

CHAPTER XVI

MEDICAL AND PUBLIC HEALTH SERVICES

THE Ayurvedic system of medicine, which was practised all over India from the earliest times, had its roots in the concepts, climate, vegetation, etc., of the country. It appears to have become a part of Samskrita learning and was taught in many Samskrita institutions. The Ayurvedic doctors were noted for their sound knowledge of the medicinal properties of the many plants and herbs. A good Ayurvedic practitioner was capable of giving relief to his patients with the help of herbs and plants available in the region, without having to depend on costly drugs. There is a rich tradition of Ayurvedic practice in this district and there are several highly reputed Ayurvedic physicians. Some practitioners of this system have also come from the neighbouring Kerala State and settled down here. Even now, a considerable number of people in the rural as well as urban areas continue to be served by Ayurveda. The Muslims brought the system of treatment called Unani practised by a few *hakims* here.

The western Allopathic system of medicine came into vogue after the advent of the East India Company and the British officers. Having regard to the fact that South Kanara constituted a part of the old Madras Presidency for quite a long period, it may not be out of place to trace here the background and narrate briefly the various steps taken by the Government of Madras in public health matters in the area.

It was in the year 1802 that vaccination work was begun in Madras. In that year, vaccine virus was first brought to India, Dr. James Anderson being responsible for its introduction. Till 1851, the vaccination work was under the control of the Revenue Department. Later, it was brought under the supervision of the Medical Department, the Civil Surgeons of the districts having the principal control.

**Beginning of
Public Health
Services**

In April 1864, the Sanitary Commission in Madras was formed, consisting of a president and four members, one of whom

was its Secretary. The first president was an officer of the Civil Service, and an officer of the Royal Engineers, two medical men and a military officer were appointed as members. The Commission thus constituted was in existence till 1866 when a re-organisation took place from 1st May of that year; the permanent members were dispensed with and the duties which were performed by the Commission began to be carried out by a Sanitary Commissioner aided by a medical officer as Secretary. The Commission's work was mostly of a military character until 1869, when civil functions were added to it and the expenditure transferred to the civil budget. In the same year, on the death of the Secretary to the Sanitary Commissioner, the Secretaryship was abolished. In 1875, the supervision and control of the vaccination section was transferred from the Medical to the Sanitary Department. The services of the vaccinators were also transferred to the Local Fund Boards and they were paid from those funds.

In 1883, Jilla Surgeons were appointed as District Medical and Sanitary Officers who were required to attend to the medical and sanitary administration of the district. Later on, in August 1899, a Sanitary Board for the Presidency was formed consisting of the Sanitary Commissioner and a Sanitary Engineer. They were to work in concert with the District Collectors for the purpose of planning or carrying out any particular sanitary work or works in the collectorates.

From 1897, the Government had under consideration various proposals for the improvement of registration of vital statistics in the rural areas. The result was the passing of the Madras Registration of Births and Deaths Act of 1899. Registration of births and deaths became compulsory after notification by Government. Provision was made for the appointment of Registrars and for the granting of extracts from the registers free of charge. Now, more attention was paid to the subject of correct registration by the Revenue Department and material aid in this respect was given by the Deputy Inspectors of Vaccination, District Medical and Sanitary Officers and the Sanitary Commissioner's Office. The Act was made applicable to South Kanara in 1899 itself.

**Public Health
Department**

With the implementation of the Montague Chelmsford Reforms in 1919, sanitation and public health became a transferred subject under the control of the Minister in charge of the Local Self-Government Department. The designation of the Sanitary Commissioner was changed to Director of Public Health and the Sanitary Department was called the Public Health Department. Similar changes were made in the designations of Deputy Sanitary Commissioners who were to be known as Assistant Directors of Public Health. The public health service in the modern sense of the term began in South Kanara from 1st April 1923, when

the Government sanctioned the posts of some health staff. In 1939, the Madras Health Act was passed and it was enforced in the district also.

South Kanara, being a coastal district, has a climate characterised by an excessive humidity for the major portion of the year. The air is peculiarly oppressive before the onset of the monsoon. From November to February, the climate is cool. Towards March, there is a perceptible increase in temperature and nights are hot. April and May are the hottest months. From June to the end of October, it is a period of incessant rains. The humidity induces fatigue and lassitude with resultant digestive and cutaneous disorders. Those whose occupations are sedentary are more prone to ill-health than those of active habits and working out-doors. The dwelling houses in the district are scattered about and it has led to the neglect of drainage and conservancy. The use of unprotected water by the poorer classes from open streams and ponds gives rise to intestinal disorders.

The patel of the village has been mainly responsible for the registration of all births and deaths in the village. In the towns, the town panchayats and municipalities have to maintain birth, death and related statistics. The patels of villages and the urban local bodies have to send this information to the Registrar-General of Births and Deaths through the Tahsildars of taluks concerned. The Health Inspectors collect these statistics in respect of health unit areas and during their visits to villages, opportunity is taken to verify the figures registered by the village patels. Until recently, the Directorate of Health Services was in overall charge of compilation and maintenance of vital statistics for the State as a whole. Now, the Director of the Bureau of Economics and Statistics is the *ex-officio* Registrar-General of Births and Deaths for the State.

The average birth-rate in the district was 35.5 per mille during the decade from 1941 to 1950, while the average rate for the Madras State was 31.7. The average death rate of 19.5 per mille in the district during that decade was less than that for the State, which was 21.5. The birth rates registered a steady decline from 1941 to 1945 and a rise afterwards. The death rates showed a downward trend during the decade except for 1944. In 1944, there was comparatively high mortality due to increased incidence of fever. The average mortality rate from fevers represented about 32 per cent of the total number of deaths and decreased from 7.4 per mille during the period 1941 to 1945 to 5.1 during the period from 1946 to 1950. The death rates from other principal diseases were normal. The maternal deaths during the last four years of that decade had steadily decreased from 8.26 per 1,000 births in 1947 to 4.23 in 1950.

The following table gives the variations in the total population of the district for the seven decades of the century :—

<i>Census Year</i>	<i>Total Population</i>	<i>variation</i>	<i>Percentage decade variation</i>
1901	8,98,380	.. .. .	.. .. .
1911	9,41,658	+ 43,278	+ 4.82
1921	9,84,054	+ 42,396	+ 4.50
1931	10,63,156	+ 79,102	+ 8.04
1941	11,73,538	+ 1,10,382	+ 10.38
1951	13,30,917	+ 1,57,379	+ 13.41
1961	15,63,837	+ 2,32,927	+ 17.50
1971	19,39,315	+ 3,75,478	+ 24.01

From the above figures, it is seen that in the last decade (1961-1970), the net increase in population was 3,75,478, the highest during the seventy-year period.

Births and deaths

The table given hereunder indicates the number of births and deaths* for the period from 1961 to 1970 :—

<i>Year</i>	<i>No. of births</i>	<i>No. of deaths</i>
1961	56,407	17,598
1962	53,705	16,789
1963	48,748	14,402
1964	34,473	9,418
1965	41,413	12,077
1966	38,301	10,971
1967	36,233	12,500
1968	34,265	9,914
1969	37,857	10,541
1970	33,346	9,893

From the foregoing table, it is seen that the number of deaths had been on the decline and it was very low during the years 1964, 1968 and 1970; the number of births was comparatively lower during the years 1964 and 1968. The fall in the death rate is, to a large extent, due to the intensive preventive and curative measures taken and a better standard of living. The fall in the birth rate may be attributed, to a certain extent, to the intensive family planning drive that is being carried on since recent years and the growing consciousness among the people to limit their families.

*The birth and death rates, as recorded in the district, fall much short of the known rates for India. This evidently shows that there are certain omissions in recording the vital events.

Infant mortality was high in the previous decades of this century. It has, however, been considerably reduced in recent years with the introduction of the modern system of midwifery and rapid implementation of maternity and child welfare services under the plan programmes. The subjoined table gives the number of still-births and infant deaths reported in the district during the years 1960, 1964 and 1971* :—

Infant and
maternal
mortality

<i>Year</i>	<i>No. of still- births reported</i>	<i>No. of infant births reported</i>
1960	430	127
1964	144	81
1971	187	39

The main causes of maternal deaths are anaemia, haemorrhage, eclamsia and difficult labour. As in the case of infant mortality, the rate of maternal mortality, which was high in the earlier decades, has been greatly reduced in recent years. This is mainly due to the increased facilities provided for the pre-natal, natal and post-natal treatment in the several hospitals, health centres and maternity homes in the district. The number of maternal deaths reported for the years 1960, 1964 and 1971* were as follows :—

<i>Year</i>	<i>No. of maternal deaths reported</i>
1960	2,952
1964	1,621
1971	1,227

The major maladies that afflict the people in the district are filariasis, leprosy, tuberculosis, amoebaeacis, typhoid fever and infestation with helminths (worms). Information about the agents responsible for these ailments, their nature and consequences is now widely made known to the people, but the fault lies in the inadequacy of efforts at prevention. Hence, "they present a challenge and an opportunity to the medical profession and the health authorities" ** in the district. The other diseases from which the people generally suffer are fevers, respiratory diseases, dysentery, malaria, small-pox, digestive diseases, anaemia, ulcers, skin diseases and the like.

*Source : Bureau of Economics and Statistics, Bangalore.

**Dr. G. D. Veliath, "Problems of Health in South Kanara", an article in "knowledge is power"

Deaths from common diseases

The following statement shows the number of deaths from some of the common diseases during the years from 1956 to 60 :—

<i>Diseases</i>	<i>Deaths</i>				
	1956	1957	1958	1959	1960
Cholera .. .. .	..	..	5	..	1
Feyers	2,287	4,437	3,660	3,228	2,922
Small-pox	3	12	89	49	41
Plague .. .. .	..	..	5	7	..
Dysentery	506	816	764	812	598
Respiratory diseases	455	1,484	1,554	1,067	1,333
Malaria	116	92	137	95	66
Total	3,367	6,841	6,214	5,258	4,961

Source : District Census Hand book, 1961, Appendix II-B.

Epidemics

One of the most important functions of the Department of Health Services has been the control of communicable diseases in the district. When an epidemic breaks out, the Health Inspectors and other health workers are alerted to work in close co-operation under the general guidance of the District Health Officer. The Health Inspectors tour in the area in order to gain first-hand knowledge of the extent and severity of the epidemic. All the drinking water sources in the area are thoroughly disinfected and the villagers are advised to isolate the sick persons and to evacuate the houses. People living in the infected area are inoculated and are advised against entertaining any relatives or friends. It is the duty of the Health Inspectors to enquire into and ascertain the causes of origin and spread of the epidemic within their jurisdiction and furnish periodical reports to the nearest Medical Officer and also to the District Health Officer. Various conditions injurious to public health are systematically removed so as to minimise the incidence. Special attention is paid to water supply sources and to the disposal of refuse. During the times of fairs and festivals, special staff are requisitioned to control any outbreak of epidemics.

