**Public Health Care Services in India**

# Introduction:

***“****Healthy citizens are the greatest assets any country can have”*

# Winston S. Churchill

Health is a state subject as per the constitution of India. It is the responsibility of every state to make efforts for raising the health standard and standard of living of the targeted population and the advancement of public health as its primary function. Access to health care depends on how health care is provided. In India, the healthcare sector shows a tremendous improvement, since last few decades. This can be illustrated by the notable improvement in health indicators such as infant mortality, maternal mortality, and life expectancy at birth etc. Despite these improvements, India still faces many issues and gaps in the healthcare delivery system.

# Table 2.1: Health indicators of India

|  |  |  |
| --- | --- | --- |
| **Indicators** | **Year** | **India** |
| **Population in Million (census 2011)** | Census 2011 | 12101.9 |
| **Decadal Growth Rate (1991-2011)** | 1991-2011 | 17.64 |
| **Birth rate** | 2010 | 18 |
| **Death rate** | 2010 | 7.2 |
| **Total Fertility Rate** | 2010 | 2.5 |
| **Female Literacy Rate** | Census 2011 | 65.46 |
| **Sex Ratio** | 2011 | 940 |
| **LEB(Female)** | 2010 | 67.7 |
| **IMR** | 2013 | 40 |
| **U5MR** | 2007-09 | 49 |
| **MMR** | 2013 | 167 |

**Source:** Sample Registration System, Government of India

Every country has its own health care system, in accordance with their needs and resources, but the most common element is primary health care. In some countries, health care system is distributed among government agencies, private agencies, charitable institutions, religious organizations to deliver good health care services.

The Indian public healthcare system consists of primary, secondary, and tertiary care institutions. Despite many efforts by the government, public healthcare system, i.e. primary, secondary, and tertiary care institutions face substantial challenges in providing care to the care seekers. Thus, it is time to review the current health care system in India, in the light of other developed country’s health care system.

# Structure of health care system:

The healthcare infrastructure in India consists of primary, secondary, and tertiary health care. The healthcare at these levels is provided by both public and private health care providers. But nowadays there is an increasing role of private healthcare providers in providing care to the care seekers. At the primary level of health care, we include community health centers (CHCs), Primary health centers (PHCs), and sub- centers (SCs). While the sub-district hospitals come under the category of secondary health care and the tertiary level of health care includes the district hospitals and medical colleges.

With a population of 1.21 billion, India stands at the second position among the most populous countries in the world, after China. India comprises 7 union territories and 29 states. These states and union territories are further sub-divided into districts and blocks. Thus, provision of health care to such a huge population is the biggest challenge faced by Indian government since after the independence. The provision of health care needs some sound planning and management and also some policies with a strong implementation and management by the government bodies with private health care providers.

# Figure 2.1: Structure of Health Care System in India

Health Care System

Public

Private

Primary

Secondary

Tertiary

Profit

Non- profit (NGO)

Community Health Centres

Sub- District Hospital s

District Hospitals and Medical Colleges

Primary Health Centres

Sub-Centres

**Source:** Compiled by Author

While states are responsible for the functioning of the health care delivery system, Centre also has a responsibility towards the state's health care system in the form of policy making, planning, assisting and providing adequate funds to various provincial health authorities to implement national programs. While national level health care system is guided by the Union Ministry of Health and Family Welfare (MoHFW), there is a state department of Health and Family Welfare in each state, headed by a state minister. Each regional set-up covers 3-5 districts and works under the authority delegated by the state directorate of health services. Middle-level management of health services is the district level structure and it is a link between the state and regional structure on one hand and on the other hand is the peripheral structure such as Primary Health Care (PHC) and Sub-Centre (SC).

#  Role of Centre and state in health care system:

The most important challenge government faces in the health care delivery system is the distribution of responsibilities between states and the center. The central funding for any state is 36 percent of all public health expenditures and in some states, it is over 50 percent. In addition to funds provided by the central government, the planning

commission also provided some additional central assistance to some states for undertaking further improvements in the health care system and infrastructure.

The Centre has a responsibility to correct the uneven development and provide more resources to the states where vulnerabilities are more. Almost all the states have started introducing user charges for treatment in government hospitals from the people above the poverty line and use that fund so collected to improve the existing infrastructure and quality of health care in the respective institutions.

#  Rural Healthcare System:

The existing health care inequalities in the availability of India’s healthcare are supposed to be as large as India’s own population. When we talk about the health care, the whole population is divided into 2 parts. One is urban population and the second is rural population. The urban population lives in urban areas and they have somewhat better quality access to healthcare facilities such as district and sub-district hospitals because they are generally found nearby in the urban areas. However, the majority of the population lives in rural areas under the below the poverty line and have limited access to health care services and facilities. One of the bottlenecks in Indian healthcare system is that most of the population of India still relies on cultural remedies and traditional practices of healthcare.

Rural health is a state subject and every state is trying to raise the standard of living of its people. To improve the health status of its people is one of the basic duties of a state. Today, India faces maternal mortality at a large scale and most of them happened in rural India. Thus, the child health is also influenced in rural areas of the country. Healthcare is the right of every citizen, but the lack of adequate infrastructure and unavailability of healthcare services and non-qualified health workers make India more vulnerable to health consequences.

At the primary level of rural health care, we include Community Health Centres (CHC’s), Primary Health Centres (PHC’s) and Sub-centres (SC’s).

The healthcare system in rural India runs as a three-tier system based on the following population norms: in plain areas, every sub-centre covers a population of 5000 and in hilly or tribal areas it covers only a population of 3000. Likewise, the primary health centers and community health centers also covered a definite proportion of the population. A primary health center covers 30,000 populations in plain areas against the 20,000 of the population in hilly or tribal areas. According to the area, community health centers (CHC's) also have a different population norm. In plain areas, a CHC covers a population of 1,20,000 while in hilly areas this proportion of the population is limited only to 80,000.

# Table 2.3: Population norms for Health Infrastructure in Rural India (Public Sector)

|  |  |
| --- | --- |
| **Centre** | Population Norms |
| **Plain Area** | **Hilly/ Tribal Areas** |
| **Sub- Centres** | 5000 | 3000 |
| **Primary Health Centres** | 30,000 | 20,000 |
| **Community Health Centres** | 1,20,000 | 80,000 |

**Source:** Health and Family Welfare Statistics in India, 2013

# Table 2.4: Number of SCs, PHCs, CHCs Functioning in India from 1990 to 2015

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **SCs** | **PHCs** | **CHCs** |
| 1990 | 130336 | 18981 | 1911 |
| 1991 | 130958 | 20450 | 2071 |
| 1992 | 131605 | 20716 | 2189 |
| 1993 | 131752 | 21051 | 2273 |
| 1994 | 131770 | 21225 | 2344 |
| 1995 | 131795 | 21768 | 2419 |
| 1996 | 132727 | 21853 | 2424 |
| 1999 | 138044 | 22928 | 3077 |
| 2001 | 137311 | 22842 | 3043 |
| 2004 | 142655 | 23109 | 3222 |
| 2005 | 146026 | 23236 | 3346 |
| 2007 | 145272 | 23370 | 4045 |
| 2010 | 147069 | 23673 | 4535 |
| 2011 | 148124 | 23887 | 4809 |
| 2012 | 148366 | 24049 | 4833 |
| 2013 | 151684 | 24448 | 5187 |
| 2014 | 152326 | 25020 | 5363 |
| 2015 | 153655 | 25308 | 5396 |
| **CAGR %** | **0.01** | **0.01** | **0.04** |

**Source:** National Health Profiles, Ministry of Health and Family Welfare, Government of India

Table 2.4 presented the Healthcare infrastructure over the years from 1990 to 2015. Over the period there were a sustained increment in the number of SCs, PHCs and CHCs. We have calculated the CAGR for all the three tier of primary healthcare. The CAGR for SCs and PHCs was obtained at 0.01 percent and for CHCs it was 0.04 percent. Community Health centres showed the highest CAGR among all three stages of rural health care.

