

CHAPTER 12

HEALTH

Kerala's achievements are very high when compared to other major Indian States in areas like birth rate, death rate, IMR, MMR average life at birth and immunization. For instance, birth rate in Kerala is 17.3, death rate is 6.6 and infant mortality is 11. But all India birth rate is 25.4, death rate is 8.4 and IMR is 66. Average life at birth in Kerala is 73 years whereas it is 68 years for the Country. Kerala achieved good health status even with low growth in income and high unemployment rate.

12.2 Eventhough the achievement in health status has been good, State now face problems like high morbidity, low maintenance of health infrastructure, under utilised facilities and shortage of health man power. Emergence of new diseases like malaria, diarrhoea, dengue fever etc. creates problems.

Health care Infrastructure

12.3 Kerala State has built up a vast health care infrastructure under allopathy, ayurveda and homoeopathy systems of medicine. Three systems together have 2712 medical institutions under government sector with 50805 beds during 2003. Out of it, 91% of beds (46224) and 48% of (1310) medical institutions are in allopathy. 31% medical institutions and 6.7% beds are in

Ayurveda,. Homoeopathy institutions constitute 21% and beds are 2.3%. Details of government medical institutions and beds under each system of medicine are given in Table- 12.1.

12.4 Three systems together treated 19.36 lakh inpatients and 809 lakh out patients during 2002-03 as against 17.64 lakh inpatients and 798.47 lakh outpatients during 2001-02. Total patients treated thus increased by 12.25 lakh(1.5%) in 2002-03 over 2001-02. But the share of patients treated under each systems of medicine under went significant change in 2002-03 over 2001-02. During 2001-02 76% patients treated were in allopathy, 5% in Ayurveda and 19% in Homoeopathy. But during 2002-03 share of out patients in allopathy decreased to 48% whereas the share of ayurveda increased to 22% and that of homoeopathy to 30%. Inpatients treated under different systems of medicine increased by 9.7% (1.72 lakh) in 2002-03 over 2001-02.

12.5 There are 160 beds per lakh people (2002) in the three systems together. In allopathy there are 145 beds per one lakh people against 10.6 beds in Ayurveda and 4 beds in Homoeopathy. There was no increase in bed strength during 2002-03 compared to previous year eventhough inpatients treated increased by 1.72 lakh.

TABLE-12.1
Medical Institutions, beds and patients treated in three systems of medicine (2002)

(Nos)

Sl.No.	Systems of Medicine	Institutions	Beds	Inpatients	Outpatients
1	2	3	4	5	6
1	Allopathy	1310 (48.3)	46224 (91)	1842642 (95.2)	39054674 (48.3)
2	Ayurveda	845 (31.2)	3411 (6.7)	68450 (3.5)	17976627 (22.2)
3	Homoeopathy	557 (20.5)	1170 (2.3)	24604 (1.3)	23908959 (29.5)
	Total	2712 (100)	50805 (100)	1935696 (100)	80940260 (100)

Note: Figures in bracket indicate percentage.

District wise details of institutions and beds under three systems of medicines are given in Appendix. 12.1

Private Sector

12.6 In the health sector the role of private sector is significant. Data on private health care facilities is available only for 1995, based on a study conducted by the Department of Economics and Statistics. According to the study there were 4288 Private allopathic medical institutions with 67517 beds. Similarly, there were 4922 ayurveda private institutions with 2595 beds and 3118 homoeopathic institutions with 394 beds.

Co-operative Institutions and Insurance Medical Services

12.7 In the co-operative sector there are 69 co-operative hospitals/ dispensaries with 3306 beds and 433 doctors and 1355 nurses and para medical staff in Kerala.

12.8 There are 12 ESI hospitals with 1113 beds and 136 dispensaries. Details of co-operative and Insurance Medical Services are given in Appendix 12.2 and 12.3

Health Infrastructure under Directorate of Health Services

12.9 Hospital infrastructure under DHS consists of 933 (72%) Primary Health Centres, 115 (9%) Community Health Centres, 130 (10%) hospitals and 121(9%) dispensaries and other institutions including grant in aid institutions. Hospitals include 5 general hospitals, 5 Women and Children Hospitals, 11 District Hospitals, 41 Taluk Hospital, 3 Leprosy Hospitals, 3 Mental Hospitals, 3 T.B. Hospitals, one Ophthalmology Hospital and 58 intermediary hospitals. In addition to these institutions there are 5094 sub centres.

District wise details of health infrastructure under DHS are given in Appendix-12.4.

Hospital Beds

12.10 There are 37646 beds under various institutions attached to DHS, out of which 5060 (13.4%) are in Primary Health Centres, 4726 (12.6%) are in Community Health Centres and 22636 (60.1%) are in hospitals and 5224 (13.9%) are in other medical institutions.

