

CHAPTER XVI

MEDICAL AND PUBLIC HEALTH SERVICES

Early history

THE Ayurvedic system of medicine was practised in the district, as in other parts, from very early times. The Ayurvedic doctors were noted for their knowledge of medicinal properties of herbs and plants. A good Ayurvedic practitioner was capable of affording quick relief to his patients with the help of herbs and plants commonly available in the rural areas, without having to depend on costly drugs. Knowledge of several Ayurvedic medicines was common and many household remedies were fairly efficacious for common ailments. Several well-known Ayurvedic pandits enjoyed royal patronage. In many of the villages, there were at least one or two families well-versed in the Ayurvedic system of medicine. The Muslims brought the Unani system of medicine practised by the *Hakims*. They did not, however, penetrate into the rural areas, their practice being confined to some urban areas. The Ayurvedic pandits continued to carry on their practice both in the rural and the urban areas. Even at present, a considerable number of people both in the rural and urban areas are found being treated by the practitioners of this indigenous system of medicine.

Advent of Allopathic System

It was after the Fourth Mysore War in 1799, that the Allopathic system was ushered in Mysore State when the British established themselves in the State. After the assumption of the Government of the State by the British in 1831, the Surgeon to the Mysore Commission was in general control of vaccination work. A little later, with the establishment of district hospitals in several divisions, a Civil Surgeon was appointed in each divisional headquarters and this officer was also the Superintendent of local jails and Inspector of all the medical institutions within the limits of the division. Besides, the medical institutions in the districts were also being inspected by the Deputy Surgeon-General of the Indian Medical Department for Mysore and the Ceded Districts. In addition to this inspection work, he also performed the duties of the Sanitary Commissioner and Registrar of Vital Statistics. In 1880, the Deputy Surgeon-General was withdrawn and his duties, in so far as the Mysore State was concerned, were transferred to the Surgeon to the Mysore Commission.

The medical set-up of the State underwent a complete change after the Rendition (re-transfer of power to the royal family) in 1881. In May 1884, a new scheme for the establishment of a local medical service, composed of duly qualified personnel, was introduced. The head of the Medical Department, who was the senior-most among the covenanted medical officers, was designated as the Senior Surgeon. The other local medical officers were designated as Surgeons, Assistant Surgeons and Hospital Assistants. In 1888, a new grade of Sub-Assistant Surgeons was created.

Side by side, the public health administration of the State was also reorganised so as to make it more useful and efficient. In 1887, the Senior Surgeon to the Government was made *ex-officio* Sanitary Commissioner and was entrusted with the responsibility of scrutinising and compiling the returns of births and deaths, supervision of vaccination work and control of epidemics like cholera and small-pox. Between 1898 and 1902, a special Plague Commission was appointed to check the spread of this deadly disease. In 1907, with the introduction of a separate sanitary service, the Sanitary Department was reorganised. The State was divided into three divisions, *viz.*, western, eastern, and southern and a Divisional Sanitary Officer was appointed for Hassan and other districts. Between 1909 and 1910, the posts of Divisional Officers were abolished and a new cadre of District Sanitary Officers was created. They were placed under the control of the Deputy Commissioners of the districts. In 1917, a full-time Sanitary Commissioner was appointed as the head of the department. The District Medical Officer of Hassan was also the *ex-officio* District Sanitary Officer. Again in 1923-24, in order to effect retrenchment, the post of full-time Sanitary Commissioner was abolished. The Senior Surgeon was again entrusted with the duties of the Sanitary Commissioner, and a new cadre of Chief Sanitary Inspectors was created to take the place of District Sanitary Officers.

In the year 1944, the post of District Health Officer for the Hassan district was sanctioned. However, the District Medical Officer continued to hold the additional charge of the sanitary office till 1953. In the beginning, a few Junior Health Inspectors were posted to assist the District Health Officer in his work. The strength of personnel of the establishment was augmented from time to time to cope with the increase in the volume of work consequent on the undertaking of several developmental schemes under the successive Five-Year Plans. Because of the great importance that is being attached to the family planning programme since recent years, the District Health Officer is designated as District Health and Family Planning Officer since 1966.

The Medical and Public Health Departments of the State were amalgamated in 1965. An officer designated as Director of Health Services was appointed as the head of the re-organised

After
Rendition

District Health
Officer

Re-organisation
of department

department at the State-level. At the district-level, there are two wings under two independent district officers, *viz.*, the District Surgeon, who is in charge of the District Headquarters Hospital at Hassan, and the District Health and Family Planning Officer. Both these officers are directly responsible to the Director of Health Services in Mysore, Bangalore. The District Health and Family Planning Officer, Hassan, is in charge of Public Health and Family Planning wing of the department at the district-level. He is both a technical and administrative officer and deals with matters relating to public health, such as control of epidemics, malaria eradication, maternity and child welfare, vital statistics, sanitation, health education and laboratory work associated with public health. His functions as the Family Planning Officer include propaganda on family planning, supply of contraceptives, conducting of camps for vasectomy and tubectomy operations, loop insertions, etc. He is also in overall charge of all medical institutions at the taluk-level in the district.

Under the Family Planning Programme, the District Health and Family Planning Officer is assisted by a Medical Officer of Health, a Lady Medical Officer, two District Extension Educators (one male and one female), two Health Assistants (one male and one female), a Nurse, a Statistical Assistant and a Projectionist. Under the Malaria Eradication Programme, he is assisted by an Assistant District Health Officer, two Health-Supervisors, a Senior Microscopist and a Basic Health Worker. There are also three Reserve Junior Health Inspectors, one Reserve Compounder and some ministerial and class IV staff assisting him and other officers in the district headquarters. Besides these officers and members of the staff at the district level, several other technical and other staff at the block-level and the medical officers and staff of the several medical institutions at the taluk-level, such as Primary Health Centres and Units, Combined Dispensaries and Local Fund Dispensaries are also under the administrative control of the District Health and Family Planning Officer. In 1969-70, a new post of Gazetted Assistant was sanctioned to the office of the District Health and Family Planning Officer to help him in administrative work. A lady Doctor and an additional Health Visitor are attached to each one of the Primary Health Centres. Trained auxiliary nurse-midwives have been posted in place of all untrained women workers in the Family Planning Wing.