# Sub-Centres (SCs):

The SCs is the first interaction point between the primary health care and local community. Currently, there are 1,52,326 Sub-centers are running in the country (as on 31st march 2015). Sub-centres provides the basic healthcare facilities to the people and services in relation to the mother and child care (MCH), safe delivery, universal immunization programme, family welfare services, primary medical care, control of communicable and non-communicable diseases programmes. Each sub-centre is required to be manned by at least one ANM (Auxiliary Nurse Midwife), female health worker and one male health worker. The main function of health sub-centre is to deliver preventive and primitive care together with the basic curative care. As the population density in the country is varying and not uniform, the application of population norms is not possible all over the country.

According to the population norms, there is one sub-centre established for every 5000 population in plain areas and it goes down to 3000 in hilly or tribal areas. Table 2.4 shows the progress of sub-centres functioning over the years in the country. At the end of the sixth five-year plan (1981-85), it was found that only 84,376 sub-centers were working, which increased to 130165 during 1985-90 and further increased to 1,48,366 during the 11th five-year plan (2007-12). Currently, 1,53,655 sub-centers are working in the country. A similar progress in the number of sub-centers is seen in the states of Gujarat, Karnataka, Odisha, Rajasthan, Andhra Pradesh, and Uttar Pradesh.

# Table 2.5: Sub-Centres functioning during five-year plans

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **States** | **1981-85** | **1985-90** | **1992-97** | **1997-02** | **2002-07** | **2007-12** | **2012-17** |
| **AP** | 6129 | 7894 | 10568 | 10568 | 12522 | 12522 | 12522 |
| **ASM** | 1711 | 5109 | 5109 | 5109 | 5109 | 4604 | 4621 |
| **BR** | 8299 | 14799 | 14799 | 14799 | 8909 | 9696 | 9729 |
| **GUJ** | 4869 | 6834 | 7274 | 7274 | 7274 | 7274 | 7274 |
| **HAR** | 1591 | 2299 | 2299 | 2299 | 2433 | 2520 | 2542 |
| **KAR** | 4964 | 7793 | 8143 | 8143 | 8143 | 8871 | 9264 |
| **KER** | 2270 | 5094 | 5094 | 5094 | 5094 | 4575 | 4575 |
| **MP** | 6615 | 11910 | 11938 | 11947 | 8834 | 8869 | 8764 |
| **MAH** | 6391 | 9248 | 9725 | 9725 | 10453 | 10580 | 10580 |
| **ORS** | 4127 | 5927 | 5927 | 5927 | 5927 | 6688 | 6688 |
| **PUJ** | 2602 | 2852 | 2852 | 2852 | 2858 | 2951 | 2951 |
| **RAJ** | 3790 | 8000 | 9400 | 9926 | 10612 | 11487 | 14407 |
| **TN** | 5860 | 8681 | 8681 | 8682 | 8683 | 8706 | 8706 |
| **UP** | 15653 | 20153 | 20153 | 20153 | 20521 | 20521 | 20521 |
| **WB** | 6100 | 7873 | 7873 | 8126 | 10356 | 10356 | 10356 |
| **INDIA** | **84376** | **130165** | **136258** | **137311** | **145272** | **148366** | **152326** |

**Source:** Rural Health Statistics, Ministry of Health and Family Welfare, Govt. of India

Table 5a shows the number of SC’s functioning in India and its major states. The number of sub-centres is almost somewhat constant in almost all the major states of the country.

National Rural Health Mission under the IPSC Guidelines sanctioned some minimum number of staff to cater to the local people at the sub-centre. The staff includes health worker both female as well male, voluntary worker. The total number of post at the sub-centre is 03. Under the NRHM, there is a provision for an additional Auxiliary Nurse Midwife (ANM) on the contract basis and one Lady Health Visitor (LHV) is also entrusted with the supervision of six sub-centres. The Central government bears the salary of ANM while the salary of the MHW (Male Health Worker) bears by the state government.

 Table 2.5a: Sub-Centres Functioning in India

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **States** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| AP | 12522 | 12522 | 12522 | 12522 | 12522 | 12522 | 12522 | 12522 | 12522 | 12522 | 7659 |
| ASM | 5109 | 5109 | 4592 | 4592 | 4604 | 4604 | 4604 | 4604 | 4609 | 4621 | 4621 |
| BR | 10337 | 8909 | 8858 | 8858 | 9696 | 9696 | 9696 | 9696 | 9729 | 9729 | 9729 |
| GUJ | 7274 | 7274 | 7274 | 7274 | 7274 | 7274 | 7274 | 7274 | 7274 | 7274 | 8063 |
| HAR | 2433 | 2433 | 2433 | 2465 | 2484 | 2508 | 2508 | 2520 | 2524 | 2542 | 2569 |
| KAR | 8143 | 8143 | 8143 | 8143 | 8143 | 8870 | 8870 | 8871 | 8871 | 9264 | 9264 |
| KER | 5064 | 5094 | 5094 | 4575 | 4575 | 4575 | 4575 | 4575 | 4575 | 4575 | 4575 |
| MP | 8874 | 8834 | 8834 | 8869 | 8869 | 8869 | 8869 | 8869 | 8869 | 8764 | 9192 |
| MAH | 10453 | 10453 | 10579 | 10579 | 10580 | 10580 | 10580 | 10580 | 10580 | 10580 | 10580 |
| ORS | 5927 | 5927 | 6688 | 6688 | 6688 | 6688 | 6688 | 6688 | 6688 | 6688 | 6688 |
| PUJ | 2858 | 2858 | 2858 | 2950 | 2950 | 2950 | 2950 | 2951 | 2951 | 2951 | 2951 |
| RAJ | 10512 | 10612 | 10742 | 10951 | 11487 | 11487 | 11487 | 11487 | 14221 | 14407 | 14407 |
| TN | 8682 | 8683 | 8706 | 8706 | 8706 | 8706 | 8706 | 8706 | 8706 | 8706 | 8706 |
| UP | 20521 | 20521 | 20521 | 20521 | 20521 | 20521 | 20521 | 20521 | 20521 | 20521 | 20521 |
| WB | 10356 | 10356 | 10356 | 10356 | 10356 | 10356 | 10356 | 10356 | 10356 | 10356 | 10357 |
| **IND** | **146026** | **145292** | **146036** | **145894** | **147069** | **148124** | **148124** | **148366** | **151684** | **152326** | **153655** |

**Source:** HMIS, Ministry of Health and Family Welfare, Govt. of India

# Primary Health Centre (PHC):

Primary Health Centre (PHC) is the first interaction point between the medical officer and village community. Realizing its importance in rural health care delivery, the center, the state, and other government and non-governmental agencies have started establishing primary health centers and health manpower. There is an increase of 1784 PHC's in 2014 as compared to those existed in 2005. The primary health centers are established and maintained under the Minimum Needs Programme (MNP)/ Basic Minimum Services (BMS) by the state government. As per the minimum norms, there should be a medical officer supported by 14 paramedical and other staff to manage a PHC. Under the NRHM, there can be two additional staff nurses on contract basis at a PHC. PHC’s provide an integrated curative and preventive healthcare to the rural people with promotive and family welfare services and schemes. There are 25,020 PHC’s functioning in the country (as on 31st march 2015).

