Bahraich	Balrampur	Chandauli	Chitrakoot	Fatehpur	Siddharth Nagar	Sonbhadra	Sravasti	Uttar Pradesh	India
Children age 6-59 months	71.7 (73.5)	75.4 (72.4)	64.6 (66.4)	55.3 (72.5)	78.1 (44.0)	75.8 (65.1)	63.0 (58.1)	61.2 (69.9)	66.4 (63.2)	67.1 (58.6)
Non-pregnant women age 15-49 years	48.8 (53.0)	54.8 (55.8)	48.5 (64.4)	46.7 (68.3)	63.7 (40.3)	51.4 (57.9)	44.2 (60.9)	44.6 (49.4)	50.6 (52.5)	57.2 (53.2)
Pregnant women age 15-49 years	48.6 (50.3)	38.1 (55.3)	55.4 (55.4)	43.9 (60.1)	49.0 (37.8)	46.2 (37.5)	52.9 (52.4)	41.0 (39.9)	45.9 (51.0)	52.2 (50.4)



Data Source: NFHS-5 (NFHS-4)



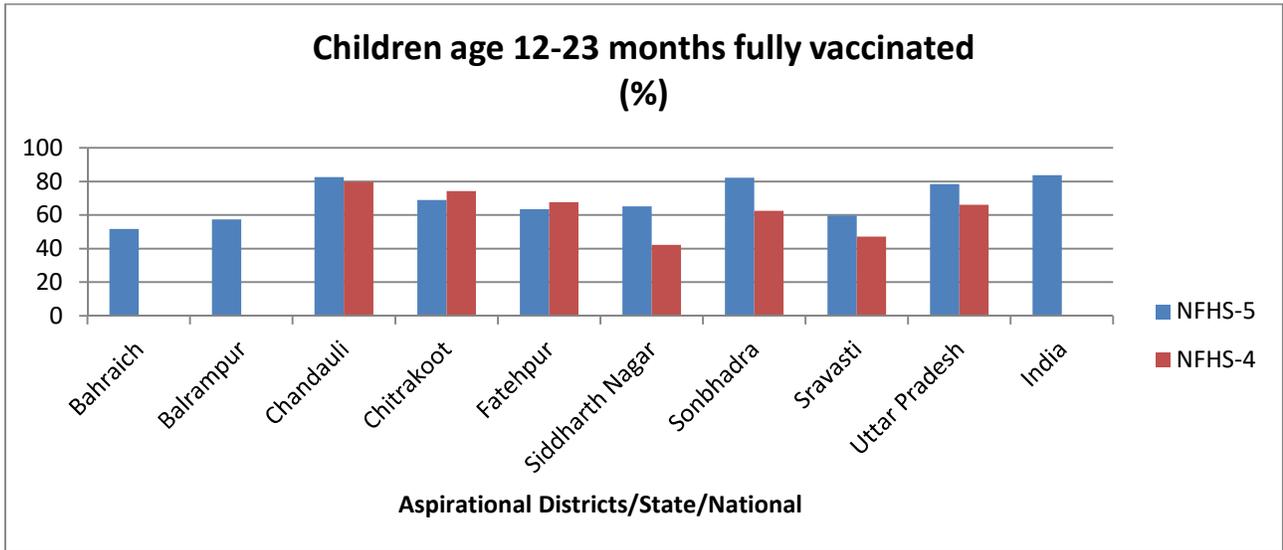


In the child vaccination scenario of fully vaccinated children age 12-23 months had shown remarkable improvement though Bahraich, Balrampur and Shravasti had a lot to achieve.