Small-pox

The spread of small-pox is being systematically combated through intensive vaccination work. Vaccination is being done according to a phased programme. The disease is prevalent in the district in a mild form and the cases are now sporadic in nature and do not assume the proportion of an epidemic. Most of the cases are imported ones coming chiefly from the adjoining districts and also from Bombay. The infection, which is noticed here and there, spreads to those who are not protected by vaccination.

Vaccination was being enforced under the District Board's Act of 1920 which laid down a certain procedure to be observed by the health authorities and certain specific obligation on the part of the public. Children who had to be vaccinated primarily were required to gather at a public place like a village *chavadi* or a school. Advance notices to the parents of the children were served beforehand asking them to bring their children on a particular date and to a particular place. For those who had not been adequately protected, similar notices were served asking them to get vaccinated in good time in the places of their habitation. A scrutiny of the Birth Register used to be made to detect in time whether there were children who had not been primarily vaccinated. Grown-up people who had not been protected had also to register themselves. In spite of these statutory notices, many persons who had to produce their children for vaccination were failing to appear and prosecutions had to be resorted to. In times of an epidemic of small-pox, notices were served on every adult and child to get revaccinated. The President of the South Kanara District Board had delegated his statutory authority to sanction vaccination prosecutions to the District Health Officer.

The actual vaccination work was done by Health Assistants located in all the seven health ranges spread over the district. Each Health Assistant was allotted a population of 60,000 for purposes of vaccination work and the programme of work was chalked out by the respective Range Health Inspector during December of each year. One-tenth of the entire population of the range had to be protected with revaccination. The Health Assistants were required to follow the programme chalked out and visit minor and major villages frequently to perform primary vaccinations.

Before November 1956, the vaccine lymph was supplied to the district by the Director, King Institute, Guindy. Since South Kanara became a part of the new Mysore State, the Mysore Vaccine Institute is supplying the glycerine lymph which is now in use throughout the district. Each Health Assistant entrusted with vaccination work receives four supplies of lymph in a month sent on fixed dates from the Vaccine Institute. The first two supplies are made use of for primary vaccination work and the last two for revaccination. It is the duty of the Health Inspectors to see that all the children are well-protected. The vaccination figures for the years from 1948 to 1957 were as given below :—

Year	Primary vaccination	Re-vaccination
1948	45,455	1,00,417
1949	39,634	1,49,644
1950	58,855	2,74,508
1951	53,365	2,12,695

1	2	3
1952	55,915	1,35,015
1953	59,015	1,71,561
1954	61,147	1,66,633
1955	48,651	1,43,825
1956	50,532	1,21,859
1957	43,361	1,12,348

It is often noticed that when the Health Assistants visit a particular village, people who have to get vaccinated fail to appear in response to official notices because they go away from the village for work and come home only for short periods. In such cases, they go unprotected and are liable to get infected.

The incidence of small-pox in the district since 1945 has disclosed a notable reduction in morbidity figures and this is due to intensive vaccination work. The peak death rate of 254 in 1945 had come down to 12 in 1957. A statement showing the incidence during those years is given below :—

Year	Attacks	Deaths
1945	1,342	254
1946	270	48
1947	72	11
1948	80	21
1949	236	43
1950	661	154
1951	312	70
1952	90	21
1953	48	17
1954	23	9
1955	29	5
1956	19	8
1957	70	12

There were stray cases of small-pox in 26 villages with 70 attacks and 12 deaths in 1957-58. A majority of these cases were reported from Puttur. An analysis of the probable sources of infection disclosed that they were from Bombay, Guntur, Mercara, Bangalore and Chikmagalur. Preventive measures like vaccination, re-vaccination, disinfection and isolation were resorted to in time. When the Mysore Local Boards Act was passed, the provision of enforcement of vaccination rules in regard to them was discontinued from 1962 onwards.

**National
Small-Pox
Eradication
Programme**

On 22nd January 1962, the National Small-pox Eradication Programme was started in South Kanara and 32 Vaccinators of the Mysore Zone commenced work in the Coonadpur taluk by door-to-door visit in order to vaccinate every individual against

small-pox and covered the other areas also. Progress could not be achieved to the expected extent especially in the urban areas owing to the absence of notice system to which the people were accustomed previously. The local Health Assistants were absorbed as Team Supervisors under the programme and were reverted to their original posts after the closure of the scheme. Till October 1964, the Health Assistants were entrusted only with follow-up work, and thereafter the staff of the Primary Health Centres were entrusted with the responsibility of vaccination work.

Under the National Small-pox Eradication Programme, every individual has to be protected once in five years by re-vaccination and every child born is to be protected within three months by successful vaccination against small-pox, the ultimate aim being eradication of small-pox infection from the community. The staff of the Primary Health Centres are expected to pay domiciliary visit to each house, record the new arrivals and protect them. From November 1971, the centrally-sponsored scheme has contributed the required budget for additional staff to assist the existing Basic Health Workers. Additional supervisory staff is also sanctioned with a view to having proper supervision. The progress of work of vaccination achieved and the incidence of small-pox in the district during the years from 1966 to 1971 were as given below:—

Year	No. of primary vaccinations	No. of re-vaccinations*	Total	Small-pox	
				Attacks	Deaths
1966	44,292	2,87,474	3,31,766	77	24
1967	57,964	2,63,227	3,11,191	60	13
1968	69,671	2,77,265	2,96,936	17	5
1969	84,655	2,93,591	3,68,246	2	2
1970	76,783	2,36,826	4,13,609	1	..
1971	73,128	96,168	2,69,296	..	..

* Under the National Small-pox Eradication Programme, the monthly target is 10,000 primary vaccinations and 25,000 re-vaccinations.

When the District Board was in existence, control of cholera was an important item of work (next to that pertaining to small-pox) entrusted to that body. The Range Health Inspectors were responsible for the prevention and control of cholera. Whenever suspected cases were reported, mass anti-cholera inoculations were done, the infected houses were disinfected and drinking water sources were chlorinated with bleaching powder. The expenditure was borne out of the District Board Funds.

Cholera is not prevalent in South Kanara in an endemic form, but infection is expected at any time from outside. The epidemic broke out in the district during 1966 in Coondapur taluk and there were 32 attacks and eight deaths at five places including Coondapur town. To control the infection, the weekly market at

Coondapur was closed, the water sources were chlorinated and 12,576 anti-cholera inoculations were done. In October 1971, one death due to cholera was reported from Bolar village of Mangalore taluk. At the same time, four attacks and two deaths were reported due to gastro-entritis at Bolár and Tannirbavi villages.

Plague

During the earlier period, plague infection was a major problem of the district. After the advent of D.D.T. spray from 1952, the district has remained free from this infection.

Malaria

Formerly, the measures of control of malaria were not known. Only quinine tablets were distributed through revenue officials and Branch Postmasters in villages. There was high endemicity in the *Malmad* areas including South Kanara. In 1948, a District Malaria Scheme was started. It was confined to four *firkas* having an area of about 500 square miles with a population of 90,824 living in 89 villages. The statement given below shows the spleen and parasite rates found in certain localities during 1949 :—

Locality	Spleen rate	Parasite rate
1. Belthangady	17	5
2. Gunenkere	19	2
3. Laila	31	12
4. Dharmasthala	38	11

The office of the District Malaria Scheme was located at Puttur with a laboratory fully equipped for investigation purposes. The staff consisted of one Health Officer, one Entomologist, four Health Inspectors and some field assistants. A vehicle was provided to the staff to attend to team work in interior villages. Upto 1950, there were sub-units at Bellare, Sullia, Uppinangady and Belthangady. Thereafter, the scheme was extended to the villages of Karkal taluk and during 1952 to the villages of Coondapur taluk. During 1951, the scheme covered about 1,000 sq. miles in Puttur and Karkal taluks with a population of 1,40,000. During the transmission season extending from December to June, three rounds of D.D.T. spraying were done, covering nearly 25,000 structures per round. The results achieved during the period of control in *ghat* and *sub-ghat* areas were considerable. The following figures indicate the percentage of malaria cases treated in the dispensaries during the years from 1947 to 1951 :—

Dispensary	Percentage of malaria cases treated in				
	1947	1948	1949	1950	1951
L.F. Dispensary, Kadaba ..	59.6	59.4	46.0	26.5	24.3
Rural Dispensary, Uppinangady ..	45.4	37.1	31.9	26.0	19.1
L.F. Hospital, Belthangady ..	44.1	55.1	36.3	27.5	24.1
L.F. Hospital, Sullia	35.8	32.7	28.9	17.7	13.8
Spleen Rate .. ..	..	45.9	38.8	23.5	9.45
Parasite Rates .. ..	..	8.3	3.8	1.0	0.55

The spraying operations were withdrawn during 1957 and the staff were entrusted with malaria surveillance work. During the following year, the scheme was re-organised with sub-units at Puttur and Karkal which came under the District Malaria Scheme, with its headquarters at Puttur, covering the areas of eastern hilly *malnad* with a population of 2,59,204. In 1957-58, there were 92 recorded malaria deaths. The areas which were not covered under the District Malaria Scheme were demarcated as hypo-endemic areas with Mangalore as headquarters, having sub-units at Mangalore, Udipi, Coondapur and Buntwal, covering a population of 13,80,650.

An initial staff was sanctioned for undertaking the D.D.T. spraying work during the transmission season with a view to breaking the cycle of transmission. The programme also included active and passive malaria surveillance, thus constituting a two-pronged attack on the scourge of malaria. During the year 1959-60, the first round of spraying was commenced and there were substantial number of refusals. Besides this, regular entomological studies were also conducted to assess the existence of density of anopheles and nectar species.

The programme of Active Malaria Surveillance was started on 1st April 1960. The area was divided into 135 sections or divisions, each division being put under the charge of a Malaria Surveillance Worker. The duty of each worker was to visit every house in his jurisdiction according to ten-day programme once in a fortnight to detect the incidence of malaria. Whenever a fever case was encountered he had to take a blood smear and pass it on to the unit office laboratory for investigation. Whenever a positive case was found, the patient was given treatment with anti-malaria drugs. When the scheme period ended and the district entered the maintenance phase, the unit was abolished from 1st October 1964 and the staff was attached to the Primary Health Centres of South Kanara. The staff of the Active Malaria Surveillance Unit consisted of one Medical Officer of Health one Non-Medical Assistant, five Senior Malaria Inspectors, four Junior Inspectors, one Senior and three Junior Microscopists, 32 Malaria Surveillance Inspectors, 131 Malaria Surveillance Workers and four Superior Field Workers besides necessary clerical and other staff.

