

## **ALLOPATHIC HEALTH CARE DELIVERY SYSTEM IN MADHYA PRADESH A STUDY IN MEDICAL GEOGRAPHY**

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Health has been declared a fundamental human right and state has a responsibility for the health of its people. The utilization of health care services plays a vital role in determining the health status of the people. The health care delivery may be termed as the industry which provides various health services, so as to meet the essential requirements of the community, family and a person.

Health care geography has very recently emerged as one of the most significant sub-branch of Medical Geography and it is developing as a systematic branch of the subject. Health care is defined as the active process by which an individual achieves physical and mental well being. It means health care actively tries to avoid illness. So it could be said that health care consists of ill people and practitioners who diagnose and treat the health problems. A good medical system also tries to enhance health of the masses through preventive and promotive deliveries.

Thus health care covers a broad spectrum of health care services ranging from health education and information through prevention of various disorders, early diagnosis and treatment. The term health care delivery also implies organisation, "all those personnels and community health services including medical care and related education and research directed

towards protection and promotion of the health of the community" (WHO, 1991, Paper 43 Geneva).

### **ALLOPATHIC HEALTH CARE SYSTEM:**

Health care covers all sorts of medical system but since long thanks to the development of modern medicine, allopathic system has always dominated the field of health care delivery system. People of all walks of life have always been attracted towards this system, due to the fact that allopathic system is comparatively more advanced in diagnosis, treatment as well as in medicines and these medicines also give quick relief. It is defined as that practice which combats disease by the use of remedies producing effects different from those produced by the disease treated, including the use of all measures that have proved to be of some value in the treatment of disease. Rather, it is better to say that it is that medical practice which aims at curing disease by remedies having opposite effects to that caused by the disease.

The allopathic health care services here include those services which are provided through government doctors and hospitals. This public sector differs from private in terms of resources, quality, utilization, research capabilities, innovative strategies used and also geographic

concentration. Though the services provided by each component is different, yet they are inter dependent and overlapping in nature with private sector.

### STUDY UNIT :

The geo-medical unit lies between 18°N to 26° 30' N latitudes and 74° E to 84° 30' E longitudes. It comprises an area of 443, 446 square kilometres and a population of 66,135,862 (1991). Out of it 76.80 per cent is rural population and 23.20 per cent dwells in urban areas. The density of population is 143 persons per square kilometre whereas sex-ratio is 932 females per thousand males and literacy rate is 43.45 per cent. For the purpose of administration, the state has been divided into 12 divisions, 45 districts, 308 tehsils and 459 development blocks.

The government allopathic health care services are structured into three tier system. At the lowest level is Primary Health Centres (PHC) which are nuclear health care facility in rural areas. There is one PHC for every 30,000 population in general, whereas one PHC is established for every 20,000 population in hilly and tribal areas. There are 1181 (1991) primary health centres in the state, which are supported by sub-centres and village health guides.

Besides these centres, district hospitals are the next health care centres which are at each district headquarter, where specialized health care facilities are available. Generally, the primary health centres refer the serious medical cases to the district hospitals. The hospitals of Medical College and specialized centres are the apex health care institutions in the state. All the referred cases from district hospitals and primary health centres get medical care in these hospitals which are well equipped with advanced treatment facilities.

### SOURCE OF DATA AND METHODOLOGY :

As health care services by allopathic system is normally provided through various medical practitioners and medical institutions, and also the number of beds are good indicator of health care services from geographical point of view, so the data has been collected of all these components, district-wise from Directorate of Health Services, Bhopal, for the year 1990-94, of public sector.

The average has been worked out from the collected data, then ratios were computed of different health care services in public sector for beds available per thousand persons; number of persons served by each medical institution is also worked out. The ratios for these important medical facilities for each district are ranked and ranks totalled to obtain ranking scores for 1990-94. Again these ranking scores were ranked to obtain rank order.

