



Demography India

A Journal of Indian Association of Study of Population

Journal Homepage: <https://demographyindia.iasp.ac.in/>



An Analysis of Health Status in Uttar Pradesh

Ravindra Kumar^{1*} and Sivasankar. V²

Abstract

This paper is an attempt to analyze the Health Infrastructure condition and important measure of health Indicators in Uttar Pradesh. This is one of the most populated states and has an important political significance in India. This paper analyses the different health indicators such as Maternal Mortality rate, Birth Rate, Death Rate, Total Fertility Rate and Life Expectancy, etc. Further, this study deals with the development of health infrastructures such as several government hospitals, Private hospitals, Number of medical Seat and Beds in Uttar Pradesh. This study is based on the secondary data and for analyzing the data, descriptive analysis has been done such as percentage growth rate, pie chart and population density. There are 75 districts and 18 divisions. First projected population of 2024 has been calculated from census 2011 census and population growth rate of Uttar Pradesh during (2001-2011). The percentage shortfalls of SCs, PHCs and CHCs in Uttar Pradesh are (42%, 51% and 44%) and All India average is (25%, 31% and 36%) respectively. The short-fall percentage is very high in Uttar Pradesh compare to All India Average. It also shows that there is inadequate investment, shortage of human capital and inefficient allocation of resources. There is a dire need to increase budget expenditure on the social sector such as education and health for the betterment of people and especial focus should be given for improvement of primary health Centre because it could prevent dangerous diseases if poor and mass people have accessibility of primary Health Centers. Addressing these issues for betterment of people especially in rural Uttar Pradesh is also mandatory. Hence government should frame policies which can increase the public expenditure on health infrastructures and make awareness program especially in rural areas which can lead to awareness about the health facilities to people living in distant villages.

Keywords

CHCs, life expectancy, PHCs, SCs and Total fertility rate

* Corresponding Author

¹Research Scholar, Department of Economics, Pondicherry University, Puducherry. Email: ravindran.kumar2013@pondiuni.ac.in. Mobile-9899529747

² Professor, Department of Economics, Pondicherry University, Puducherry. Email: sivasankarjh@gmail.com

Introduction

This paper is an attempt to analyze the Health Infrastructure and its effects in Uttar Pradesh one of the most populated states and has an important political significance in India. The share of Uttar Pradesh's GDP in India was 14.8 percent in 2011-12 at constant price and decreased to 13.4 percent in 2020-2021. The capital of Uttar Pradesh is Lucknow and there are 689 towns and cities (State Profile). As per 2022, the total areas of Uttar Pradesh are 240,928 sq. Km which includes 96.86 percent rural areas. The number of districts and villages are 75 and 109,043 respectively. In 2022 the total population of UP was 234,094,000 which consists 178,073,000 rural and 56,021,000 and urban dwellers and share of rural people are 76.1 percent. The population density in the state is 972 persons per Sq. Km. while there is huge difference in rural and urban areas (State Profile, 2023).

In this context, this paper also appraises the changes in the health indicators such as Infant mortality rate, birth rate, death rate, life expectancy etc. Further, this paper aims to study the growth of health infrastructure such as Hospitals, doctors, medical seats, and other facilities for providing good medical services to the citizens of states. This paper has been organized into five sections. Section I discusses the overview of the profile of Uttar Pradesh. Section II describes the data sources. Section III presents the comparison of health indicators. Section IV presents an analysis of health infrastructure in UP. The final section provides a conclusion and policy suggestion.

Data sources

This study is based on the secondary data collected from different sources. The sources

of data are the Ministry of Health & Family Welfare, Medical Council of India, and Employees State Insurance Corporation, Office of the Registrar General and Census Commissioner, Ministry of Home Affairs, Economic Survey, Ministry of Finance, Government of India Census of India. For analyzing the data, descriptive analysis was done such as percentage growth rate; pie chart, population density and projected population till year 2024 have been calculated from the growth rate of population of Uttar Pradesh during 2001 and 2011 census. The 75 districts have been divided into 18 divisions. First projected population of 2024 has been calculated from census 2011 census and population growth rate of Uttar Pradesh during (2001-2011). All percentage and diagram are calculated by researcher.