Vital Statistics

Births, deaths and other related statistics are registered by the village patels in rural areas and sent to the Registrar-General of Births and Deaths through the Tahsildars of the taluks concerned. In the urban areas, the municipal authorities collect these statistics and send them to the Registrar-General. The Health Inspectors collect the 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.

The rise or fall in population of an area can be directly attributed, to a great extent, to the conditions of health of the people, and there may be other factors also like famine and distress conditions, migration of persons from one area to another, etc. The following table gives the variations in total population of the district for the first seven decades of this century :—

<i>Census year</i>	<i>Total population</i>	<i>Increase or decrease</i>	<i>Percentage decade variation</i>	<i>Net variation for seventy years</i>
1901	5,68,919	..	..
1911	5,78,097	+9,718	+1.61	
1921	5,81,750	+3,653	+0.63	
1931	5,96,937	+15,187	+2.61	
1941	6,27,718	+30,781	+5.16	
1951	7,15,135	+87,417	+13.93	
1961	8,95,847	+1,80,712	+25.27	+5,29,965
1971	10,98,884	+2,03,037	+22.66	(Provisional)

From the foregoing figures, it is seen that in the decade 1961-1971, the net increase in population was 2,03,037, the highest during the period of 70 years. (See Chapter III for further particulars).

The sub-joined table indicates the number of births and deaths as also the birth and death-rates¹ per mille, for the period from 1958 to 1970 :—

<i>Year</i>	<i>No. of registered births</i>	<i>Birth-rate per mille</i>	<i>No. of registered deaths</i>	<i>Death-rate per mille</i>
1958	15,063	19.3	5,670	7.2
1959 ₁	15,649	19.9	5,873	7.5
1960	12,586	15.7	4,264	5.3
1961	11,716	14.54	4,212	5.2
1962	8,732	9.5	3,122	3.3
1963	9,072	9.67	3,143	3.35
1964	9,253	9.7	2,943	3.08
1965	8,824	9.0	3,341	3.4
1966	7,789	7.85	2,996	3.02
1967	7,579	N.A.	2,610	N.A.
1968	8,007	..	2,334	..
1969	8,540	..	3,097	..
1970	8,731	..	2,699	..

From the above table, it can be seen that after 1961, the death-rate has been generally falling; so also the birth-rate. The

1. 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.

fall in the death-rate is, to a large extent, due to the intensive preventive and curative measures carried out and a better standard of living. There has been a systematic drive to control epidemics. The fall in the birth-rate may be attributed, to a certain extent, to the intensive family planning drive that is being carried out in the district since recent years; there is a growing consciousness among the people, especially among the educated classes, to limit their families.

**Infant and
maternal
mortality**

Infant mortality was considerably high in the district in the early decades of this century. The main causes for these deaths are prematurity, bronchitis, diarrhoea, dysentery, fevers, convulsion sepsis and respiratory diseases. The infant mortality rate has, however, been considerably reduced in recent years with the introduction of modern system of midwifery and rapid implementation of maternity and child welfare services under the plan programmes. The number of still-births, infant deaths and the infant mortality rate per mille in the district for the period from 1958 to 1970 are given below :—

<i>Year</i>	<i>No. of Still-births</i>	<i>No. of infant deaths</i>	<i>Infant mortality rate per mille</i>
1958	411	716	47.5
1959	396	771	49.3
1960	455	557	44.2
1961	471	574	49.1
1962	278	375	42.9
1963	294	404	43.98
1964	375	351	37.93
1965	202	318	36.03
1966	210	342	43.91
1967	37	204	N.A.
1968	256	247	..
1969	195	250	..
1970	171	254	..

The main causes for maternal deaths are anaemia, haemorrhage, eclamsia and difficult labour. As in the case of infant mortality, the rate of maternal mortality, which was considerably high in the earlier decades, has been greatly reduced in recent years. This is mainly due to increased facilities provided for the pre-natal and post-natal treatment in the several hospitals and health centres in the district. As per the statistics furnished by the Bureau of Economics and Statistics, Bangalore, the maternal mortality rate in the district was between 8.4 and 3.5 per mille during the period from 1958 to 1970 as could be seen from the following table :—

Year	No. of maternal deaths	Maternal mortality per mille
1958	130	8.4
1959	130	8.1
1960	111	7.7
1961	92	7.5
1962	43	4.9
1963	62	6.83
1964	52	5.51
1965	48	5.4
1966	28	3.5
1967	N.A.	N.A.
1968	24	..
1969	31	..
1970	33	..

The common diseases for which a majority of patients were treated in health centres and dispensaries in the district are fevers, diarrhoea and dysentery and respiratory diseases. The other diseases from which the people often suffer are pneumonia, typhoid, digestive diseases, tuberculosis, anaemia and the like. The poorer sections of the people are affected by under-nutrition and malnutrition.

The statement given hereunder shows the number of deaths caused by various diseases in the district during the years 1958, 1960, 1962, 1964, 1966, 1968, 1969 and 1970 :—

Causes	1958	1960	1962	1964	1966	1968	1969	1970
Plague	11	6	1	1	Nil	3	..	..
Small-pox	86	13	27	5	15	12	12	13
Cholera	6	10	9	19	12	13	10	13
Malaria	1,305	793	483	475	485	309	331	353
Typhoid	86	147	90	71	68	69	7	101
Other Fevers	718	..	496	385	487	292	330	493
Dysentery and Diarrhoea.	615	751	315	358	334	196	239	253
Respiratory diseases	340	..	228	248	187	..	..	..
Tuberculosis	55	..	32	26	30	81	31	123

The figures reveal that malaria, 'other' fevers, dysentery and diarrhoea and respiratory diseases caused the highest incidence.