12.11 Average bed in PHC is 5.4 at State level. CHCs are rural based hospitals above PHCs. National pattern of CHC is 30 beds and 5 specialities. In Kerala the average beds in CHC is 40 and it varies from 29 beds in Kasaragod to 51 beds in Palakkad. 80% beds are in urban areas and 20% are in rural areas. Average hospital beds under Directorate of Health Services in Kerala is 174 and it varies from 91 beds in Pathanamthitta to 264 beds in Kozhikode district.

Health Personnel and Equipment

12.12 There are 3032 medical officers under DHS. Of this 1.7% are holding administrative positions and another 29% are in PHCs. The strength of medical officers available for secondary health care service is 69.3%. Of this nearly 58% are specialists. Paramedical staff consists of 7581 senior/ junior nurses. District wise details of medical officers are given in Appendix 12.7

Idle Equipment

12.13 Data collected from 202 medical institutions under DHS shows that 154 medical equipment costing Rs.5000 and above remain idle or unused. Total value of the idle equipment is estimated at Rs.53 lakh. The analysis leads to

TABLE-12.2
Total number of beds under allopathy

Sl.No.	Category	No.of Institution	Beds	Percentage to total
1	2	3	4	5
1	Institutions under DHS	1299	37646	31.7
2	Medical College hospitals and attached Institutions	11	8578	7.2
3	Co-operative Hospitals	69	3306	2.8
4	E.S.I. Hospitals	12	1113	0.9
5	Regional Cancer Centre	1	320	0.3
6	Sree Chitra Thirunal Institute of Medical Sciences and Technology	1	217	0.2
7	Private sector *	4288	67517	56.9
	Total	5681	118697	100

Box -12. 1

- I. More than 28% of the medical equipment supplied to different health institutions are excess in supply over requirement.
- II. Absence of supportive infrastructure facilities contributed significant non-use.
- III. Non availability of technicians/supportive staff cause idleness of equipment.
- IV. 18% of the equipment remain idle for want of minor repairs.
- V. Obsolete or unserviceable equipment constitute 16% of the total equipment in different institutions

the following observations.

Immunization Coverage

12.14 Kerala State has achieved almost universalisation of immunization. Coverage of immunization pro-

gramme in 2002-03 has increased over 2001-02. For instance, immunization coverage of measles increased from 86.2% in 2001-02 to 90.6% in 2002-03 and DPT from 93% to 95.8%. Details are given in Table-12.3. Target and achievement of immunization programmes are given in Appendix.12.8.

Institutional Delivery

12.15 National Family Health Survey-2 figures indicate the rates of performance of essential obstetrics care in major states. Only 65% of mothers received antenatal check up, 67% received two or more doses of T.T. Kerala's achievement in institutional delivery is significant. In Kerala, 93% deliveries are in medical institutions (up from 89% in NFHS-1), 5% took place in women's own homes and 1% took place in their parents home. At all India, institutional deliveries are only 42.3%. In Kerala almost all births in urban areas are institutional births where as in rural areas 8% of births are non-institutional. In 2002, reported delivery cases in medical colleges and attached institution were 65974.

TABLE – 12.3**Coverage of immunisation Programme – Kerala – (2002-03)**

Sl. No.	Programme	Coverage (Percent)	
		2001-02	2002-03
1	BCG	103.8	103
2	Measles	86.2	90.6
3	DPT	93.1	95.8
4	Polio	92.8	95.3
5	TT for pregnant women	89.9	86.1
6	TT for 5 years	93.9	89.2
7	TT for 10 years	97.6	98.1
8	TT for 16 years	96.5	95

TABLE-12.4**Prevalence Rate of Public Health Diseases**

Sl. No.	Disease	Prevalence Rate per 1000 population	
		2002	2003
1	Leprosy	0.71	0.66
2	Filaria	1.02	1.28
3	T.B	1.2	0.70
4	Acute Diarrhoeal Diseases	17.63	16.96
5	Pneumonia	0.66	0.60
6	Enteric Fever	0.23	0.26
7	Measles	0.10	0.07
8	Respiratory Infection	216.62	221.42

Communicable Diseases

12.16 Of the ten leading causes of Burden of diseases (BOD) and mortality in India, almost 50% were on account of respiratory infections, diarrhoeal diseases, T.B. and measles. But in Kerala the incidence of communicable diseases like leprosy, pneumonia, measles, filaria, T.B. etc are coming down. For instance, the prevalence rate of leprosy has come down from 0.71 in 2002 to 0.66 per 1000 population in 2003. Similarly, prevalence rate of filaria, T.B. etc. has come down in 2003 compared to 2002. However diseases such as dengue fever and leptospirosis are emerging.