### DISCUSSION :

**Hospital Area Ratio (HAR) :** Area served by each medical institution is an important aspect in the health care geography, so its ratios are reckoned districtwise showing the area served on an average per medical institution.

Bhopal district, having the capital of the State ranks first with one hospital serving 56.57 square kilometres of area, while Indore another developed district of the State obtained the second rank, where one hospital serves 68.38 square kilometres of area. Table- 1. Gwalior, Dhar and Khargone occupy the third, fourth and fifth rank respectively. The most backward districts, in this respect, are Shivpuri, Damoh, Panna and Guna. In Bastar the ratio is 271.62 square kilometres.

At a very first glance on the Map No. 1, it can be concluded that western parts of the State

Table - 1

## Health Care Facilities in Madhya Pradesh

S. No.	District	No. of Beds	No. of Doctors	No. of Medical Institutions	Beds per 1000 persons	Persons per Doctor	Area served by each medical institution (in sq. kms)
1.	Balaghat	381	83	43	0.27	16418.44	214.62
2.	Bastar	874	183	144	0.38	12406.95	271.62
3.	Betul	318	85	41	0.26	13888.55	244.95
4.	Bhind	365	74	28	0.30	16411.89	159.25
5.	Bhopal	2015	202	49	1.49	6684.66	56.57
6.	Bilaspur	1006	235	129	0.26	16155.54	154.24
7.	Chhatarpur	398	80	48	0.34	14485.66	180.97
8.	Chhindwara	745	151	80	0.50	10353.19	147.68
9.	Damoh	201	52	17	0.22	17260.46	429.76
10.	Datia	174	43	14	0.43	9249.89	145.57
11.	Dewas	268	67	30	0.25	15410.77	234.00
12.	Dhar	537	132	67	0.39	10353.23	121.68
13.	Durg	631	152	57	0.26	15779.58	149.77
14.	Guna	512	83	34	0.39	15776.52	325.44
15.	Gwalior	1883	130	49	1.33	10884.21	106.40
16.	Hoshangabad	531	101	34	0.41	12534.35	295.20
17.	Indore	1937	210	57	1.05	8718.43	68.38
18.	Jabalpur	1684	209	60	0.63	12656.61	169.33
19.	Jhabua	372	98	53	0.32	11524.04	127.96
20.	Khandwa	631	152	57	0.42	9821.41	199.61
21.	Khargone	845	120	107	0.41	16885.57	125.70
22.	Mandla	384	120	67	0.29	10760.94	198.04
23.	Mandsaur	677	102	59	0.43	15249.81	165.94
24.	Morena	428	72	36	0.25	23716.93	322.05
25.	Narsinghpur	313	62	25	0.39	12653.55	205.32
26.	Panna	176	36	19	0.25	19020.02	275.52
27.	Raigarh	517	126	94	0.29	13685.87	139.48
28.	Raipur	1569	220	100	0.40	17739.13	212.58
29.	Raisen	341	54	29	0.38	16247.57	291.93
30.	Rajgarh	341	65	39	0.34	15266.38	157.79
31.	Rajnandgaon	356	71	41	0.24	20274.98	276.26
32.	Ratlam	679	89	34	0.69	10913.58	142.97
33.	Rewa	716	112	43	0.46	13840.53	146.83
34.	Sagar	554	115	50	0.33	14314.76	205.04
35.	Satna	397	92	48	0.27	15895.78	156.29
36.	Sehore	370	74	29	0.44	11357.12	226.82
37.	Seoni	311	80	37	0.31	12497.02	236.70
38.	Shahdol	451	139	68	0.25	12540.05	206.29

S. No.	District	No. of Beds	No. of Doctors	No. of Medical Institutions	Beds per 1000 persons	Persons per Doctor	Area served by each medical institution (in sq. kms)
39.	Shajapur	327	67	29	0.31	15410.74	213.65
40.	Shivpuri	344	85	21	0.30	13316.86	489.42
41.	Sidhi	367	79	52	0.26	17366.26	202.42
42.	Surguja	578	133	107	0.27	15661.13	208.75
43.	Tikamgarh	215	56	21	0.22	16796.59	240.38
44.	Ujjain	802	127	40	0.57	10917.05	152.27
45.	Vidisha	310	70	26	0.31	13872.50	283.70

Source : D.H.S. Bhopal

Medical Institutions include district hospitals, civil hospitals, community health centres, Primary health centres, subsidiary health centres, Mini PHCs, civil and ungraded dispensaries, leprosy hospitals.