When an epidemic breaks out in the district, the health authorities are alerted to work in close co-ordination and under the general direction of the District Health Officer. The health

workers tour the area in order to know the extent and severity of the epidemic. All the wells in that area are disinfected with potassium permanganate and the villagers are advised to isolate the sick and to evacuate the houses. People living in the infected areas are advised not to entertain any friends or relatives. Disinfection and fumigation are intensively carried out wherever possible. It is the duty of the Health Inspectors to enquire into and ascertain the causes of origin and spread of epidemic diseases within their jurisdictions and send periodical reports to the nearest medical officer as well as to the District Health Officer. Various conditions injurious to public health are systematically scrutinised and remedied so as to minimise the incidence. Special attention is paid to water supply sources and to the disposal of refuse. During *jatras*, fairs and festivals, special staff are deputed to control any out-break of epidemics.

Cholera

Cholera is one of the most dreaded communicable diseases. In recent years, there has been a considerable decrease in the incidence of cholera in the district. Whenever there is an out-break of cholera, the authorities rush groups of necessary health staff to the places for mass anti-cholera inoculations. The following table gives the number of cholera attacks and deaths and the number of persons inoculated during the years from 1967 to 1970 :—

<i>Year</i>	<i>No. of attacks</i>	<i>No. of deaths</i>	<i>Mass inoculations done</i>
1967	55	27	21,942
1968	77	20	24,862
1969	17	6	13,900
1970	68	12	33,304

Plague

The district is almost free from the ravages of plague. This disease has been completely under control and the incidence has been almost nil in recent years.

Small-pox

Small-pox is persisting in the district and there was no year in which the disease was completely absent. The incidence was high during the years 1955 and 1958 with a gradual decrease in the following years. The Government, therefore, set up an Expert Committee in 1959 to suggest ways and means of eradicating both small-pox and cholera in the State. Based on the recommendations of this Committee, large-scale efforts were made through primary vaccination and subsequent planned periodical vaccinations to bring the disease under control. The following figures indicate the

number of small-pox attacks and deaths in the district from 1966 to 1970 :—

Year	Attacks	Deaths
1966	93	19
1967	24	8
1968	49	11
1969	..	12
1970	..	13

Small-pox particularly affects children. Vaccination being the only preventive, is done with a phased programme by the health staff. The vaccinations are done by trained health workers who are stationed in the headquarters of each taluk. This work is carried on after a verification of birth registers. Systematic door-to-door inspection of the entire town or village is conducted for detection of unprotected cases. Each health worker is generally required to carry out not less than 3,000 vaccinations in a year. When small-pox breaks out in an epidemic form, the health workers have to rush to the infected area and vaccinate all unprotected children and adults. All available staff are mobilised to do intensive vaccination work in that area. Re-vaccination, though not compulsory, is essential for protection against small-pox, and hence due attention is paid to re-vaccination work also. The table given hereunder shows the number of primary and re-vaccinations done in the district during the years from 1966 to 1970 :—

Year	No. of primary vaccinations	No. of re-vaccinations	Total
1966	38,614	2,44,714	2,83,328
1967	39,279	1,83,396	2,22,675
1968	54,830	1,62,633	2,17,463
1969	60,001	1,68,480	2,28,481
1970	54,612	1,71,031	2,25,643

Malaria control work was in progress in Mysore State even much before the inception of the Five-Year Plans. The State Government started a programme of research and training for eradication of malaria as far back as 1928. However, in the beginning, the malaria control operations were confined to the *malnad* areas which were highly endemic for malaria. In Hassan district, the malaria control operations were at first done by the Malnad Improvement Dispensaries, which were later converted into Primary Health Units. Malaria

In 1949, in collaboration with the Rockefeller Foundation, a study station was established at Sakleshpur for purposes of making field studies on malaria control. Malariogenic conditions in three

different areas (heavy rainfall, intermediate rainfall and low rainfall areas), vector species found in them and their development of resistance to various insecticides, etc., were studied by that institution. This study station was under the technical and administrative control of the Malariologist (Assistant Director of Public Health), Malaria Investigation Centre, Mandya. Scientific studies made on different aspects in the area were published in the Indian Journal of Malariology.

With the launching of the National Malaria Control Programme in the State, all the parts of the district were taken up for D.D.T. spraying. While Alur, Arsikere, Belur, Hassan, Channarayapatna and Sakleshpur taluks were included under the Chickmagaur Control Unit, Holenarsipur and Arkalgud taluks were included under the Mysore Control Unit. The National Malaria Control Programme was switched over to the National Malaria Eradication Programme in April 1958. As a result, the entire district was covered with intensive D.D.T. spraying, and surveillance work was introduced from the year 1961-62 when the area entered the maintenance phase. In 1962, the study station at Sakleshpur was wound up. The malaria surveillance workers paid fortnightly visits to all the houses in their areas, investigated fever cases, took their blood smears and treated them with anti-malaria drugs. In the maintenance phase, there was integration of the health services in one worker, i.e., the Malaria Surveillance Worker. He is now replaced by a Basic Health Worker. The following table shows the number of positive cases encountered in the district by the health workers, the number of blood smears conducted and the preventive measures undertaken during the years from 1967 to 1970 :—

<i>Year</i>	<i>No. of positive cases detected</i>	<i>No. of blood smears conducted</i>	<i>No. of houses sprayed with D.D.T.</i>
1967	Nil	85,182	1,400
1968	2	1,02,338	3,500
1969	41	1,05,304	..
1970	473	*1,70,551	**77

* 51,440 blood smears under active surveillance and 66,102 blood smears under passive agencies.