12.17 There was an outbreak of Dengue fever and Leptospirosis in Kerala during 2003. Dengue fever cases treated were 3332 and out of it 3266 were cured and 66 deaths occurred. Dengue fever cases reported were highest in Thiruvananthapuram district (709) followed by Malappuram (533) and Thrissur (325). Reported cases of death were highest in Thiruvananthapuram (17)

followed by Kollam(9) and Palakkad(8). Similarly 1343 cases of leptospirosis were treated in Kerala during 2003 and out of them 1247 were cured and 96 were dead. Highest number of leptospirosis cases were reported in Kottayam district (342) followed by Ernakulam(191) and Idukki(170). Highest number of deaths were also reported from Kottayam(28) followed by Alappuzha (13)and Thrissur and Malappuram(10 each). District wise details of Dengue fever and Leptospirosis are given in Appendix 12.9 and 12.10.

12.18 During 2003, there was an out break of diarrhoeal diseases in Kerala. Diarrhoeal diseases reported were from Alappuzha and Kasaragod. In Alappuzha, 34 cases of Cholera were identified with 3 deaths. In Thiruvananthapuram more than 2000 suspected cases were reported and out of it 36 were confirmed cases and 2 deaths occurred. In Kasaragod district 8 cases were confirmed. In 2003 August, there was out break of cholera at Thiruvallam in Thiruvananthapuram Corporation area and out of it 19 cases were positive for vibro cholera. In all during 2003 upto September, 463094 cases of diarrhoeal cases including 39 cholera cases were reported in Kerala and 13 diarrhoeal deaths occurred. Major reasons cited for diarrhoeal diseases are poor environmental sanitation, broken drainage system, lapses in solid waste/ night soil disposal and inadequacy in the preventive, promotive and curative aspects.

Major Principal Diseases and death

12.19 Low birth and death rate and high life at birth have caused to demographic transition in Kerala. Age structure of population is changing. People above 70 years form 4.95% of total population in 2001 against 3.44% in 1991 and projected figure in 2011 is 6.65% of the population. Simultaneously affluence brings in new life style and food habits. Diet rich in saturated fat, salt and excess calories, decreased physical activity, addiction of tobacco and alcohol and augmentation of psychological stress cause several health problems and result to diseases like cardio vascular disorder (CVD), diabetics, neuro psychiatric ailments and cancer.

12.20 In Kerala during 2003 ,280.52 lakhs persons had attack from major diseases. Out of them 7748 persons died. During 2002, 280.58 lakh persons had attack from various major diseases and out of them death reported was 9238 . Details of major attacks and death

are given in Appendix.12.12

Cardiac Problems

12.21 Coronary artery diseases are on the increase in Kerala. Statistics shows that in Medical College Hospital, Thiruvananthapuram on an average 10 to 12 acute heart attack patients are being admitted daily in emergency service and annual admission to the coronary care unit in the Medical College Hospital, Thiruvananthapuram is about 1300. Among the cardio vascular diseases, Coronary Artery Diseases (CAD) is the one which causes highest rate of mortality and morbidity. Other major diseases like Rheumatic fever and Rheumatic Heart diseases are still rampant.

Intervention in suicide

12.22 Kerala remains the first among Indian States in the number of suicides for the last seven consecutive years. Rate of suicide in the state is 31 per lakh every year which is 3 times the national rate of suicide (11 per lakh every year). Every day 24 persons commit suicide in the state. Increasing number of family suicide in Kerala is also disturbing. Economic problems, mental tensions, marital disharmony and other family problems are the major causes of suicide. In order to contain this situation, Kerala Integrated Scheme for Intervention in Suicide Prevention (KRISIS) has been launched with the aim of setting up counselling centres and clinics in Medical Colleges, district/general hospitals and taluk level medical institutions in a phased manner and to combine the activities of health, education and social welfare sectors for suicide prevention with public participation.

HIV/AIDS

12.23 HIV infection and AIDS cases were detected in India in 1986. In 2000, Indians infected with HIV were estimated at 3.86 million indicating a prevalence rate of around 0.7% of the adult Indian population. In March 2000, 11251 cases of full blown AIDS were reported by NACO, of which 79% were male and 21% were female. First HIV positive case was identified in Kerala in 1987. Till now total number of AIDS cases reported from different parts of Kerala is 1219 and the number of reported AIDS death is 411. HIV infected people in Kerala are estimated at 70000. Surveillance data shows that more than 79% of HIV infection in Kerala is acquired heterosexually and very few infection cases are acquired through blood transfusion/ injecting drug use. HIV prevalence among ante-natal

women is 0.3%. An autonomous organisation, the Kerala State AIDS Control Society was formed to implement the National AIDS Control Programme (NACP), a Centrally Sponsored Programme, funded by the World Bank. Targeted intervention is one of the main activities envisaged under NACP.

