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#### Article Particulars

Received: 10.6.2017 Accepted: 18.6.2017 Published: 19.6.2017

#### **Abstract**

The health care sector in India comprises of hospitals and allied sectors such as, diagnostics and pathology, medical equipments and supplies, medical tourism and private medical insurance. Although India's health care system has gradually improved in the last few decades, it continues to lag behind those of its neighbouring countries. The poor state of health care in India may be attributed to the lack of government funding on health care initiatives, as estimated reveal that the per capita spending on health care by the Indian Government is far below international recommendations. India's health care infrastructure has been steady improvement in the recent past but much remains to be accomplished. Despite a steady increase in the number of medical establishments in the country, there still remains a severe shortage of sub-centres. Lack of adequate health care is also reflected in the low density of health care personnel.

**Keywords**: health care, Health Centers, NGO, Death rate, mortality rate, Primary Health Centres

During the last 65 years India has developed a large government health infrastructure with more than 150 medical

colleges, 450 district hospitals, 3000 Community Health Centers, 20,000 Primary Health Centres and 1,30,000 Sub-Health Centres.

On top of this there are large number of private and NGO health facilities and practitioner scatters throughout the country. Death rate has reduced from 40 to 9 per thousand, infant mortality rate reduced from 161 to 71 per thousand live births and life expectancy increased from 31 to 63 years.

# **Objectives**

- To evaluate health infrastructure in Karnataka
- To assess the major health care programmes launched in Karnataka

## Health Infrastructure in Karnataka

The Government of Karnataka has accorded priority status to health sector over the years and has taken efforts to improve the standard of living of the people thereby creating a positive influence on the health and well-being of the citizens of the state. The state is following a national pattern of three tier health infrastructures in rendering primary health care through Primary Health Centres (PHC), Sub Centres and Community, Health-Centres to its people. This is by way of implementing various national and state health programme of public health importance through its network of various types of health and medical institutions. In the state level, the Department of Health and Family Welfare plays a vital role in implementing various health care services which are as follows: Rural Health Components of Minimum Needs Programme, National Malaria Eradication. Programme, National Programme for Blindness Control, Prevention and Control of the communicable diseases like diarrhea, Kejasanur forest-diseases, Japanese encephalitis etc., School Health Programme, Nutrition Programme, Nutrition Education and Demonstration, Laboratory

Services and Vaccine Production Units, Education and Environmental Sanitation, Health Education and Training Programme and Curative Services.

Table 1 Present Status of Health Infrastructure in Karnataka (2010-11)

Health In	ıfrastructure	Number			
District Hospitals		17			
Other Hospitals under Health & Family		10			
Welfare					
Automobiles & Teaching Hospitals		29			
Community Health Centres					
Taluk Headquarters		146			
Other than Taluk Headquarters		180			
Total		326			
Primary Health Centres		2193			
Urban PHCs		27			
Health Centres under IPP		108			
Mobile Health Clinics		19			
Sub-Centres		8143			
Number of Doctors (2	(2008-09)				
a. Government		5125			
b. Private		20544			
Nursing Staff at PHCs & CHCs		4309			

Source: Economic Survey of Karnataka 2010-11, National Health Profile-2011)

The result of the meticulous planning could be utilized from the improvement in the health infrastructure in the State (2010-11) presented in the Table 3 There are 17 district hospitals 10 other hospitals and 29 Autonomous and Teaching Hospitals in the State. The Primary health infrastructure in the rural areas has fulfilled the norms required under the "Minimum Needs Programme" at the aggregate level. There are 326 Community Health Centres, 2193 Primary Health Centres, 8145 Sub—Centres and taluka hospitals catering to the health needs of the rural population. In 2008-09 there are 5125 Government Doctors, 20544 Private Doctors and 4309 Nursing staff at PHCs and CHCs in the State.