Since October 1964, the Basic Health Workers are allotted a total population of 5,000 to 10,000. A fixed 22-day programme is chalked out and every house is visited once in a month for malaria vigilance and other activities. In case of detection of a fever case, blood smear is obtained and the patient is treated with four aminoquinolines. The smears are numbered serially and passed on to the Primary Health Centre Laboratory for examination. In respect of a malaria positive case, the patient

is treated with eight aminoguanolines. Other preventive measures such as D.D.T. spraying, mass blood-survey and follow-up work in the infected area are undertaken.

At the institution, when fever cases attend the dispensary, blood smears are collected and sent to their respective Primary Health Centre Laboratories. Upto 1969, there were no indigenous cases, but during April 1969, when the labourers from Andhra Pradesh migrated to work in connection with the Hassann-Mangalore Railway project, the seeds of malaria infection were sown at the labour camps of Shirady village of Puttur taluk. In the beginning, the infection was confined only to the migrant labourers, but later it spread to those local people who were employed to work in the project. The following table shows the number of blood smear collections and malaria positive cases encountered during the years from 1965 to 1971:—

Year	Passive smears	No. of positives	Active smears	No. of positives	Mass smears	No. of positives
1965	11,812	1	31,159	..	667	..
1966	13,710	..	29,536	..	793	..
1967	16,870	..	40,011	1	250	..
1968	19,999	1	36,561	1	1,476	..
1969	17,785	6	20,267	6	73,708	63
1970	15,039	2	44,597	4	2,139	1
1971	15,192	36	41,210	33	12,718	46

Leprosy

Leprosy has been one of the oldest diseases of mankind, presenting a major public health problem for centuries in India. It was extremely dreaded and the leprosy patients were socially almost segregated. The scientific and technical advancement in the medical field has proved that leprosy is not hereditary or congenital; it is not transmitted through food and all leprosy cases are not infective. As per the opinion of the workers in the field of leprosy, "roughly 12 to 15 thousand people are affected by this disease in South Kanara. Of these, 4 to 5 thousand are infectious cases capable of transmitting the disease to others, especially children who are more susceptible. Another aspect of the problem in South Kanara is the miserable plight of many crippled and disabled patients who are infection-free but in whom the disease is burned out, but who are unwanted and shunned by society, because they carry the stigmata of leprosy".* Besides Government and Municipalities, organisations such as Hind Kushi Nivaran Sangh and missionary bodies like Fr. Mullers Charitable Institutions, particularly the Swiss Emmaus at Kanakanady in Mangalore are fighting against this disease.

* Dr. G. D. Veliah, *Ibid*, pp. 45-47.

The Leprosy Control unit came into existence in 1955 with a staff of one Honorary District Leprosy Officer and one Health Inspector. This unit is doing the anti-leprosy work in co-ordination with the Hind Kusht Nivaran Sangh, South Kanara district branch, Mangalore, by conducting survey of leprosy cases, carrying on propaganda and educating people, supplying drugs to the various clinics and dispensaries in the district and initiating the establishment of leprosy clinics in rural areas. There are ten leprosy treatment clinics in the district, of which five are independent units and the others are attached to the hospitals. The five clinics, run under the auspices of the Hind Kusht Nivaran Sangh, are located at Mudrangady, Kaup, Surathkal, Gurpur and Farangipet. The other five are functioning at the L.F. Hospital, Shirva, L.F. Hospital, Mulki, Primary Health Centre, Bajpe, Primary Health Centre, Vittal and Government Hospital, Buntwal. Besides rendering service at these leprosy clinics, the Hindu Kusht Nivaran Sangh has placed the services of a lady social worker at the disposal of the Government Wenlock Hospital, Mangalore. The following table shows the types and number of cases treated during the years from 1962 to 1971 :—

Year	Types of cases treated			Total
	Lepromatus	Non-Lepromatus	Dimorphous	
1962	129	398	4	531
1963	160	421	5	586
1964	194	423	7	624
1965	268	408	2	678
1966	404	874	9	1,287
1967	495	1,244	15	1,754
1968	587	1,624	15	2,226
1969	665	2,050	14	2,729
1970	703	2,343	20	3,066
1971	743	2,612	25	3,380
Total	4,348	12,397	116	16,861

A National Leprosy Subsidiary Centre was started at Coondapur on 3rd August 1959 and it had extended its work to 101 villages, covering a population of 2,58,499. It has a Medical Officer, a Non-Medical Officer, a Para-Medical worker and a Compounder. Under this Subsidiary Centre, there are four sub-centres located at Koteswar, Shankaranarayana, Wandse and Baindoor, each having a Para-Medical worker. The initial survey undertaken by the Subsidiary Centre was completed in June 1964. All the persons that were enumerated (1,95,226 in number) were

Leprosy
Subsidiary
Centre,
Coondapur

examined. The following statement shows the number of cases treated at this Centre upto March 1972 :—

Type	<i>Lepromatous</i>	<i>Non-Leptomatus</i>	<i>Dimorphous</i>	Total
No. of patients actually examined among the population.	116	339	6	461
Recorded patients in the project area through surveys and otherwise.	126	482	21	629
No. of patients from outside the project area.	29	79	1	109

The Subsidiary Centre is also attending to the follow up of healthy household contacts periodically, which are being re-examined. As at the end of March 1972, as many as 2,895 healthy household contacts were under observation. The bacteriological examination of blood smears is done at the Public Health Institute, Bangalore. The subjoined table gives the total number of leprosy cases treated by all the ten clinics in the district during the years 1969-70, 1970-71 and 1971-72 and the expenditure incurred during those years :—

Year	Total No. of leprosy cases treated	No. of new cases treated	Expenditure incurred
			Rs.
1969-70	292	40	37,069
1970-71	339	50	37,452
1971-72	254	38	39,312
Total	885	128	1,13,833

Filariasis

Filariasis is one of the most dreaded diseases affecting the people, especially along the coastal belt of South Kanara.* It brings about permanent and unsightly swelling and deformity in the legs, scrotum and other parts of the body. Modern medical research has shown that this disease is due to the growth and development of a thread-like worm, *Filaria bancrofti*. This worm makes its habitat in the lymphatics of the human body and in some cases produces inflammation and later on obstruction of these lymph channels resulting in swelling and deformity. The adult female worm occasionally discharges innumerable minute young ones-larvae called *Microfilaria nocturna*, which come up to the small blood vessels under the skin, especially during the night. When such a person is bitten by a species of mosquito, *Culex*

* Dr. G. D. Veliath, *Ibid*, p. 42.

fatigans, very common in the coastal parts, it takes a few micro-filaria also along with the blood it sucks in. These grow and develop in the body of the mosquito and in a few days become infective to man. This infected mosquito carrying the developed larvae is a danger. If its next choice for a blood feed happens to be an individual free from filariasis, he becomes a victim, the filarial larvae being transferred to that person during the bite of the mosquito. This disease thus spreads from an infected man to a mosquito and from the latter to another healthy man.

The control and eradication of filariasis depends upon breaking this vicious chain which can be done by several ways, such as, (1) by protecting oneself from being bitten by mosquitoes by means of nets or other contrivances, (2) by eradication of mosquitoes by the use of insecticides, and (3) by mass treatment of the population by the drug "Hetrazan", etc. Another aspect of the problem of filariasis is that many people harbour the worms sometimes for years and in some cases all through their life-time without any apparent ill-effects. Only a small percentage of them develop repeated attacks of fever, swelling and permanent deformity later on. In Mangalore City, as a result of a survey conducted in 1954, about 15 per cent of the population showed microfilaria in their blood; this was indicative of the presence of the adult worm in their system. They were potential victims and a source of infection to people around. About nine per cent showed evidence of filarial disease such as fever, swelling and deformity. The disparity was more marked in other places. The following figures show the microfilaria infection and disease rates at other places in the district:—

<i>Place</i>	<i>Microfilaria infection rate</i>	<i>Disease rate</i>
Udipi	9.6%	1.8%
Puttur	4.0%	0.7%
Karkal	8.1%	0.7%
Ullal	4.6%	0.6%
Surathkal	2.6%	0.1%
Manipal	4.2%	0.2%

There has been a separate Health Officer with required staff since 1955 (a health section sponsored by the National Filaria Control Programme), undertaking measures to control and prevent the spread of this disease in the district.

Tuberculosis continues to be a great scourge in South Kanara, taking many lives of persons in their prime. The causative agent is the Tubercle bacillus-Myco-bacterium a slender, living organism

Tuberculosis

which enters the human body mainly through the air we breathe. Many factors such as poverty, ignorance, mal-nutrition, overcrowding and spitting anywhere and everywhere stand in the way of an effective fight against this disease. Though potent drugs and B.C.G. vaccine are available, it still continues to take a heavy toll of human lives.

The Government, with its National Programme of Tuberculosis Control, the South Kanara District Tuberculosis Association and other agencies are doing fruitful work in treating this disease. The District Tuberculosis Centre, Mangalore, came into existence in 1964, the main services of which are diagnosing and treating of tuberculosis cases. There are 42 sub-centres all over the district, which are attached to the respective Government and local medical institutions. Patients are treated with drugs at these sub-centres and the tablets required are supplied by the main centre. The following statement indicates the number of T.B. patients treated all over the district during the years 1969-70, 1970-71 and 1971-72 :—

<i>Year</i>	<i>No. of cases treated</i>
1969—70	4,093
1970—71	2,365
1971—72	3,556

During the year 1971, at the District Centre, 2,781 X-ray examinations (1,753 new and 1,028 old) and 2,569 sputum examinations (1,690 new and 879 old) were done; a total number of 1,260 new pulmonary cases were detected, of which 77 cases were from outside the district. There is a B.C.G. Team attached to the District Centre, consisting of one Team Leader and seven B.C.G. Technicians (as in 1971-72). The functions of this team are to visit village after village in every taluk and to protect the children by means of B.C.G. vaccination. The following were the number of B.C.G. vaccinations done in the district during 1971 :—

<i>Age group of children</i>	<i>No. of children registered</i>	<i>No. of vaccinations done without test</i>
0—1	5,972	2,829
1—4	19,984	11,937
5—14	84,085	42,863
15—19	20,738	8,153
20	95,613	..
Total	2,26,392	62,782

N.B. :—All these B.C.G. vaccinations were done at the various sub-centres.

Amoebaeacis, typhoid and infestation with helminths (worms) are common all over the district both in urban and rural areas. Several factors such as unprotected water supply, unsatisfactory sanitary arrangements, dirty and ill-kept hotels, the practice of selling sweets and fruits kept open to flies and dust, unhygienic personal habits, want of civic sense, etc., contribute to the wide prevalence of these diseases.