The comparison of Health indicators of Uttar Pradesh with All India average

The life expectancy of males, females, and person have increased from 58.1 years, 56.9 years, and 57.5 years to 65 years, 66.2 years, and 65.6 years respectively in Uttar Pradesh between 1993-97 and 2015-19. The percentage growth rate of life expectancy for male, female and person were 11.9 percent, 16.3 percent and 13.2 percent respectively in UP while it was 13.2 percent, 15 percent and 14.1 percent in All India level. It shows that life expectancy growth for male is a bit lower while for female it is a bit higher while for person the growth rate is equal (Office of the Registrar General & Census Commissioner, Ministry of Finance).

The Total Fertility Rate is the average number of children born to a woman during her lifetime (NHP, 2022). The Total Fertility Rate has decreased by 38.6 percent and 31 percent

respectively during 2004-05 and 2020-21 in UP and All India. The Infant Mortality Rate can be defined as the number of babies who could not survive till one year of their birth out of a total of 1,000 live births (NHP, 2022). The Infant Mortality Rate (IMR) has decreased by 47.2 percent and 51.7 during the same time for UP and All India respectively. The death rate of UP and All India has declined from 26.1 percent and 20 percent respectively during the same period. The Birth rate of UP and All India has decreased 18.5 percent and 19.1 percent respectively during the same time (Office of the Registrar General & Census Commissioner, various years). Sen (2015) found great diversity in the case of Universal Health Care system. In India, Kerala is at the top in the provision of healthcare facilities while Madhya Pradesh and Uttar Pradesh failed to provide it. A basic healthcare provision can reduce the cost of medical expenditure because if the disease is identified at an initial stage, then it can be cured and the latter expenditure is reduced for people as well as for the government. Urban dweller of

Uttar Pradesh tends to use public health facilities instead of private health facilities compared to their rural counterpart. Socially and economically backward people are forced by situation to go for public health facilities. There are gender barriers to reach public facilities due to lack of female doctor in the public hospitals (Verma, et al., 2018).

The maternal mortality rate can be defined as the number of woman death puerperal causes per 100,000 live births in a year (NHP, 2022). As it can be seen in the bar diagram, the maternal mortality rate is decreasing over the period 1999-01 and 2017-19 (fig 1). The maternal mortality rate of UP and all India average was 539 and 327 in the year 1999-01 but this has come down to 167 and 103 respectively in 2017-19. The iniquitous growth and the social factors lead to impoverishment. The greater share of out-of-pocket expenditure has impoverished the people. The greater intensity of morbidity, mortality, high level of poverty, and poor health care facilities are the characteristics of Uttar Pradesh (Verma et al., (2017).