Blood units collected

12.24 There are 123 blood banks in Kerala registered under Central Drugs and Cosmetic Act in 2003. During 2002, the registered blood banks were 117. Out of the total blood banks, 30 are in govt./autonomous sector and 93 are in private sector. During 2002, 2.11 lakh units of blood were collected and out of it 44.6% units were from govt./autonomous institutions and 55.4% were from private institutions. During 2001 blood units collected were 4.09 lakh. Medical Colleges collected 50060 units of blood which formed 23.7% of the total blood units collected. Market value of one unit of blood is estimated to be around Rs. 700. Total value of blood collected therefore amounted to Rs. 14.77 crores in 2002 whereas in 2001, it was Rs. 28.63 crores. Details of blood units collected during the last 5 years are given in Appendix.12.13

Health Societies

12.25 At the instance of the Govt. of India, Government of Kerala has constituted State level and District level health societies. In Kerala there are 52 health societies which were formed during 1980's and 1990's and out of it 42 are district level societies and 10 are state level societies. These societies formulate and implement programmes to eliminate/control specific diseases such as leprosy, T.B. Blindness, AIDS etc. Major activities of the societies include awareness camps, workshop, conference, supply of medicine etc.

12.26 District and state level societies together received Rs. 6066.32 lakhs during 1996-2001. Out of this 23% was for district level societies and 77% for state level societies. Out of the total receipt Rs. 2056 lakh (33.9%) was from Govt. of India Rs. 3105 lakhs (51.2%) external aid and Rs. 386 lakhs (6.3%) state govt. aid and Rs. 519.32 lakh (8.6%) was from other sources. Only the state level societies received external aid. At the district level 95% of the fund flow is from Government of India whereas in State level societies 67% of the fund flow is from external agencies. The state level societies received Rs. 4663 lakh and out of it 64% was

by RCH, and 14% by AIDS Control Society. District level societies received Rs. 1403.33 lakh during 1996-2001. Out of it 45% was by leprosy control societies and 33% by T.B. Control societies and 22% by Blindness control societies. State and district level societies spent Rs. 4445.84 lakhs during 1996-2001 which constitute 73% of the total allocation. Among the state level societies expenditure on RCH was 56.7% whereas AIDS control society spent 89.8% of the total allocation. The expenditure pattern of the societies shows that at the district level, programme expenditure is 35%, whereas salary and allowances constitute 34%. Salary component constitute 41% of the expenditure in Leprosy Control Society, whereas it was only 4% in T.B. Control society. At the state level societies, programme expenditure was 70%, whereas salary and allowance was only 7.1%. Purchase of equipment and construction work constitutes other items of expenditure.

Standardization of Medical Institutions

12.27 Standardization of facilities has been one of the major objectives of the 10th five year plan. As part of it, DHS, Kerala constituted a committee to recommend standards in service delivery, infrastructure, equipment and staff pattern at various health care institutions under health services department. The committee submitted its report during 2002. Highlights of the report are:

Box -12. 2

1. The current terminology of mini – PHC is to be dispensed. Each Grama Panchayat may have a PHC with focus on curative service limited to O.P.
2. CHC shall provide specialist care in General Medicine, Surgery, Paediatrics, Obstetrics and Gynaecology, Anesthesiology and Public Health /Family medicine.
3. Taluk hospital shall provide all major and minor speciality services viz, medicine, surgery, Obstetrics and Gynaecology Paediatrics, Anesthesiology, Ortho, ENT, Ophthalmology, Psychiatry, Dermatology, Respiratory medicine, Orthodontics and Maxillo-facial Surgery.
4. District Hospital shall provide tertiary care in addition to services provided in Taluk Hospitals.

The Committee recommended that

- (i) PHC may have one Medical Officer one staff nurse and one pharmacist.
- (ii) CHC may have 8 medical officers and five specialties (medicine, surgery, Obstetrics and Gynaecology, paediatrics and Anesthesiology)
- (iii) Taluk Hospitals may have 2 units for major specialties and one each for minor specialties.
- (iv) District hospitals may have three units each for Medicine, Surgery, Paediatrics, O&G and minor Specialities may have two units each.
- (v) General Hospitals may have 5 units of major specialties and 3 units of minor specialties and one unit of super speciality with supporting staff.

12.28 Reforms in health sector have been started in 2002-03 and as part of it, it is proposed to start speciality departments like cardiology and neurology in major hospitals and to set up an administrative cadre with expertise in hospital management. Based on the proposal it is decided to start speciality cadre/departments in General/District/and other hospitals in a phased manner. Government have accorded sanction to create speciality cadre in 96 medical institutions and 375 additional posts had been created during 2003 in hospitals having 100 beds or more. Similarly steps have been initiated to start Dip-NB courses in selected General and District hospitals to overcome the shortage of specialist doctors.

Major Achievements

12.29 Inpatients treated in hospitals under DHS were 13.99 lakhs in 2002 against 12.89 lakhs in 2001. Similarly outpatients treated increased from 337 lakhs in 2001 to 360 lakhs in 2002. During 2002, 0.95 lakhs major operations were conducted in hospitals under DHS as against 1.64 lakhs in 2001. Similarly 2.67 lakhs minor operations were conducted during 2002 against 2.40 lakhs during 2001.