**Other Major
diseases**

Protected water supply and adequate number of well-kept public latrines are the first necessary steps to prevent these diseases. An important item of the activities of the Department of Health Services is to make sanitary arrangements during fairs and festivals when people gather in large numbers. The funds for this purpose are provided by the local bodies, viz., the respective Panchayat or Taluk Development Board and in a few cases by the temple authorities.

With a view to preventing the infection of trachoma among children, a scheme called the National Trachoma Control Programme was started in 1967 in 20 villages of the Primary Health Centre at Surathkal and the Bunder area of Mangalore Municipality, having a population of 0.16 million. The children of these places were treated with the ointment on fixed days as per programme. A special staff consisting of two Senior Health Inspectors and 15 Basic Health Workers was engaged for this purpose from October 1967 to October 1969.

Trachoma

From 1st July 1971 the programme was extended to the remaining 37 villages of the Primary Health Centre at Surathkal and to the whole area under the jurisdiction of the Primary Health Centre at Ullal, areas of the Mangalore Municipality and villages attached to the Padubidri, Hiriadka, Brahmavara, Kota and Siddapur Primary Health Centres. In all, a population of 0.56 million was targeted under the scheme for the year 1971-72. The regular health staff of the respective Primary Health Centres are entrusted with the work of distributing eye ointment tubes to families, after demonstration. The treatment is prescribed to be given during the two seasonal periods—March to May and August to October. The people are advised to adopt intermittent schedule of treatment, specially for children under 12 years of age.

As in 1933, there were, in all, 19 hospitals and dispensaries in the district with one medical institution for every 205 square miles serving a population of 55,583. Of these, seven hospitals provided treatment for both in-patients and out-patients, while the rest catered only for out-patients. The hospitals in the district were looked after by the civil apothecaries and the dispensaries by the Hospital Assistants.

**Medical
facilities**

The Madras Government opened dispensaries at Naravi and Shirthady in 1953 and 1956 respectively. In 1956, a Mobile Medical Unit was sanctioned for the benefit of the rural areas in and around Puttur taluk. Primary Health Centres were opened at Bajpe and Hebri in 1952 and 1953 respectively, with combined medical and public health activities. In 1956, two more Primary Health Centres were opened at Baindoor and Sullia. The Local Fund dispensaries that existed at these four places were shifted to Badiadka, Perdur, Bellare and Gangolli. After the re-organisation of States in 1956, these Primary Health Centres were transferred to the Public Health Department.

Considerable progress has been made in extending medical facilities in the district during the Five-Year Plan periods. At present (1972), besides the three major hospitals at Mangalore, namely, the Government Wenlock Hospital, the Lady Goschen Hospital and the T. B. Sanatorium, there are five Government Hospitals, two Government Dispensaries, 20 Primary Health Centres, 23 Health Unit-Type Dispensaries, two Local Fund Hospitals, 25 Local Fund Dispensaries and 26 Rural Dispensaries, one Leprosy Subsidiary Centre, five Municipal Dispensaries, besides several private hospitals, dispensaries and nursing homes which are also quite popular. In 1971, there was a medical institution for every 27.8 square miles and on an average each served a population of 16,575.

Primary Health Centres

Of the 20 Primary Health Centres, 17 are of Government of India pattern and three are of Madras pattern, established during the successive Five-Year Plan periods. Each such Centre covers a population of sixty thousand. The comprehensive health services that are rendered at each of these centres are: (1) maternal and child health, (2) school health, (3) control of communicable diseases, (4) environmental sanitation, (5) curative services, (6) health education, (7) family welfare, and (8) collection of vital statistics. These Centres provide instant remedial measures to needy patients in the rural parts. The staff strength of each of these Primary Health Centres varies from centre to centre depending upon the population each has to cover. A statement showing the location of these Centres and the staff each had as in April 1972 is appended at the end of this Chapter (Table I).

Health Unit-Type Dispensaries

The existing 23 Health Unit-Type Dispensaries were started from 1962 onwards. The main basic health services of these units are similar to those of Primary Health Centres. Each of these units covers generally a population of 15 thousand. The staff attached to each of these units, usually, consists of one Medical Officer, a Junior Health Inspector, a Pharmacist, three Midwives and two members of class IV staff. These units are under the control of the Taluk Development Boards which meet 50 per cent

of their total expenditure, the remaining 50 per cent being met by the Government. Their technical supervision vests with the District Health and Family Planning Officer on whose recommendations any grant or subsidy is paid to these units by Government.

The Local-Fund Hospitals and Dispensaries and the Rural Dispensaries are also under the control of the Taluk Development Boards like the Health Unit-Type Dispensaries. While the former ones dispense Allopathic medicines, the latter dispense Allopathic, Ayurvedic and Unani medicines. The Municipal Dispensaries maintained by the Mangalore Municipality give Ayurvedic and Unani treatments.

In the following paragraphs, brief accounts of some important hospitals-both Government and private-are given.

Over one-and-a-quarter century ago, *i.e.*, in 1848, the Mangalore Hospital was established in pursuance of the orders passed by the Court of Directors of the East India Company. The inhabitants of Mangalore submitted a memorial to the authorities to open a hospital at an early date. In response to this, the Court of Directors established a hospital in a rented building paying a monthly rent of Rs. 14 and put a medical officer in charge. The staff consisted of a dresser, a cook, a ward boy, a *thoti* and a watchman. The medical amenities provided in this hospital were made use of by the people in ample measure and the establishment had to be expanded. The rented building where the hospital was housed, was not capable of expansion and a separate building was constructed in 1851. The Surgeon in charge was provided with an Assistant Medical Officer. In 1871, the Mangalore Hospital was transferred to the care and maintenance of the Municipality under a separate Act (Act III of 1871). The District Board of South Kanara used to contribute a grant of Rs. 600 annually in view of a large number of patients who flocked to this hospital from various parts of the district.

**Wenlock
Hospital,
Mangalore**

When this hospital was first established in 1848, the number of in-patients and out-patients treated was 45 and 1,447 respectively for the whole year. This number progressively increased to 328 and 15,133 in the year 1892 necessitating an all-round improvement in the provision of medical amenities. Another important step was taken in 1919 when the Madras Government took over the Mangalore Hospital and began to manage its affairs. The policy of the Government then was to take over all the District Headquarters Hospitals under its own management and to run them as Government Institutions. Thus in all the districts of the Madras Presidency Headquarters Hospitals were maintained by the Government and qualified medical men were put in charge of them.

After taking over the Mangalore Municipal Hospital, the Government named it as the Wenlock Hospital, after Lord Wenlock, who was the then Governor of the Madras Presidency. The hospital was put under the charge of a Superintendent of the Madras Medical Service Cadre, who was also the District Medical Officer for the district. The hospital building, notwithstanding the subsequent additions and improvements, looked antiquated, but it was fairly well-equipped. The Police Hospital, which was maintained as a separate institution, was amalgamated with the Wenlock Hospital and a new ward of 10 beds was added in 1925. In 1926, a Skin Clinic was inaugurated as an adjunct to the Headquarters Hospital. In 1938, besides the Superintendent, there were one Assistant Medical Officer, three Sub-Assistant Surgeons and nursing staff. In view of the increasing number of patients seeking admission to the Wenlock Hospital, accommodation was found by additions of semi-permanent new buildings and by improvement of the existing buildings, thus increasing the number of beds from 68 to 100, though actually, on an average, 115 in-patients were treated daily in 1938. Before the amalgamation of the Police Hospital with the Wenlock Hospital, the institution was housed in the old hospital where at present the Lady Goschen Hospital is situated. The portion rendered vacant in the old District Headquarters Hospital was improved and converted into a Women's and Children's Hospital.

In 1951, under the First Five-Year Plan, the Madras Government sanctioned Rs. 28.25 lakhs for effecting improvements and additions to the Wenlock and Lady Goschen Hospitals. This allotment was later on increased to Rs. 32.5 lakhs. Exactly one hundred years after this hospital came into existence, the reconstruction work, as per the plan allotment, was started. New administrative, out-patient and surgical blocks were put up at a cost of Rs. 7.66 lakhs and these new blocks were occupied in April 1965. A medical block on the western side of the hospital building was constructed at a cost of Rs. 2.95 lakhs. The work of one more block, *i.e.*, the rear surgical block, at a cost of Rs. 6.4 lakhs to accommodate additional beds, was started in 1956 and completed in 1959. A nurses' block was completed in April 1956. This block affords accommodation for head nurses, staff nurses and pupil nurses. The accommodation here being insufficient for housing the nursing staff of both the Wenlock and Lady Goschen Hospitals, an extension wing was being built in 1972 at a cost of Rs. 5.44 lakhs.

With the association of clinical sections of the Kasturba Medical College with the Wenlock Hospital, the scope and usefulness of the institution has considerably increased. Specialised treatment in surgery and medicine in its various branches is available to the public here. The hospital has modern X-ray therapy and radium treatment facilities.

An exclusive out-patient block was constructed during the Third Five-Year Plan at a cost of Rs. 7.75 lakhs. The ground floor of this block is used completely for out-patient departments, while the first-floor is occupied by the School of Nursing, Health Visitors' Training School, Dental Department and Paediatric Department. Construction of a further floor at a cost of Rs. 6.35 lakhs was in progress in 1972. This would accommodate the Paediatric wing on one side and the wings of advanced treatment pertaining to neurology, neuro-surgery, cardiology and paediatric surgery on the other side, as sponsored by the Medical Relief Society of Mangalore. For this purpose, the Society has donated one lakh of rupees. This was in addition to the donation of Rs. 45,000 given by the Lions Club and Rs. 55,000 by the Malliah Memorial Trust.

The Wenlock Hospital had a bed strength of 555 for men, women and children in 1972 as against 302 in 1957. Besides the general Surgical and Medical units, there are four Major Surgical and four Major Medical units, two Orthopaedic and Paediatric units. Ophthalmic, Venereal, E.N.T., Tuberculosis, Dental and Blood Bank Departments have also been attached to this hospital. The daily average number of in-patients treated in 1957 was 263 men, 103 women and 24 children, while the number of out-patients treated in that year was 736 men, 279 women and 79 children. A total expenditure of Rs. 6,30,206 was incurred in 1957. The number of in-patients and out-patients treated and the expenditure incurred during the years 1969-70, 1970-71 and 1971-72 are given below :—

Year	No. of in-patients treated	No. of out-patients treated	Expenditure incurred
			Rs.
1969-70	15,961	4,70,025	23,23,525
1970-71	15,492	5,06,248	24,72,897
1971-72	16,384	5,91,557	26,47,957

As in 1972, 24 Assistant Surgeons, one Dental Surgeon and one Dental Assistant Surgeon, 20 Honorary Medical Officers and 32 Honorary Assistant Medical Officers were working in the Wenlock Hospital under the control of the District Surgeon and Superintendent. In that year, 135 pupil-nurses were receiving training and the nursing staff consisted of one Matron, 13 Nursing Superintendents of Grade II, 7 Tutors and 60 Staff Nurses.