** Figures indicate the number of villages.

As seen from the foregoing table, the incidence of malaria was high during the year 1970 owing to the local out-break in Arsikere taluk. As there was danger of import action of malaria infection due to the influx of a large number of workers from other States because of the railway, airstrip and the Hemavathy projects,

special and intensive measures were taken by the authorities and D.D.T. spraying was done in each labour colony to prevent the spread of malaria.

Typhoid has been prevalent in the district causing some deaths every year. As and when typhoid cases are reported, TAB inoculations are given to the infected persons in the affected areas. During the years 1959, 1960 and 1961, the incidence was high and there was a decrease in the following years. It took a toll of 532 persons during those three years. The health authorities undertook prompt preventive measures such as administering of TAB inoculations, chlorination of sources of drinking water and disinfection of infected houses. The patients were treated on the spot and the epidemic was brought under control.

In keeping with the Government policy of providing more and better medical facilities, a number of primary health centres and units were established in the various rural parts of the district during the successive Five-Year Plan periods. There are, at present (1970), 11 primary health centres (Government of India type) and 22 primary health units (Mysore type). The health units of the Mysore pattern generally cover a population of 10 to 15 thousand each, while those of Government of India pattern cover a population of about 60 thousand each. On an average, there are six beds in each primary health centre and two beds in each primary health unit for the treatment of in-patients. The main basic health services that are being rendered to the rural people through these health centres and health units are: (1) curative services, (2) control of communicable diseases such as small-pox, malaria and filaria, cholera, plague, leprosy, tuberculosis, etc., (3) family planning, maternity and child health services, (4) health education, (5) school health services, (6) collection of vital statistics and (7) environmental sanitation.

The staff associated with each of the Government of India pattern health centres consists of one Medical Officer of Health, a Health Visitor, a Junior Health Inspector, a Compounder and two class IV staff. Besides, for looking after the family planning aspect of the work, there is an Extension Educator, a Computer, a Health Assistant for every 20 to 30 thousand population and an Auxiliary Nurse-Midwife for every 10 thousand population, under the Medical Officer of Health. Similarly, for looking after the malaria maintenance work, there is a Senior Health Inspector, a Junior Health Inspector and a Basic Health Worker for every 10,000 population. The staff attached to each of the Mysore type health units consists of an Assistant Medical Officer of Health, a Junior Health Inspector, a Compounder, three Midwives and three members of class IV staff.

**Allopathic
Dispensaries**

All the medical institutions at the taluk-level in the district are under the control of the District Health and Family Planning Officer. In 1970, there were, in all, 59 allopathic medical institutions, mostly dispensaries, including the primary health centres and units referred to above, in the district, under the charge of the District Health and Family Planning Officer. Of these 59 medical institutions, three were general hospitals, five combined dispensaries, one women's dispensary, fifteen local fund dispensaries, one reduced-scale local fund dispensary and one health unit type dispensary. Of these, the Crawford Hospital at Sakleshpur was the biggest with a bed strength of 118 in 1970 with an X-ray unit attached to it. The hospital at Arsikere is also equipped with an X-ray unit. The combined dispensaries at Konanur, Belur and Yeslurpet have separate women's sections for treating maternity cases.

The local fund dispensaries, in most of the cases, have also been provided with beds, ranging from two to six, for treatment of in-patients in emergency cases. Usually, the staff attached to a local fund dispensary consists of a Medical Officer, a compounder, a midwife and two class IV staff. Many of these dispensaries are maintained by the local bodies. The health unit-type dispensaries are not provided with beds for treatment of in-patients. These institutions are also maintained by the Taluk Development Boards. A statement showing the location of the medical institutions mentioned above and the number of patients treated in each of them is appended at the end of the chapter. The Chamarajendra Hospital at Hassan is under the control of the District Surgeon. A brief account of this hospital and the Redfern Memorial Hospital, Hassan, and Crawford Hospital, Sakleshpur, is given elsewhere in this chapter.

**Ayurvedic and
Unani
Dispensaries**

There are also Ayurvedic and Unani dispensaries in the district, catering to the medical needs of people, mostly in the rural areas. In 1970, there were 48 such institutions in the district, of which 38 were Ayurvedic dispensaries and the rest Unani dispensaries. These institutions are maintained by the Taluk Development Boards and are manned by qualified Ayurvedic and Unani physicians. The technical control of these institutions, which was with the District Surgeon, Hassan, upto 1968, was thereafter transferred to the District Health and Family Planning Officer. Particulars of these Ayurvedic and Unani dispensaries are given at the end of this chapter.

**Tuberculosis
Centre**

A District Tuberculosis Centre has been functioning at Hassan since April 1966. This centre aims at finding out and screening tuberculosis patients throughout the district, and after necessary sputum and radiological examinations, it treats them in their houses. This Centre is aided by voluntary organisations

like the Tuberculosis Association of India and the United Nations International Children's Emergency Fund (UNICEF). The District Tuberculosis Association, Hassan, and the Mysore State Tuberculosis Association are also rendering help to this Centre in the fulfilment of its objectives. There is an in-patient ward attached to this Centre.

The District Tuberculosis Officer, Hassan, is in charge of this Centre and he is assisted in his duties by an Assistant Surgeon, a Treatment Organiser, a Health Visitor, an X-Ray Technician, two Laboratory Assistants, a Staff Nurse, a Compounder and a few members of ministerial and class IV staff. The administrative control of this Centre, which was formerly with the District Surgeon, was transferred to the District Health and Family Planning Officer in February 1968, so as to integrate more effectively the tuberculosis programme with the other national health programmes.