Table : 2

Health care delivery in Madhya Pradesh (1990-91)

S. No.	District	Ranks			Total Rank	Rank Order
		Beds per 1000 Persons	Doctor population ratio	Area Served by each medical institution		
1.	2.	3.	4.	5.	6.	7.
1.	Balaghat	22	32	25	79	29
2.	Bastar	15	12	31	58	17
3.	Betul	23	21	30	74	26
4.	Bhind	20	32	15	67	22
5.	Bhopal	01	01	01	03	01
6.	Bilaspur	23	30	13	66	21
7.	Chhatarpur	16	23	18	57	16
8.	Chhindwara	07	05	10	22	05
9.	Damoh	26	35	38	99	33
10.	Datia	10	03	09	22	05
11.	Dewas	24	26	27	77	27
12.	Dhar	14	05	04	23	06
13.	Durg	23	28	11	62	19
14.	Guna	14	28	36	78	28
15.	Gwalior	02	07	03	12	03
16.	Hoshangabad	12	14	34	60	18
17.	Indore	03	02	02	07	02
18.	Jabalpur	05	16	17	38	11

1.	2.	3.	4.	5.	6.	7.
19.	Jhabua	18	11	06	35	09
20.	Khandwa	11	04	19	34	08
21.	Khargone	12	34	05	51	15
22.	Mandla	21	06	19	46	13
23.	Mandsaur	10	24	16	50	14
24.	Morena	24	40	35	99	33
25.	Narsinghpur	14	16	21	51	15
26.	Panna	24	38	37	99	33
27.	Raigarh	21	18	07	46	13
28.	Raipur	13	37	23	73	26
29.	Raisen	15	31	34	80	30
30.	Rajgarh	16	25	14	55	16
31.	Rajanandgaon	04	08	08	20	04
32.	Ratlam	04	08	08	20	04
33.	Rewa	08	19	09	36	10
34.	Sagar	17	22	21	60	18
35.	Satna	22	29	14	65	20
36.	Sehore	09	10	26	45	12
37.	Seoni	19	13	28	60	18
38.	Shahdol	24	15	21	60	18
39.	Shajapur	19	26	24	69	23
40.	Shivpuri	20	17	39	76	27
41.	Sidhi	23	36	20	79	25
42.	Surguja	22	27	22	71	24
43.	Tikamgarh	26	33	29	88	31
44.	Ujjain	06	09	12	27	07
45.	Vidisha	19	20	33	72	25

*Source* : Compiled on the ranks of data collected from Disrectorate of Health Services, Bhopal.

\* *Note* : (\*) Lower Rank values shows higher facilities and vice-versa.