#### District wise number of PHCs, Sub-centre and Health Indicators in Karnataka

Table 4 shows the number of primary health centers and sub-centers in districts of the state during 1990-91 to 2007-08. In Karnataka 2195 PHCs were established in the year 2007-08. The highest (145) number of PHCs were established in Belgaum district during 2007-08. If we consider Average Annual Growth Rate of PHCs, the districts like Dakshina Kannada, Kodagu, Chamaral Nagar, Udupi Bagalkot, Belgaum, Dharwad, Raichur, Bidar, Bijapur, Gadag, Uttar kannada, Koppal, Gulbarga, Haveri and Kolar were having less number of PHCs compared to state level. On the other hand Bellary, Bangalore Rural, Tumkur, Mysore, Chikmagalur, Bangalore Urban, Shimoga, Mandya, Hassan and Davangere were having less number of PHCs compared to state. Bangalore Urban had the highest Average Annual Growth Rate of PHCs (12.8%) and Dakshina Kannada 1.3%) had lowest Average Annual Growth Rate of PHCs among all districts in Karnataka.

Table 3.7 explains district—wise, sub-centres and primary health centers per lakh population with their bed strength in Karnataka. From the table 5 the number of sub-centres per lakh population

is declined (25.14 to 22.4) during the period 1990-91 to 2005-06. Number of sub-centres per lakh population have decreased in the all the districts. While number of primary health centers per lakh population gradually increased (3.9 to 4.7) during the period 1990-91 to 2005-06. In addition, district like Chamaraj Nagar, Mysore, Chikmagalur, Shimoga, Mandya, Uttarkannada, Bangalore Rural, Hassan Dakshina Kannada, Udupi and Davangere have highest number of primary health centers per lakh population compare to state level. On the other hand district like Bangalore Urban, Raichur, Bagalkot, Bellary, Dharwad, Belgaum, Kolar, Koppal, Haveri, Gulbarga, Bijapur, Chitradurga, Gadag, and Tumkur have lowest number of primary health centers per lakh population compare to state. In Karnataka there are 89 beds per lakh population during the period 1990-91 to 2005-06. The figures in number of beds per lakh population shares districts like Bangalore Rural, Belgaum and Dakshina Kannada have reached less towards their goal during the period 2005-06. The number of beds per lakh population has been increased in other districts in the state during the period 1990-91 to 2005-06.

Table – 2 District wise Number of PHCs and Sub-centre Available to Karnataka as on Sept. 2007

No. of Primary Health Centres (PHCs)			No. of Sub-Centres (SCs)			
Districts	1990-91	2007-08	Average Annual Growth Rate of HPCs	1990-91	2007-08	Average Annual Growth Rate of SCs
Bagalkot	33	47	2.5	155	224	2.6
Bangalore R	47	100	6.6	276	432	3.3
Bangalore U	23	73	12.8	134	185	2.2
Belgaum	102	146	2.5	578	539	0.4
Bellary	38	70	5.0	240	272	0.8
Bidar	32	50	3.3	217	234	0.5
Bijapur	39	64	3.8	271	285	0.3
Chamaraj nagar	41	57	2.3	195	246	1.5
Chikmagalur	36	88	8.5	328	334	0.1
Chitradurga	40	86	6.8	196	273	2.3
D Kannada	55	67	1.3	447	431	0.2
Davangere	39	103	9.7	245	291	1.1
Dharwar	21	31	2.8	164	179	0.5
Gadag	20	35	4.4	120	174	2.6
Gulbarga	69	126	4.9	467	378	1.1
Hassan	54	126	7.8	450	420	0.4
Haveri	37	68	4.9	587	290	0.4
Kodagu	25	32	406	158	188	1.1
Kolar	63	116	4.9	359	385	0.4
Koppal	25	45	4.7	150	183	1.3
Mandya	49	106	6.8	364	375	0.2
Mysore	69	135	5.6	477	432	0.6
Raichur	34	58	3.1	199	196	0.1
Shimoga	39	88	7.4	365	307	0.9
Tumkur	70	134	5.4	404	477	1.1
Udupi	51	72	2.4	245	1014	18.5
Uttara Kannada	47	78	3.9	302	120	3.5
Karnataka	1198	2195	4.9	7793	51769	33.2

Source: Department of Health and Family Welfare Services (DHFWS), Government of Karnataka

Table 3 District wise Number of Sub-centre and Primary Health Centers with their Bed Strength in Karnataka