12.30 During 2002-03, seven Primary Health Centres were upgraded as Community Health Centres and one Primary Health Centre was converted into rural dispensary. One hospital was converted into Community Health Centre and one hospital was converted into T.B. clinic. As a result number of T.B. clinic/ centres in Kerala increased from 21 to 22 during 2002.

Medical Education and Training

12.31 In Kerala until 2001, there were only 20 medical colleges and all were in government/aided/co-operative sector. Out of these medical colleges, 7 were for MBBS course, 3 were for Dental and five each were Ayurveda and Homoeopathy. In 2002, 18 self financing Medical Colleges were started in private sector. Out of them six each were for MBBS, BDS and BAMS. With the starting of self financing medical colleges, admission strength for MBBS course in-

Table 12.5
Details of Medical Colleges and intake of students for Degree course

Medical Colleges	Courses	Government		Cooperative/aided		Self-financing		TOTAL	
		Nos	Intake	Nos	Intake	Nos.	Intake	Nos	Intake
1	2	3	4	5	6	7	8	9	10
1. Allopathy	MBBS	5	700	2	150	6	600	13	1450
2. Dental	BDS	3	130	--	--	6	340	9	470
3. Ayurveda	BAMS	3	160	2	90	6	290	11	540
4. Homoeopathy	BHMS	2	100	3	150	--	--	5	250
TOTAL		13	1090	7	390	18	1230	38	2710
5. Nursing Colleges	BSc	3	150	--	--	27	1350	30	1500
6. Pharmacy Colleges	BPharm	2	48	--	--	9	540	11	588
TOTAL		5	198	--	--	36	1890	41	2088

creased from 700 to 1450 and BDS from 130 to 470.

12.32 Private self financing institutions account for 41% of seats for MBBS, 72% for BDS and 54% for BAMS. Similarly 27 self financing nursing colleges and 9 pharmacy colleges were started in private sector during 2002-03. Accordingly, 90% B.Sc. nursing and 92% B.Pharm seats are in private sector. Post graduate and super speciality courses are only in Government colleges.

12.33 Five government college hospitals under Allopathy have 7978 beds which constitute 17.3% of the total beds in Kerala. Medical College wise beds and patients treated are given in Table- 12.6.

12.34 On an average 56 inpatients in these five medical colleges used one bed during 2002. It varies from 49 patients in Trissur Medical College to 64 patients in Kozhikode Medical College. Total beds in the five medical colleges rose from 7390 in 2000 to 7978 in 2002, where as inpatients treated increased from 383974 to 443000. Inpatients thus rose by 15.4%, while beds strength increased only by 8%.

12.35 After considering the developments/bottle necks of the medical colleges, Tenth Five year Plan strategy is to prepare a comprehensive development plan for each medical college in a phased manner by allotting a lump sum amount with focus on renovation of existing infrastructure and improving service delivery. It is proposed to convert Thiruvananthapuram Medical College as a centre of excellence with all modern facilities in

academic and treatment protocol.

12.36 Medical College, Thiruvananthapuram consists of a group of academic institutions comprising of Medical College, College hospital, SAT hospital, College of Nursing, College of Pharmacy, Priyadarsini Institute of Paramedical Sciences, Regional Institute of Ophthalmology. Independent Institutions like Dental College and Regional Cancer Centre are also situated within the campus.

12.37 In Medical College, Thrissur the major construction works undertaken include construction of 400 bedded hospital building and 1200 bedded hospital complex. Besides this the work of gents and ladies hostel, nursing hostel are in progress. During 2003 priority is for completing the 1200 bedded hospital and other infrastructure and to shift the hospital from Thrissur (Town) to Mulamkunnathukavu.

12.38 In Alappuzha Medical College, construction of Hospital complex with all facilities at Vandanam, is in progress. Five departments are now functioning in Medical College, Vandanam and steps have been initiated to shift two department viz, paediatrics and paediatric surgery to newly constructed hospital complex.

12.39 During 2002-03 machinery and equipment worth Rs. 313 lakh were purchased and installed in the five medical colleges. Out of it, equipment valued Rs. 82.50 lakh were for Kozhikode and Rs. 82 lakhs were for Kottayam.

TABLE -12.6
Government Medical college hospital wise distribution of beds ,Inpatients and Outpatients treated,delivery cases attended - 2002

(No.)