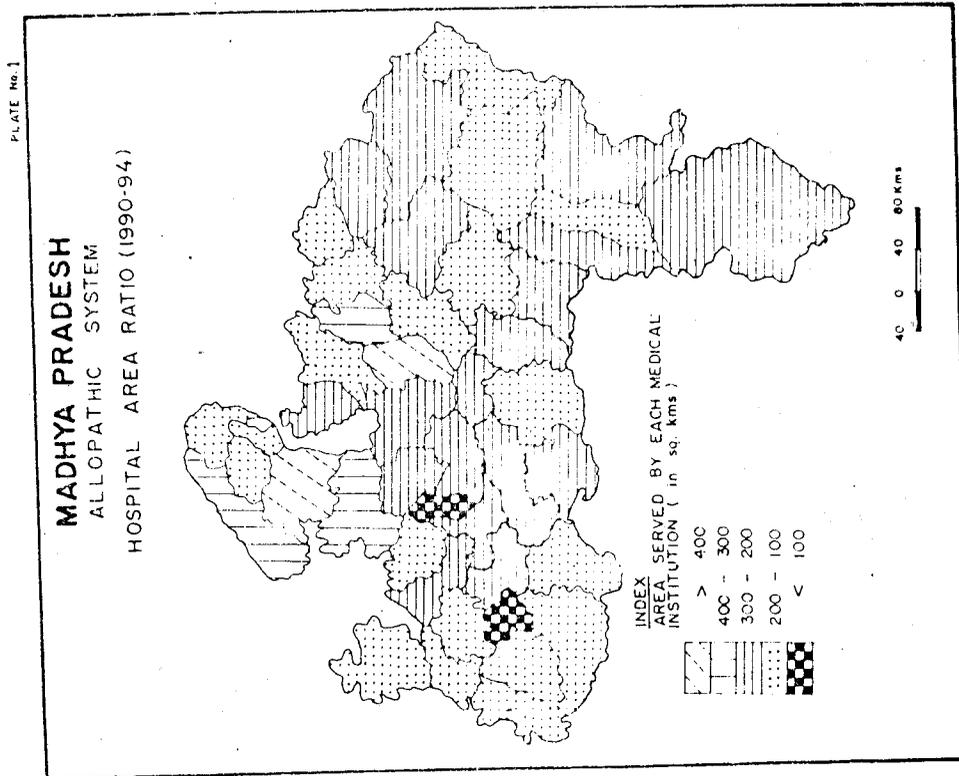
have better hospital facilities where even the tribal districts like Jhabua, Ratlam and Khargone rank quite satisfactory because this region is commparatively more developed industrially and also in all other basic infrastructures. On the other hand, the southern and eastern parts of the State have poor hospital facilities except at Raipur, Bilaspur and Durg districts where some development has taken place, while in the rest of the districts, the condition is not satisfactory. The north and central districts of State are some what in a better position if they are compared to the districts of south-east region. The reason for

the backwardness in this respect of south-east part of the State may be due to the lack of awareness of the people of region as well as the government policy. As a result, they are still underserved. The faith of tribal people in their own traditional treatment system is also one of the reasons for a low development of health services in this region. Because a number of health disroder and related problems are treated by themselves.

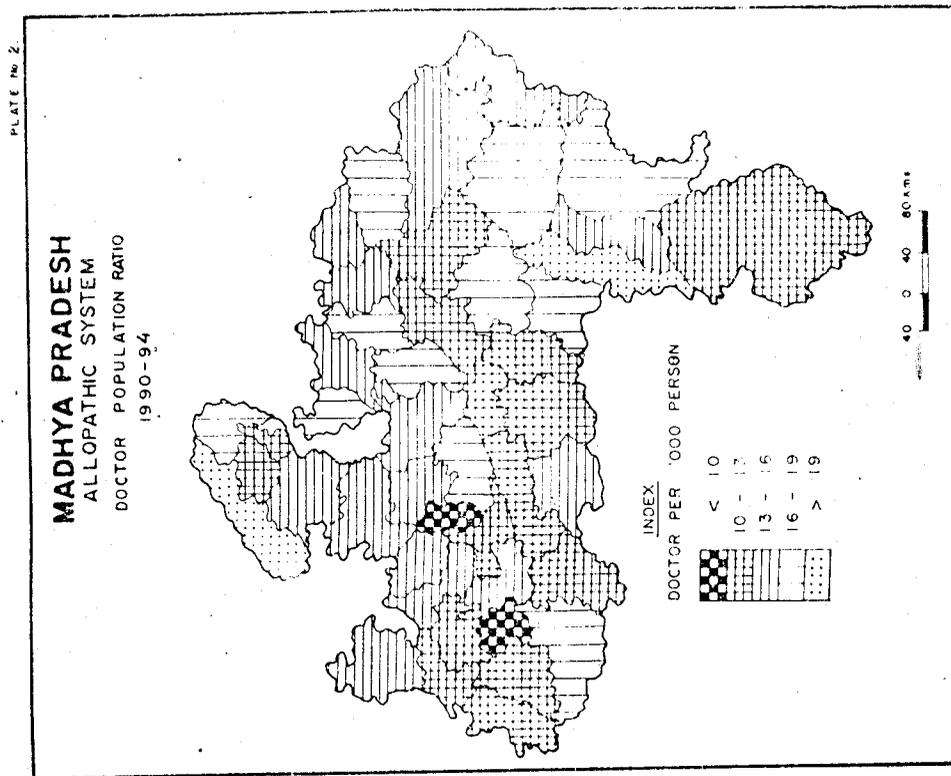
#### PERSONS PER DOCTOR (D.P.R.)

