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Healthcare infrastructure in Uttar Pradesh

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Abstract

Health is both an important component and cause of well being. Health finds centrality in all debates and discourses of human development. The health outcomes by and large show the status of development. Availability, accessibility, affordability, equity and quality of medical and healthcare services depend on the distribution, functionality and quality of infrastructure. A minimum level of physical infrastructure is needed, to provide public health services and also to increase access to health services. Data on the resources available to the health system, are essential to enable governments to determine how best to meet the health-related needs of the population. Uttar Pradesh is one of the state of India which shows the poorest performance in terms of health outcomes and provisioning of healthcare services. It is at the lowest status in respect of three major indicators of health *viz.* infant mortality rate (IMR), maternal mortality rate (MMR), and nutritional status. As far as provisioning of health services is concerned, it maintains the same position as it has on the health status front. For example, percentage of children fully immunized is lowest in UP. Uttar Pradesh has made a huge investment in health infrastructure during the last few decades. As a result, the state has a large public, as well as private, healthcare infrastructure in both rural and urban areas

Keywords: Infant Mortality Rate (IMR), Maternal Mortality Rate (MMR), healthcare Infrastructure, Nutritional status

Introduction

Health is both an important component and cause of well being. Health finds centrality in all debates and discourses of human development. It is fact that, since independence, infrastructure in public healthcare services has increased manifold in absolute terms, but inadequacies of facilities and the various problems connected with public healthcare, have led to the growth of private healthcare services in India, as well as in Uttar Pradesh. The health outcomes by and large show the status of development. Uttar Pradesh is one of the state of India which shows the poorest performance in terms of health outcomes and provisioning of healthcare services. It is at the lowest status in respect of three major indicators of health *viz.* infant mortality rate (IMR), maternal mortality rate (MMR), and nutritional status. As far as provisioning of health services is concerned, it maintains the same position as it has on the health status front. For example, percentage of children fully immunized is lowest in UP. It is the state where maximum numbers of unassisted birth take place. The total fertility Rate of the State is 3.5. The infant Mortality Ratio is 359 (SRS 2007-2009) which are higher than the national average. The sex ratio in the state is 908 (as compared to 940 for the country). Comparative figures of major health and demographic indicators are as follows:

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Table 1: Demographic, Socio-Economic and Health Profile of U.P. and India

Indicators	Uttar Pradesh	India
Total Population (In Crore) (Census 2011)	19.96	121.01
Decadal Growth (%) (Census 2001)	20.09	17.64
Crude Birth Rate (SRS 2011)	27.8	21.8
Crude Death Rate (SRS 2011)	7.9	7.1
Natural Growth Rate (SRS 2011)	20.0	14.7
Infant Mortality Rate (SRS 2011)	57	44
Maternal Mortality Rate (SRS 2007-09)	359	212
Total Fertility Rate (SRS 2011)	3.4	2.4
Sex Ratio (Census 2001)	908	940
Child Sex Ratio (Census 2011)	899	914
Schedule Caste population (In Crore) (Census 2001)	3.51	16.67
Schedule Tribe population (in Crore) (Census 2001)	0.01	8.43
Total Literacy Rate (%) (Census 2011)	69.72	74.04
Male Literacy Rate (%) (Census 2011)	79.24	82.14
Female Literacy Rate (%) (Census 2011)	59.26	65.46

Source: RHS Bulletin, 2012.

Healthcare Infrastructure Facilities in Uttar Pradesh

Uttar Pradesh has made a huge investment in health infrastructure during the last few decades. As a result, the state has a large public, as well as private, healthcare infrastructure in both rural and urban areas. The state has 3660 PHC's, of which 386 units have been upgraded as Community Health Centres. They have been developed as First Referral Units (FRU's) for specialized medical care including special care to both mother and child. In 2006, state also had a network of 20521 Sub Centres at the village level. At present, seven medical colleges at Agra, Jhansi, Meerut, Gorakhpur Kanpur; and Allahabad, a medical university at Lucknow; and a Super Specialty hospital, the Sanjay Gandhi Post Graduate Institute (SGPGI), which are being run by the state government. In addition to these, two medical colleges are also functional and these are owned by the Government of India. The state also has the King George Dental University at Lucknow. The state is also in the process of developing four more Super Specialty Hospitals. These are Balrampur Hospital, Civil Hospital and Dr. Ram Manohar Lohiya Hospital at Lucknow and Saifai Hospital at Etawah. Besides these, the state also has 53 district hospitals, 13 combined hospitals, 388 community health Centres, 823 block PHC's, 2817 additional PHC's apart from 20521 Sub-Centres (Ministry of Health & family welfare GOI, March 2006).