Under the tuberculosis programme, there are 23 Microscopic Centres and 25 Referral Centres functioning in the district for sputum collection and examination. The following table shows the work done in this field during the years from 1967 to 1970 :—

Year	Total X-Rays	R-Rays +Ves	Sputums		Extra- pulmi- nary cases	One-side cases
			Examined	+Ves		
1967	2,625	533	1,530	253	48	62
1968	5,893	919	3,164	370	110	87
1969	4,886	676	4,401	410	95	109
1970	3,468	482	3,746	349	106	72

The Family Planning Programme has been gaining momentum in recent years, because of large increase in the growth of population and the consequent need for checking it. A State Family Planning Board has been functioning in the State since the year 1957. There is a District Family Planning Committee at Hassan, consisting of both official and non-official members, for implementing the family planning programme in the district. The family planning activities comprise, mainly, family planning services, training of workers and education of the public about the needs and methods of family planning. The programme was started in the district from 1st October 1964, when a regular urban Family Planning Centre was attached to the headquarters hospital at Hassan. Rural family planning centres were opened at all the eleven primary health centres of the Central pattern in the district, where family planning facilities are being provided to the people.

**Family
Planning
Programme**

A special establishment to look after the family planning programme was created in the District Health Office in 1964. There are also family planning centres at Sakleshpur, Channarayana-patna and in the Redfern Memorial Hospital, Hassan, etc. The Family Planning Bureau at the district headquarters consists of two Medical Officers of Health (including one Lady Officer) and two District Extension Educators (one male and one female) working under the overall supervision of the District Health and Family Planning Officer. At each one of the primary health centres, one Extension Educator and one Lady Health Visitor are entrusted with the work of family planning, working under the guidance of the Medical Officer of each centre.

Vasectomy and tubectomy

Facilities have been provided in all bigger medical institutions in the district for conducting vasectomy and tubectomy operations. In order to popularise these surgical methods of family planning, the services of private medical practitioners are also utilised, with payment of Rs. 25 per operation. Vasectomy camps are organised in the taluk headquarters, in the primary health centres and also in important village centres. Medical advice on the methods of family planning is given to married persons, who require such advice, and also to those women who, in the opinion of the medical officer, cannot undergo the strain of pregnancy and parturition without danger to their health. Besides, 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. Mass tubectomy camps are being arranged in place of small individual camps.

The new device of family planning for women, popularly known as the loop (intra-uterine contraceptive device), was introduced in the district in the year 1965-66. Large quantities of contraceptives, such as jellies, diaphragms and *molds*, are supplied to all the family planning centres, hospitals and dispensaries in the district for distribution among the people. Intensive propaganda through lectures, film shows, exhibitions, publicity literature, etc., is done throughout the district to educate the public 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 camps are also conducted at certain selected centres for providing training to village leaders in respect of the family planning campaign. About 40 persons are trained at each such camp at a time.

There has been a good progress in the district in respect of this programme. As against the set target of 1,786 loop insertions in 1965-66, as many as 2,378 women availed of this facility, while in 1966-67, 5,462 women took advantage of this programme. There was a decrease in the number in the following three years, i.e.,

1967-68, 1968-69 and 1969-70. Since its inception upto February 1970, in all 9,513 women availed of this facility under the programme. In the year 1967-68, there were 7,272 persons making use of the contraceptives as a method of family planning, the numbers for the subsequent years, i.e., 1968-69 and 1969-70, being 5,507 and 10,856 respectively. The target fixed for sterilisation operations during the year 1965-66 was 1,786; as against this, as many as 1,796 persons underwent sterilisation operations. The target for 1967-68 was 4,020 and as against this, more than the double of this number underwent sterilisation operations. The district stood first in the State in respect of sterilisation operations during that year and won the State award. In the subsequent years, the progress was slow. The following table indicates the progress made in respect of sterilisation operations, I.U.C.D. and contraceptives since the inception of the family planning programme:—

Year	Sterilisations		I.U.C.D.		Contraceptives	
	Target	Achievement	Target	Achievement	Target	Achievement
1964-65	Not fixed	941	..	..	..	..
1965-66	1,786	1,796	1,786	2,378	..	..
1966-67	3,179	4,361	17,868	5,462	..	..
1967-68	4,020	8,403	8,040	1,251	6,030	7,272
1968-69	6,340	3,566	4,230	254	6,340	5,507
1969-70	7,000	2,722	4,000	177	9,200	14,645
1970-71	6,175	2,432*	1,570	90*	9,090	6,175*

*Upto the end of January 1971.

During the year 1969-70, vasectomy and tubectomy camps were conducted at Keralapura, Konanur, Jayachamarajapura, Hiresave, Arehally, Belur, Arkalgud, Holenarsipur, Channarayapatna, Alur, Banavara and Kanakatte. At the Urban Family Planning Centre of the Hassan District Hospital alone, a total of 383 sterilisations and 28 I.U.C.D. insertions were done during the last week of February 1970. During the year 1969-70, 96 film shows, 40 dramas and cultural shows and ten exhibitions were arranged as a mass media programme to propagate the methods of family planning. In addition to this, education on family planning was also given through wall paintings and boards put up at important public places in the district.

Domiciliary midwifery is attended to by the auxiliary nurse-midwives and midwives attached to the primary health centres and units and local fund dispensaries, while institutional midwifery is attended to in the hospitals at Arkalgud, Arsikere, Belur, Konanur, Keralapura, Channarayapatna, Shantigrama, Sakleshpur, Gorur

Maternity and
Child Health
Services

and Holenarsipur as also in the District Hospital at Hassan. The UNICEF has also provided a vehicle each to the primary health centres at Yamsandi, Doddamagge and Alur for attending to maternity and child health services in their respective jurisdictions.