Table 2.6: Primary Health Centres during five-year plans.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **States** | **1981-85** | **1985-90** | **1992-97** | **1997-02** | **2002-07** | **2007-12** | **2012-17** |
| **AP** | 555 | 1283 | 1335 | 1386 | 1570 | 1624 | 1709 |
| **ASM** | 237 | 449 | 610 | 610 | 610 | 975 | 1014 |
| **BR** | 796 | 2001 | 2209 | 2209 | 1648 | 1863 | 1883 |
| **GUJ** | 310 | 842 | 960 | 1032 | 1073 | 1158 | 1158 |
| **HAR** | 163 | 366 | 399 | 403 | 411 | 447 | 454 |
| **KAR** | 365 | 1142 | 1601 | 1676 | 1679 | 2310 | 2233 |
| **KER** | 199 | 908 | 938 | 944 | 909 | 809 | 829 |
| **MP** | 680 | 1181 | 1690 | 1690 | 1149 | 1156 | 1157 |
| **MAH** | 1539 | 1671 | 1695 | 1768 | 1800 | 1811 | 1811 |
| **ORS** | 484 | 875 | 1102 | 1352 | 1279 | 1226 | 1305 |
| **PUJ** | 130 | 460 | 484 | 484 | 484 | 449 | 427 |
| **RAJ** | 448 | 1048 | 1616 | 1674 | 1499 | 1528 | 2082 |
| **TN** | 436 | 1386 | 1436 | 1436 | 1181 | 1227 | 1369 |
| **UP** | 1169 | 3000 | 3761 | 3808 | 3660 | 3692 | 3497 |
| **WB** | 1172 | 1250 | 1262 | 1262 | 922 | 909 | 909 |
| **INDIA** | **9115** | **18671** | **22149** | **22875** | **22370** | **24049** | **25020** |

**Source:** Rural Health Statistics, Ministry of Health and Family Welfare, Govt. of India

The number of PHCs has increased over the years in the country. During the sixth five year plan (1981-85), there were only 9,115 PHCs, which increased almost to double at the end of 7th five-year plan (1985-90). Number of PHCs further increased to 24,049 in 11th five year plan. Today as on 31st march 2015, there are 25,308 primary health centers serving the people. A significant increase is also seen in the number of PHCs in the states of Assam, Bihar, Karnataka, Rajasthan, Andhra Pradesh, and Uttar Pradesh. While these states observed an increase in the number of PHCs over the time, West Bengal is the only state which observed a reduction in the number of primary health centers between 6th five years plan to 12th five-year plan. Primary health center (PHC) is the first referral unit for six Sub-centres. All PHCs provide outpatient services, at least a majority of PHC has four to six beds for patients.

# Table 2.6a: PHCs functioning in India and her major states

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **States** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| **AP** | 1570 | 1570 | 1570 | 1570 | 1570 | 1570 | 1570 | 1624 | 1709 | 1709 | 1069 |
| **ASM** | 610 | 610 | 844 | 844 | 856 | 938 | 938 | 975 | 978 | 1014 | 1014 |
| **BR** | 1648 | 1648 | 1641 | 1776 | 1863 | 1863 | 1863 | 1863 | 1883 | 1883 | 1883 |
| **GUJ** | 1070 | 1073 | 1073 | 1084 | 1096 | 1123 | 1123 | 1158 | 1158 | 1158 | 1247 |
| **HAR** | 408 | 411 | 420 | 437 | 441 | 444 | 444 | 447 | 452 | 454 | 461 |
| **KAR** | 1681 | 1679 | 2195 | 2193 | 2193 | 2310 | 2310 | 2310 | 2350 | 2233 | 2353 |
| **KER** | 911 | 909 | 909 | 697 | 813 | 809 | 809 | 809 | 820 | 829 | 827 |
| **MP** | 1192 | 1149 | 1149 | 1155 | 1155 | 1156 | 1156 | 1156 | 1156 | 1157 | 1171 |
| **MAH** | 1780 | 1800 | 1816 | 1816 | 1816 | 1809 | 1809 | 1811 | 1811 | 1811 | 1811 |
| **ORS** | 1282 | 1279 | 1279 | 1279 | 1279 | 1228 | 1228 | 1226 | 1305 | 1305 | 1350 |
| **PUJ** | 484 | 484 | 484 | 394 | 446 | 446 | 449 | 449 | 436 | 427 | 427 |
| **RAJ** | 1713 | 1499 | 1503 | 1503 | 1504 | 1517 | 1517 | 1528 | 1610 | 2082 | 2083 |
| **TN** | 1380 | 1181 | 1215 | 1277 | 1283 | 1204 | 1204 | 1227 | 1229 | 1369 | 1372 |
| **UP** | 3660 | 3660 | 3690 | 3690 | 3692 | 3692 | 3692 | 3962 | 3496 | 3497 | 3497 |
| **WB** | 1173 | 922 | 924 | 922 | 909 | 909 | 909 | 909 | 909 | 909 | 909 |
| **INDIA** | **23236** | **22370** | **23458** | **23391** | **23673** | **23887** | **23889** | **24049** | **24448** | **25020** | **25308** |

**Source:** HMIS, Ministry of Health and Family Welfare, Govt. of India

#  Community Health Centres (CHC’s):

Community health centers (CHC’s) are the first referral unit for 4 PHCs and are being established and maintained by the state government under the MNB/BMS programmes. A CHC is to be manned by four medical officers specialized in surgeon, physician, gynecologist, and pediatrician with 21 paramedical officers and other staff. As per the IPHS norms, a CHC should have at least 30 beds, x-ray machine, Operation Theater, delivery room and labs.

Together with sub-centers and primary health centers, community health centers also shows a similar pattern of progress. The number increased to 4833 in 11th five year plan (2007-12) from 761 in 1981-85. Currently, there are 5,396 CHCs working in the country (as on 31st march 2015). The states of Gujarat, Kerala, Madhya Pradesh, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal observed an increase in the number of community health centers during the period.

 Table 2.7: CHCs functioning in India and her major states

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **States** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| **AP** | 164 | 167 | 167 | 167 | 167 | 281 | 281 | 281 | 292 | 292 | 179 |
| **ASM** | 100 | 100 | 103 | 108 | 108 | 108 | 108 | 109 | 110 | 151 | 151 |
| **BR** | 101 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| **GUJ** | 272 | 273 | 273 | 281 | 290 | 305 | 305 | 318 | 318 | 300 | 320 |
| **HAR** | 72 | 86 | 86 | 93 | 107 | 107 | 107 | 109 | 110 | 109 | 109 |
| **KAR** | 254 | 254 | 323 | 324 | 325 | 180 | 180 | 180 | 188 | 193 | 206 |
| **KER** | 106 | 107 | 107 | 226 | 233 | 224 | 224 | 217 | 220 | 224 | 222 |
| **MP** | 229 | 270 | 270 | 333 | 333 | 333 | 333 | 333 | 333 | 334 | 334 |
| **MAH** | 382 | 407 | 407 | 376 | 365 | 365 | 365 | 363 | 361 | 360 | 360 |
| **ORS** | 231 | 231 | 231 | 231 | 231 | 377 | 377 | 21 | 377 | 377 | 377 |
| **PUJ** | 116 | 126 | 126 | 129 | 129 | 129 | 129 | 132 | 142 | 150 | 150 |
| **RAJ** | 326 | 337 | 349 | 367 | 368 | 376 | 376 | 382 | 431 | 567 | 568 |
| **TN** | 35 | 236 | 206 | 256 | 256 | 385 | 385 | 385 | 385 | 385 | 385 |
| **UP** | 386 | 386 | 515 | 515 | 515 | 515 | 515 | 515 | 773 | 773 | 773 |
| **WB** | 95 | 346 | 349 | 334 | 348 | 348 | 348 | 348 | 347 | 347 | 347 |
| **INDIA** | **3346** | **4045** | **4276** | **4510** | **4535** | **4809** | **4809** | **4833** | **5187** | **5363** | **5396** |

**Source:** HMIS, Ministry of Health and Family Welfare, Govt. of India

# Table 2.7a: Community Health Centres during Five Year Plan (FYP).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **States** | **1981-85** | **1985-90** | **1992-97** | **1997-02** | **2002-07** | **2007-12** | **2012-17** |
| **AP** | 27 | 46 | 207 | 219 | 167 | 281 | 292 |
| **ASM** | 12 | 60 | 100 | 100 | 100 | 109 | 151 |
| **BR** | 52 | 147 | 148 | 148 | 70 | 70 | 70 |
| **GUJ** | 22 | 143 | 185 | 252 | 273 | 318 | 300 |
| **HAR** | 2 | 41 | 63 | 65 | 86 | 109 | 109 |
| **KAR** | 98 | 156 | 242 | 249 | 254 | 180 | 193 |
| **KER** | 4 | 54 | 80 | 105 | 107 | 217 | 224 |
| **MP** | 58 | 172 | 198 | 342 | 270 | 333 | 334 |
| **MAH** | 147 | 290 | 300 | 351 | 407 | 363 | 360 |
| **ORS** | 59 | 92 | 157 | 157 | 231 | 377 | 377 |
| **PUJ** | 10 | 70 | 105 | 105 | 126 | 132 | 150 |
| **RAJ** | 76 | 185 | 261 | 263 | 337 | 382 | 567 |
| **TN** | 30 | 72 | 72 | 72 | 236 | 385 | 385 |
| **UP** | 74 | 177 | 262 | 310 | 386 | 515 | 773 |
| **WB** | 23 | 87 | 89 | 99 | 346 | 348 | 347 |
| **INDIA** | **761** | **1910** | **2633** | **3054** | **4045** | **4833** | **5363** |