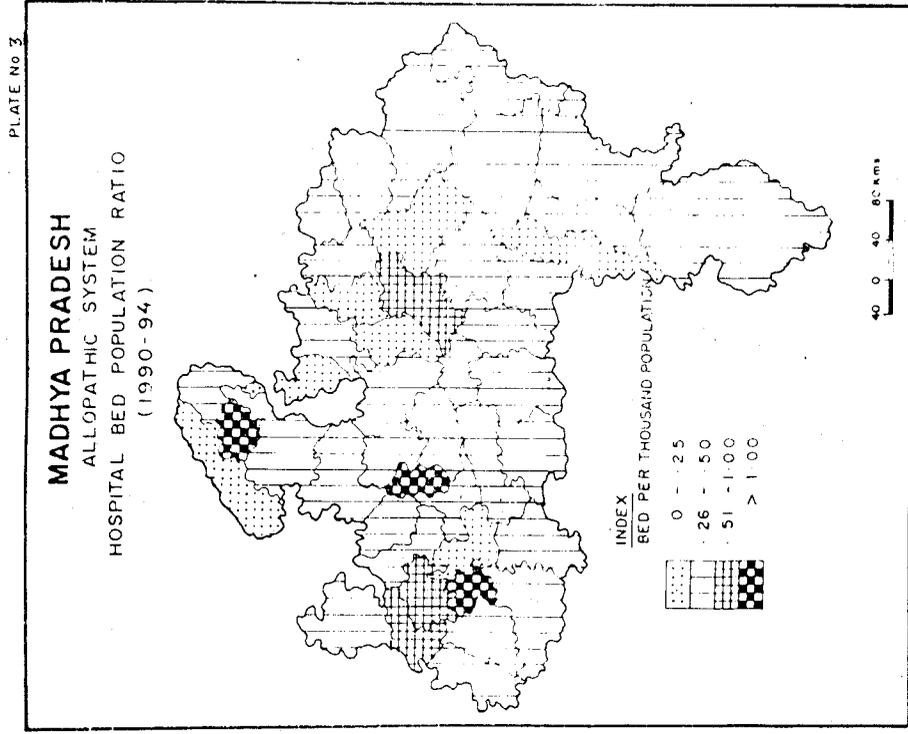
It is also an important parameter to disclose the delivery of health care services. The Bhopal