Medical College Hospital	Beds	IP	OP	Major operation conducted 2001	Delivery cases attended 2001
1	2	3	4	5	6
1.Thiruvananthapuram	2457	133700	765200	21104	16790
2. Alappuzha	1031	53600	478000	3556	6322
3. Kottayam	1246	62700	735000	12000	8184
4. Thrissur	987	48000	415000	9192	4678
5. Kozhikode	2257	145000	690000	21295	30000
Total	7978	443000	3083200	67147	65974

12.40 Running cost of medical colleges and hospitals has been increasing but there has been no corresponding increase in the budgetary allocation under non-plan. Fund available for major items of expenditure like drugs, diet, materials, cots, beds and equipment required for patients care and payment of electricity, water and telephone charges are inadequate. For instance, amount allotted for drug, diet and other materials was Rs. 33.96 crores in 2002-03 against actual requirement of Rs. 55 crores.

TABLE -12.7
Budget outlay and Requirement for drug, diet and other materials
(Rs. Crores)

Year	Budget Outlay	Expenditure	Requirement
1	2	3	4
2000-01	23.69	23.69	38.00
2001-02	32.81	32.81	46.00
2002-03	33.96	33.96	55.00

12.41 During 2000-01, requirement was Rs. 38 crores against the allotment Rs. 23.69 crores. Consequent on the lower allotment estimated fund required for the settlement of hospital bills for purchase of medicine, diet and other material is Rs. 60 crores. Allocation of fund in the non-plan during the last 3 years for running the college hospitals is shown in Table.12.8. During 2003-04, deficit was Rs.47 crores as against Rs. 32 crores during 2002-03.

Table 12.8

Allocation under Non-plan and Requirement

(Rs. Crore)

Year	Non-Plan Outlay	Requirement	Deficit
1	2	3	4
2001-02	156.00	184.00	28.00
2002-03	158.00	193.00	35.00
2003-04	180.00	227.00	47.00

Shortage of Medical Personnel

12.42 In the government medical colleges there are 39 category of speciality departments and in each department there are four category of posts of doctors, namely Tutor/ Lecturer, Asst. Professor, Associate Professor and Professor. Total number of sanctioned post of doctors in 27 major departments in all the five medical colleges together is 1342. Out of them 299 (22%) are vacant as on October, 2003. Out of the present vacant posts, 76 are in Kozhikode Medical College and 62 are in Thrissur Medical College. In other words 25% posts of doctors in Kozhikode and 21% in Trissur medical college are vacant. There is an increase of 100 doctors in 27 major departments in 5 medical colleges in 2003 compared to 1998. This includes 16 Professors, 18 Associate Professors, 21 Asst. Professors and 45 Lecturers. Additional posts were mainly created in departments such as gynaecology (13 Nos.), General Surgery (10), Gen-

TABLE -12.9
Sanctioned and vacant posts of Doctors in Medical Colleges -2003

Medical College	Professor			Associate Professor			Asst. Professor			Lecturer			Total		
	Sanctioned	Existing	Vacant	Sanctioned	Existing	Vacant	Sanctioned	Existing	Vacant	Sanctioned	Existing	Vacant	Sanctioned	Existing	Vacant
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
TVPM	52	43	9	56	51	5	103	91	12	178	144	34	389	329	60
KKD	40	33	7	46	37	9	92	77	15	151	106	45	329	253	76
KTM	29	24	5	32	28	4	69	54	15	97	67	30	227	173	54
ALP	20	15	5	24	22	2	57	50	7	87	54	33	188	141	47
THSR	16	14	2	27	22	5	62	49	13	104	62	42	209	147	62
TOTAL	157	129	28	185	160	25	383	321	62	617	433	184	1342	1043	299

eral Medicine (10), Skin & VD (9) and Paediatric Medicine (8). Medical College wise position of creation of posts shows that in Thiruvananthapuram Medical College 22 posts were created followed by Alappuzha (21), Kottayam (20), Kozhikode (19) and Thrissur (18) during this period. Among the speciality departments 71.4% vacant posts are in Nuclear Medicine and 60% in Infectious Diseases and the lowest number of vacant post are (7.42%) in ophthalmology department. Vacant posts of doctors in major departments are 29% in medicine, 26% in surgery, 15% in cardiology 20% in Anesthesia, 32% in Nephrology, 42% in Neurosurgery, 20% Obstetrics and Gynaecology and 42% in paediatric surgery.

Nursing Education

12.43 In Kerala nursing education is imparted through DHS run institutions, approved private institutions, medical colleges and nursing schools in private sector. Three nursing colleges attached to 3 medical colleges have a total annual intake capacity of 150 students for BSc nursing, and 28 seats for M.Sc. nursing. There are 27 self financing nursing colleges in private sector with an annual intake capacity of 1350 students for B.Sc. nursing. In addition to it, there are 12 Nursing schools under department of Health Services which conduct general nursing (3Yr) course and 4 schools conducting JPH Nursing (18 months) course. The relevant details are given in Appendix-12.16

