

Chapter XVI

MEDICAL AND PUBLIC HEALTH SERVICES

Before the advent of the British, two systems of medicine flourished in the country side by side. By and large the Hindu families patronised the Ayurvedic system and the Muslim favoured the Unani system. The allopathic system of medicine was introduced during the British rule. Exotic but based on the progressive researches in the field of medical science, it gradually carried conviction of its usefulness. The British Government opened a number of hospitals and dispensaries to provide medical facilities on an increasing scale. These were, however, at no time adequate to meet the needs of the whole of the population.

The state of public health that obtained in this insalubrious district in early times is not known. The flooded and swampy tracts near Nuh were terribly fever-stricken in years of abundant rain and few men could stand a lengthened residence at Nuh without impairing their health. The high parts of the district, notably the Taoru table-land and the high plain of Ballabgarh and Palwal and of the east of Nuh and Firozpur Jhirka tahsils, were originally very healthy but the introduction of canal irrigation disturbed the long established conditions. Many people suffered from malarial fever with enlarged spleen in the villages along the course of the Agra Canal after its opening in 1874. In 1878-79, the east of the district and in the 1879-80, the whole district was, like the neighbouring tracts in north, south and east, devastated by fever. There was heavy rainfall in 1879 following a period of scarce rainfall in 1877-78. The adverse conditions debilitated the population owing to scarcity of food. Fever affected 95 per cent of the population of the district as then constituted. One seventh of its total population died in 1878 and 1879. The total number of deaths in these two years was 1,03,543. The town of Rewari¹ had been unhealthy ever since the over-flooding of the Sahibi in 1873. The fever epidemic of 1908 was one of the severest known. There were 37,821 deaths in that year on this account in the district excluding the Ballabgarh tahsil. The most unhealthy months were September, October and November, while in February deaths were at their minimum point. Malarial fever was the chief cause of mortality

1. In the Mahendragarh district since December 22, 1972.

although cholera visitations were also sometimes very severe. Above all, the district was the worst sufferer from smallpox in the State.

The agricultural population in general resort to simple traditional remedies. For fever, which was the most prevalent form of illness, a mixture of butter milk with flour and water was drunk. Some people took a hard turn at the plough in order to induce perspiration. To counteract a scorpion sting they either rubbed the place with the root of a certain onion like plant or fried the scorpion in ghi to rub it on the sting. There were somewhat similar recipes for snake bite or the bite of a mad dog. In the towns, *vaid*s and *hakim*s generally practised the Ayurvedic and Unani systems of medicine.

On the turn of the twentieth century, there were outdoor and indoor 2nd class dispensaries at Gurgaon, Rewari, Farrukhnagar, Palwal, Nuh, Firozpur and Ballabgarh, while Sohna, Hodal, Punahana and Faridabad (Old) had only outdoor dispensaries.¹ The Gurgaon dispensary was founded before 1857 and was originally known as the Sadar dispensary. It was situated to the east of the civil station, close to the police lines. Till the end of the nineteenth century, it was under the charge of a Hospital Assistant like all other dispensaries except Rewari and Ballabgarh which had respectively an Assistant Surgeon and a Sub-Assistant Surgeon. Then Gurgaon was also placed under an Assistant Surgeon. However, Nuh, Farrukhnagar and Firozpur Jhirka were made outdoor dispensaries under Hospital Assistants. The dispensaries at Rewari, Palwal, Hodal, Firozpur, Ballabgarh and Faridabad (Old) were maintained by the respective Municipal Committees with grants from District Boards, if necessary. Those at Gurgaon, Farrukhnagar, Nuh, Sohna and Punahana were maintained by the District Board, Gurgaon. Ballabgarh and Faridabad (Old) were under the control of the Civil Surgeon, Delhi, till 1912. All others were under the control of the Civil Surgeon, Gurgaon, who also had charge of the police and sub-jail hospitals. Two private hospitals, one for men and the other for women, were maintained by the Baptist Missionary Society at Palwal and had 26 and 21 beds respectively. In February 1903, the S.P.G. Mission opened a hospital for women at Rewari. It had to be closed in 1908 owing to the death of the lady doctor.²

1. *Gurgaon District Gazetteer, Statistical Tables, 1904, Table 53. Delhi District Gazetteer, 1912, p. 213.*

2. *Gurgaon District Gazetteer, 1883-84, p. 103.*

Gurgaon District Gazetteer, 1910, p. 287.