In the private sector, the state has three full-fledged private medical colleges and hospitals, with more than twenty dental colleges and 4193 male/female hospitals/ nursing homes at the district level. However, there are large numbers of registered and non- registered medical practitioners in the state and they play an important role in providing medical service to the rural and urban populations.

The status of the present public health infrastructure in the state, both in the urban and rural areas, has been shown in Table 2. Despite all these, the physical health infrastructure in the state has still remained below the country's average. For instance, the population covered by the sub Centres in the state was 7080 and the average distance was 3.4 Km, against the average of 5109 and 1.3 km in the country as a whole. It was estimated that 11 percent of the people in Uttar Pradesh were not able to access medical care due to locational reasons. Further, even when accessed, there was no guarantee of sustained care. Several other factors such as bad roads, unreliability of the findings of health providers,

cost of transport and wage loss, etc., make it cheaper for a villager to get some treatment from local quacks. Uttar Pradesh is known for several healing techniques, which form part of alternate medicines such as Ayurveda, Unani & Homeopathic. There were 24650 medical centres, 2108, Ayurvedic centres, 253 Unani centres & 1483 Homeopathic centres. It is a fact, that most of the quantitative increase in hospitals/dispensaries took place in the 1970's and 1980's, whereas PHCs and SCs expanded rapidly in the 1980's. Despite this, the healthcare system is barely able to keep pace with the increase in population (Eleventh Five Year Plan Document).

Table 2: Healthcare Infrastructure in Rural and Urban Areas of Uttar Pradesh: 2009.

Healthcare Infrastructures	No. of Facilities
Urban Areas	
Super Specialty Institute	5*
Medical Colleges	7-govt.
	2- central govt.
	3 - private
District Male Hospitals	67
District Female Hospital	54
Combined Hospitals	13
Urban Family Welfare Bureau	5
Urban Family Welfare Centres	61
Health Posts	136
District Level PPC's	63
Rural Areas	
CHC's	315
BPHC's	823
Additional PHC's	3640
Rural PPC's	147
Sub-Centres	20521
Ayurvedic Hospitals/Dispensaries (FY2009)	2116
Unani Hospitals/Dispensaries (FY2009)	251
Homeopathic Hospitals/Dispensaries (FY2009)	1575

Note:*1 super specialty Hospital SGPGI, is functional at Lucknow, 3 more institutes at Lucknow and one at Saifai, Etawah, are in the process of development.

Source: Eleventh Five Year plan Documents.

Medical Education in Uttar Pradesh

There were only 12 medical colleges in the state (9 in the Public Sector and 3 in the Private Sector). Based on the norm of one medical college for every 50 lakhs population, there was need for 35 medical colleges in the state. Thus,

there was a deficit of 23 medical colleges in the state. In order to address this deficit, the State Government has opened a new medical college at Saifai and there is a proposal to establish another Rural Post-Graduate Medical Institute at Azamgarh (Eleventh Five Year Plan Documents). Uttar Pradesh has only 1262 medical seats, comprising of 801 MBBS seats in the Government Medical Colleges and another 350 MBBS seats in the four private medical colleges in the state. There are 21 private Dental Colleges in the state and the total number of BDS seats in these colleges is 1940. In addition, there are 583 post-graduate seats in the Government Medical Colleges. Under the Indian System of Medicines and Homeopathy (ISM&H), there are altogether 17 medical colleges in the state. There

are eight Ayurvedic Medical Colleges in the state and the total number of BAMS seats in these colleges is 320. Likewise there are two Unani Medical Colleges in the state and there are 76 BUMS seats for students of the state. In addition, there are seven State Homeopathic Medical Colleges and these have 285 BHMS seats. (Eleventh Five Year plan Documents)

Human Resources in Healthcare Sector of Uttar Pradesh

Severe shortage of manpower at all levels in the public healthcare delivery system stands out as another challenge in Uttar Pradesh. Every health functionary is under pressure on account of the large number of activities that he/she is expected to

Table 3: Position of Doctors and Paramedical Staff in UP in 2010.

Human Resource	Sanctioned	Filled	Gap
Medical Officers			
Male (General)	6468(100.00)	4940(76.38)	1528(23.62)
Male (Specialist)	4128(100.00)	3694(89.49)	434(10.51)
Female (General + Specialist)	1740(100.00)	1319(75.80)	421(24.20)
Paramedical Staff			
Pharmacist	5078(100.00)	4695(92.46)	383(7.54)
Staff Nurse	4528(100.00)	3678(81.23)	850(18.77)
ANM	23656(100.00)	21944(92.76)	1712(7.24)
Optometrist	923(100.00)	833(90.25)	90(9.75)
Lab. Technician	1915(100.00)	1442(75.3)	473(24.7)
X-Ray Technician	514(100.00)	452(87.94)	62(12.06)
Dark Room Assistant	163(100.00)	102(62.58)	61(37.42)
Physiotherapist	19(100.00)	16(84.21)	3(15.79)

Note: Figures in brackets indicate percentage.