Ayurveda

12.44 There are 115 Ayurveda Hospitals with 2644 beds and 727 rural dispensaries without beds in Kerala. Out of the total dispensaries, 4 are visha chikilsa kendras, six are siddha and one is unani. Hospitals include 14 district hospitals, one nature cure hospital, one sidha hospital, one panchakarma hospital and one Ayurveda Mental Hospital at Kottakkal. Out of the total hospitals, 96 have own building, 15 are in rented building and 4 have own land but no building. Similarly, out of the 727 rural dispensaries, 399 have own building and 292 are in rented building. During 2003, 177.2 lakh patients were treated in Ayurveda institutions and out of them 0.58 lakhs were inpatients. Institutions and beds in ayurveda remained without change during 2003. Details of Ayurveda institutions and patients treated are given in Appendix.12.17

12.45 Modernisation and standardization of facilities in the existing institutions is the objective of the 10th

five year plan. As part of it, computerisation of the Directorate has been initiated during 2002-03. Similarly steps have been initiated to upgrade and standardise the facilities in the existing hospitals and dispensaries in partnership with concerned Local Self Govts.

Ayurveda Medical Education

12.46 There are 11 Ayurveda colleges in Kerala. Out of them 3 are Government, 2 are private Aided and 6 are Private Self Financing. Annual intake capacity in Ayurveda Colleges is 540 for graduate courses (BAMS/BSMS) and 62 for P.G. courses. Intake of students in Ayurveda Colleges is given in Appendix.12.18

12.47 In the five Ayurveda Medical College hospitals there are 972 beds. During 2002, 2.7 lakh patients were treated in these Ayurveda College Hospitals. Out of them 2.60 lakhs were outpatients and 0.12 lakhs were inpatients. More details are shown in Table .12.10.

12.48 Ayurveda College Hospital for Women and Children, Panchkarama Hospital, Ayurveda Research Institute, Ayurveda College Pharmacy are the attached institutions of Ayurveda College, Thiruvananthapuram. The College offers post graduate courses in 9 specialities. Government Ayurveda College, Thrissur has 14 teaching departments and Ayurveda College, Kannur has 13 departments. As per CCIM norms 3 more departments have to be established.

12.49 The 10th five year plan strategy is to develop all the three Ayurveda Medical Colleges as per CCIM norms with special emphasis to develop Thiruvananthapuram Ayurveda College as a centre of excellence. Accordingly during 2003-04, steps have been initiated to start new P.G. course in panchakarma in Ayurveda College, Thiruvananthapuram. In Ayurveda College, Thrissur, during 2003-04 focus is on the construction work of 350 bedded college hospital and the works are nearing completion.

Homoeopathy

12.50 Under homoeopathy there are 31 hospitals and 524 dispensaries. Total institutions are 555 and beds are 970 in 2003. Hospitals include 14 district hospitals and 17 taluk hospitals. 494 dispensaries are in rural areas and 30 are in urban area. Out of the 31 hospitals, 21 have own building, 9 are in rented building and one has own land but no building. Similarly out of

Table 12.10
Beds and patients treated in Ayurveda Colleges (2002)

Sl.No.	College Hospital	Beds	OP	IP	Total
1	2	3	4	5	6
A.	Government				
1	Ayurveda College Hospital, Thiruvananthapuram.	528	159702	7518	167220
2	Ayurveda College Hospital, Thrissur.	139	21701	913	22614
3	Ayurveda College Hospital, Kannur	100	22016	947	22963
	Sub Total	767	203419	9378	212797
B	Aided				
1	Vaidyaratnam Ayurveda College, Ollur	103	53051	1203	54260
2	Vaidyaratnam P.S. Varrier Ayurveda College Hospital, Kottakkal.	102	3678	1077	4755
	Sub Total	205	56729	2280	59015
	TOTAL	972	260148	11658	271812

the dispensaries, 274 have own building and 232 are in rented building and 18 have own land but no building. During 2002-03, 236 lakh patients were treated in Homoeo hospitals and dispensaries. Out of them 0.17 lakh are inpatients and 235 lakh are outpatients. In other words only 0.07% were inpatients. Details of beds and patients treated in homoeo hospitals are given in Appendix.12.19

12.51 Homoeo hospitals have no unified staff pattern and dispensaries at present have 6 different types of staff pattern. The recommended staff pattern in homoeo dispensary is one medical officer, one pharmacist, one attender and one P.T.S. Prescribed staff is available only in 343 dispensaries. Among the 17 taluk homoeo hospitals, one has 125 beds, two have 35 beds and others have 25 beds each. Only 8 hospitals have clinical laboratories.

12.52 During the 10th five year plan the thrust is for strengthening and improving hospitals/dispensaries and to standardize the facilities in a phased manner. During 2003, steps have been initiated to start clinical laboratories in three district hospitals. As part of modernization of the Directorate of Homoeopathy, 8 computers were purchased during 2003.

Homoeo Education

12.53 Under Homoeopathy there are 5 medical colleges, 2 government and 3 private aided. Total annual intake for graduate courses are 250 (see Appendix-12.20). There are 325 beds in homoeo medical college hospitals. During 2003, the five homoeo medical colleges together treated 3.56 lakh patients. Out of them 3.48 lakh were outpatients.