Delhi District Gazetteer, 1912, pp. 186, 214,

The following dispensaries were opened on the dates shown against each

Nagina (Firozpur Jhirka)	December 28, 1920
Hasanpur (Palwal)	January 26, 1922
Bahora Kalan (Gurgaon)	January 27, 1922
Dharuhera (Rewari)	September 14, 1922
Jatusana (Rewari)	April 22, 1923
Mirpur (Rewari)	May 12, 1923
Taoru (Nuh)	June 1, 1923
Pinangwan (Firozpur Jhirka)	June 11, 1924
Mohana (Ballabgarh)	1924
Manjhauli (Ballabgarh)	February 21, 1925
Khol (Rewari)	December 1, 1925
Mandkola (Nuh)	December 22, 1925
Tigaon (Ballabgarh)	March 17, 1927
Guraora (Rewari)	January 13, 1928
Bhangraula (Gurgaon)	January 13, 1928
Ujina (Nuh)	February 11, 1928
Bewan (Nuh)	March 31, 1928
Dhauj (Ballabgarh)	July 13, 1928
Sohra (Palwal)	September 30, 1928
Toppa Bilochpur (Palwal)	March 1, 1929
Ghangaula (Gurgaon)	March 9, 1929
Dahina Lanabad (Nuh)	April 21, 1929
Rasulpur (Firozpur Jhirka)	November 20, 1929
Aurangabad (Palwal)	November 28, 1929

All the hospitals and dispensaries in the district were 2nd class. All the Mission hospitals were rated as 4th class. The Women's Hospital at Rewari was opened in 1903. Mission dispensaries for males were also started at Hathin and Fatehpur Biloch in the same year. Some of these institutions, however, were short-lived. The Women's Hospitals at Rewari and Palwal were finally closed in 1908 and 1932 respectively. The dispensaries at Hathin and Fatehpur Biloch were also closed in 1938¹.

The State dispensary at Pataudi worked under the direction of the Civil Surgeon of the Gurgaon district. A Hospital Assistant was lent by the British authorities to supervise the dispensary. A hospital was built in 1875 with accommodation for 6 in-patients. As stated in the *Pataudi State Gazetteer* of 1904, this accommodation was never used. On the merger of the

1. *Gurgaon District Gazetteer, Statistical Tables*, 1935, Table 53, (as updated by the office of the Commissioner, Ambala Division, Ambala).

State, this hospital was taken over by the medical authorities of the Gurgaon district.

The dispensary at Bawal also came under the control of the district authorities with the merger of the Bawal area. The dispensary at Manjhauri was abolished in 1943.¹ Those at Pinangwan, Mandkola, Biwon and Sohla also ceased to exist by 1947. At least there is no mention of these in the 1951 Census records. On the other hand, they record the existence of dispensaries at Jhainsa and Hathin and of a Mission Hospital for Women at Palwal.²

Thus by 1951, there were 34 hospitals and dispensaries in the district besides 2 Mission hospitals, one for males and the other for females, at Palwal. There was also a modernised and well-equipped hospital at Rewari which had been built and started by Sir Shadi Lal, the first Indian Chief Judge of the Lahore High Court, in 1941. The main object in opening this hospital was to give medical aid to women. It was, however, taken over by the Government in about 1950-51.³ The district suffered from infectious diseases like which appeared off and on in an epidemic form and took a heavy toll of human life.

The national Government felt concerned about extending medical and health services to the people at large. More and more medical institutions on modern lines were opened and provided with necessary equipment and other facilities. Many new programmes to control and eradicate diseases were undertaken. In 1961, the number of allopathic hospitals and dispensaries in the district increased to 47. Simultaneously, the Government realised that the indigenous systems of medicine, were favoured by the people, particularly the rural masses. People found them inexpensive and readily available. Keeping this in view, the Punjab State Government in 1953-54 started a programme of opening Ayurvedic dispensaries in the district. These dispensaries were opened on the recommendations of the district authorities and the demand of the people of the area concerned. These were housed in the accommodation provided by the *gram* panchayats. The staff strength at a dispensary generally comprised one Vaid, one Dispenser, one Dai and two part-time Class IV employees. In that year, 2 dispensaries were started. The number increased to 24 in 1960-61. Meanwhile, the State Government

1. *Gurgaon District Gazetteer, Statistical Tables, 1935, Table 53, (as updated by the office of the Commissioner, Ambala Division, Ambala).*

2. *Census of India, 1951, Gurgaon District Census Handbooks, Volume 3, p. 8.*

3. *Ibid.*

had also established the Directorate of Ayurveda in November 1956 and thereby encouraged this indigenous system of medicine by affording facilities for its promotion and propagation.

MEDICAL AND HEALTH SERVICES

The administration of medical relief required attention on several fronts. The health services had to be expanded to cope with the increasing number of hospitals and dispensaries and to supervise measures to check epidemics and to organise health education and various schemes connected with the promotion of public health. The two officers concerned with health and medical problems were the District Medical Officer of Health and the Civil Surgeon, both at the district headquarters. Rural dispensaries, rural health centres and primary health units were administered by the District Medical Officer of Health while the local body and other civil dispensaries and district and tahsil headquarters hospitals were under the charge of the Civil Surgeon.

In July 1964, as in all districts, the departmental set-up in the Gurgaon district was also re-organised with a view to providing improved medical aid to the people. Since then, the combined medical and health services have been looked after by the Chief Medical Officer assisted by Deputy Chief Medical Officer (Medical) and Deputy Chief Medical Officer (Health).