Source: Eleventh Five Year Plan Documents.

Carry out. This has a direct bearing on the quality of services rendered. The ratio of doctors per thousand of the population for Uttar Pradesh is much below the national figure of 1 and although the ratio of beds is almost the same as the all-India figure of 0.7, their geographical distribution is highly skewed in favour of urban areas. The current position of doctors and paramedical staff in the state is shown in Table 3.

Out of total sanctioned posts, about 25 per cent positions of medical officers, 7.5 percent of pharmacists, 18.8 percent of staff nurses, 24.7 percent of lab technicians, 37 percent of dark room assistants and 15.8 percent of physiotherapists were vacant in the year 2010.

Growth of Public Healthcare Infrastructure in Uttar Pradesh

Like other states of India, there has been exponential growth of public and private healthcare infrastructure in Uttar Pradesh. Table 4 shows the expansion of public healthcare infrastructure in Uttar Pradesh between 1980-81 and 2009-10. The total number of SCs and PHCs was 10092 and 1109 respectively, in the year 1980-81 which increased to 20153 and 4356 respectively, in the year 1990-91. These were reduced to 18629 and 3551, respectively, in the year 2000-01. Again, it increased to 20521 and 3692 respectively, in the year 2008-09. The overall growth of SC's was 2.4 percent and 4.1 percent of CHC's between 1980-81 and 2009-10. As far as CHC's were concerned, their number was 228 in

1991-92 which increased to 515 in 2008-09. CHCs grew by 6 percent during the same period. In 1980-81, total number of hospitals and dispensaries were 4447 which grew by 66.7 percent. Its number increased to 7415 in 1990-91 to 7788 in 2000-01 and 8722 in 2009-10. The growth rate of hospitals and dispensaries was 2.3 percent between 1980-81 and 2009-10. The number of hospital bed had also increased from 46631 in 1980-81 to 67465 in 1990-91. This declined to 59558 in 2006-07 and again increased to 82965 in 2009-10. The number of doctors in (all systems) was 10540 in 1980-81, which increased to 13281 in 1990-91 and again to 14791 in 2001-02 to 15893 in 2003-04. Their number has come down to 11541 in 2006-07 but again increased to 17787 in 2009-10. Thus, the growth of doctors in all systems was only 1.76 percent between 1980-81 and 2009-10. The number of doctors in the allopathic system was higher, in absolute terms, in comparison with other systems, but rate of growth of doctors in the allopathic system was lower as compared with the rate of growth of doctors in the homeopathic system. The growth rate was only 1.5 percent in the allopathic system, whereas in the homeopathic system the growth rate was 4.5 percent. The number of nurses in both allopathic and homeopathic systems increased between 1990-91 and 2009-10. But the overall growth rate of nurses, in both allopathic and homeopathic systems, was negative which reflects the scarcity of nurses in Uttar Pradesh. The number of midwives, in the allopathic system, had declined during this period.

Table 4: Expansion of Healthcare Infrastructure in Uttar Pradesh during 1980-81 to 2009-10 (All Systems)