The Lady Goschen Hospital for Women and Children is located in a separate building which was originally used by the General Hospital managed by the Municipality prior to its being handed over to the Government in 1919. It was named after Lady

Lady Goschen
Hospital

Goschen who visited the institution on 12th October 1927 along with Viscount Goschen, the then Governor of Madras.

To start with, the sanctioned bed-strength was sixty and it was increased to 80 in 1942, to 120 in 1951 and to 160 in 1955. A new Maternity Ward Block with a ground floor was constructed at a cost of Rs. 2.2 lakhs in 1955. When 50 Paediatric beds were added in 1963, the bed-strength increased to 210. For want of accommodation and to provide clinical facilities to medical students, 30 paediatric beds were transferred to the Wenlock Hospital later. In the year 1966, the Government sanctioned 20 beds for sterilisation purpose. The bed-strength in 1972 was 250. Like the Wenlock Hospital, this is also a teaching hospital. There are two teaching units of obstetrics and gynaecology, two operation theatres and two labour theatres. A premature babies unit it also attached. There is a family planning clinic functioning with a separate ward of 20 sterilisation beds. It has also a separate X-Ray Department and a Blood Bank.

In 1957, the total daily average number of in-patients treated was 168 women and 83 children, while the total daily average number of out-patients treated was 204 women and 301 children. A total of 36,869 patients, both indoor and outdoor, were treated in that year. The total expenditure incurred during that year was Rs. 2,40,674. The following statement shows the number of in-patients and out-patients treated and the expenditure incurred by the institution during the years 1969, 1970 and 1971 :—

<i>Year</i>	<i>In-patients treated</i>	<i>Out-patients treated</i>	<i>Expenditure incurred (in Rs.)</i>
1969	5,219	52,360	7,17,000
1970	5,374	38,325	7,02,700
1971	5,884	35,770	8,14,000

The District Surgeon of the Wenlock Hospital is also the Superintendent of the Lady Goschen Hospital. As in 1972, the Hospital staff consisted of one Surgeon (Deputy Superintendent), five Assistant Surgeons of Grade II, three Honorary Medical Officers, four Honorary Assistant Medical Officers, one Nursing Superintendent of Grade I, four Nursing Superintendents of Grade II, 20 Nurses, six Pharmacists, three Midwives, one Nursing Orderly of Grade I, 20 Nursing Orderlies of Grade II, one X-Ray Technician, one Health Visitor, two Family Planning Welfare Workers and necessary clerical and class IV staff.

Another major medical institution maintained by the Government is the Tuberculosis Sanatorium at Mudushedde, about 12 kms. from Mangalore, which was started in 1955. The sanatorium is situated by the side of the main road in a hilly place extending over an area of about 270 acres. Its buildings were originally constructed by the Madras Provincial Welfare Fund, South Kanara Branch, and later on handed over to the Government. This Sanatorium has a twin-ward with a total bed-strength of 100 (75 for men and 25 for women), an administrative block, store room, kitchen, laundry and residential quarters for the staff members. The daily average number of in-patients treated in 1957 was 23 men and 22 women, while the total number of patients treated both in the in-patient and out-patient blocks was 325. The total expenditure incurred in that year was Rs. 67,631. Formerly, the Civil Surgeon and District Medical Officer was also the *ex-officio* Superintendent of the Tuberculosis Sanatorium. There were two Civil Assistant Surgeons, one Pharmacist, two Nurses, one X-Ray Attendant, five Nursing Orderlies and one Dark Room Attendant working in 1957. Now (1972), there is an independent Superintendent, who is assisted by three Assistant Surgeons, one Nursing Superintendent, 10 Staff-Nurses, one X-Ray Technician, one Laboratory Technician, one Pharmacist, 10 Nursing Orderlies and necessary clerical and class IV staff. Facilities are provided for the treatment of T.B. cases as also cases of some other diseases. As in 1972, the daily average attendance of in-patients was 90 and that of out-patients 43. There is a proposal to increase the bed-strength by another 50 beds. The following figures show the number of in-patients and out-patients treated and the expenditure incurred during the years 1969, 1970 and 1971 :—

Year	In-patients treated	Out-patients treated	Expenditure incurred (in Rs.)
1969	494	13,478	2,80,082
1970	410	12,047	2,97,642
1971	491	14,008	3,37,859

The Government General Hospital at Udipi, situated in the heart of the town was started as early as 1887. A civil Surgeon is in charge of this hospital and he is also the Medical Officer of the Government Maternity and Children's Hospital at Udipi. The General Hospital consists of one main building, one Out-patient Department, an X-Ray Department, Medical Stores, Special Wards, Kitchen Block and Mortuary, in a spacious area of 24 acres.

T.B. Sanatorium,
Mudushedde

Government
General
Hospital,
Udipi

In 1957, the daily average number of in-patients treated was 28 men, 29 women and 12 children, while the number of out-patients treated stood at 189 men, 234 women and 217 children. A total amount of Rs. 56,498 was spent on the hospital during that year. The staff, in 1957, consisted of two Civil Assistant Surgeons, two Honorary Assistant Medical Officers, one Maternity Assistant, three Pharmacists, four Nurses and six Nursing Orderlies. Now (1972), a Dental Department is also functioning in the hospital. A separate eye operation theatre was opened in 1971. The X-Ray unit is equipped with a 100 M.A. X-Ray mechanic. The hospital has refrigerators, horizontal high pressure steriliser, microscope, infra-red lamp, operation theatre equipment, etc. The family planning wing has been conducting vasectomy and tubectomy operations. Anti-rabic treatment is also given at this hospital. There is a proposal to open a Blood Bank. Sanction has also been accorded to construct a T.B. Block with a bed strength of 24.

In 1972, the bed-strength of the hospital was 100. A Civil Surgeon is in charge of this hospital and he is assisted by two Assistant Surgeons and one Assistant Dental Surgeon, two Nursing Superintendents, 11 Staff Nurses, four Pharmacists, one Laboratory Technician, one X-Ray Attender, one Midwife and nine Nursing Orderlies and the administrative staff. The daily average number of in-patients and out-patients treated and the expenditure incurred during the years 1969, 1970 and 1971 were as follows :—

<i>Year</i>	<i>In-patients</i>	<i>Out-patients</i>	<i>Expenditure</i>
			<i>Rs.</i>
1969	88	711	2,95,736
1970	95	610	4,31,400
1971	103	792	4,36,539

**Government
Maternity
and Children's
Hospital**

The Government Maternity and Children's Hospital, Udipi, which was started in 1920, is under the administrative control of the Civil Surgeon, Government General Hospital, Udipi. Upto 1966, this was a combined hospital treating general cases as well as maternity and children's cases. Since 1966, it has been named as Maternity and Children's Hospital. It has a bed-strength of 70. The hospital consists of a Maternity Ward, Special Wards, a Children's Ward, an Out-Patient Block, an Operation Theatre, Medical Stores, an X-Ray Unit and a Family Planning Section. As in 1972, the staff consisted of three Assistant Surgeons, one Nursing Superintendent of Grade II, eight Nurses, four Auxiliary-Nurse-Midwives, two Pharmacists, one Junior Laboratory Technician and administrative staff. The daily average number of in-patients and out-patients treated and the expenditure incurred during 1969, 1970, 1971 were as follows :—

Year	Daily average No. of		Expenditure Rs.
	In-patients	Out-patients	
1969	43.4	229.5	1,76,082
1970	59.0	361.6	2,13,503
1971	55.4	338.4	2,06,224

The Government Hospital at Karkal was started about 80 years ago with eight beds and a small dispensary attached to it. In 1919, the South Kanara District Board put up the dispensary and the out-patient block. A *post-mortem* shed was also constructed by the Board in 1938. In the following year, a maternity ward for eight beds and an operation theatre were added with the help of a donation made by Shri K. P. Seshagiri Prabhu. In 1941, a surgical ward of six beds was constructed and donated by the late Shri Ranjal Govardhana Vaikunta Shenoy of Karkal. In 1951, the Madras State Medical Department took over the management of this hospital and sanctioned an additional post of a Lady Assistant Surgeon and two posts of qualified nurses. A dental clinic under a trained Dental Surgeon was opened in 1952. In 1955, the Community Project administration constructed a new ward of 16 beds (which is now being used as the medical ward for men) and supplied it with necessary equipment. In 1956, prior to States' Re-organisation, the bed-strength of this hospital was increased from 22 to 38. In the same year electricity and water supply were provided by the community project administration. After the district came under the administrative control of the new Mysore State, the Government sanctioned 20 additional beds, and an out-patient block has also been constructed.

Government
Hospital,
Karkal

The daily average number of in-patients treated in this hospital in 1957 was 17 men, 25 women and nine children giving a total of 51. The daily average number of out-patients treated was 129 men, 96 women and 73 children giving a total of 298. The total expenditure of the institution during 1957 was Rs. 51,540. In that year there were two Civil Assistant Surgeons, one Honorary Medical Officer, one part-time Dentist and necessary administrative staff. The maternity section was managed by one Maternity Assistant, four Nurses and four Nursing Orderlies. Now it is a first class hospital with a total bed-strength of 100. It is provided with X-Ray equipment, laboratory facilities and modern operation theatre equipment. As in 1972, the staff consisted of one Medical Officer, three Assistant Surgeons of Class II, one Assistant Dental Surgeon, eight Staff Nurses, three Pharmacists, one X-Ray Technician, one Senior Laboratory Technician and two Midwives and necessary administrative staff. The statement given below shows the number of in-patients and out-patients

treated and the expenditure incurred on this hospital during the years 1969, 1970 and 1971 :—

<i>Year</i>	<i>In-patients treated</i>	<i>Out-patients treated</i>	<i>Expenditure incurred (in Rs.)</i>
1969 ..	32,263	93,737	1,86,505
1970 ..	32,209	1,03,611	2,13,542
1971 ..	20,627	96,058	1,93,511

**Government
Hospital,
Puttur**

The Government Hospital at Puttur started working in 1872. It was administered by the Puttur Taluk Board till 1928 when it was taken over by the Madras Government. In 1902, an out-patient block was constructed and in 1936 an additional consulting room for the use of the Lady Assistant Surgeon was opened. Upto the end of 1942, the bed-strength of this hospital was 25. A maternity ward of eight beds was opened in 1943 bringing the total bed-strength to 33. Between 1947 and 1958, several improvements were made. In 1962, a ward of 20 beds and an office block were added. Later, a labour theatre and nurses' quarters were built. In 1969, an independent out-patient block was opened. Now it is a first class hospital and is equipped with a 25 M.A. X-Ray plant.