Districts	Sub-Centres per lakh population		Primary Health Centres per lakh population		Number of beds per lakh	
	1990-91	2005-06	1990-91	2005-06	1990-91	2005-06
Bagalkot	15.4	13.1	3.3	3.7	47	47
Bangalore R	20.1	18.9	3.4	4.8	52	51
Bangalore U	20.0	16.4	3.4	3.6	179	123
Belgaum	21.1	17.9	3.7	4.1	51	50
Bellary	21.3	19.0	3.4	3.9	102	91
Bidar	21.5	19.1	3.2	3.5	59	67
Bijapur	22.0	20.1	3.2	4.4	61	67
Chamaraj nagar	25.7	24.3	5.4	6.3	60	86
Chikmagalur	38.8	35.2	4.3	5.5	91	113
Chitradurga	17.9	16.1	3.7	4.5	71	88
D Kannada	39.8	37.6	4.9	5.4	98	96
Davangere	21.9	19.7	3.5	5.5	91	99
Dharwar	25.1	23.1	3.2	3.9	133	112
Gadag	21.4	19.4	3.6	4.5	54	57
Gulbarga	23.7	21.3	3.5	4.4	64	66
Hassan	34.7	32.1	4.2	5.7	93	110
Haveri	26.9	25.3	3.5	4.3	44	54
Kodagu	38.5	33.8	6.1	6.0	257	234
Kolar	21.1	19.1	3.7	4.2	92	99
Koppal	18.5	16.2	3.1	4.2	40	51
Mandya	26.4	25.2	3.6	4.9	71	91
Mysore	32.6	28.7	4.7	5.8	135	137
Raichur	19.5	16.0	3.3	3.7.	42	58
Shimoga	37.2	34.4	4.0	5.2	107	110
Tumkur	21.0	19.7	3.6	4.6	50	61
Udupi	30.3	27.5	6.3	6.9	87	89
Uttara Kannada	32.6	31.9	5.1	6.4	89	105
Karnataka	25.1	22.4	3.9	4.7	89	88

Source: Department of Health and Family Welfare Services (DHFWS3.9), GOK.

# Major Health Programmes in Karnataka

In order to reduce the burden of the poor people particularly the SC and STs, Weaker Section and people who are Below the Poverty Line, the State governments have addressed a number of schemes. Though the schemes are really useful but it does not sufficient enough to meet the poor and the needy. As it is not an end the governments try to implement from time to time. The details of such health care programmes are presented here.

# • Karnataka Health System Development & Reform Project

Karnataka Health System Development & Reform Project is a World Bank assisted five years Project launched on 11.1.2007 at a cost of Rs. 897.77 crore (US If 206.48 million) with IDA Credit of US S 141.83 million and state share of US \$ 64.65 million. The Project is in its 3<sup>rd</sup> year of implementation and Project closing date is 31.3.2012.

# Project Objectives and funding pattern

Project aims to increase utilization of Curative, Preventive and Public Health Services, particularly in the undeserved areas and among vulnerable groups, to

accelerate achievement of the Health related Millennium Development Goals (MDGs).

#### • National Rural Health Mission

National Rural Health Mission (NRHM) aims to provide accessible, affordable acceptable arid' accountable health care through a functional public health system. It is designed to galvanize the various components of primary health system, like preventive, promotive and curative care, human resource management, diagnostic services, logistic management, disease management and data management system for improved service delivery. National Rural Health Mission is being implemented in the State from April 2005. Since its inception the state has constituted State Health Mission for policy and institutional reforms to enable effective implementation, State level Planning, implementation and monitoring and Karnataka State Health and Family Welfare Society for effective implementation of RCN/ NRHM programme. District Health and Family Welfare Society has been formed for programme implementation in all 29 districts. State Programme Management Unit and District Programme Management units are established to manage and support the programme implementation. All vertical National health programmes are merged both at the state and at district levels.

Sl. Indicators **Current Status** 2009-10 2010-11 No Reduction in maternal mortality Rate 228 1 150 125 Reduction in Infant mortality Rate 2 45 30 28 Institutional deliveries 67% 3 85% 98.48 4 Fully functional sub centres 8143 81.43 81.43 24x7 PHCs 5 963 1250 1200 Janani Suraksha Vahini 6 192 192 192

71.3%

2.68

80%

2.0

90%

1.9

Table - 4 Goals of National Rural Health Mission

Sources: Health & FW services, Bangalore

Safe deliveries

Total fertility rate

7

In order to encourage institutional delivery, especially for BPL women, reduction in maternal mortality rate and infant mortality rate the following schemes have been initiated.