Items	1980-81	1990-91	2000-01	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Overall Growth Rate
SC	10092	20153 (99.7)	18629 (-7.6)	18565 (-0.3)	18577 (0.1)	18577 (0.0)	20521 (10.5)	20521 (0.0)	20521 (0.0)	20521 (0.0)	2.4
PHC	1109	4356 (292.8)	3551 (-18.5)	3640 (2.5)	3640 (0.0)	3640 (0.0)	3640 (0.0)	3660 (0.5)	NA	3692	4.1
CHC	NA	NA	287 -	294 (2.4)	294 (0.0)	294 (0.0)	372 (26.5)	386 (3.8)	NA	515	6.0
Hospitals/Dispensaries	4447	7415 (66.74)	7788 (5.03)	8911 (14.42)	8967 (0.63)	9334 (4.09)	8439 (-9.59)	8624 (2.19)	8720 (1.11)	8722 (0.02)	2.3
a. Allopathic	2839	4251 (49.74)	4236 (-0.35)	5359 (26.51)	5414 (1.03)	5490 (1.40)	4595 (-16.3)	4687 (2.00)	4778 (1.94)	4780 (0.04)	1.8
b. Ayurvedic / Unani	1269	2182 (71.95)	2210 (1.28)	2210 (0.00)	2211 (0.05)	2362 (6.83)	2362 (0.00)	2362 (0.00)	2367 (0.21)	2367 (0.00)	2.1
c. Homeopathic	339	982 (189.68)	1342 (36.66)	1342 (0.00)	1342 (0.00)	1482 (10.43)	1482 (0.00)	1575 (6.28)	1575 (0.00)	1575 (0.00)	5.3
No. of hospital beds	46631	67465 (44.68)	66318 (-1.70)	66420 (0.15)	66457 (0.06)	68727 (3.42)	59558 (-13.34)	60821 (2.12)	63507 (4.42)	82965 (30.64)	1.9
a. Allopathic	42328	56697 (33.95)	55684 (-1.79)	55786 (0.18)	55786 (0.00)	57452 (2.99)	48283 (-15.96)	49546 (2.62)	52220 (5.40)	71678 (37.26)	1.8
b. Ayurvedic/Unani	3888	10243 (163.45)	10251 (0.08)	10251 (0.00)	10283 (0.31)	10887 (5.87)	10887 (0.00)	10887 (0.00)	10899 (0.11)	10899 (0.00)	3.5
c. Homeopathic	415	525 (26.51)	383 (-27.05)	383 (0.00)	388 (1.31)	388 (0.00)	388 (0.00)	388 (0.00)	388 (0.00)	388 (0.00)	-0.2
Doctors	10545	13281 (25.95)	14791 (11.37)	15893 (7.45)	10145 (-36.17)	11642 (14.76)	11541 (-0.87)	14818 (28.39)	15589 (5.20)	17787 (14.10)	1.76
a. Allopathic	8810	10056 (14.14)	11253 (11.90)	11654 (3.56)	5942 (-49.01)	9953 (67.50)	9266 (-6.90)	11591 (25.09)	11591 (0.00)	13789 (18.96)	1.5
b. Ayurvedic/Unani	1287	2375 (84.54)	2269 (-4.46)	2970 (30.89)	2972 (0.07)	319 (-89.3)	905 (183.70)	1740 (92.27)	2318 (33.22)	2318 (0.00)	2.0
c. Homeopathic	448	850 (89.73)	1269 (49.29)	1269 (0.00)	1231 (-2.99)	1370 (11.29)	1370 (0.00)	1487 (8.54)	1680 (12.98)	1680 (0.00)	4.5
Nurses (Allopathic)	16103	3781 (-76.52)	4418 (16.85)	4528 (2.49)	4528 (0.00)	3678 (-18.7)	4018 (9.24)	4948 (23.15)	4948 (0.00)	4948 (0.00)	-3.9
Midwife(Allopathic)	NA	23645	21830	24742 (13.34)	21712 (-12.25)	21942 (1.06)	21942 (0.00)	23656 (7.81)	23656 (0.00)	23578 (-0.33)	-0.01
Nurses(homeopathic)	127	545 (329.13)	543 (-0.37)	288 (-47.0)	294 (2.08)	262 (-10.9)	262 (0.00)	NA	NA	NA	-2.9
Midwife	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-

Note: Figures in brackets indicate percentage change.

Source: Statistical Diary of U.P., different years.

The analysis shows that in Uttar Pradesh there was slow growth in all types of public health infrastructure between 1980-81 and 2009-10. There has been increase in the number of allopathic hospitals also (public and private) between 1961 and 2010. In 1961 total numbers of allopathic hospitals (private and public) were only 1368, which

increased to 19940 in 2007. These further increased to 20113 in 2010. Analysis of Table 5 indicates that the state has various types of hospitals i.e. government public and government special, local municipal, private aided and private unaided.

Table 5: Growth of Public and Private Allopathic Civil Hospitals and Dispensaries in Uttar Pradesh: 1961 to 2010

Year	State govt.		Local/municipal	Public total	Private Aided	Private unaided	Other	Pvt. total	Total
	Public	Special							
1961	693	172	335	1200	61	29	78	168	1368
1971	1338	318	320	1976(64.7)	6104	40	71	6215(3599.4)	8191(498.8)
1981	2386	377	201	2964(50.0)	130	72	21	223(-96.4)	3187(-61.1)
1991	4385	409	108	4902(65.4)	144	92	1	237(6.3)	4610(44.7)
1996	4528	420	103	5051(3.0)	137	145	2	284(19.8)	5340(15.8)
1999	4862	255	151	5268(4.3)	88	375	0	463(63.0)	5731(7.3)
2000	4252	190	131	4573(-13.2)	70	309	71	450(-2.8)	5023(-12.4)
2001	3876	360	90	4326(-5.4)	121	121	0	242(-46.2)	4568(-9.1)
2002	4220	189	124	4533(4.8)	61	455	61	577(138.4)	4735(3.7)
2003	3829	182	114	4125(-9.0)	52	455	61	568(-1.6)	4735(0.0)
2004	4057	1302	100	5459(32.3)	121	121	0	242(-57.4)	5701 (20.4)
2005	4042	290	114	4446(-18.6)	52	55714	96	55862(22983.5)	60308 (957.8)
2006	4071	292	124	4487(0.9)	61	45790	48	45899(-17.8)	50930 (-15.6)
2007	4085	325	124	4534(1.0)	61	15297	48	15406(-66.4)	19940 (-60.8)
2008	4167	326	124	4617(1.8)	61	15297	48	15406(0.0)	20023 0.416
2009	4169	413	124	4706(1.9)	61	15297	48	15406(0.0)	20112 0.444
2010	4169	414	124	4707(0.02)	61	15297	48	15406(0.0)	20113 0.005
Overall growth rate over the period (%)	3.65	1.77	-1.97	2.77	0.00	13.36	-0.97	9.46	5.52