In 1957, the daily average number of in-patients treated in the hospital was 20 men, 15 women and six children while the daily average number of out-patients treated was 129 men, 96 women and 73 children. The total expenditure for 1957 was Rs. 55,125. There were two Civil Assistant Surgeons, one Honorary Medical Officer, one Maternity Assistant, three Nurses and four Nursing Orderlies in that year. As in 1972, the staff consisted of one Medical Officer, two Assistant Surgeons of Class II (including a Lady Assistant Surgeon), one Assistant Dental Surgeon, six Staff Nurses, three Pharmacists, one Midwife, one X-Ray Attendant, one Senior Laboratory Technician and administrative and class IV staff. The total expenditure incurred on this hospital during 1969-70, 1970-71 and 1971-72 was Rs. 1,42,719, Rs. 1,58,829 and Rs. 1,48,914 respectively. The following statement shows the number of in-patients and out-patients treated during the years 1969-70, 1970-71 and 1971-72 :—

<i>Total No. of cases treated or attended</i>	1969-70	1970-71	1971-72
No. of in-patients treated	2,291	2,441	2,127
No. of out-patients treated	35,813	40,685	39,047

The origin of the Government Hospital at Coondapur dates back to 1873 when it was started as a District Board dispensary. In 1928, the Government took it over. In 1956, a new maternity ward of eight beds was added, making a total bed-strength of 26. In 1957, the daily average number of in-patients treated in the hospital was 17 men, 11 women and six children. The daily average number of out-patients treated was 168 men, 159 women and 117 children. The total expenditure in 1957 came to Rs. 41,123. An Assistant Civil Surgeon was in charge of the hospital and he was assisted by one Grade III Assistant Surgeon, one Honorary Medical Officer, one Maternity Assistant, three Pharmacists, three Nurses and three Nursing Orderlies.

**Government
Hospital,
Coondapur**

In 1963, the bed-strength was increased to 45 and the next year to 71. Now it is a first class hospital and is equipped with an X-ray plant, and a dental clinic was sanctioned in 1970. As in 1972, there were one Medical Officer, two Assistant Surgeons of Class II, one Assistant Dental Surgeon, one Nursing Superintendent of Grade II, six Nurses, three Pharmacists, one Midwife, one Senior Laboratory Technician, one Junior Laboratory Technician, one Laboratory Attendant and one X-Ray Attendant and administrative staff. The following are the figures showing the in-patients and out-patients treated in this hospital and the total number of deliveries conducted during 1970 and 1971 :—

Year	Daily average no. of		Deliveries conducted
	In-patients	Out-patients	
1970	93	300	470
1971	101	324	491

A total number of 125 major operations, 53 vasectomies and 113 tubectomies were conducted in 1971. The total expenditure incurred on the hospital during 1969-70, 1970-71 and 1971-72 was Rs. 1,61,003, Rs. 1,84,967 and Rs. 1,86,741 respectively.

The Government Hospital at Buntwal was formerly a Local-Fund Hospital under the control of the Taluk Development Board. It was taken over by the Government in 1970. In 1972, it had a bed-strength of 24 with facilities for treating both in-patients and out-patients, and the staff consisted of two Medical Officers including a Lady Medical Officer, two Pharmacists, two Staff Nurses, two Auxiliary Nurse-Midwives, two Nursing Orderlies (a male and a female) and the administrative staff. The figures of the total number of in-patients and out-patients treated and the expenditure incurred during the years 1969-70, 1970-71 and 1971-72 are given below :—

**Government
Hospital,
Buntwal**

<i>Year</i>	<i>No. of in-patients treated</i>	<i>No. of out-patients treated</i>	<i>Expenditure</i>
			Rs.
1969-70	566	46,521	N.A.
1970-71	660	51,237	10,663
1971-72	644	68,391	1,24,181

**Father Muller's
Charitable
Institutions**

The Father Muller's Charitable Institutions had their beginning in the modest Homoeopathic Poor Dispensary established by Father Muller, a German missionary, at Kankanady, Mangalore, in the year 1880, with the main idea of bringing effective and cheap medical aid within the easy reach of the ailing poor of Mangalore. In those days, Homoeopathy was almost unknown in many parts of India. The dispensary treated a large number of patients with Homoeopathic medicines at moderate cost. It attracted the warm patronage of the public and was gradually expanded into a General Hospital by 1895 with two wards, one for men and another for women.

In 1897, Father Muller received the secret formulae of the Soleri-Bellotti Specifics and improved upon it and produced the wonderful combination of Homoeopathic medicines which are now called the Father Mullers' Specifics. When plague broke out in Mangalore in 1902, he built a Plague Hospital for the care and treatment of plague patients. Father Muller was an indefatigable and dedicated worker who spent many years of his life in the services of the sick and suffering. After he passed away in 1910, his noble work was consolidated by Dr. L. P. Fernandes who served the institution as Chief Medical Officer for 54 years without receiving any salary, assisted by other doctors like Dr. A. F. Coelho. The sales of Homoeopathy medicines expanded with demands from all over India, Sri Lanka and Burma. The bed-strength in the General Hospital was increased and a Surgical Department was opened. In 1940, the Sabina Lobo Memorial Maternity Hospital was added. In 1951, a large out-patient department and an X-Ray department were opened. In 1957, a Tuberculosis Hospital and the Damien Home for burnt-out leprosy patients were opened. In 1959, a Nurses' Training School was started with basic course in nursing for 12 students. The number of seats in this school was increased to 15 in 1963 and to 25 in 1965. A Clinical Laboratory and a Blood Bank were started in 1965.

In 1962, the 'Misereor' of West Germany helped to build a Children's Hospital. During the same year, the Ines Rebello Memorial Ward for the handicapped was added, an up-to-date A. J. Rebello Memorial Operation Theatre was built and the Maternity Hospital was extended. Another ward called "Our

Lady of Fatima Ward" with 38 beds was also added in that year. The Psychiatry Hospital came into existence in 1966. Thus, there was a marvellous expansion of the Father Muller's Charitable Institutions. Rev. Father Marian W. Fernandes was the Director of these institutions from 1955 to 1968 and was succeeded by Rev. Jacob Lobo. In 1968, a Vocational Rehabilitation Project with the aid of the Social Rehabilitation Service of the U.S.A. was started for training the physically and mentally handicapped persons and for rehabilitating them in gainful occupations. In 1970, an Isolation Ward was added. In 1971, extensions were made to the Maternity Hospital with 12 more beds, and, for accommodating Staff Nurses, 48 quarters were constructed. During the same year a Hospital Pharmacy was established with a view to preparing ordinary Homoeopathic and Allopathic medicines. Qualified and experienced pharmacists have been placed in charge of preparing various drugs. The Department of Pharmacy has been working in co-ordination with the Central Sterile Supply Department established in 1971, the Clinical and Pathological Laboratory, Homoeopathic Dispensary and the Leprosy Clinical Laboratory of the Fr. Muller's Hospital. Consultations in the hospital are free and ordinary medicines are supplied free of cost to the patients. As in 1972, the whole hospital had a bed-strength of 700. In that year, 21 doctors, 35 staff-nurses, 100 student nurses and 175 other staff were working in it. The sub-joined statement shows the number of in-patients and out-patients treated and expenditure incurred during the years 1969, 1970 and 1971 :—

<i>Year</i>	<i>In-patients treated</i>	<i>Out-patients treated</i>	<i>Expenditure</i>
			Rs.
1969	12,414	25,863	21,60,753
1970	11,863	20,782	23,78,774
1971	11,153	29,244	26,15,064

The St. Joseph's Leprosy Hospital was started in the year 1890 by Fr. Muller, with a view to sheltering leprosy patients. Its original name was Leper Asylum. Fr. Muller practised Homoeopathic medicine and treated the patients with those medicines. To begin with, there were 30 beds and gradually the bed-strength was increased to 150. After Fr. Muller, several doctors succeeded in treating the leprosy cases. Among them, Dr. A. J. Coelho was well-known and served the institution for 30 years. In 1963, Rev. Fr. Marian Fernandes, the Director of Fr. Muller's Institutions, invited the Swiss Emmaus Association to improve leprosy treatment at this institution. Dr. Heinz and later Dr. Wintch, who were deputed by that Association, tried to change the attitude towards leprosy, by introducing modern

**St. Joseph's
Leprosy
Hospital**

treatment for that dreaded disease and by surgery to correct deformities. Now, treatment is given for leprosy as also other skin diseases and the concept of out-patient treatment for them is stressed. At present, clinics are being conducted thrice a week. A special programme for the school-going children of Mangalore city is also being carried out. Children are examined for Hansens diseases and treatment is given for early leprosy. Three village clinics are also being run by this hospital. Out of 120 beds in the hospital, 30 are meant for burnt-out cases. The statement given hereunder shows the number of in-patients and out-patients treated and the expenditure incurred during the years 1969, 1970 and 1971 :—

Year	In-patients treated	Out-patients treated	Expenditure
			Rs.
1969	478	7,546	1,89,097
1970	497	9,791	1,83,678
1971	509	12,931	2,87,339

During those three years, 2,308, 2,627 and 2,956 out-patients respectively were treated for skin diseases. The institution received Government grants amounting to Rs. 48,000, Rs. 53,160 and Rs. 55,530 in those years respectively.

**C.S.I. Hospital,
Udipi**

The Church of South India (Basel Mission) Hospital, Udipi, was started in the year 1923. In the beginning, it had a dispensary, a ward for six women patients and a small operation room. In the following year, a separate Isolation Block was provided. In 1925, a Maternity Ward was added to accommodate five in-patients. In 1927, a Children's Ward was built. After 25 years, i.e., in 1952, a Male Ward and a T.B. Ward were added. Nurses' quarters were built in 1962 and an Auxiliary Nurse-Midwives' Training Course was started in 1964 and an Operation Theatre was opened in 1966.