Table-5 Child Vaccination (Immunization) status

Key outcome indicators (%)	Bahraich	Balrampur	Chandauli	Chitrakoot	Fatehpur	Siddharth Nagar	Sonbhadra	Sravasti	Uttar Pradesh	India
Children age 12-23 months fully vaccinated	51.8 (NA)	57.4 (NA)	82.6 (79.8)	68.9 (74.2)	63.5 (67.6)	65.1 (42.3)	82.3 (62.6)	59.6 (47.1)	78.4 (66.2)	83.8 (77.9)

Data Source: NFHS-5 (NFHS-4)

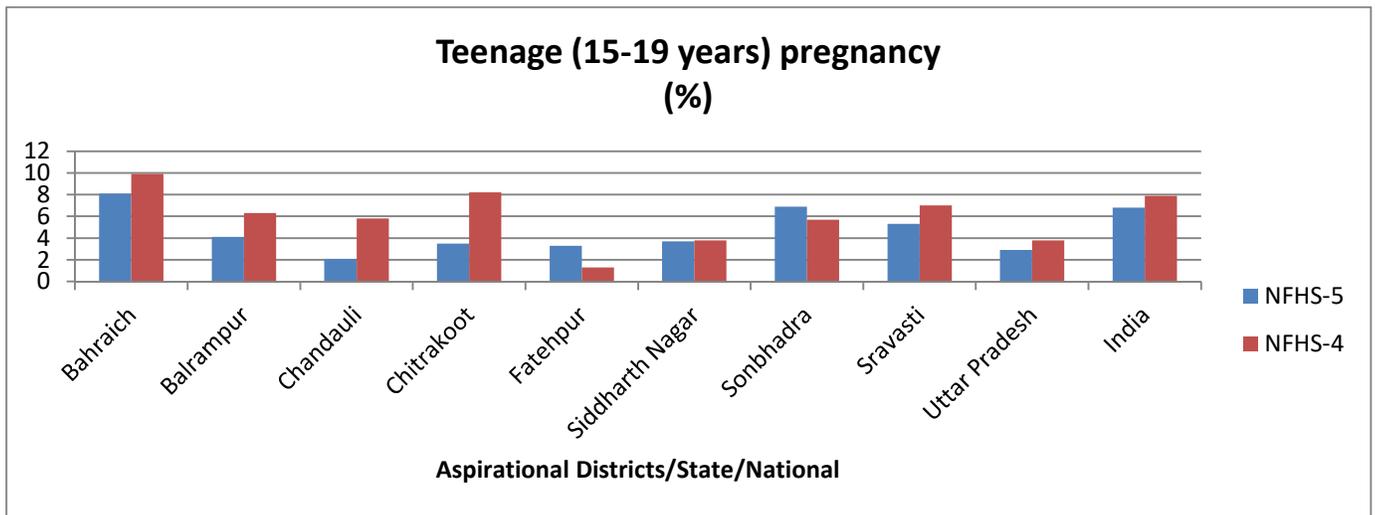


In the category of adolescent health, in the teen-age (15-19 years) pregnancy Bahraich, Sonbhadra and Shravasti had to improve much.



Table-6 Adolescent Health

Key outcome indicators (%)	Bahraich	Balrampur	Chandauli	Chitrakoot	Fatehpur	Siddharth Nagar	Sonbhadra	Sravasti	Uttar Pradesh	India
Teenage (15-19 years) pregnancy	8.1 (9.9)	4.1 (6.3)	2.1 (5.8)	3.5 (8.2)	3.3 (1.3)	3.7 (3.8)	6.9 (5.7)	5.3 (7.0)	2.9 (3.8)	6.8 (7.9)



Policy Implications

Since, above findings of all categories indicators during NFHS-4 (2015-16) to NFHS-5 (2019-21) shown improvement and mostly performed positively to bridging gap among districts in terms of health inequality. It showed that emphasis to procedural developmental process to transform aspirational districts and localize the SDGs is prolific in improving sanitation, vaccination ,increased institutional deliveries and other maternity care.

As ADP from its inception aim at converging efforts of districts, states and centre with greater participation of stakeholders turned to be a mass movement of healthy competition between districts, it showed remarkable improvement in health outcome indicators despite of additional challenges of pandemic. However, the long-lasting issue such as health disparity needs consistent efforts in order to



achieve quality of life. ADP gained global recognition by improving the inclusiveness in development processes and addressing human development issues . therefore cooperation and culture of convergence with spirit of competition is prerequisite to achieve the goals and targets which ultimately translate into sustainable development by prolific outcomes in reducing health disparity. Thus, the development process and programme ultimately become imperative for vibrant, transformed and inclusive India.

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