Note: Figures in brackets indicate percentage change.

Source: Statistical Abstract (UP), 2010.

As far as state government public hospitals are concerned, they increased from 693 to 4169 between 1961 and 2010. Special hospitals also increased from 172 to 414, whereas municipal hospitals reduced during the same period. There were 335 municipal hospitals in 1961 which reduced to 124 in 2010. Private aided hospitals were only 61 in 1961, their number rose to 144 by 1991 but again came down to 61 in 2006. These remained static at 61 even in 2010. As far as

private unaided hospitals were concerned, they grew exponentially. Their number was only 29 in 1961 which increased to 15297 in 2010. Analysis of public and private hospitals in percentage terms revealed that in 1961 public hospitals constituted 87.7 percent of the total hospitals and private hospitals constituted only 12 percent of the total. This status

Table 6: Growth of Public and Private Allopathic Civil Hospitals and Dispensaries in Uttar Pradesh: 1961 to 2010.

Year	Public total	Pvt. Total	Total
1961	1200(87.7)	168(12.3)	1368(100)
1971	1976(90.2)	6215(9.8)	8191(100)
1981	2964 (93.0)	223(7.0)	3187(100)
1991	4902(106.3)	237(5.1)	4610(100)
1996	5051 94.6	284(5.3)	5340(100)
1999	5268(91.9)	463 8.1	5731(100)
2000	4573(91.0)	450(9.0)	5023(100)
2001	4326(94.7)	242(5.3)	4568(100)
2002	4533(95.7)	577(12.2)	4735(100)
2003	4125(87.1)	568(12.0)	4735(100)
2004	5459(95.8)	242(4.2)	5701(100)
2005	4446(7.4)	55862(92.6)	60308(100)
2006	4487(8.8)	45899(90.1)	50930(100)
2007	4534(22.7)	15406(77.3)	19940(100)
2008	4617(23.1)	15406(76.9)	20023(100)
2009	4706(23.4)	1506(76.6)	20112(100)
2010	4707(23.4)	1506(76.6)	20113(100)
Overall Growth Rate (Percent)	2.93	10.32	6.00

Note: Figures in brackets indicate percentage.

Source: Statistical Abstract (UP), 2010.

showed a gradual reversal and the figures of 2010 revealed that public hospitals constituted only 23.4 percent of the total hospitals while proportionately private hospitals had increased to 76.6 percent in 2010. The overall growth rate indicated that public hospitals grew sluggishly, merely by 2.93 percent between 1961 and 2010 whereas private hospitals grew by 10.32 percent during the same period, which was five times higher than the growth rate of public hospitals. The combined growth rate of both public and private hospitals was 6 percent during this period (Table 6).

Healthcare Infrastructure in Rural Uttar Pradesh

Uttar Pradesh has a large number of rural healthcare service centres which have grown over a period of time but the rate of growth has not been fast enough to serve the growing population. The number of Sub Centres was 15653 in the Sixth Five Year Plan which has grown to 20153 in the Seventh Five Year Plan and remained stagnant in the Eighth

and the Ninth Five Year Plans but again increased to 20521 in the Tenth Five Year Plan. Their number remained the same at the end of the Eleventh Five year Plan. The number of PHC’s was 1169 during the Sixth Five Year Plan period which increased by 156.6 percent and their number reached 3000 in the Seventh Plan. At the end of the Eleventh Five Year Plan their number was 3692. The number of CHC’s was only 74 during the Sixth Plan. In the Seventh Plan the number increased by 139 percent and its number was 177. By the end of the Eleventh Five Year Plan, it reached 515. The rate of growth of Sub-Centres and PHC’s was very slow as compared to CHC’s (Figure 1, Figure 2 and Figure 3). There was a reduction in the number of centre’s functioning at the end of the 10th Plan, as compared to those functioning at the end of the Ninth Plan, due to the division of the state. A number of Primary Health Centres reported that the functioning in some districts had reduced as compared to 2002 due to up gradation of the centres to CHCs.