**Source:** Rural Health Statistics, Ministry of Health and Family Welfare, Govt. of India

# Health Manpower in Primary Healthcare India:

Health manpower is defined as the people who are specialized in promoting health, in preventing and curing diseases. Therefore, the primary objective of health workforce is to provide specialized health personnel in the desired number with all the suitable skills at the right time or right place. The performance of healthcare system of any country depends on the availability of the health care infrastructure and health manpower. Though India has shown progress in the healthcare sector, still there are many areas in the country where there is hardly any physician, Midwife/ ANM available in case of any emergency. It is one of the most crucial aspects of the healthcare system. The situation in the availability of specialist health manpower in India’s health sector is even more alarming. Although the number of specialists in broad specialists of internal medicine, general surgery etc. being inadequate, is within manageable proportion, but the availability of specialists in emerging specialists is much less (Mehta J. 2013). In the country, there is an imbalance in the rural-urban availability of specialized doctors, with more advanced and specialist physicians and doctors being available in the urban areas of the country. The reason, why in rural or remote areas the mortality rates are high comparatively to the urban and plain areas, is that people have to go a long distance for seeking healthcare.

India is lagging far behind in all the three indicators of health system shown in table

2.8. According to the MCI (Medical Council of India), the total number of registered doctors is 9,36,488 in 2014. As per the norms of World Health Organization (WHO), there must be 25 health worker per 10,000 population, while India has only 19 health worker (doctors, nurses, and midwives) per 10,000 population. The number of Auxiliary Nurse Midwives (ANM) are 7,56,937 in 2013 in the country. However, when we compared India with the number of the Indian population of more than 1.21 billion, it shows a doctor-population ratio of 1:1700 people against the WHO minimum norm of one doctor for every thousands of population, which is below to that of developed countries and some developing countries. The table shows the availability of health workforce in an international perspective. Table 8, itself narrate the whole story of India’s health manpower availability status. Against the developed and some developing countries, India has just 17.1 Nursing and Midwifery health personnel per 10,000 population against the 51.1 nurses and Midwifery personnel for South Africa in 2015. India has only 7.0 physicians per 10.000 population in 2015

which is much fewer than the developed countries such as Canada which has (20.7), France (31.9), Switzerland (40.5), United Kingdom (28.1), and United State of America (24.5). Among the developing countries, Brazil has the highest number of physicians per 10,000 population. Brazil has 18.9 physicians in 2015 against 14.9 physicians in China and 8.3 physicians in Pakistan respectively.

Manpower unavailability is one of the important drawbacks of Indian healthcare system. According to the rural health care statistics 2015, the shortfall in health manpower in the post of female health worker (HW)/ Auxiliary Nurse Midwife (ANM) is 5.21 percent of the total sanctioned post as per the minimum norms of one HW(F)/ ANM per Sub-Centre and Primary health Centre. The reason for the overall shortfall is the inter-state variation in the availability of female health worker. The states of Gujarat, Karnataka, Rajasthan, Tamil Nadu and Uttar Pradesh have the largest shortfall. Similarly, in the post of male health workers, the shortfall is 63.8 percent of the total post.

# Table 2.8: Density of Health Care personnel in international Perspective:

|  |  |  |  |
| --- | --- | --- | --- |
| **country** | **Physicians per 1000** | **Nurse and Midwife per 1000** | **hospital beds per 100,000** |
| Bangladesh | 3.6 | 2.2 | 6 |
| Brazil | 18.9 | 76 | 23 |
| China | 14.9 | 16.6 | 38 |
| Pakistan | 8.3 | 5.7 | 6 |
| Indonesia | 2 | 13.8 | 9 |
| Sri Lanka | 6.8 | 16.4 | 36 |
| South Africa | 7.8 | 51.1 | 0 |
| **India** | **7** | **17.1** | **7** |
| Canada | 20.7 | 92.9 | 27 |
| France | 31.9 | 93 | 64 |
| Germany | 38.9 | 114.9 | 82 |
| Japan | 23 | 114.9 | 137 |
| Switzerland | 40.5 | 173.6 | 50 |
| U.K. | 28.1 | 88 | 29 |
| U.S.A. | 24.5 | 0 | 29 |

**Source:** World Health Statistics, 2015, WHO.

Out of the sanctioned posts, a large percentage of posts are vacant at the national and state levels in the country. For example, 10.5 per cent of the sanctioned posts of Female Health Worker HW (Female)/ ANM are vacant against the 40.7 percent of the sanctioned posts of Male Health Worker HW (Male) as recorded in 2015. At the level of primary health care, there are 41.9% of Female Health Assistance/ LHV, 46.9% of Male Health Assistance and 27.0% of doctors sanctioned posts are vacant in the country as on 31st march 2015. The efficiency of functioning of the sub-centers can be seen by the level of the existing manpower. 5.3 per cent of the sub-centers are functioning without a HW (female)/ ANM and 46.5 percent are functioning without the HW (Male). 3.3 percents are those sub-centers which are functioning without HW (female)/ ANM as well as without a HW (male) as on 31st march 2015.

When we compared the female health worker availability in 2015 with that in 2005, as presented in the annexure 1.2, it is observed that there is an increase in the number of ANMs at SCs and PHCs at the national level. The number of In Position ANMs increased from 133194 in 2005 to 212185 in 2015; an increase almost by 59.3%. Looking at the picture of state level, it has been observed that only some states have shown increased number of ANMs at their SCs and PHCs in 2005 to 2015. The percentage of increase in the number of ANMs in the states of Assam is (0.61), Gujarat (0.07), Haryana (0.75), Karnataka (0.05), Kerala (0.43), Madhya Pradesh

(0.33), Maharashtra 0.58), Odisha 0.22), Punjab 0.67), Uttar Pradesh (0.31), and West Bengal (1.06). Table 9; show a reduction in the number of ANMs in 2015 when compared with the figure in the year 2005. The reduction is observed in the states of Rajasthan, Tamil Nadu, and Andhra Pradesh.

Community Health Centres (CHCs) provide highly specialized health care accommodated with highly qualified doctors and medical professionals such as surgeons, obstetricians and gynecologists, physicians and pediatricians. The current position of total specialist’s health care personnel at CHCs in 2015 is shown in table

1. The table shows that out of the total (11661) sanctioned posts against the required (21584) posts of total specialists at CHCs in the country during the year 2015, 2881 posts are vacant. The percentage of vacant posts against the sanctioned posts in India is 67.6 per cent. Moreover, as compared to the requirement for existing health care infrastructure, the country experiences a shortfall of 17525 numbers of posts of total specialists in the year 2015 (table 2.9).

The shortfall of total specialists is comparatively high in most of the states. In 2015, the highest shortfall of total specialists is recorded in the states of Kerala, out of the total 888 required total specialists only 39 are in position and state experiences a shortfall of 849 total specialists posts at CHCs. The percentage shortfall of total specialists in Kerala is 95.6, followed by Gujarat with a shortfall of 94.2 percent in the required total specialists at the CHCs, other states like Haryana has a shortfall of 93.1 percent, West Bengal has 91.8 percent. The lowest shortfall is recorded in the states of Karnataka with 39.1 percent and Maharashtra with 59.9 percent of the shortfall in the required total specialist's posts at CHCs in 2015 (figure 2.1).

On comparing with the manpower in position in 2015 with that in 2005, as presented in the table 2.9, it was seen that in 2015, the total specialists in position has increased as against that in 2005.