**Map No.1: Allopathic System -  
Hospital Area Ratio (1990-94)**

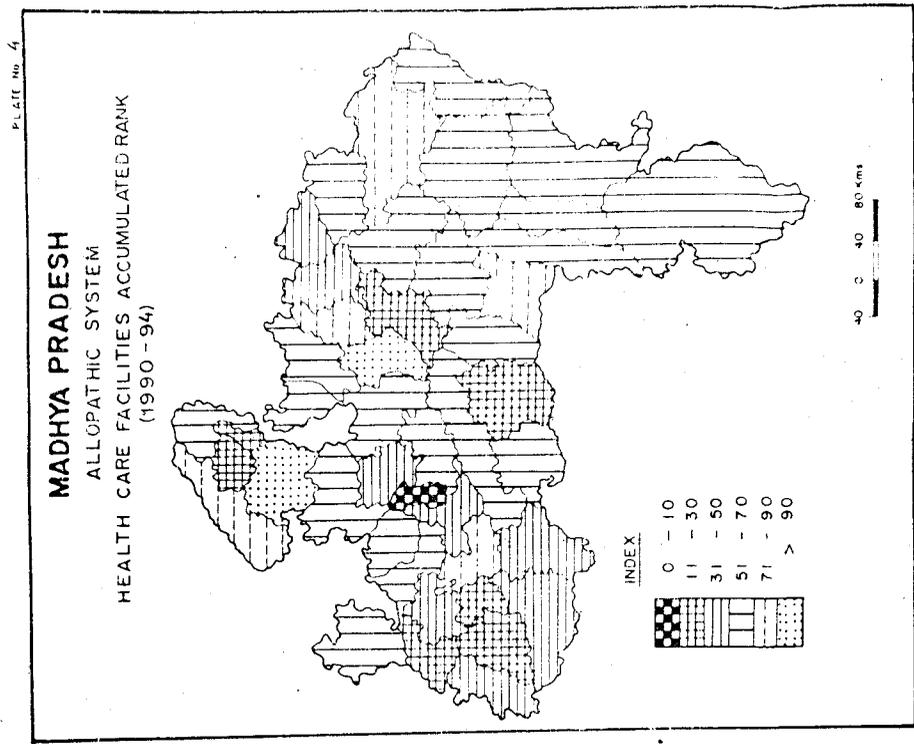


**Fig.No. 2 : Madhya Pradesh Allopathic System Doctor  
Population Ratio 1990-1994**





**Fig.No. 3 :** Madhya Pradesh Allopathic System Hospital Bed Population Ratio 1990-1994



**Fig.No. 4 :** M. P. Allopathic System Health care facilities accumulated rank 1990-1994

district again ranks first in this aspect where one doctor is available for 6684.66 persons (Table 1), and Indore also obtains the same rank, as in hospital area ratio, in this district one doctor is available for 8718.43 persons. These ranks represent the attraction of doctors towards developed areas, where all other amenities are easily accessible. It is interesting to note that Datia, Dhar and Hoshangabad also obtain the higher rank in this facility and it may be because they are the adjoining districts of most developed districts of the State and also provide better standard of living. In Rajnandgaon and Morena 20274.98 persons and 23716.93 persons are treated by one doctor respectively, showing the poor facility of doctors in these districts of the State. Other districts of the study unit where this ratio is not quite satisfactory, are Shivpuri, Vidisha, Damoh, Narsinghpur, and Raigarh. The western part and the south central part of the region are better in this facility than other areas of the State (fig. 2).

#### **BED POPULATION RATIO (BPR) :**

It is very necessary to know the adequacy of institutional facilities for the treatment of sick persons and for this the hint should also be taken from bed population ratio, which here represents the number of beds available per thousand people. The data of this ratio reveals that Bhopal ranked first in this data of this ratio reveals that Bhopal ranked first in this facility where 1.49 beds are available per thousand persons, while Gwalior occupied the second rank in this respect providing 1.33 beds per thousand people. Indore ranks third with 1.05 bed, followed by Jabalpur and Ratlam (Table 2). The most unsatisfactory districts in this regard are Damoh, Tikamgarh, and Rajnandgaon (Table).

While seeing the map it becomes quite clear that this facility is better in the developed urban

centres of the State while in the undeveloped and tribal districts this parameter is quite poor (fig. 3). Again, this facility is better in the western region of the study unit. Mandla district which was most poor in this facility in 1981 has improved somewhat in this decade.