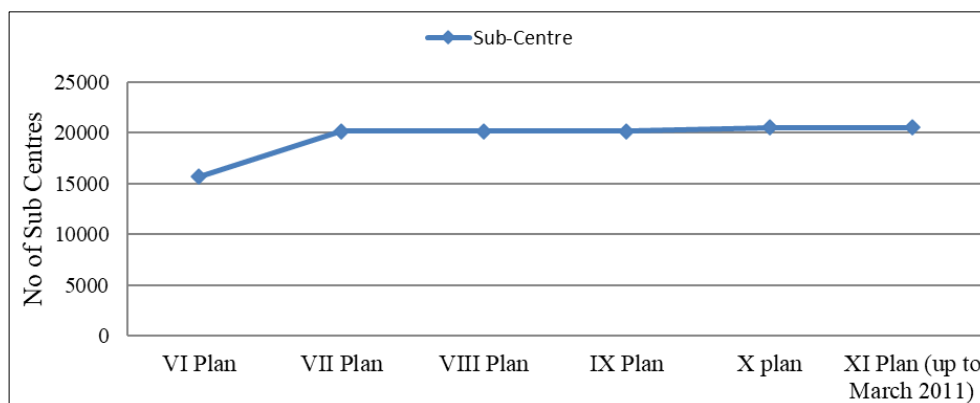


Fig 1: Growth of Sub Centres (SC's) in Uttar Pradesh

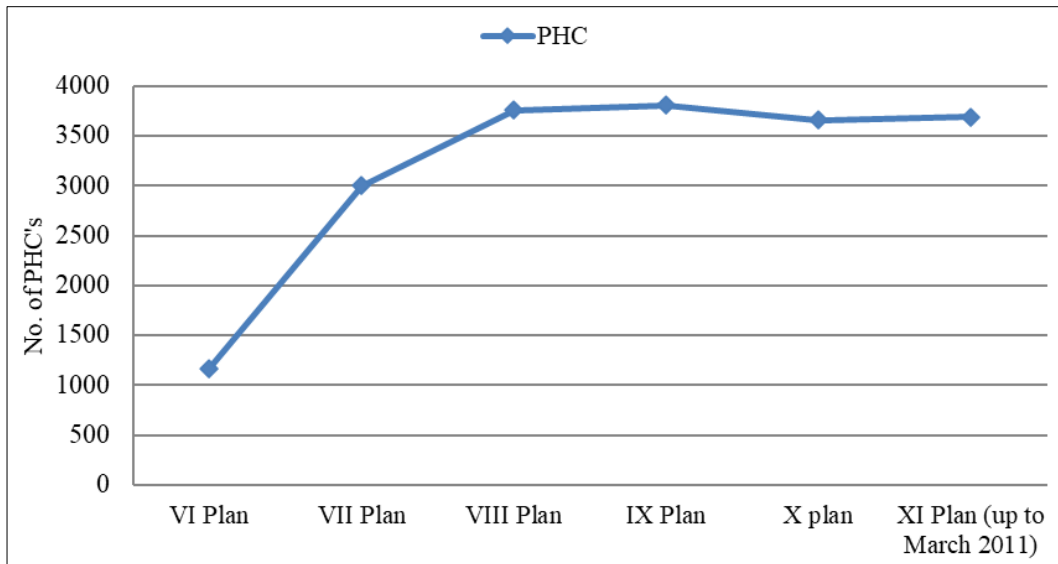


Fig 2: Growth of Primary Health Centres (PHC's) in Uttar Pradesh

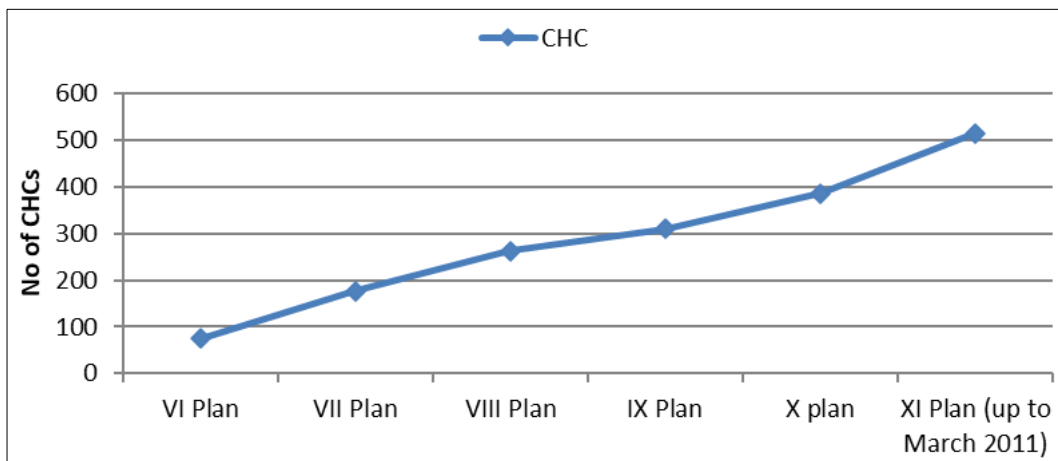


Fig 3: Growth of Community Health Centres (CHC's) in Uttar Pradesh

Healthcare Infrastructure across Regions in Uttar Pradesh

To understand the regional growth in healthcare infrastructure in Uttar Pradesh, analysis was carried out to find out the status of healthcare infrastructure across four economic regions of the state and variations in the healthcare infrastructure in the state. No doubt health infrastructure has increased in absolute numbers in the state but the trend in the availability of health infrastructure per lakh of the population did not show an increase rather it was declining (Table 8). This implies that per head infrastructure facilities declined over a period of time in the state of Uttar Pradesh due to rising population. Availability of hospitals and dispensaries per lakh of the population in the allopathic as well as in the homeopathic/ ayurvedic /unani system was reduced in the state since the 1990s. The number of hospitals and dispensaries in the allopathic system was 3.35 per lakh of the population in 1990-91 which decreased to 2.42 per lakh of the population in 2011-12. Availability of Homeopathic/ Ayurvedic/Unani hospitals and dispensaries per lakh of the population in the state also declined from 2.30 to 1.95 between 1990-91 and 2011-12. In the year 1990-91, in the Western region, availability of the number of hospitals and dispensaries per lakh of the population in the allopathic system was 2.76, which declined to 2.20 per lakh of the population in 2011-12. In the Central,