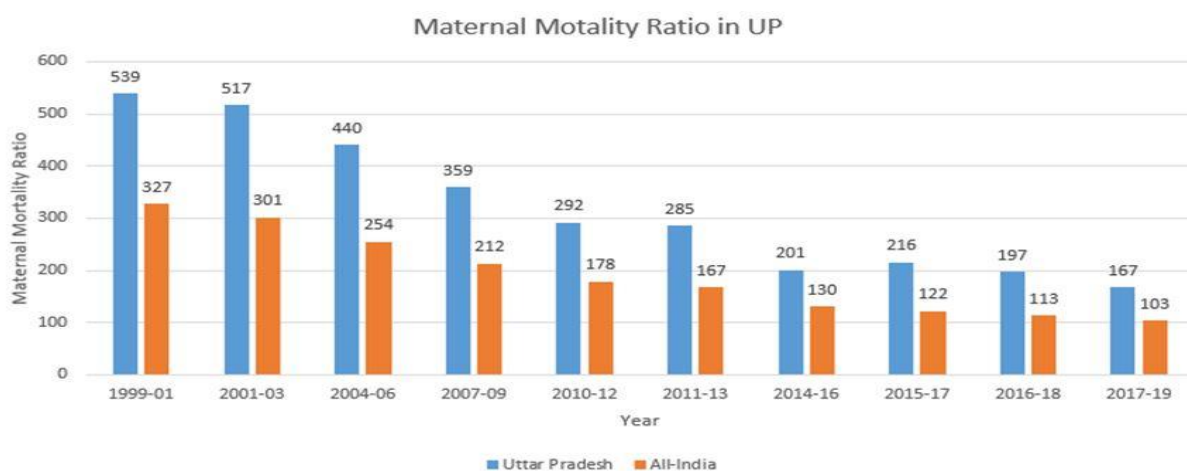


Figure 1 Maternal Mortality Ratio in UP

Source: Ministry of Home Affairs, Government of India.

Figure is constructed by author

Health Infrastructure in Uttar Pradesh

The growth rate of government hospital, admission capacity (MBBS) and number of beds have increased by 191.7 percent, 200.2 percent and 127.9 percent respectively during the given time periods. The number of MBBS seats and beds has increased by 200.2 percent and 127.89 percent respectively. Overall, it can be said that there was rapid growth in some

government hospitals, private hospitals, Admission capacity, and number of beds in Uttar Pradesh during 2011-12 and 2022-23 (Figure 2). Sadanandan (2001) analyses the role of government in the provision of health services in Kerala for decades. The percentage share of government medical institutions and beds decreased while private medical institution beds have increased from 1976 to 1995 in Kerala.

Fig. 2 Growth of Health Infrastructure in UP

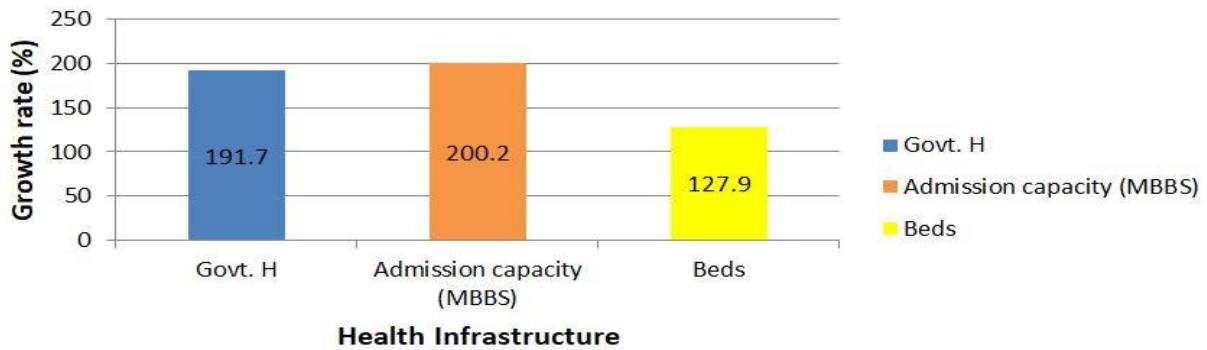


Figure 2 Growth of Health Infrastructure in UP

Source: Medical Council of India
Figure is constructed by author

Fig. 3 Number of Doctors and Registered Dental Surgeon in UP



Figure 3 Number of Doctors and Registered Dental Surgeon in UP

Source: Medical Council of India, Dental Council of India.
Figure is constructed by author

The number of doctors with qualified degrees has experienced an increasing trend during this period. The number of doctors has increased from 2,081 to 4,726 during the same time. The number of Registered Dental surgeons has increased by 95.8 percent with fluctuations in a few years. The number of Dental Surgeons was 9,441 and 18,488 in 2011-12 and 2020-21 respectively. Overall, it can be said that the number of doctors with qualified degrees and Registered Dental surgeons have increased by 127.1 percent and 95.8 percent respectively (fig 3).