#### **OVERALL POSITION :**

After analysing the total health care facilities, it is concluded that they are maximum in Bhopal district where the total rank score is 03 (Table 2). It ranked first in all the three components due to capital of the State. Indore ranked second in this order scoring 07 and stands second both in serving area per hospital and persons per doctor while third in bed population ratio.

The ranks of Gwalior, Ratlam, Chhindwara, Datia, and Dhar vary from 3<sup>rd</sup> to 6<sup>th</sup> rank, Gwalior achieves this rank by scoring 2<sup>nd</sup> and 3<sup>rd</sup> rank in bed per thousand persons and hospital area ratio respectively and it occupies 7<sup>th</sup> position in doctor population ratio. Ratlam holds so high order due to its 4<sup>th</sup> rank in bed population ratio and 8<sup>th</sup> rank in the rest of the two components. Chhindwara, Datia and Dhar are better in doctor population and area population ratio (Table 2).

Damoh, Shivpuri, Vidisha, Panna and Balaghat are most insignificantly served districts as far as government health care facilities are concerned. The services are not up to the mark in Dewas, Surguja and Morena districts.

Spatial variation of medical facilities (fig.No.4) of Madhya Pradesh can be grouped into six categories. Western and some parts of north central Madhya Pradesh have comparatively good medical facilities. It can be said that health care facilities are better, around Bhopal, Indore, Gwalior and as well as other developed towns of the State. In southern and most parts of

eastern Madhya Pradesh, medical facilities as a whole are not satisfactory. These parts of the State are situated in remote areas and some parts of these districts are still inaccessible. Bastar, Surgujar, Shahdol, Balaghat, and Betul are major tribal predominant area of the State belonging to the above group, where people have to depend on their own traditional treatment system.

In Madhya Pradesh the health care services are more concentrated in urban centres and particularly in towns having medical colleges, so that people are bound to come to these places for advanced treatment.

Thus, we see that there are wide imbalances in the distribution of health care facilities in the study unit. This is mainly because the population and the area have not been considered for the purpose of health planning seriously and also the hospitals and health centres are not ideally located.

And after finding such poor condition of health care facilities in most of the districts, the aim should be made to encourage the doctors and practitioners through various incentives to go in rural and remote areas and also to raise the hospital and bed strength, so that at least in the next 10-15 years at least one bed should be available for per thousand population. And this will further be helped by increasing the tempo of communicable disease control programmes which are decreasing the number of patients of those diseases and providing those large proportions of beds for other patients. In the same way the number of health care institutions should be increased in those areas where there is scarcity of this component.

Beside these health care services, the allopathic health care from public sector is also delivered to the people through various National health programmes including immunization, to the railway and defence employees from their

hospitals and dispensaries, and also to the government workers from employees state insurance scheme, which have their hospitals and clinics in various places of state.

Along with public sector, Allopathy is the largest constituent of private sector also. A large share of Allopathic treatment system is under private sector in the state which is not organised by statutory bodies but they regulate some of the functions and activities of the large bodies of private registered medical practitioners.

The Central Bureau of Health Intelligence reports (1992) that at present organisations and voluntary agencies owned 56 per cent of the hospitals in the country, while in Madhya Pradesh the share of private and voluntary hospitals is less than 10 per cent. Here it is to be noted that large number of institutions are in private sector but have not been recorded in these health statistics. This includes Nursing Homes and private clinics. Nearly 80 per cent of the hospitals are in urban areas of the state and only small Nursing Homes and Clinics could be seen providing Medical care to rural and tribal areas opened by RMPs, BAMS and even by local practitioners.

The proportion of hospital beds owned by the private sector is about 30 per cent of the total in the country. The govt. owns 49 per cent and the rest is owned by local bodies whereas in the study unit hospital bed capacity is less than 10 per cent in this sector, 90 per cent out of it is in urban areas (Central Health Education Bureau, 1991, New Delhi).

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