Bundelkhand and Eastern regions, their availability declined in 2011-12. In the Central region, it was 3.03 per lakh of the population, in 1990-91. This increased to 3.13 per lakh of population in 2006-07 but declined to 2.09 per lakh of the population in 2011-12. In the Bundelkhand region, the availability increased from 4.22 to 5.34 per lakh of population in 2006-07 but it declined to 3.40 per lakh of the population for the 2011-12. In the Eastern region, the availability increased from 2.92 to 2.99 per lakh of the population 2006-07 but declined to 2.60 per lakh of population during 2008-09 and again increased to 2.66 per lakh of population during 2011-12. Availability of beds per lakh of population in all the systems of medicine reduced in the state, as well as in all the regions of the state between 1990-91 and 2011-12. Their number was 50.3 per lakh of the population in the allopathic system, 7.75 per lakh in the Homeopathic/Ayurvedic/Unani systems in the state, in the year 1990-91. This reduced to 41.53 per lakh of population in the allopathic system and 5.56 per lakh in the Homeopathic/Ayurvedic/Unani systems in the year 2011-12. PHCs and number of maternity and child welfare centres per lakh of the population have also declined. The number of Maternity and Child Welfare centres in the state were 16.0 per lakh of population in the state, during the year 1990-91. These declined to 11.7 per lakh of population in 2000-01. Their number further reduced to 10.12 per lakh of

population in 2011-12. The availability of PHCs per lakh of population declined in all the regions of the state, except for the Bundelkhand region, where it remained high. Health

infrastructure facilities are declining in all the regions of U.P. over the years.

Table 8: Region wise Trend of Availability of Healthcare Infrastructure (per lakh population) in UP: 1990-91 to 2011-12.