# Table 2.9: Total Health Specialists at Community Health Centres (CHCs) in India and States

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **States** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **Mean** | **S.D.** | **Var.** |
| **AP** | 224 | 224 | 166 | 235 | 480 | 480 | 408 | 346 | 275 | 275 | 159 | 297.5 | 110.1 | 37.0 |
| **ASM** | 200 | NA | NA | 365 | 142 | 209 | 216 | 122 | 119 | 121 | 121 | 179.4 | 76.2 | 42.5 |
| **BR** | NA | NA | 104 | 104 | 104 | 104 | 151 | 151 | 98 | 69 | 63 | 105.3 | 28.6 | 27.1 |
| **GUJ** | 122 | 92 | 82 | 81 | 76 | 79 | 76 | 76 | 74 | 74 | 74 | 82.4 | 13.5 | 16.4 |
| **HAR** | 45 | 49 | 39 | 45 | 79 | 70 | 45 | 29 | 26 | 29 | 30 | 44.2 | 16.3 | 36.9 |
| **KAR** | 694 | 691 | 691 | 691 | 691 | 726 | 584 | 495 | 495 | 495 | 502 | 614.1 | 94.7 | 15.4 |
| **KER** | 114 | 82 | 115 | 115 | 794 | 774 | 774 | 774 | 33 | 39 | 39 | 332.1 | 339.1 | 102.1 |
| **MP** | NA | 49 | 503 | 220 | 245 | 245 | 227 | 267 | 263 | 263 | 263 | 254.5 | 103.2 | 40.5 |
| **MAH** | 1099 | 1099 | 448 | 352 | 438 | 954 | 600 | 514 | 489 | 462 | 356 | 619.2 | 274.4 | 44.3 |
| **ORS** | NA | NA | NA | NA | 371 | 469 | 438 | 317 | 305 | 346 | 356 | 371.7 | 56.3 | 15.2 |
| **PUJ** | 315 | 226 | 177 | 210 | 254 | 300 | 300 | 279 | 255 | 202 | 173 | 244.6 | 48.2 | 19.7 |
| **RAJ** | 586 | 581 | 600 | 651 | 598 | 492 | 569 | 148 | 148 | 651 | 526 | 504.5 | 173.8 | 34.4 |
| **TN** | 48 | 48 | 725 | NA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 82.1 | 215.1 | 262.0 |
| **UP** | NA | NA | 413 | 618 | 618 | 1256 | 1894 | 1740 | 1740 | 484 | 448 | 1023.4 | 592.8 | 57.9 |
| **WB** | 133 | 133 | 624 | 186 | 175 | 175 | 175 | 175 | 1062 | 115 | 114 | 278.8 | 283.0 | 101.5 |
| **INDIA** | **3953** | **3550** | **5117** | **4279** | **5789** | **6781** | **6935** | **5858** | **5805** | **4091** | **4078** | **5112.4** | **1135.9** | **22.2** |

**Source:** Rural Health Statistics, 2005, 2012, 2015, Government of India

# Figure 2.2: Percentage Shortfall of Total Specialists in India and States.

2005

2012

2015

100.0

90.0

80.0

70.0

60.0

50.0

40.0

30.0

20.0

10.0

0.0

**Source:** Rural Health Statistics, 2005, 2012, 2015, Government of India

AP

ASM

BR

GUJ

HAR

KAR

KER

MP

MAH

ORS

PUJ

RAJ

TN

UP

WB

INDIA

# Healthcare Facilities in Primary healthcare:

Facilities at the Primary Health Centres also plays a crucial role in the health standard of the people. Generally, primary health centers (PHCs) are the first interaction point of health seekers and health personnel. Thus, the availability of facilities at PHCs is very important. Not only in the healthcare infrastructure (Scs,PHCs and CHCs), but the country also faces the lack of healthcare facilities at these centers, and the most vulnerable are the women and child. In rural areas, PHCs are the nearest advanced health care centers where rural people get health care.

In India as a whole, 25,308 PHCs are functioning, out of which only 70 percent have labour rooms, 30 percent have operation theaters, and the percentage of PHCs that have at least 4 beds is only 70.3 percent. The percentage of the shortfall in the availability of facilities with the Health care centers presented the complete picture of health status in the country. On account of the unavailability of labor rooms, women are birthing either at their homes or at an open place which results in serious health problems including the risk of maternal and neonatal deaths. In the case of an emergency when women need an operation for birthing, it becomes very important that the nearest health care center must have equipped with an operation theater. But in the case of India, only 39 percent of PHCs have such an important facility. The

next two days after delivery are very critical for the mother as well as for the newborn. For seeking postnatal care (Care after Delivery), mothers have to be in the health care centers. But the country experiences a shortfall in the number of beds with the PHCs. Only 70.3 percent of Primary Health Centres have at least 4 beds.

Looking at the state wise picture, it is observed that there is a huge inter-state disparity in the availability of health care facilities. Among the major states, only two states viz. Andhra Pradesh and Madhya Pradesh have 100 per cent required facilities at primary health centers. Uttar Pradesh has 100 per cent PHCs which have at least 4 beds as recorded in 2015, while the labour room and operation theater has 45.4 and

40.5 per cent respectively. The states of Assam and Orissa have the least number of Operation Theater and at least 4 beds in their PHCs. In 2015, Orissa has 0 per cent Operation Theater while the state has 77.6 per cent of PHCs where there is a labour room. In Kerala, out of the total 827 PHCs, only 62 has a labour room, 60 has Operation Theater and 251 has at least 4 beds.

# Table 2.10: Facilities at Primary Health Centres for Women and Child health care

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Number of PHCs With** |  |
| **States** | **No. of****PHCs** | **Labour Room** | **%** | **Operation Theatre** | **%** | **At least 4 beds** | **%** |
| AP | 1069 | 1069 | 100 | 1069 | 100 | 1069 | 100 |
| ASM | 1014 | 720 | 71 | 28 | 2.8 | 296 | 29.2 |
| BR | 1883 | 795 | 42.2 | 496 | 26.3 | NA | NA |
| GUJ | 1247 | 1123 | 90.1 | 1158 | 92.9 | 1123 | 90.1 |
| HAR | 461 | 324 | 70.3 | 54 | 11.7 | 274 | 59.4 |
| KAR | 2353 | 1677 | 71.3 | 1239 | 52.7 | 2267 | 96.3 |
| KER | 827 | 62 | 7.5 | 60 | 7.3 | 251 | 30.4 |
| MP | 1171 | 1140 | 97.4 | 435 | 37.1 | 1154 | 98.5 |
| MAH | 1811 | 1640 | 90.6 | 1489 | 82.2 | 1811 | 100 |
| ORS | 1305 | 1013 | 77.6 | 0 | 0 | 28 | 2.1 |
| PUJ | 427 | 272 | 63.7 | 107 | 25.1 | 251 | 58.8 |
| RAJ | 2083 | 1556 | 74.7 | 607 | 29.1 | 1507 | 72.3 |
| TN | 1372 | 1229 | 89.6 | 73 | 5.3 | 888 | 64.7 |
| UP | 3497 | 1587 | 45.4 | 1416 | 40.5 | 3497 | 100 |
| WB | 909 | 909 | 100 | 104 | 11.4 | 841 | 92.5 |
| **INDIA** | **25308** | **17815** | **70.4** | **9875** | **39** | **17796** | **70.3** |

**Source:** Rural Health Statistics, 2015, Ministry of Family and Health Welfare, Govt. of India

The overall situation of available facilities is somewhat in a good position, but the state level data has plagued the situation. Until and unless, people did not get the better health care facilities at their nearest places, health standard of the people could not be improved.

# Average Rural Population Covered by Health Centres:

In spite of a vast network of primary health care in rural areas in the country, there exists a wide gap of accessibility of healthcare infrastructure across the states. Moreover, health is a state subject; there are imbalances and variations in the availability of primary health care centers in rural areas between the states.