Family Welfare

12.54 Kerala has achieved substantial improvement in family welfare programmes. This has mainly been due to higher level of education, exposure to mass media and accessibility to health centres. N.F.H.S.-II (1998-99) reveals that nearly 88% of women in Kerala are regularly exposed to one or more media. Family Welfare programmes in Kerala are implemented through PHC and CHCs and sub centres. State has achieved couple protection level of 65.98% in 2003. Details of couple protected by effective family planning method are given in Appendix -12.21 and 12.22

12.55 NFHS-2 1998-99 revealed that in Kerala 10% of birth occur after 18 months of a previous birth, 21% occur within 24 months and 54% occur after an interval of three or more years. The median birth interval is 38 months, longer than any other state in India. The

Table 12.11
Distribution of beds and patients treated in 2003

SL. NO.	NAME OF HOSPITAL	BEDS	PATIENTS TREATED		TOTAL
			IP	OP	
1	2	3	4	5	6
A	Government				
1	Govt. Homoeopathic Medical College Hospital, Tvpm.	100	91,914	1,521	93,435
2	Govt. Homoeopathic Medical College Hospital, Kozhikode.	100	1,16,863	1,390	1,48,253
B	Government Aided				
1	Dr. Padiar memorial Homoeopathic Medical College	100	3879	60025	63904
2	A.N.S.S.Homoeopathic Medical College	Nil*	359	24749	25108
3	Sree Vidhyadhiraja Homoeopathic Medical College	25	1084	24276	25360
	Total	325	8233	347827	356060

*ANSS Homoeo Medical College is not having an independent teaching hospital. The hospital beds are under the control of the Director of Homoeopathy.

median birth interval increases with house hold standard of living from 33 months to women in house holds with a low standard of living to 44 months for births to women in house holds with a high standard of living. Similarly, 97% mothers got ante-natal coverage in 1992-93 (NFHS I) and 99% (NFHS II) in 1988-99. At all India, coverage of ante-natal mothers was only 44% and 65% respectively. Key indicators of National Family Health Survey are given in Table-12.12.

Expenditure on Medical and Public Health

12.56 In Kerala during the first three five-year plans, nearly 8% of state's total plan outlay had

been earmarked for medical and public health. However, since the Fourth plan, outlay for Medical and public health has been only around 2.5% of total state plan outlay. However, in absolute terms, plan outlay for medical and public health increased 62 times from the First five year plan to 10th five year plan, while state's total plan outlay increased by 181 times.

12.57 Total expenditure on medical and public health including family welfare was Rs. 758.58 crore in 2001-02. During 2003-04, expenditure is estimated at Rs. 865.60 crore.

TABLE -12.12
Key Indicators of National Family Health Survey
(NFHS-I 1992-93) and II (1998-99)

Item	NHFS-I (1992-93)		NHFS-II (1998-99)	
	Kerala	India	Kerala	India
Neo-Natal Mortality rate	15.5	48.6	13.8	43.4
Infant Mortality rate	23.8	78.5	16.3	67.6
Child Mortality rate	8.4	33.4	2.6	29.3
Total Mortality rate	2.00	3.4	1.96	2.85
Percentage of Mothers Received ANC	97.3	44.0	98.9	65.3

TABLE – 12.13
Plan and non-plan expenditure on Medical and
Public Health including Family Welfare. (Rs.Lakhs)

Year	Expenditure on Medical and Public Health (excluding FW)			Expenditure on Family Welfare	Total
	Plan	Non-Plan	Total		
1	2	3	4	5	6
2001-02	6466.88	59120.91	65587.79	10270.57	75858.36
2002-03 (RE)	7541.58	55698.90	63240.48	10490.89	73731.37
2003-04 (BE)	10289.00	66270.80	76559.80	10000	86559.80

Accreditation to Laboratories

12.58 There are two important Laboratories in the State, namely, Public Health and Clinical Laboratory and Government Analyst's Laboratory. The Public Health and Clinical Laboratory does various biomedical investigations and on an average 2500 various tests on blood and other body fluids are done daily. Government Analyst's Lab on the other hand tests food and other related materials to find out the presence of chemicals and other substances. Eventhough these Laboratories are long existing institutions, having credibility, accreditation has not been obtained from the National Accreditation Board. As per WTO Agree-

ment, imported and exported food articles are to be analysed and certified by an Accredited Laboratory with international standards. Modern equipment, trained personnel, instrumentation room with all facilities, modernised work area, waste disposal system and computer network are the minimum requirements for obtaining the accreditation. Kerala State Council for Science, Technology and Environment has also stressed the need for the Laboratories to be accredited. Under the Tenth Five-Year Plan, the two Laboratories are to be modernized by providing necessary infrastructure facilities.