When considering the Primary Health Centers (PHCs), during 2011 and 2013, it was 3,692 but it has declined to 3,497 in 2015 and it remained 3,497 during 2015-18. There was a sharp fall in the PHCs in the year 2020-21 and it was 2,227 but after this has increased to 3,473 and 3,497 in the years 2021-22 and 2022-23. In the case of Community Health Centers (CHCs), the number has increased from 515 to 822 from 2011-12 to 2019-20. But there was a sudden fall in 2020-21 and then increased to 723 after that. Similarly, the number of Sub Centers remained at 20,521 during 2011-12 and 2019-20 but in the year 2020-21, it experienced a sudden fall and then increased after this year.

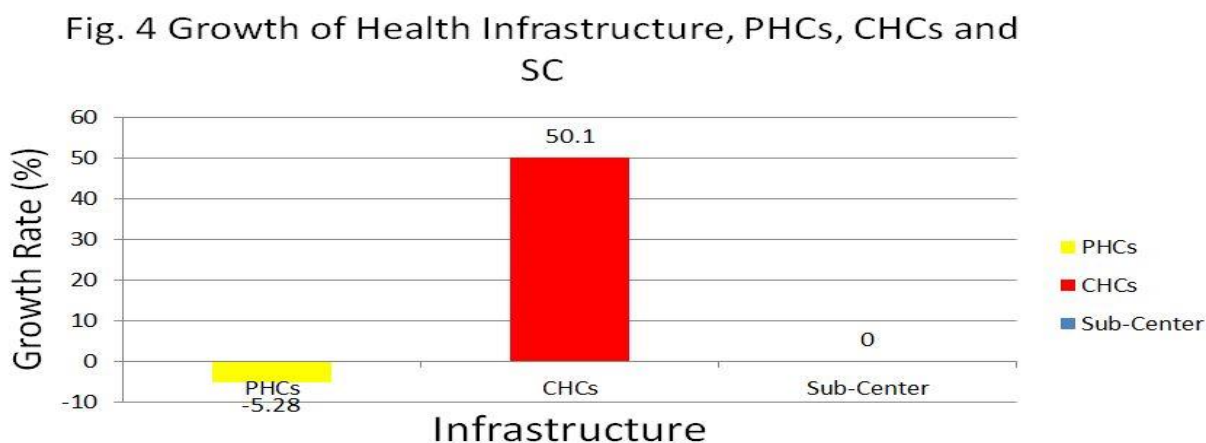


Figure 4 Growth of Health Infrastructure, PHCs, CHCs and SC

Source: Rural Health Statistics 2020-21, Statistics Division, Ministry of Health & Family Welfare.

Bar graph is constructed by author

The number of PHCs, CHCs, and Sub-Centers have experienced a sudden fall in the year 2020-21 and then increased after this year (fig.4). The devastating effect of COVID-19 might be one possible reason. The growth rate of projected population of Uttar Pradesh by census 2001 and 2011 was 17.71 percent during

(2011-2023) but the growth rate of number of PHCs has declined by 5.28 percent and Community Health Centre (CHCs) have increased by 50.1 percent while there was no change in the number of sub-centers.

Table 1 The projected population in 2024, Population density and Health Infrastructure across Division

Division	Projected population (%)	Density (Pop/KM ²)	Sub-Centers (%)	PHCs (%)	CHCs (%)	District Hospital (%)
Agra	5.7	4303.8	5.1	5.4	6.1	6.6
Aligarh	4.2	3939.8	4.3	4.2	3.7	5.4
Allahabad	6.7	4176.9	5.8	5.8	6.8	4.2
Azamgarh	5.0	4069.5	5.3	5.7	4.6	4.8
Bareilly	6.3	4353.1	5.8	5.7	6.6	4.8
Basti	3.6	2812.1	3.6	3.7	3.1	3.0
Chitrakoot	2.4	1523.6	3.8	4.0	2.2	4.2
Devipatan	5.1	3833.6	4.8	4.2	5.3	4.8
Faizabad	6.2	5464.0	6.5	5.7	8.0	6.0
Gorakhpur	7.1	4786.5	7.3	7.4	6.9	3.6
Jhansi	2.5	1211.8	4.0	3.2	2.8	3.6
Kanpur	6.4	6081.9	6.6	7.2	6.2	10.2
Lucknow	11.4	7107.7	11.2	10.4	13.1	11.4
Meerut	7.3	11476.4	6.2	8.1	5.5	7.8
Mirzapur	`	2253.0	2.9	2.5	3.4	3.6
Moradabad	6.3	6745.0	5.8	6.3	4.8	5.4
Saharanpur	3.8	3588.6	3.8	3.9	4.1	3.0
Varanasi	6.9	6414.8	7.2	6.5	6.6	7.8
Uttar Pradesh	100.0		100.0	100.0	100.0	100.0