# Table 2.11: Average Rural Population Covered by a SC, PHC, and CHC.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **States** | **Total Rural Population** | **SC** | **covered population** | **PHC** | **covered population** | **CHC** | **covered population** |
| **AP** | 49,386,799 | 4501 | 0.91% | 32979 | 6.68% | 193020 | 39.08% |
| **ASM** | 31,169,272 | 5801 | 1.86% | 26437 | 8.48% | 177530 | 56.96% |
| **BR** | 103,854,637 | 9491 | 0.91% | 49040 | 4.72% | 1319163 | 127.02% |
| **GUJ** | 60,383,628 | 4770 | 0.79% | 29961 | 4.96% | 115649 | 19.15% |
| **HAR** | 25,353,081 | 6495 | 2.56% | 36364 | 14.34% | 151462 | 59.74% |
| **KAR** | 61,130,704 | 4045 | 0.66% | 16780 | 2.74% | 194142 | 31.76% |
| **KER** | 33,387,677 | 3819 | 1.14% | 21075 | 6.31% | 77996 | 23.36% |
| **MP** | 72,597,565 | 5997 | 0.83% | 45426 | 6.26% | 157357 | 21.68% |
| **MAH** | 112,372,972 | 5818 | 0.52% | 33990 | 3.02% | 170989 | 15.22% |
| **ORS** | 41,947,358 | 5229 | 1.25% | 26797 | 6.39% | 92760 | 22.11% |
| **PUJ** | 27,704,236 | 5877 | 2.12% | 40619 | 14.66% | 115628 | 41.74% |
| **RAJ** | 68,621,012 | 3575 | 0.52% | 24736 | 3.60% | 90830 | 13.24% |
| **TN** | 72,138,958 | 4276 | 0.59% | 27195 | 3.77% | 96700 | 13.40% |
| **UP** | 199,281,477 | 7569 | 0.38% | 44414 | 2.23% | 200928 | 10.08% |
| **WB** | 91,347,736 | 6005 | 0.66% | 68408 | 7.49% | 179202 | 19.62% |
| **IND** | **1,210,193,422** | **5437** | **0.04%** | **33323** | **0.28%** | **155463** | **1.28%** |

**Source:** Rural Health Statistics, Ministry of Health and Family Welfare, Government of India

The states of Assam, Haryana, Kerala, Orissa, Punjab, Andhra Pradesh, and West Bengal have more average rural population covered by a Sub-Centre as compared to other states. The states of Punjab, Haryana, Assam, Andhra Pradesh, and West Bengal have the best coverage of the rural population by a primary health center. Likewise, the states of Bihar, Assam, Punjab, Andhra Pradesh, Haryana, Kerala, and WestBengal have more average of the rural population covered by a community health center. The states with a high population like Uttar Pradesh, Maharashtra, and Bihar have a low percentage of population converge among all the states. Bihar has more than 10 crores of the population, out of which only 0.19 percent of the population is covered by the sub-centres.

# Availability of Primary health Care in rural areas (SC/ PHC/ CHC):

A large part of our population lives in rural areas and still experiences a decisive improvement in their living standard. The percentage of below poverty line (BPL) population is declining continuously, but only at a modest speed. Many people still lack access to health care services because of unavailability of healthcare infrastructure without which rural people can not avail better health care services. There is a wide gap in the availability of primary health care in rural areas. Table 13 shows the average rural area covered by primary health care in India and in its states. In India, there is a huge gap in the availability of primary health care centers

# Table 2.12: Average Rural Area (Sq. Km.) - Covered by Primary Healthcare Centres (as on 31st march 2014).

|  |  |  |  |
| --- | --- | --- | --- |
| **State/UT** | **Sub Centre** | **Primary Health Centre** | **Community Health Centre** |
| **Andhra Pradesh** | 2.62 | 7.09 | 17.16 |
| **Assam** | 2.31 | 4.93 | 12.78 |
| **Bihar** | 1.74 | 3.95 | 20.49 |
| **Gujarat** | 2.89 | 7.24 | 14.23 |
| **Haryana** | 2.32 | 5.49 | 11.19 |
| **Karnataka** | 2.53 | 5.16 | 17.54 |
| **Kerala** | 1.57 | 3.7 | 7.11 |
| **Madhya Pradesh** | 3.31 | 9.1 | 16.94 |
| **Maharashtra** | 3.01 | 7.26 | 16.29 |
| **Odisha** | 2.7 | 6.11 | 11.36 |
| **Punjab** | 2.28 | 6 | 10.12 |
| **Rajasthan** | 2.73 | 7.17 | 13.75 |
| **Tamil Nadu** | 2.07 | 5.23 | 9.86 |
| **Uttar Pradesh** | 1.91 | 4.62 | 9.82 |
| **West Bengal** | 1.62 | 5.47 | 8.85 |
| **All India** | **2.55** | **6.3** | **13.6** |

**Source:** Rural Health Statistics, Ministry of Health and Family Welfare, Govt. of India

 **Health Care in Tribal areas:**

In order to achieve a good health standard, it is very important to make easy access to the health care centers. India has vast land with geographical diversity. The tribal population is the most vulnerable population in India. Geographic factors determine to a great extent access to and use of health services (Shannon et al. 1969, Snow et al. 1994). The population lives in the so far hilly areas, where they do not have an adequate transportation system. To ensure adequate access to health care services, the government of India established a large network of healthcare centers in the tribal areas of the country. Though the tribal areas have a large network of healthcare centers, there is a shortfall in the required number of primary healthcare centers. In 2015, there are 27,958 sub-centres (SCs), 3,957 PHCs, and 998 CHCs are functioning in the country. At all India level, there is a shortfall of 6,796 sub-centres, 1,267 PHCs, and 309 CHCs. Among the states, there is a huge diversity in the shortfall of tribal healthcare infrastructure in the country. Table 14 presents the interstate diversity in tribal healthcare infrastructure.

# Table 2.13: Primary Health Care Centres in Tribal Areas in India

|  |  |  |
| --- | --- | --- |
|  |  | **Number of SCs, PHCs, CHCs in tribal Areas** |
| **States** | **Tribal Population in rural areas** | **Sub Centre** | **PHCs** | **CHCs** |
| **R** | **P** | **S** | **R** | **P** | **S** | **R** | **P** | **S** |
| AP | 2293102 | 764 | 691 | 73 | 114 | 130 | \* | 28 | 11 | 17 |
| ASM | 3665405 | 1221 | 1283 | \* | 183 | 283 | \* | 45 | 31 | 14 |
| BR | 1270851 | 423 | 23 | 400 | 63 | 6 | 57 | 15 | 0 | 15 |
| GUJ | 8021848 | 2673 | 2775 | \* | 401 | 382 | 19 | 100 | 70 | 30 |
| HAR | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| KAR | 3429791 | 1143 | 321 | 822 | 171 | 64 | 107 | 42 | 7 | 35 |
| KER | 433092 | 144 | 831 | \* | 21 | 137 | \* | 5 | 12 | \* |
| MP | 14276874 | 4758 | 2952 | 1806 | 713 | 332 | 381 | 178 | 104 | 74 |
| MAH | 9006077 | 3002 | 2057 | 945 | 450 | 315 | 135 | 112 | 67 | 45 |
| ORS | 8994967 | 2998 | 2689 | 309 | 449 | 426 | 23 | 112 | 135 | \* |
| PUJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RAJ | 8693123 | 2897 | 1574 | 1323 | 434 | 210 | 224 | 108 | 63 | 45 |
| TN | 660280 | 220 | 564 | \* | 33 | 66 | \* | 8 | 20 | \* |
| UP | 1031076 | 343 | NA | NA | 51 | NA | NA | 12 | NA | NA |
| WB | 4855115 | 1618 | 3195 | \* | 242 | 304 | \* | 60 | 108 | \* |
| **INDIA** | **93819162** | **31257** | **27958** | **6796** | **4676** | **3957** | **1267** | **1156** | **998** | **309** |

**Source:** Rural Health Statistics, 2015, Ministry of Health and Family Welfare, Govt. of India

Where: R- Required, P- Position, S- Shortfall

 Table 14 shows that the states of Haryana and Punjab have no tribal population. Among the states, the highest shortfall in the number of sub-centres is reported in the states of Bihar (400) out of total 423 required sub-centers in the state, followed by the states of Karnataka (822), Rajasthan (1323) out of total 1143 and 2897 required sub- centers respectively. In the case of PHCs, the highest shortfall is reported in the states of Bihar with a shortfall of 57 PHCs out of 63 required PHCs in the state followed by the states of Karnataka and Rajasthan. The states of Bihar, Karnataka, Rajasthan, Madhya Pradesh, and Maharashtra reported the highest shortfall in the number of sub- centers in 2015. Bihar is the only state that reported 100 percent shortfall of CHCs during the year 2015. Karnataka shows a shortfall of 35 CHCs out of total 42 required community health Centres (CHCs).