# Other Important Health Programmes

# a) Janani Suraksha Yojana (Safe delivery)

The goals of JSA are a reduction in maternal mortality rate and infant mortality rate as well as to increase the institutional deliveries in BPL and SC/ST families. Under this Yojana besides ensuring maternity services like 3 antenatal checkups and referral transport, cash assistance is given: In the rural areas the cash assistance to the mother for institutional delivery is Rs. 700/per case where as in the urban areas the cash assistance to mother is Rs. 6001- for institutional delivery. The cash assistance is also available for women delivering at home, the amount given is Rs. 500/- per case. If in case of government run health Centers or hospitals, specialists are not

available, the institution can hire such specialists to manage complications or for Cesarean section. Assistance up to Rs.1500/per delivery could be utilized by the health institution for hiring services of specialists. Private Hospitals accredited under JSY are also eligible for JSY funds. Total deliveries conducted during the year upto the end of Nov.2009 is 632623 and JSY incentive was paid to 245054 mothers.

## b) Prasuthi Ariake Yojana

Financial support for nutritious diet and incentive to seek ante-natal check up. This was introduced in 7 districts in the state in the year 2007-08. It has been extended to all the districts during this year. This scheme consists of giving a cash incentive of Rs. 2000/- in cash (in 2 installments of Rs 1000 each to be paid by cheque in 2<sup>nd</sup> and 3<sup>rd</sup> trimester) to all BPL women who deliver in Government Hospitals and identified hospitals. Upto the end of Nov.2009, 129718 are benefited under the scheme.

#### c) Madilu

Promotion of institutional delivery and improve hygiene. Under this scheme assistance is provided to BPL pregnant women delivering in government institutions, the assistance is in the form of Madilu Kits consisting of requirements for baby and mother is provided after delivery. Distribution of Madilu kits upto the end of Nov.2009 is 184109.

### d) Chiranjeevi

Financial assistance for simple/ complicated deliveries and Post-natal care through direct payment. Under this scheme private Hospitals will be empanelled in the identified districts (6 C. category districts and Chamrajnagar) to provide cashless treatment for deliveries conducted at such hospitals, for BPL Women. This covers normal as well as complicated deliveries. Private providers are reimbursed for every 100 deliveries (Rs. 3 lakh for 100 deliveries with 10% advance payment). During 2009-10 (upto Nov. 2009) 15731 deliveries are conducted in Government and 5289 deliveries are conducted in Private Hospitals. There is an improvement in the institutional delivery rate from 60% to 70%; Self Help Groups like Sthree shakti groups have been involved in providing basic health care knowledge to the rural poor and also to distribute drugs for common ailments.

• Karnataka Drug Logistics and Warehousing Society (KDLWS): have been formed with the assistance of European Commission. It includes construction of 14 drug warehouses, providing infrastructure to the warehouses like furniture, storage racks, materials handling equipments, computer hardware etc along with qualified personnel. Drug Distribution Management System (DDMS) is an integrated system covering various functions involved in the effective monitoring of procurement and distribution of drugs, medicines, suture and surgical equipments to all Government hospital institutions in the State.

As at the end of November 2009, out of 6224 sanctioned posts of doctors, 4929 doctors are in position leaving 1295 posts vacant. Out of 407 sanctioned posts of Dental doctors, 320 doctors are in position leaving 87 posts vacant. Similarly out of 34523 sanctioned posts of paramedicals, 25823 posts are in position leaving 8700 number of posts vacant. In Autonomous Medical Colleges out of 2474 sanctioned posts of doctors, 2043 doctors are in position leaving 431 posts vacant. Under Ayush, out of 1010 sanctioned post of doctors, 877 doctors are in

position leaving 133 posts vacant and out of 400 sanctioned posts of paramedical, 235 posts are in position leaving 165 posts vacant.