There is an auxiliary nurse-midwife for every 5,000 population. She pays weekly visits to all the villages concerned and renders antenatal, natal, post-natal and infant services. She attends to the work of vaccination of all unprotected children and re-vaccination as and when required. The services rendered during the years 1969 and 1970 were as follows :—

	1969	1970
(1) No. of antenatal cases registered ..	17,614	42,361
(2) No. of deliveries conducted ..	6,149	8,005
(3) No. of post-natal visits ..	11,013	15,550
(4) No. of infants registered ..	7,360	10,470

**Applied
Nutrition
Programme**

An Applied Nutrition Programme has been in operation in Hassan district since the year 1968-69. The programme was first started in the Holenarsipur Community Development Block and later it was extended to Channarayapatna and Hassan Blocks during the year 1969-70. Dietary and clinical nutrition surveys which were conducted in the Holenarsipur Block during the year 1969-70, revealed an average consumption of 720 grammes of all types of foods. The clinical surveys among the vulnerable segments of population, *i.e.*, the pregnant and nursing mothers and the children upto the age of 14, have shown about 52.8 per cent of Vitamin-A deficiency and 7 per cent protein caloric malnutrition among children of 1 to 5 years of age. Similar survey conducted in the Channarayapatna Block has also disclosed the same percentage of Vitamin-A deficiency and 43.2 per cent of protein caloric malnutrition.

In order to improve the existing dietary pattern, several measures have been taken in the selected blocks. Education of the people about proper nutrition is being carried on through a net-work of health workers and the community development block staff, who organise practical demonstrations, follow-up talks, discussions, film shows and exhibitions and distribute educational materials. The Mid-day Meals Scheme organised by the Education Department is also closely associated with this programme. The prophylaxis against nutritional anaemia among the mothers and children of the age group of two to six years is another scheme which was started during the year 1970 and is extended to the Hassan district. About 9,400 children of that age group and 5,140 pregnant and nursing women will be covered under this programme

in the initial stage. For children, it is arranged to distribute 100 tablets each to check the iron deficiency anaemia among them.

Health education forms one of the important activities of the Health Services Department. The basic health workers, who primarily attend to this aspect of work in the district, make use of every opportunity, especially during village gatherings, to contact the rural populace and to talk to them about various health subjects, sometimes giving practical demonstrations with reference 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 also, the health workers make arrangements to give talks, organise exhibitions and screen films on various health subjects in the villages, towns and health unit areas in the district. The beneficial results of this sustained health education programme may be seen in the greater amount of health consciousness amongst the people in recent years and their greater co-operation with the departmental staff, as compared to the earlier years.

**Health
Education**

The aim of the School Health Programme is to provide comprehensive health care to the school children comprising medical examination, treatment, correctional remedies and follow-up action, school sanitation, proper water supply and provision of playgrounds, health education in schools, etc. Under this programme, children in the age group 6-11 are being immunised against the diseases such as diphtheria, tetanus and rheumatics also. During the year 1965-66, only one Primary Health Centre at Harnahalli was attending to school health service in the district of Hassan. The service was extended to two more Primary Health Centres at Salagame and Ankapura, during the year 1968-69. The number of schools selected and the number of children covered by each of the three Primary Health Centres during 1968-69 and 1969-70 were as follows :—

**School Health
Services**

Sl. No.	Name of the Centre	Number of schools selected		Number of children covered	
		1968-69	1969-70	1968-69	1969-70
1.	Harnahalli ..	19	18	2,005	2,005
2.	Ankapura ..	14	..	1,159	..
3.	Salagame ..	20	19	1,945	1,822

According to the Census Report of 1961, there were 200 persons working as physicians, surgeons and dentists in the Hassan district.

**Medical
Personnel**

Of the 200 persons, 184 were men and 16 were women ; of them 103 men and 15 women were working in towns. In that year, there were 488 persons working as nurses, pharmacists and health technicians, of whom 298 were men and 190 were women. Of these persons, 145 men and 94 women were working in the urban areas, while 153 men and 96 women were serving in the rural areas. As per the Mysore Ayurvedic and Unani Practitioners' list, there were 41 Ayurvedic, 6 Unani and 33 integrated registered medical practitioners in the district as on 31st October 1970. There were also 39 registered Homoeopathic practitioners in the district in 1969.

**Chemists and
Druggists**

According to the figures furnished by the State Drugs Controller, there were, in 1968-69, 27 chemists and druggists and 69 registered pharmacists in Hassan district. In that year, eight licences were cancelled, two were suspended and a fine of Rs. 300 was imposed. (In the year 1969, there was only one manufacturing firm in the district, but it was manufacturing pesticides and agricultural insecticides).

**Medical
Association**

There is a well-organised branch of the Indian Medical Association at Hassan. It had a total membership of 76 doctors in 1969. The general activities of the Association include organisation of periodical professional conferences of doctors, education of the public on matters of health, general medical check-up, conduct of antenatal, pre-natal and child guidance clinics and family planning motivation. The Association meets generally once in a month and sometimes holds meetings at the taluk headquarters as well. It invites eminent doctors to address the members on important topics connected with medical and public health services. There is an Executive Committee consisting of a President, a Vice-President, a Secretary and five other members entrusted with the work of organising various activities of the Association.

**Chamarajendra
Hospital,
Hassan**

The Chamarajendra Hospital, Hassan, was established on 28th February 1927. In the beginning, there was no maternity ward attached to it. Later, Shri M. Nanjappa of Kantharajapur built a maternity ward in memory of his mother Smt. Narasamma. In 1943, a beginning was made for developing a children's ward and then a small tuberculosis ward was built with provision to admit eight patients. In all, there was a bed strength of 90. By 1967, it was raised to 190. The Rotarians of Hassan extended the T.B. Clinic and the T.B. Ward. By 1969, an additional ward with a bed strength of 96 was opened. Now there is provision for 286 in-patients. The services, which are now available in the hospital, relate to medical, surgical, gynaecological, E.N.T., ophthalmic, dental and venereal cases and family planning work.