Source: Government of India, Ministry of Health and Family Welfare, Statistics Division (2022).

Population percentage and percentage is constructed by author

The projected population percentage for 2024, together with data on population density, and the availability of health facilities and infrastructure, are related across districts of Uttar Pradesh. Lucknow division, Meerut division and Gorakhpur division have greatest population share and their respective percentage share are 1.4 percent, 7.3 percent, and 7.1 percent while Chitrakoot and Jhansi divisions have lowest population share and their respective percentage share are 2.4 percent and 2.5 percent. The population density of Meerut, Lucknow and Kanpur has highest density while Jhansi and Chitrakoot have lowest density. It means that highly densely populated divisions have more urban centers and industries while low density division have more rural areas. The degree of

inequality is very high when comparing population density and healthcare facilities across divisions. Meerut despite having highest density, the healthcare facilities are not in that proportion. The divisions Lucknow, Kanpur and Varanasi have greater density as well as greater health care facilities. On the other hand, density and healthcare facilities of Chitrakoot and Jhansi are low. Harasta (1996) reviews "India Economic Development and Social Opportunities" written by Dreze Jean and Amartya Sen. Sen emphasized quality of education and healthcare for improving the health condition of the people and he comparing the growth as has been experienced in South East Asia, China or Kerala in India. Without suitable policies India cannot improve its health care condition.

There is small degree of correlation between population share and health facility share across all divisions such as Moradabad has 6.3 percent population but the percentage share of CHCs and Districts Hospitals are 4.8 percent and 5.4 percent respectively. By scrutinizing table, it is clear there is rural and urban divide in terms of District hospital allocation across divisions. The urban centers such as Lucknow, Kanpur and Varanasi have more shares while rural and underdeveloped area such as Basti, Mirzapur and Chitrakoot have lower share in Districts Hospitals. It means there is shortage of specialized facilities in rural and areas. Kumar (2022) study shows that social identity,

economic status, and long distance of healthcare centers are the basic reasons for the inaccessibility of healthcare facilities in the vulnerable section of these villages. Mishra & Syamala (2020) analyses how economics and social vulnerabilities preventing access to maternal and child health services in India. The women with much vulnerability usually utilize fewer services provided by the mother, Child and Health (MCH) services. There is quite variation among women in Uttar Pradesh in terms of utilization of MCH services such as full ANC, institutional delivery, PNC, and full immunization, according to the degree of deprivation