Regions	year	No. of Hospitals & Dispensaries		Beds Available		PHC's	No of Maternity and Child Welfare Centres
		Allopathic	· Homeopathic/ Ayurvedic/Unani	Allopathic	· Homeopathic/ Ayurvedic/Unani		
Western	1990-91	2.76	1.67	45.2	6.4	1.92	14.39
	2000-2001	2.76	1.65	34.0	5.0	1.85	10.60
	2006-07	2.54	1.64	33.2	4.9	1.51	10.70
	2007-08	2.45	1.65	34.5	5.01	1.45	10.49
	2008-09	2.31	1.62	32.7	4.91	1.75	10.04
	2011-12	2.20	1.53	37.47	4.55	2.03	9.51
Central	1990-91	3.03	2.21	60.9	8.16	2.23	13.5
	2000-2001	2.84	2.26	54.7	6.02	1.96	11.4
	2006-07	3.13	2.16	50.6	5.89	1.67	11.5
	2007-08	2.52	2.19	47.11	6.23	1.64	11.02
	2008-09	2.32	2.15	40.38	6.11	1.73	10.27
	2011-12	2.09	2.03	45.74	6.10	1.91	9.73
Bundelkhand	1990-91	4.22	3.44	55.4	10.8	2.74	20.4
	2000-2001	4.22	3.25	47.8	8.06	3.17	16.30
	2006-07	5.34	3.23	47.0	8.40	2.84	15.80
	2007-08	5.25	3.31	46.4	10.45	2.8	16.53
	2008-09	3.42	3.26	45.6	10.28	2.79	16.96
	2011-12	3.40	3.11	54.41	9.79	3.10	16.21
Eastern	1990-91	2.92	2.23	41.60	6.86	2.63	16.2
	2000-2001	2.87	3.92	38.38	10.3	2.13	12.3
	2006-07	2.99	2.29	32.6	6.06	1.75	11.5
	2007-08	3.12	2.30	35.32	6.6	1.74	10.84
	2008-09	2.60	2.26	37.77	5.97	2.01	10.67
	2011-12	2.66	2.15	41.80	5.74	2.42	10.12
Uttar Pradesh	1990-91	3.35	2.30	50.30	7.75	2.35	16.00
	2000-2001	2.88	2.13	40.17	5.81	2.05	11.72
	2006-07	2.97	2.07	36.8	5.72	1.94	11.4
	2007-08	2.87	2.09	37.71	5.97	1.67	11.02
	2008-09	2.48	2.05	36.74	5.82	1.91	10.67
	2011-12	2.42	1.94	41.53	5.56	2.22	10.12

Source: District Wise Development Indicators (2012), Economics and Statistics Division, State Planning Institute Division (UP).

Conclusion

Health infrastructure is an important component of the healthcare delivery system. Its sufficiency indicates the accessibility of healthcare services to the people and the level of investment.. India has a vast healthcare infrastructure which is broadly divided into public and private sectors. The analysis has revealed that since independence there has been a phenomenal growth of healthcare infrastructure both in the public and the private sectors, across India. However, a wide variation in health infrastructure across the states was evident; and the status of health infrastructure in Uttar Pradesh exhibited that it lagged behind almost all the better performing states.

It was also found, that there was an all-round growth of health infrastructure in almost all disciplines but growth in the allopathic system was dominant in comparison to the Homeopathic, Ayurvedic and the Unani systems of medicine in India. This scenario was also true of Uttar Pradesh.

Availability of health infrastructure in terms of per lakh of the population which is a better indicator to analyze the health infrastructure status showed a declining trend in all the indicators in both allopathic as well as in other systems in the public healthcare system of Uttar Pradesh. On the other hand, hospitals and nursing homes, pathology/ diagnostic centres and health personnel were found to be

increasing exponentially in the private sector. The situation of the rural healthcare infrastructure was not very encouraging. Uttar Pradesh has the maximum number of SCs, CHCs and PHCs but the average population served was far lower than the prescribed norms. Each centre was over burdened with serving large segments of population that exceeded the norms prescribed. These centres lacked basic facilities as far as services were concerned. There is a requirement of more CHCs and PHCs in the state of Uttar Pradesh, if the situation is to improve. It was observed, that the growth of public healthcare infrastructure has been slow and the growth of private healthcare infrastructure has been comparatively more rapid. The hypothesis, that the growth of healthcare infrastructure in the public sector has been sluggish while it has been faster in the private sector has been established in this chapter. This is based on the analysis of the various aspects of the various aspects of healthcare that have been put forth in this chapter. Thus, it can be inferred that the private healthcare providers are increasing rapidly on account of deficiencies in the public healthcare sector.

References

1. Ashokan A. "Economic Reform and Health Sector in India: Missings and Possibilities", The Asian Economic Review, Journal of Indian Institute of Economics, Vol. 50, No.2, August, 2008.

2. Agrawal KN, Agrawal OK. "Healthcare in Uttar Pradesh and Bihar", NFI Bulletin, Nutrition Foundation of India, Issue: April, 1987.
3. Baru Rama V. "Inter-Regional Variation in Health Services in Andhra Pradesh, Economic and Political Weekly, May 15, 1993.
4. Bhargava A, Choudhary S, Singh KK. "Healthcare Infrastructure, Contraceptive Use and infant Mortality in Uttar Pradesh, India", Economics and Human Biology. 2005;3(3).
5. Mehrotra Santosh. "Public Health System In UP: What Can Be Done?" Economic and Political Weekly, December 6, 2008.
6. Bulletin on Rural Health Statistics, 2012.
7. Statistical Abstract (UP), 2010.
8. Statistical Diary of U.P., different years.
9. Eleventh Five Year Plan Documents.
10. RHS Bulletin, 2012.
11. Uttar Pradesh Health Policy 2018.