In 1972, the Hospital had a bed-strength of 200, including 26 T.B. beds. Fifteen students are admitted every year for the Auxiliary Nurse-Midwives training course and during the year 1971—72, there were 32 students undergoing this training. The hospital has been carrying on an outreach programme of maternity and child welfare in the nearby rural area. Family Planning work is also being carried on and 111 tubectomy operations were done in 1971. As in 1972, the hospital staff consisted of six full-time and one part-time doctors, 42 nurses, nine para-medical workers and necessary administrative staff. The number of in-patients and out-patients treated and expenditure incurred for the years 1969, 1970 and 1971 are given below :—

Year	In-patients treated	Out-patients treated	Expenditure
			Rs.
1969	3,561	7,664	3,66,289
1970	4,331	9,326	5,64,352
1971	4,628	9,514	6,23,800

The Goretti Hospital at Kallianpur was started in 1958 with only 18 beds and a small dispensary. The bed-strength was gradually raised to 33 in 1962, to 80 in 1968 and to 100 in 1969-70, as and when new blocks were added. Now (1972), the hospital has medical female and male wards, surgical female and male wards, a paediatric ward and a maternity ward. In 1969, a 100 M. A. X-ray plant was installed and later isolation wards were opened and staff quarters were constructed. As in 1972, the staff consisted of three doctors, three staff nurses, three auxiliary nurses, two pharmacists, two laboratory technicians, five para-medical workers, etc. The following are the figures of in-patients and out-patients treated and expenditure (including cost of construction of buildings) incurred during the years 1969-70, 1970-71 and 1971-72 :—

**Goretti Hospital
Kallianpur**

Year	In-patients	Out-patients	Expenditure
			Rs.
1969-70	1,404	16,905	2,43,068
1970-71	1,531	20,164	3,16,102
1971-72	1,479	19,668	3,50,935

The Perpetual Help Hospital was started in 1967 as a small dispensary to serve the people of Sastan in Udipi taluk. In 1972, it had a bed-strength of 32 and the staff consisted of one Medical Officer, three Staff Nurses, three Midwives besides ward maids, etc. Whenever expert diagnosis or operation is required, patients are sent either to Mangalore or Udipi or Manipal. During the year 1971-72, 593 in-patients and 10,722 out-patients were treated in this hospital and a sum of Rs. 53,002 was spent.

**Perpetual
Help Hospital,
Sastan**

The Mount Rosary Tuberculosis Sanatorium, Moodabidri, was started in 1937 with 16 beds (eight for males and eight for females). As in 1972, it had a bed-strength of 50 and the staff consisted of two Medical Officers, one Matron and three Nurses, one Pharmacist, one X-Ray Technician and necessary nursing orderlies. It has also an X-ray equipment. During the years 1969-70, 1970-71 and 1971-72, a total number of 115, 97 and 86 T.B. in-patients respectively were treated in the Sanatorium while the number of out-patients treated during those years was 102, 135 and 213 respectively. The total expenditure incurred

**Mount Rosary
T.B.
Sanatorium,
Moodabidri**

on the institution during those years was Rs. 88,730, Rs. 60,727 and Rs. 54,381 respectively.

**St. Mary's
Mobile Dental
Hospital**

The St. Mary's Mobile Dental Hospital with its head office at Mangalore, has been conducting free service camps at several places in South Kanara. It has been attracting a large number of patients, particularly the poor from the rural parts. The first camp was held at Dharmasthala in March 1972. The hospital team is headed by a Dental Surgeon who is assisted by a Lady Assistant and two other members. Organisations like Rotary Clubs, Taluk Development Boards and Town Panchayats have been extending their financial and other help for conducting the camps.

**Kasturba
General
Hospital,
Manipal**

The Kasturba General Hospital, Manipal is a teaching hospital which is well equipped. Though the Kasturba Medical College was started in 1953, the students had to go to the Government Headquarters Hospital at Mangalore for practical instruction. It was felt necessary to have a teaching hospital attached to the College. The Medical Relief Society of South Kanara offered necessary help to establish a large hospital at Manipal as a result of which the Kasturba General Hospital was started at Manipal in 1960. The Hospital has facilities for advanced and special treatment. At present (1972), it has a bed-strength of 600 and it is planned to have an additional block of 400 beds. The daily average number of out-patients attended to is nearly 1,000.

An out-patient block was opened in 1970. The Medical Department of the Hospital, besides conducting general clinics, conducts also special clinics for chest diseases and for diabetic patients. A Department of Nephrology has been functioning since about the last two years with modern facilities and a dialysing machine was installed two years ago. The Department of Cardiology has recently acquired highly sophisticated equipment for cardiac catheterisation. A 700 M.A. X-Ray Unit with image intensifier, television monitoring and cine-radiography has been installed. There are also Departments of Urology, Neuro Surgery, Orthopaedic Surgery, Physiotherapy and Occupational Therapy. The Cardiothoracic Surgery Unit received a large grant from the Kaiser Foundation of the United States.

A Splint Workshop and an Artificial Limb Centre have been functioning for the last four years. The Department of Ophthalmology here was one of the earliest ones to start corneal grafting. An Eye Bank was established four years ago. Camps for eye treatment are being conducted in nearby villages. The Department of Obstetrics and Gynaecology here, which is a large unit, runs a fertility clinic, a post-natal clinic and also a cancer

detection clinic. It is fully equipped with sophisticated equipment. The other important section of the Hospital is the Paediatric Department.

The Hospital has a Diagnostic Clinic, to which any medical practitioner can refer his patients and get the benefit of all the necessary examinations and consultation for a fee. General practitioners from a radius of about 320 kilometres upto Cannanore in the south and upto Panaji in Goa in the north refer cases to this Hospital and they are invited to participate in the clinical meetings. A School of Nursing is attached to the Hospital, where students are trained in general nursing. This medical campus at Manipal has Colleges of Medicine, Dentistry and Pharmacy.

The Valley View International Health Club at Manipal provides facilities for those who need a comprehensive check-up of health by experts, for toning up their bodily system and improving their health. It is well-equipped and well-staffed and treats its guests to a full appraisal of physical conditions. Services of specialists of various Departments of the Kasturba General Hospital, including general surgery, dental, ophthalmic, cardiac, orthopaedic, urologic and neurologic, are available to the lodgers at the Club for a close scrutiny of their state of health by various modern tests. The Health Club has a Health Kitchen and there is a Dietician who gives suggestions and guidance in respect of well-balanced diet.

**Valley view
International
Health Club**

The Family Planning Programme has assumed considerable importance in recent years, because of the alarming increase in the growth of population and the consequent need for checking it. The first Family Planning Centre was started in the district at the Lady Goschen Hospital, Mangalore, in 1955. A State Family Planning Board has been functioning since 1957. The extended Family Planning Programme was started in October 1965, when a separate District Family Planning Bureau was established to look after, guide and co-ordinate the family planning activities in the district. For the purpose of better co-ordination and supervision, the District Health Officer was re-designated as District Health and Family Planning Officer. The services of the staff of the District Family Planning Bureau are also utilised at the Primary Health Centres whenever there is need. Family Planning services are made available at all the Primary Health Centres in the district, Government Lady Goschen Hospital, Mangalore, Government General Hospital, Udipi, Government Maternity and Children's Hospital, Udipi, etc. The private practitioners also attend to this aspect of the work.

**Family
Planning**

Facilities have been provided in all bigger medical institutions in the district for conducting vasectomy and tubectomy operations.

**Vasectomy and
Tubectomy**

Such operations are also being done at camps arranged for the purpose. In order to popularise these surgical methods of family planning, the services of private medical practitioners are also utilised wherever possible. The authorised private practitioners, who render family planning services at their own clinics or nursing homes, can claim Rs. 30 per case of vasectomy, Rs. 40 per case of tubectomy and Rs. 11 per case of I.U.C.D. provided they render service free of cost to the patients, give free pre-and post-operative follow-up treatment and attend to any complication noticed later on. Medical advice on the methods of family planning is given to married persons, who require such advice, and also to those who, in the opinion of the medical officer, cannot undergo the strain of pregnancy and parturition without danger to their health. The Primary Health Centres in the district also conduct couple surveys and selected couples are advised through individual contacts to adopt temporary or permanent family planning methods. A device of family planning for women, popularly known as loop (intra-uterine contraceptive device), was introduced in the district during the year 1965-66. Services are rendered either at medical institutions or at clinics and a sum of Rs. 5 is paid per case as an incentive, only for the first time, and the worker who motivates the case is paid Re. one per case.

Contraceptives such as jellies, foam tablets and *nirodhs*, etc., were supplied to all the family planning centres, hospitals and dispensaries in the district for distribution. Since jellies and foam tablets were found to be more expensive, the supply of the same was discontinued since the last four years. *Nirodh* is being issued free of charge at the medical institutions or by the health workers during the domiciliary visits. In addition, it is being sold at subsidised rates at selected post offices at the rate of five paise for three pieces, while they cost 15 paise at commercial shops. Intensive propaganda through lectures, film shows, exhibitions, publicity literature, etc., is being done throughout the district in order to educate the people concerned in respect of family planning. In addition, family planning fortnights are organised every year throughout the district, when as many people as possible are covered under the programme. Orientation training camps are also conducted at certain selected centres for providing training to village leaders. During the latter part of the Third Five-Year Plan and the subsequent annual plans, family planning activities were accelerated. The following table indicates the targets and achievements in respect of sterilisation, placement of I.U.C.D. and use of contraceptives for the period from 1964-65 to 1971-72 :—

Year	Sterilisation			I.U.C.D. placements			Use of contraceptives		
	Target	Achievement	%	Target	Achievement	%	Target	Achievement	%
1964-65	..	986	..	..	..	..	..	..	..
1965-66	..	1,321	..	..	1,803	..	..	..	..
1966-67	5,469	1,614	29.5	13,254	4,540	14.5	..	..	..
1969-70	9,750	2,283	24.9	2,295	1,231	53.6	11,470	4,706	41.0
1970-71	9,835	2,154	20.0	2,740	1,133	41.3	15,855	5,189	32.7
1971-72	4,505	4,395	93.4	2,015	913	45.3	6,410	5,179	80.7

Figures for 1967-68 and 1968-69 are not available.

The South Kanara Branch of the Family Planning Association was formed in 1956 and it was one of the earliest branches of the parent body. When formed, its Executive Committee consisted of members belonging to various walks of life. The Kasturba Medical College and the Maternity Hospital, the Syndicate Bank, the Tile Industry, the Textile Factories, etc., gave their support to the movement. Within five months of its formation, the branch built its own building adjacent to the Maternity Hospital. The distribution of contraceptives started in 1957, and in June 1957, the first vasectomy was done. In the beginning, the progress was slow.

**Family
Planning
Association**

The Maternity Hospital at Manipal provided the necessary facilities for operations and other clinical work and in 1958, the first female sterilisation was performed. From 1958 to the beginning of 1971, 1,133 female sterilisations had been done. A Marriage Guidance Clinic was started in 1959 with a view to giving sex education to the married couples. During the next year, an Infertility Clinic was started for giving appropriate medical and surgical treatment to childless couples. Under Victor Project, 42 school teachers from villages around Manipal were enrolled to work in their respective villages. They were given orientation training and entrusted with the work of family-planning motivation. The teacher-motivators were able to bring about a change in the rural climate in regard to family planning.