Besides the District Surgeon, who is the head of this hospital, there were, in 1969, fourteen doctors, a nursing superintendent, 22

nurses, four midwives, one tutor for the Auxiliary Nurse-Midwives Training Centre, 20 members of class III staff including technicians and 50 class IV workers. The daily average number of out-patients and in-patients treated in this hospital has gradually increased over the years. The daily average number of out-patients treated in 1968 was 543.1, while the daily average number of in-patients treated was 276.2. On the surgical side, 1,484 major operations were performed in 1968, while the number of minor operations was 3,470. On the maternity side, 670 labour cases were attended to during that year. In the X-ray section, 12,500 screenings were done and 3,613 radiological examinations were conducted during 1968. In the laboratory, 10,205 urine tests, 13,200 motion tests and 13,500 blood tests were conducted in that year. In the E.N.T. section, in all, 481 cases were treated. In the family planning section, 234 vasectomy, 115 salpinjectomies and 90 I.U.C.D. cases were attended to during 1968.

The Redfern Memorial Hospital was opened in 1906 under the auspices of the Wesleyan Methodist Missionary Society of London. In 1947, it came under the control of the Church of South India. The hospital was named after Rev. W.E. Redfern who built the hospital for women and children. To start with, the bed strength in the hospital was 20, which rose to 31 in 1934 and to 50 in 1960. A new maternity block was opened in 1960. Its present (1970) bed strength is 122, including the cradles for new born babies; the staff of the hospital consists of one Medical Superintendent, one Assistant Doctor, one Nursing Superintendent, one Sister-Tutor, one Business Manager, two Pharmacists, two Laboratory Technicians, two Midwives, five Nurses, 18 Auxiliary Nurse-Midwives and 20 class IV staff.

Redfern
Memorial
Hospital,
Hassan

In 1934, a Petta Dispensary and a Welfare Centre were opened by the management of this hospital. In 1942, the hospital received recognition from the Madras Nurses and Midwives Council as a training school for midwives. In 1952, full recognition was received for training nurses. In 1961, Auxiliary Nurse-Midwifery training was started in this hospital. An X-ray Unit was opened in 1962. In 1965, a family planning section was started and the hospital helps to carry out the family planning scheme of the Christian Medical Association of India.

The number of maternity cases treated at present, on an average every year, is 1,000, as against only 26 cases in the year 1916. During the year 1969, 409 screenings were done in the X-ray section; in the laboratory, 2,000 faeces, 2,950 urine, 3,916 blood, 175 sputum, 255 T.V. smear, 20 throat smear and 25 C.S.F. tests were conducted; in the family planning section, 52 tubectomies and five I.U.C.D. cases were attended to.

Crawford
Hospital,
Sakleshpur

The Crawford Hospital, Sakleshpur, was established in 1948. The hospital is named after Rajasabha-Bhushana Lt. Col. W. L. Crawford, who donated Rs. 1,17,500 for the construction of the hospital building. To start with, the bed-strength was only 37, which rose gradually to 118 in 1970 (60 for men, 46 for women and 12 for children). As in 1970, the staff of the hospital consisted of one Medical Officer, five Assistant Surgeons including a lady, one Nursing Superintendent, eleven Nurses, three Pharmacists, three Midwives, one X-Ray Technician, one Laboratory Technician and 35 class IV servants. The daily average number of in-patients treated in 1969 was 82 and out-patients 161. There is an X-ray plant of 30 M.A. capacity which was set up in 1952. There are also dental and family planning wings in the hospital. During the year 1969-70, a sum of Rs. 2,07,225 was expended on this institution.

* * * * *

TABLE 1

Statement showing the location of Primary Health Centres, Health Units and Dispensaries in Hassan District (talukwise) and the number of patients treated therein and expenditure incurred on the institutions during the year 1968-69.

Sl. No.	Name of Dispensary with location	No. of in-patients treated	No. of out-patients treated	Total expenditure incurred
1	2	3	4	5
Alur Taluk				Rs.
1.	Primary Health Centre, Alur	112	33,798	64,091
2.	Primary Health Unit, Kenchamma-Hoskote.	..	13,586	24,162
3.	Primary Health Unit, Ponnathapur.	..	6,603	21,580
4.	Primary Health Unit, Rayarakoppal.	17	7,816	..
Arsikere Taluk				
1.	Primary Health Centre, Harnahalli.	43	28,682	74,463
2.	Primary Health Centre, Kanakatte.	88	14,193	57,060
3.	Local Fund Dispensary, Banavara.	90	39,830	13,953
4.	Local Fund Dispensary, Gandasi.	..	12,796	10,993

1	2	3	4	5
				Rs.
5.	Local Fund Dispensary, Javagal.	63	32,355	14,394
6.	Local Fund Dispensary, Jayachamarajapura.	127	18,929	14,217
7.	Jayachamarajendra Hospital, Arsikere.	21,145	75,982	1,19,406
Arkalgud Taluk				
1.	Primary Health Centre, Doddamagge.	159	16,664	63,059
2.	Health Unit, Arkalgud ..	..	..	..
3.	Health Unit, Mallipatna	127	17,590	22,688
4.	Health Unit, Rudrapatna	40	12,921	24,157
5.	Combined Dispensary, Keralapura.	148	36,202	30,433
6.	Combined Dispensary, Konanur.	149	22,791	30,530
7.	Local Fund Dispensary, Basavapata.	16	24,842	10,133
Belur Taluk				
1.	Primary Health Centre, Yamsandi.	..	..	..
2.	Health Unit, Arehalli ..	25	35,724	24,582
3.	Health Unit, Gendehalli	..	15,332	15,592
4.	Health Unit, Hagare ..	..	11,159	18,874
5.	Health Unit, Halebid ..	..	20,906	22,836
6.	Health Unit, Kesagodu	..	..	..
7.	Health Unit, Nagenahalli	..	5,065	14,449
8.	Combined Dispensary, Belur.	..	..	..
Channarayapatna Taluk				
1.	Primary Health Centre, Udayapura.	..	5,172	48,038
2.	Primary Health Centre, Mathanavale.	..	9,210	52,430
3.	Health Unit, Srinivasapura.	..	9,528	12,346
4.	Combined Dispensary, Channarayapatna.	695	38,735	43,146
5.	Local Fund Dispensary, Begur.	..	13,959	11,460
6.	Local Fund Dispensary, Didaga.	23	15,160	11,943
7.	Local Fund Dispensary, Hiresave.	146	61,641	15,627
8.	Local Fund Dispensary, Nuggihalli	..	19,900	16,837
9.	Local Fund Dispensary, Shravanabelagola.	428	24,663	42,260
10.	Reduced-scale Local Fund Dispensary, Karehally	..	..	..