# Urban Health Care in India:

Almost 30 percent of the total population lives in urban areas. This proportion of the population is well aware and has ready access to health care. Data from various government reports indicate that the health condition of urban population is much better than rural populations. However, migration from rural to urban creates problems in urban areas in the name of the urban slum; the slum population faces greater health problems due to unhygienic living condition, over-crowding, lack of safe drinking water etc. Thus, there is a need to be more focused on urban health.

Realizing the insufficiency of available healthcare infrastructure to meet the growing burden of health problems of urban population, the municipalities, state, and central government have tried to make more affordable health care facilities in urban areas. The Majority of hospitals and beds, doctors, and other healthcare workers are in urban areas. The urban health facilities provide services to both rural and urban people. Unlike the rural healthcare system, there have been no efforts to provide well organized 3 tier health care delivery system such as primary, secondary and tertiary health care system. Thus in many areas, there are primary health care facilities and some of the existing infrastructure is under-utilized while, there is over-crowding in the secondary and tertiary care centers.

# Secondary Healthcare:

Secondary health care refers to the second tier of three tier structure of the Indian healthcare system in which patients refer from the primary healthcare to the specialist in better hospitals for treatment. In India, secondary healthcare includes district hospitals and community health centers at the block level Secondary health care also takes care of the primary health care needs of the urban population. The rural-urban migration leads to more urban population and this inevitably leads to over-crowding in the district hospitals and also to underutilization of the specialized services at the district hospitals. During the ninth five-year plan, it was an identified priority to boost the secondary health care system. As health is a state subject thus, every state tries to strengthen secondary health care in the state. In addition to the fund's states get from the central government or state plan, some states have taken the loan to build up district hospitals which are equipped with specialized machines and services.

# Table 2.14: Number of Secondary health care centers functioning in India and her states

|  |  |  |  |
| --- | --- | --- | --- |
| **States** | **Sub Divisional Hospital** | **District Hospital (DH)** | **Mobile Medical Units** |
| **AP** | 31 | 8 | 0 |
| **ASM** | 13 | 25 | 65 |
| **BR** | 45 | 36 | 7 |
| **GUJ** | 31 | 21 | 30 |
| **HAR** | 20 | 20 | 9 |
| **KAR** | 146 | 32 | 19 |
| **KER** | 79 | 16 | 13 |
| **MP** | 66 | 51 | 84 |
| **MAH** | 86 | 23 | 40 |
| **ORS** | 27 | 32 | 114 |
| **PUJ** | 41 | 22 | 24 |
| **RAJ** | 19 | 34 | 52 |
| **TN** | 240 | 31 | 407 |
| **UP** | 0 | 160 | 133 |
| **WB** | 37 | 22 | 40 |
| **INDIA** | **1022** | **763** | **1253** |

**Source:** Rural Health Statistics, 2015

Secondary Health Care system consists of Sub Divisional Hospitals, District Hospitals, and Mobile Medical Units. Currently, in 2015, India have 1022 Sub Divisional Hospitals (SDH), 763 District Hospitals (DH), and 1253 Mobile Medical Units (MMU). There is a huge inter-state disparity in India in terms of secondary

 health care infrastructure. Among the states, Tamil Nadu (240) has the highest number of Sub Divisional Hospitals followed by the Karnataka (146). Uttar Pradesh has not a single Sub Divisional Hospital (SDH) in the year 2015, while the number of District Hospitals and Mobile Medical Units are 160 and 130 respectively. The highest number of Mobile Medical Units is in the states of Tamil Nadu. Tamil Nadu leads in the mobile Medical Units with a number of 407 mobile medical units (Table 15)

The states of Andhra Pradesh, Kerala, West Bengal, Assam, and Gujarat have the least number of district Hospitals. Among these states, Andhra Pradesh (08) has the lowest number of District Hospitals in 2015.

# Table 2.15: Doctors in Position at District, Sub District, and Sub Divisional Hospitals

|  |  |  |
| --- | --- | --- |
| **States** | **District Hospitals** | **Sub-District/ Sub Divisional Hospitals** |
| **Sanction** | **In position** | **Sanction** | **In position** |
| **Andhra Pradesh** | 395 | 241 | 405 | 316 |
| **Assam** | NA | 683 | NA | 155 |
| **Bihar** | NA | 1088 | NA | 92 |
| **Gujarat** | NA | NA | NA | NA |
| **Haryana** | 563 | 741 | 225 | 167 |
| **Karnataka** | 1703 | 1254 | 1940 | 1329 |
| **Kerala** | NA | 498 | 487 | 623 |
| **Madhya Pradesh** | 2143 | 1422 | 646 | 505 |
| **Maharashtra** | 1292 | 983 | 1362 | 1144 |
| **Orissa** | 1598 | 858 | 363 | 244 |
| **Punjab** | 684 | 565 | 708 | 481 |
| **Rajasthan** | 1716 | 1110 | 498 | 376 |
| **Tamil** | 1639 | 1339 | 2630 | 2298 |
| **UPNadu** | 2551 | 2108 | 0 | 0 |
| **West Bengal** | 1065 | 882 | 1935 | 1307 |
| **INDIA** | **19646** | **18436** | **12067** | **10018** |

**Source:** Rural Health Statistics, 2014, Govt. of India, Ministry of Health and Family Welfare, Statistics Division

Table 2.15 presents the shortfall of doctors at the secondary health care centers in India and its major states. In 2015, there were 19,646 doctors sanctioned in the District Hospitals, among whom 18436 were in position. At the Sub-District/ Sub

 Divisional Hospitals, 10018 doctors were in the position during the year 2015 against the 12067 sanctioned posts. Almost 93.8 percent district hospitals and 80 percent of Sub-District/ Sub Divisional Hospitals have doctors. The unavailability of doctors at these health care centers is one of the drawbacks of Indian Health Care System.

Looking at the state wise situation, the picture is very gloomy. It may be noted that there is a huge inter-state variation in doctor's availability with District, Sub-District/ Sub Divisional Hospitals. Almost all the states experience a shortfall of doctors.

# Public-Private Partnership (PPP) in Healthcare:

To address the unmet needs of healthcare, the cooperation between private and public sector is playing a vital role. The public and private partnership (PPP) is very important and is an institutional arrangement for implementing and managing the government health programmes or schemes in partnership with the private sector. The private sector includes all the non-governmental agencies, self-help groups, corporate sector, individual and community-based organizations.

Public-Private Partnership (PPP) in health care is an approach to delivering public health care services through the combined efforts of public, private and other organizations by contributing to their core competency. PPP in the healthcare sector is defined as an arrangement between the public (government) and the private sector in delivering health care services to the citizens. PPPs provide a means for coordinating with non-governmental agencies to undertake integrated, comprehensive efforts to meet the basic needs. Their strategy leads to better health outcomes. Partnership with the private sector has emerged as a new path of reforms, in part due to financial constraints in the public sector. Due to deficiencies in the healthcare system, the poor people in India have been forced to go for healthcare from the private sector, and often they borrow to pay them for seeking health care. Healthcare which is very crucial to the growth of an economy has seen the vast improvement over the past decade in India. Yet, India's total expenditure on healthcare as a percentage of Gross Domestic Product (GDP) is still lowest in the world. Gross Domestic Product (GDP) is a meaningful indicator for comparison between countries, and in the case of states, Gross State Domestic Product (GSDP) is considered as the most meaningful indicator for comparison.