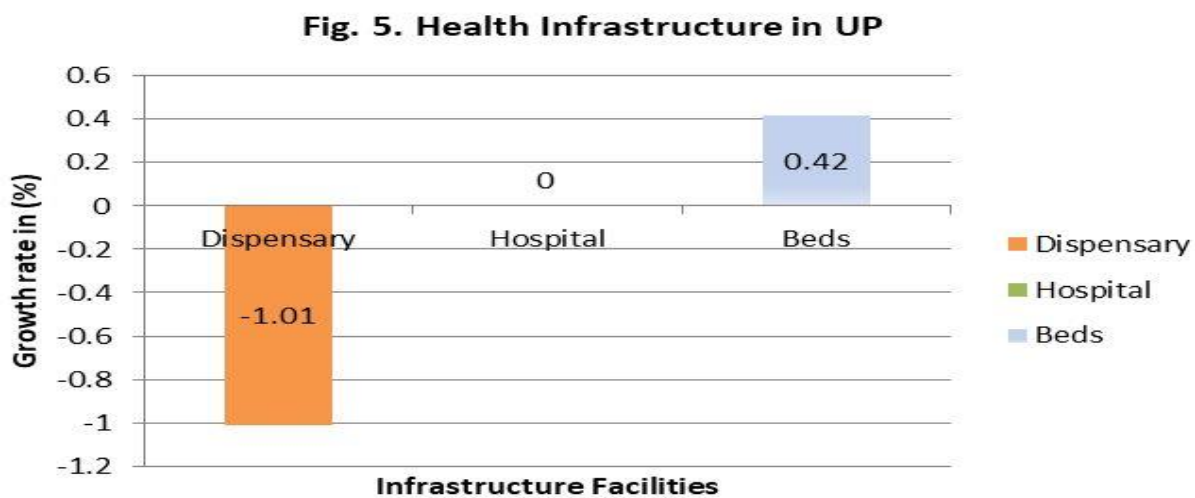


Figure 5 Health Infrastructure in UP

Source: Employees State Insurance Corporation

The population growth rate of Uttar Pradesh during 2015-2023 was 10.54 percent while during the same time the number of Dispensaries has decreased by 1.01 percent and the number of beds has increased by 0.42 percent while there was no change in the number of hospitals of ESI in Uttar Pradesh. It

shows that over time the growth of healthcare facilities under ESI have not increased even by 1 percent while population has increased by 10.54 percent (fig 5).

The percentage shortfalls of SCs, PHCs and CHCs in Uttar Pradesh are (42%, 51% and 44%) and All India average is (25%, 31% and

36%) respectively. The short-fall percentage is very high in Uttar Pradesh compare to All India Average. It is visible that shortfall of all

facilities is more in Uttar Pradesh compared to All India Average (table 2).

Table 2 Shortfall in health facilities (July 2022) in India and UP rural areas

	Required	In position	Shortfall	Shortfall (%)
Sub-Centres				
UP	35772	20781	14991	42
All India	193310	157935	48060	25
Primary Health Centers				
UP	5955	2919	3036	51
All India	31640	24935	9742	31
Community Health Centers				
UP	1488	829	659	44
All India	7894	5480	2852	36

Source: Ministry of Health and Family Welfare (2022)

There is dire need to address these issues for betterment of people especially in rural Uttar Pradesh. It also indicates systematic weakness in healthcare planning, finance and execution. It also shows that there is inadequate investment, shortage of human capital and inefficient allocation of resources. Singh (2018) examines the neglect of social sector by the Uttar Pradesh Government in their allocation of budget is low on the social sector not due to the shortage of resources but due to the less priorities given by the government for the betterment of quality of life of people and increasing economic growth of UP.

Conclusion

The present study exhibits noteworthy progresses in health infrastructure and certain health indicators in Uttar Pradesh over the last two decades. A remarkable progress has been observed in terms of higher rates of institutional deliveries, reductions in infant and maternal mortality, and the steady expansion of Primary Health Centres (PHCs),

Community Health Centres (CHCs), and Sub-Centres (SCs). Although the Uttar Pradesh have shown improvement but it still lags behind the national average in key areas such as doctor-to-patient ratio, hospital bed availability, and access to essential services, especially in rural areas. The uneven distribution of health facilities and Chronic underinvestment in the health sector continues to impede improvements in health outcomes, highlighting a gap between infrastructure development and the delivery of quality healthcare services. By looking at the condition of healthcare facilities and health Indicators, the suitable policy recommendation might be strengthening of human resources in health, particularly in rural and areas with limited access to healthcare of Uttar Pradesh. Despite improvements in health infrastructure, the availability of qualified medical professionals remains inadequate, which significantly hampers the delivery of quality healthcare services.

There is a need to address the issues of low and underutilization of Maternal and Child Health (MCH) services. There is a dire need to increase budget expenditure on the social

sector such as education and health for the betterment of people and especial focus should be given for improvement of primary health Centre because it could prevent dangerous diseases if poor and mass people have accessibility of primary Health Centers.

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