The Association extended its work to a radius of twenty miles—to the villages of Katpadi, Kaup, Padubidri, Alevgor and Kadekar in 1961 by starting Rural Family-Planning Clinics at these places. These functioned till 1964 and were closed in that year. The Ford Foundation, Delhi, supplied 50 loops in January 1965, for a clinical trial. The South Kanara branch was one of those few branches of the Family Planning Association which adopted the IUCD method early, *i.e.*, before it was popularised. Two clinical trials were also conducted as a part of a research programme one with volidon and the other with chlormadinone in 1965 and 1967 respectively.

The Association has been distributing the conventional contraceptives and conducting vasectomy and female sterilisation in rural camps. On publicity and education side, it has been organising orientation camps, arranging lectures, and observing Family-Planning Weeks and Fortnights. As a cumulative result of the continuous efforts made in the district, now there is no hesitation as such about family planning.

**Maternity and
Child Health
Services**

For the purpose of maternity relief work, three sub-centres are functioning under each of the Primary Health Centres in the district, with the services of an Auxiliary Nurse-Midwife at each centre. The Medical Officer conducts clinics at the sub-centres thrice a week on Mondays, Wednesdays and Fridays. At the time of conducting clinics, the expectant mothers, infants and children are examined and necessary advice is given. As a result of posting a Lady Medical Officer to each of the Primary Health Centres under the Family Planning Programme, it has become possible to pay more attention to maternal and child health services in the district. Besides, there are 22 Maternity and Child Health Centres under different schemes and they are also attached to the Primary Health Centres. Another 64 centres have been sanctioned, with family planning funds, with provision for posts of family welfare workers or auxiliary nurse-midwives.

There is an auxiliary nurse-midwife for every 5,000 population. She pays visits to all the houses in the area concerned and renders natal, post-natal and infant services. The infants are protected against small-pox by means of vaccination and re-vaccination. Arrangements are also made to protect children against whooping cough, diphtheria and tetanus by means of triple antigens. The cases conducted by *dais* and untrained midwives in the area are followed up by the auxiliary nurse-midwives. The work of midwives is supervised by the Health Visitors who are allotted definite centres for the purpose. In cases of emergency, they also assist the midwives. The Health Visitors also assist the Medical Officers in conducting ante-natal and infant clinics and in doing the health education work. On the whole, the Lady Medical Officer is responsible for the maternal and child health work in the area of the Primary Health Centre concerned. Each Primary Health Centre of the Government of India pattern is provided with two beds exclusively for maternity cases.

**Nutrition
Programme**

An Applied Nutrition Programme has been in operation since 1967-68 in Buntwal taluk, since 1968-69 in Sullia taluk and since 1969-70 in Coondapur taluk. The programme envisages production of protective foods such as eggs, fish, vegetables and fruits, consumption of these foods especially by the pregnant and nursing mothers and pre-school children, and nutrition education and training in the selected blocks. There are about 10 to 12 demonstration education and feeding centres in each of these blocks

and about 50 needy mothers and children are fed with the protective foods produced under the programme, apart from the CARE C.S.M. supplied to the *balavadi* children.

Sample dietary and chemical nutrition surveys were taken up in these blocks and the findings reveal that the diet consisted mainly of cereals and the average intake of all the other foods like pulses, milk, milk products, fruits, vegetables, etc., were far below the recommended allowances, resulting in about 39 per cent of vitamin A deficiency and 2.1 per cent of protein caloric malnutrition among children.

School and pre-school children are being covered under the mid-day meal programme by the Education Department. Under the composite programme for mothers and children, two blocks, viz., Puttur and Belthangady, were taken up for intensive nutrition education through *mahilamandals*, the programme being implemented through the community development organisation since 1971. A prophylaxis programme against nutritional anaemia was taken up by the Health Department in 1970-71 and under this scheme it is envisaged to give combined tablets of folic acid and ferrous-sulphate to the pregnant and nursing mothers and pre-school children for combating marginal cases of nutritional anaemia. So far, by March 1973, about 2,00,000 beneficiaries have been covered under this programme in the district.

Health education forms one of the important activities of the Health Services Department. The basic health workers, who primarily attend to this aspect of the work, are required to utilise every opportunity, especially during village gatherings, to contact the rural populace and to talk to them about various health subjects, sometimes giving practical demonstrations, in regard to personal cleanliness, environmental sanitation, chlorination of water, vaccination, D.D.T. spraying, etc. The Department also arranges for the observance of the World Health Day, Leprosy Day, Anti-Fly Week, Family-Planning Fortnight and the like in the district, so as to impart health education to the people. On such occasions, the health services authorities make arrangements to give talks, organise exhibitions and screen films on various subjects. The children and school personnel are contacted and advised under the School Health Education Programme.

Every Primary Health Centre in the district is supplied with a set of audio-visual aids, gramophone, mike set and other materials for demonstration purposes. The District Family Planning Bureau is equipped with a film projector and a vehicle with separate staff for screening films all over the district.

The aim of the School Health Programme is to provide comprehensive health care to the school children, comprising

Health
Education

School Health
Services

medical examination, treatment, correctional remedies and follow-up action, school sanitation, proper water supply, provision of playgrounds, health education in schools, etc. This programme is being carried out at three Primary Health Centres of Brahmavara, Hiriadka and Sullia. The number of schools selected and the number of children covered by each of the three centres during the year 1971-72 were as follows :—

<i>Name of Centre</i>	<i>No. of schools selected</i>	<i>No. of children covered</i>
Brahmavara ..	8	1,881
Hiriadka ..	8	1,684
Sullia ..	11	1,955
Total ..	27	5,520

**Medical
personnel**

According to the 1961 census, there were 933 physicians, surgeons and dentists in South Kanara district. Of the 933 persons, 884 were men and the rest were women; 382 men and 30 women were working in the urban areas. Of the physicians, 399 persons were Ayurvedic physicians including 10 women; of them, 90 men and two women were working in towns. There were, in 1961, 1,380 persons working as nurses, pharmacists and other medical and health technicians (1971 figures are not available).

According to the figures furnished by the State Drugs Controller, there were, in 1968-69, 46 chemists and druggists and 16 dispensing chemists in South Kanara, besides 11 manufacturing firms. For the contravention of certain provisions of the Drugs Control Act, licenses of 12 establishments were cancelled. During the year 1970-71, 47 druggists and 16 dispensing chemists were working besides 93 qualified pharmacists in the licensed establishments; there were also eight manufacturing firms. Licences of 16 establishments were cancelled during that year.

**Medical
Association,
Mangalore**

The South Kanara District Medical Association, Mangalore, was started by 20 eminent doctors in the year 1930. It was affiliated to the Indian Medical Association in 1945, when the strength of its members was 56. Now (1972), there are 123 members on its rolls, of whom seven are ladies. The Association meets generally once a month. It arranges for talks by specialists on important topics connected with medical and public health problems. As in 1972, the Association had an Executive Committee consisting of a president, two vice-presidents, a secretary-cum-treasurer, a joint secretary and 9 members. One of its members was representing the Central Council of the Association while two members were representing the State Council. There is a similar branch of the Indian Medical Association functioning at Udipi, with a strength of 91 members (73 men and 18 women) as in March 1973.

Statement showing the sanctioned staff of various Primary Health Centres in South Kanara as in April 1972

Sl. No.	Name of Centre	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
				Medical Officer	Lady Medical Officer	Block Extension Educator	Sr. Health Inspector	N.M.E.P. Supervisors	Lady Health Visitors	I Division clerks	Family Planning Assistants	Jr. Microscopist	Pharmacist	Basic Health workers	Computer	Auxiliary Nurse-Midwives	School Health Assistant	Vaccinators	Drivers	Class IV officials	Ayaks to Midwives	Family Planning Attendants
<i>Bunkoval taluk :</i>																						
1.	Punjalkatte (1959)	1	1	1	1	1	4	1	3	1	6	1	1	24	1	11	..	3	1	3	..	..
2.	Vittal (1959)	1	1	1	1	1	3	1	2	1	2	1	1	13	1	6	..	3	2	..	..	..
<i>Belthangady taluk :</i>																						
3.	Belthangady (1959-60)	1	1	1	1	1	4	1	2	1	6	1	1	20	1	13	..	3	6	6	6	..
<i>Coondapur taluk :</i>																						
4.	Bahndoor (1956)	1	..	..	..	..	..	..	1	..	..	..	1	1	..	4	..	1	3	..	..	..
5.	Siddapur (1960-61)	1	1	1	1	1	4	1	2	1	7	1	1	23	1	10	..	3	1	2	1	..
6.	Bidkalkatte (57-58)	1	1	1	1	1	3	1	2	1	3	1	1	10	1	6	..	3	1	3	..	..
<i>Karkal taluk :</i>																						
7.	Hebri (1955)	1	..	..	..	..	..	..	1	..	..	..	1	1	..	4	..	..	..	6	..	..
8.	Ajekar (1958-59)	1	1	1	1	1	2	1	1	1	2	1	1	8	1	5	..	3	1	2	..	..
9.	Nitte	1	1	1	1	1	3	1	2	1	3	1	1	14	1	10	..	3	..	3	5	..
10.	Moadhidi (58-59)	1	1	1	1	1	2	..	2	1	2	1	1	11	1	10	..	3	..	2	5	..

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
<i>Mangalore taluk :</i>																					
11.	Bajpe (1952)	..	1	..	..	..	1	..	..	..	..	1	..	4	..	..	1	6	..	..
12.	Surathkal (1961)	..	1	1	1	4	1	2	1	4	1	1	20	1	7	..	..	3	2	..	..
13.	Ullal (1960)	..	1	1	1	4	..	2	1	5	1	1	25	1	10	..	3	1	3	3	3
<i>Sullia taluk :</i>																					
14.	Sullia (1959-60)	..	1	1	1	2	1	2	1	3	1	1	8	1	5	1	3	3	..	..	1
<i>Puttur taluk :</i>																					
15.	Kadaba (1957-58)	..	1	1	1	3	1	2	1	4	1	1	11	1	6	..	3	1	2	..	..
16.	Panaje (1959-60)	..	1	1	1	3	..	2	1	3	1	1	14	1	5	..	3	3	..	..	..
<i>Udipi taluk :</i>																					
17.	Kota (1964)	..	1	1	1	2	..	2	1	2	1	1	11	1	5	..	3	..	2	..	..
18.	Brahmavara (1964)	..	1	1	1	3	1	2	1	3	1	1	15	1	8	1	3	..	2	..	..
19.	Hiriadka (1962-63)	..	1	1	1	4	1	2	1	3	1	1	16	1	7	1	3	1	3	1	..
20.	Padubidri (1961-62)	..	1	1	1	4	1	2	1	4	1	1	18	1	10	..	3	..	2	1	..
Total		..	20	17	17	54	13	38	17	62	17	20	264	17	146	3	46	28	56	22	4

N. B.— Madras-type 3 and the rest are G.O.I.P. (Government of India pattern)

N.M.E.P.=National Malaria Eradication Programme.