1	2	3	4	5
Holenarsipur Taluk				Rs.
1.	Primary Health Centre, Doddakadnur.	..	4,814	23,841
2.	Health Unit, Hallimysore	..	8,329	15,399
3.	Health Unit, Doddakunche	..	4,814	20,474
4.	General Hospital, Hole- narsipur.	859	88,796	78,000
Hassan Taluk				
1.	Primary Health Centre, Ankapura.	..	5,145	..
2.	Primary Health Centre, Salagame.	..	15,438	69,167
3.	Local Fund Dispensary, Bylahally.	..	7,102	13,046
4.	Local Fund Dispensary, Dudda.	..	16,758	15,888
5.	Local Fund Dispensary, Kowshika.	..	7,233	10,447
6.	Local Fund Dispensary, Mosale-Hosahalli.	..	13,040	8,988
7.	Local Fund Dispensary, Shantigrama.	20	80,428	11,783
8.	Local Fund Women's Dispensary, Gorur.	10	10,355	10,365
9.	Mobile Dispensary, Hassan	..	..	..
Sakleshpur Taluk				
1.	Primary Health Centre, Attihally	18	10,303	41,501
2.	Health Unit, Hanabal	..	..	..
3.	Health Unit, Hethur	8	4,256	14,558
4.	Health Unit, Huchangi	..	..	..
5.	Health Unit, Sakleshpur	..	..	..
6.	Health Unit, Shukravara- santhe	6,752	19,074	54,366
7.	Health Unit, Ballupet	..	6,506	28,183
8.	Health Unit, Belagodu	..	13,223	15,342
9.	Combined Dispensary, Yeslurpet	71	17,765	27,604

TABLE 2

List of Ayurvedic and Unani Dispensaries in Hassan District with their location and number of patients treated and expenditure incurred in 1969-70 :—

Sl. No.	Name of Dispensary with location	No. of patients treated	Expenditure incurred
1	2	3	4
Alur Taluk			
1.	Doddakanagal (AD) ..	4,886	1,300 (for medicines only)
2.	Hosapatna (AD) ..	..	..
3.	Palya (AD) ..	10,415	1,200 (for medicines only)
Arsikere Taluk			
1.	Dummanahalli (AD) ..	5,821	4,620
2.	Bageshpura (AD) ..	..	..
3.	Belagumba (AD) ..	7,524	930
4.	Chickur (AD) ..	..	..
5.	Doddametipurke (AD) ..	..	..
6.	Yedavanahalli (AD) ..	13,400	5,424
7.	Kalgundi (AD) ..	7,341	4,800
8.	Kuruvanka (AD) ..	6,020	1,101
9.	Donankatte (AD) ..	..	..
10.	Karigunde (AD) ..	8,937	700 (for medicines only)
11.	Urundanahalli (AD) ..	..	..
12.	Thondiganahalli (AD) ..	7,898	5,300
13.	Kolagunda (AD) ..	16,184	7,404
Arkalgud Taluk			
1.	Bannur (AD) ..	3,272	500 (for medicines only)
2.	Belavadi (AD) ..	3,300	6,000
3.	Chickabemmathi (AD) ..	..	..
4.	Hulikal (UD) ..	8,461	8,432
5.	Ramanathapura (AD) ..	3,645	200 (for medicines only)
6.	Santhemorur (UD) ..	2,620	700 (for medicines only)
7.	Handrangi (UD) ..	6,721	5,580
8.	Hebbale (AD) ..	3,420	5,668

1	2	3	4
			Rs.
	Belur Taluk		
1.	Appihalli (AD)	.. ..	..
2.	Biccodu (UD)	.. ..	..
3.	Kargada (AD)	.. 12,962	5,400
4.	Sanahalli (AD)	.. ..	..
5.	Nervey (UD)	.. ..	..
	Channarayapatna Taluk		
1.	Halkere (AD)	.. ..	..
2.	Navile (AD)	.. ..	..
3.	Santheswara (AD)	.. ..	..
4.	Uhodghatta (AD)	.. ..	..
5.	Dadighatta (AD)	.. 7,430	7,268
	Holenarsipur Taluk		
1.	Jodigubbi (AD)	.. ..	..
2.	Mavanur (AD)	.. 620	5,562
3.	Nagaranahalli (AD)	.. 10,806	4,750
4.	Theranya (AD)	.. 10,960	5,400
5.	Uddur (AD)	.. 14,386	7,380
	Hassan Taluk		
1.	Doddagaddavalli (AD)	.. ..	..
2.	Kattaya (AD)	.. 3,488	3,122
3.	Nittur (AD)	.. ..	..
4.	Salagame (UD)	.. ..	..
5.	Santheshivara (AD)	.. 9,265	1,000
	Sakleshpur Taluk		
1.	Heggadde (UD)	.. ..	..
2.	Hosur (UD)	.. ..	..
3.	Udevara (UD)	.. 1,645	3,293
4.	Madavar (AD)	.. ..	..

[A.D.=Ayurvedic Dispensary ; U.D.=Unani Dispensary.]