 Figure 2.3: State Health Exp. As % of GSDP:

AP ASM BR GUJ HAR KAR KER MP MAH ORS PUJ RAJ TN UP WB

0

0.2

0.4

0.49

0.55

0.57

0.6

0.69

0.65

0.71

0.72

0.8

0.92

0.87

0.87 0.88

0.86

0.98

0.98

1

1.12

**Health Exp. % of GSDP**

1.2

**Source:** NHA, 2001-02 & 2004-05

Total health expenditure in India was 4.25 per cent of GDP in 2004-05. Out of this percentage, the share of government expenditure on health was less than one percent. There is an urgent need to increase this percentage to 2-3 percent of GDP. Due to the resource constraints, increased government expenditure share in total health expenditure is not possible. Thus, there is an urgent need to patch up with the private sector to finance the health care system for a healthy healthcare delivery system. Figure 2.2, presents the health expenditure as a percentage of GSDP for some selected states. Here, we find that there is a huge diversity among the states in terms of public health expenditure. Andhra Pradesh (0.72), Gujarat (0.57), Haryana (0.49), Kerala (0.88), Karnataka (0.87), Punjab (0.65), Rajasthan (0.98), Uttar Pradesh (0.92), West Bengal (0.69) are demonstrating very low health expenditure. Among these states, Bihar is the only state demonstrating 1.12 per cent of GSDP in health care.

# Tertiary Health Care in India:

The third level of Indian health care system is called as tertiary health care. At the tertiary health care, specialized preventive care is given to the patients usually on referral from primary and secondary health care centers. Tertiary health care includes medical colleges and advanced medical research institutes.

Tertiary care has played a key role in achieving universal health care. Though it is required at the last stage of treatment or we can say that, only in 1 percent of cases, it plays an important role in calculating the healthcare system structure as a whole. As tertiary health care centers support primary and secondary health care, it is very necessary for effective care at the primary health care centers (PHCs and CHCs). The high cost of health care seeker in most of the health care system is due to the high expenses involved in tertiary health care centers. Tertiary health care center is a healthcare center within which medical education and research take place. While primary and secondary health care centers in the country are inadequate, tertiary care is even more inadequate because of the high expenses of installation and high expenses of seeking care in these health care centers.

# Table 2.16: Number of medical colleges in the country from 1990-91 to 2014-15.

|  |  |  |
| --- | --- | --- |
| **Year** | **No. of Medical Colleges** | **Admissions** |
| 1991-92 | 146 | 12199 |
| 1992-93 | 146 | 11241 |
| 1993-94 | 146 | 10400 |
| 1994-95 | 152 | 12249 |
| 1995-96 | 165 | 7039 |
| 1996-97 | 165 | 3568 |
| 1997-98 | 165 | 3949 |
| 1998-99 | 147 | 11733 |
| 1999-00 | 147 | 10104 |
| 2000-01 | 189 | 18168 |
| 2004-05 | 229 | 24690 |
| 2005-06 | 242 | 26449 |
| 2006-07 | 262 | 28928 |
| 2007-08 | 266 | 30290 |
| 2008-09 | 289 | 32815 |
| 2009-10 | 300 | 34595 |
| 2010-11 | 314 | 29263 |
| 2011-12 | 356 | 38210 |
| 2012-13 | 381 | 43576 |
| 2013-14 | 381 | 48567 |
| 2014-15 | 385 | 46456 |
| **CAGR %** | **0.04** | **0.06** |

**Source:** National Health Policy, Ministry of Health and Family Welfare, Govt. of India

Here we use compound annual growth rate to identify the growth rate of medical colleges and their admission capacity. In 1990-91 there were only 146 medical colleges with 12199 admission capacity in these colleges which increased to 385

medical colleges in 2014-15 with 46564 admissions. While medical colleges in the country show a compound annual growth rate (CAGR) of 0.04 percent during the study period, admissions in these colleges increased by an annual growth percentage of 0.06 percent (Table 2.16). The growth percentage is very low in medical colleges and in the number of students enrolled in these colleges respectively. Country experiences shortage of doctors particularly at the rural level, as we have seen above in the health manpower section.

# Table 2.17: Number of institutions and admission capacity in General Nurse Midwives and Auxiliary Nurse Midwives in India.

|  |  |  |
| --- | --- | --- |
| **Year** | **General Nurse Midwives** | **Aux. Nurse Midwives** |
| **No. of Institution** | **Admission Capacity** | **No. of Institution** | **Admission Capacity** |
| **2003-04** | 635 | NA | 237 | NA |
| **2005-06** | 1312 | 50628 | 271 | 6942 |
| **2006-07** | 1597 | 59138 | 312 | 7467 |
| **2007-08** | 1620 | 62647 | 329 | 6502 |
| **2008-09** | 1820 | 65109 | 491 | 10680 |
| **2010-11** | 2028 | 80332 | 676 | 15335 |
| **2011-12** | 2670 | 109224 | 1642 | 46719 |
| **2013-14** | 2865 | 115844 | 1853 | 52479 |

**Source:** National Health Policy, Ministry of Family and Health Welfare, Govt. of India

The number of general nurse midwives institute and auxiliary nurse midwives also shows a good progress in the country. In the year 2013-14, there were 2,865 and 1853 general nurse midwives and auxiliary nurse midwives training institutes running in the country. These institutes have 115844 and 46719 number of admission capacities respectively (Table 2.17).

Tertiary health care is one of the key aspects of the common public health care system that require intensive care and medical care in an emergency condition. Generally, tertiary health care should be well integrated and well equipped with all the modern medical technology. Because most often patients would be taken care of at the primary and secondary health care centers. Patients would be referred to the tertiary health care centers in case of insufficient treatment and referred back to the primary and secondary health care centers after getting treatment at tertiary health care centers. These services, especially for emergency treatment, should be available to the common public as closest to their place of living as possible. However, in the country, tertiary health care is not working with the general public health care system. The Indian health care system functions up to the district level, and includes, PHCs, CHCs, Sub-District/ District Hospitals). Apart from this chain of health care system tertiary health care system working under the department of medical education. While some of the medical colleges are supposed to working for the government, but they do not have enough resources, healthcare infrastructure, and manpower to do the efficient job of health care.

The tertiary health care institutions under the government sector face a shortfall of resources. These institutions do not have enough funds for equipment and maintenance of equipment, supply of consumables and improvement in the existing infrastructure to meet the rapidly growing burden of population and diseases. There is an urgent need to increase the facilities at tertiary health care up to an optimum level, to enhance the quality of services provided at the tertiary health care centers.

# Conclusion:

India is a vast country, with more than 1.2 billion population, and it stands as the second most populous country after China. There is a huge inter-state diversity in the primary healthcare system in India. To attain a uniform health care system the country needs a huge fund to establish adequate healthcare infrastructure in rural areas. Among the developed and some other developing countries, India lags behind in terms of health status, per capita health expenditure, public health expenditure etc. The infrastructure is old and requires repair. OPD patient load is very high, the institutional delivery load is also very high, however, the PHC has only 4-beds which require being augmented, there is no referral transport service available and laboratory services are inadequate (NRHM, Second Common Review Mission Report, 2009). Thus, there is a need to increase the public health spending in the country to drop down the inadequacy and improves the healthcare system.

Healthcare is the right of every people, but the lack of qualified doctors/ nurses and other basic amenities of seeking health care thwarts its accessibility to 60 per cent of the population in the country. Almost 70 percent of the population lives in rural India where the availability of medical facilities is only a dream and the existing facilities are in a deplorable condition. Considering this picture of public health care system, it

is apparent that there is a dire need of adequate health care infrastructure and of some new medical practices that ensures the quality of healthcare accessibility to the most deprived part of the country such as the remote areas, tribal/ hilly areas. The SCs, PHCs, and CHCs are all inadequate in number. The existing infrastructure is underutilized because of the lack of the doctors, nurses and other health personnel. At an all India level the condition is not so worse but due to the inter-state diversity in the availability of health care infrastructure to the rural people, the scenario of Indian health care system has become more pity. All the states have less than what they require. There is a huge diversity among the states in terms of availability, accessibility of the rural health care centers especially the primary health care centers in rural areas.

All the three sectors of the public health care system are inadequate. Secondary and tertiary health care system are the key aspects of public health care system because they provide emergency treatment to the patients in case of an emergency. But the secondary and tertiary health care in the country is also not sufficient to cater such a huge population. The annual growth rate of medical colleges during the study period is only 0.02 per cent.

There is a need to invest more in the health care system to establish new healthcare centers especially, in the rural areas. The country is experiencing a lack of doctors, nurses, health worker, and other health personnel, thus there is a need to announce some fellowship or scholarship to the poor students to study healthcare and to cater their counterparts.