# Important State Interventions During 2009-10

- 1. Aarogya Kavaacha: To provide Emergency Management Response Services like Aarogya Kavaacha is implemented under the public private partnership. Ambulance service is provided for emergency such as delivery, accident etc. at free of cost within 30 minutes when call, received from dedicated toll free telephone number 108. During the year 258 ambulances have been added into services in all 408 ambulances have been inducted. During the year 2009-10 (upto Nov 2009) 73.80 lakh calls are received & cases have been shifted to nearby hospitals. Total number of life saved is 5493:
- 2. Arogya Sanjeevini Scheme: This scheme provides free health facilities to SC & ST population who are coming under BPL families. This scheme is implemented in existing 'Yeshaswini' Health Insurance Scheme, which is being implemented through co-operative department.
- 3. Special Development Plan: 53 Community Health Centre buildings were taken up during 2008-09 and are nearing completion. 52 Taluk Headquarters hospital buildings (100 bed), 42 Community Health Centre buildings and District hospitals building are under various stages of construction.
- 4. Aarogya Bandhu: Under public-private partnership (PPP), Private institutions like medical colleges, Trusts and charitable institutions have been handed over Primary Health Centers for maintenance and to provide free medical facilities under contract for a period of 5 years. The entire cost will be borne by the State Government. During the current year 9 PHCs are included and total 51 PHCs have been handed over to medical colleges and NGOs.
- 5. During the year 2009-10, 21,000 ASHA health workers are trained and their services are being utilized.
- **6.** Citizen Help Desk: In order to make Hospital User friendly and address the patients problems, Citizen Help Desks have been established in 20 District Hospitals

# Recent Initiatives of Health Services in Karnataka

The state had gone for the external assistance in order to upgrade the existing public health care delivery system and increase the efficiency level of the health sector in the state. The following are the important state interventions during 2005-06.

- Karnataka Health System Reform and Development Projects is being implemented with the World Bank assistance at an estimated cost of Rs.658 crore.
- Telemedicine centres are established in, 13 districts and another 14 being established to cover all the districts.
- Two 50 bedded hospitals upgraded to 100 bedded hospitals.
- 399 Primary health centres in the most backward taluks have been provided with 24 hour nursing facilities.
- 47 primary health centres are up-graded to 30 bedded community health centres.

- 3 District hospitals have been taken up for construction, renovation and expansion.
- 2.5 lakh members of SC/ST community coming under Stree Shakthis Group have been brought under insurance scheme.
- All districts have been provided with an ambulance for shifting the accident victims.
- 13 district hospitals are being provided with CT scan equipment.

#### Conclusion

Despite the remarkable improvements in key health infrastructure, enormous health problem continued to remain an unfinished agenda in the state. Mortality rate in the state are still unacceptably high. Consistently, for a long period of time, four major cause groups have been on top of the killer list in the state. They are diseases of the circulatory system, injury, positioning and certain other consequences of external cause, certain infectious and parasitic diseases and certain conditions originating in the perinatal period it implies that there is still a problem in basic health care packages delivered in the primary health care units in the state. However, the State is striving hard to improve the health care system in the economy.

#### References

- 1. Ashokan A (2008): Economic Reforms and Health Sector in India Missings & Possibilities, Journal of Indian Institute of Economics Aug. 2008.
- 2. Balamirtham (2008): Recent Health care measures in India, in KA Rasure (Eds) Economics of Education, Health and HRD, Abhijeet publications, Delhi.
- 3. Brijscesh C Purohit & Tasbeen Siddiqui (1994): Utilisation of Health Services in India, EPW, April30, 1994.
- 4. Birendra Kumar Jha (2008): Economics of Education, Health and Human Development in KA Rasure (Eds) Economics of Education Abhijeet, Delhi.
- 5. Chirtra (2009) Economic Analysis of Health Status in Tamilnadu- India, unpublished Thesis, Madurai Kamaraj University
- 6. Dadibhavi R V and Bagalkoti S T (1994): Interstate Disparities in Health Status in India, Yojana, Dec.31,1994
- 7. Dinesh, Jayasheela and Hans (2008): Health Infrastructure in India in Jayaram Bhat (Eds) Infrastructure Development in India, Kuvempu University, Shimoga.
- 8. Directory of Hospitals in India (1998 a): Various Issues, Ministry of Health and Family Welfare, Govt. of India, New Delhi
- 9. Dipti Govil and Neetu Purohit (2011): Health care system in India in Himanshu Shekars (Eds) Health care systems - A Global Survey, New Century Publications, New Delhi.
- 10. Economic Survey- Various Issues, Ministry of Finance, Delhi.
- 11. Gangadharan K and Rajula Helen K P (2010): Maternal and Child Health- Tamilnadu gaining momentum, Southern Economist, June 1, 2010, Bangalore.