Before the re-organisation of the district on December 22, 1972, there were in all 58 Government allopathic medical institutions. The areas which were excluded from the Gurgaon district had 11 such institutions, viz. 3 hospitals (Civil Hospital, Sir Shadi Lal Maternity Hospital and Railway Hospital, Rewari), 3 primary health centres (at Bawal, Guraora and Khol) and 5 dispensaries (at Jatusana, Dharuhera, Mirpur, Dahina Zainabad and E.S.I. Dispensary, Rewari). This left a balance of 47 such institutions in the re-organised district. To this number was added one hospital at Ballabgarh in 1976. However, on December 31, 1976, medical facilities were available to public at the following institutions :—

Hospitals	11 (9 Government, 1 E.S.I. and 1 private)
T.B. Clinic (Government)	1
Dispensaries	23 (10 Civil, 1 municipal, 2 E.S.I., 9 rural and 1 private)

for 90 beds for indoor patients has been added and formally inaugurated on March 23, 1976.

It is a referral hospital and only the cases referred by the E.S.I. dispensaries in the district are entertained. All usual facilities of a general hospital, viz. medical, surgical, gynaecology, eye and ear, nose, throat, T.B., X-ray and laboratory are available. Since the blood transfusion facility is not available at this hospital, serious cases are referred to Safdar Jang Hospital, New Delhi/T.B. Hospital, Kingsway, New Delhi/ Government Medical College Hospital, Rohtak.

The year-wise figures of attendance of outdoor and indoor patients during the period 1969 to 1976 are given below :

Year	Outdoor attendance	Indoor attendance
1969	64,800	1,380
1970	81,000	1,317
1971	82,800	1,704
1972	90,720	2,260
1973	99,000	2,889
1974	1,06,200	3,161
1975	1,17,000	3,187
1976	1,18,175	3,094

Civil Hospital, Ballabgarh.—Located on Delhi-Mathura Highway Ballabgarh, this hospital was built by the All India Institute of Medical Sciences, New Delhi, and started functioning in 1967. Previously, it was a Primary Health Centre which was taken over in 1965 by the All India Institute of Medical Sciences, New Delhi, to run a comprehensive Rural Health Services Project. The object was to evolve teaching programme for medical and para-medical personnel, service to a unit of population and to develop facilities for medical research. It was, therefore, felt to have a block hospital with all the basic facilities. Consequently, came up the present 53-bed hospital.

The hospital is run by the All India Institute of Medical Sciences, New

Delhi. The Health Directorate of Haryana contributes equivalent to the man-power and expenses of a 50-bed hospital on a set scale.

The staff of the hospital has been provided both by the Haryana Government and the All India Institute of Medical Sciences, New Delhi. The Haryana staff consists of one Senior Medical Officer, four Medical Officers, one Assistant Dental Surgeon, and other technical and non-technical staff numbering 45 personnel. The All India Institute of Medical Sciences provides Resident Specialists in Medicine, Surgery, Ophthalmology, Paediatrics, Obstetrics, Gynaecology, Anaesthesiology, Preventive and Social Medicine and three-faculty members including the Professor of Preventive and Social Medicine in charge of the Project. The other technical and non-technical staff consists of about 60 personnel.

Practically all the facilities of a General Hospital have been made available. Specialised medical care services are provided in Medicine, Surgery, Ophthalmology, Paediatrics, Obstetrics, Gynaecology and Dentistry. The routine laboratory investigations are conducted here while, for some special tests, the specimen are sent to the All India Institute of Medical Sciences, New Delhi. Facilities for radiological investigations have been made available free of charge. A reasonably good operation theatre has been set up where in addition to the specialists posted at this hospital, faculty members from the All India Institute of Medical Sciences perform operations.

The following data show at a glance the year-wise figures of patients who attended this hospital :—

Year	Outdoor attendance	Indoor attendance	Emergencies
1968	59,505	2,090	1,514
1969	75,305	2,468	2,226
1970	83,671	2,372	2,487
1971	66,667	2,482	2,848
1972	71,559	2,408	3,402
1973	73,260	2,930	4,324
1974	70,389	2,660	4,053
1975	75,162	2,956	5,090
1976	81,032	2,759	4,738

District Tuberculosis Clinic, Gurgaon.—Changing concepts in the treatment of tuberculosis have brought the clinic/domiciliary service to the forefront. Accordingly, in 1957, a block to house the T.B. Clinic was constructed by the District Red Cross Society, Gurgaon, in the premises of Civil Hospital, Gurgaon. It was run by the Society with the help of a part-time doctor till March 1957, when it was taken over by the State Government. This clinic increased its domiciliary services in 1969. In 1974 (31st December), 1,639 T.B. Patients of all types were on its index register and all were taking regular treatment. One team comprising a Medical Officer, a Treatment Organiser, a Laboratory Technician, an X-ray Technician and a Statistical Assistant trained from National Tuberculosis Institute, Bangalore, has been working in the clinic since May 1969 to organise District T.B. Control Programme and to impart training to the persons engaged in the programme at different health institutions in the district. Necessary equipment such as Odelca Camera for 70 mm skiagram, drugs and vehicles, has been provided by UNICEF.

The following data show the number of cases examined, treated and cured at the clinic since 1967:—

Year	Cases examined	Cases treated	Cases cured
1967	634	3223	29
1968	591	281	46
1969	503	281	43
1970	1,804	656	63
1971	1,404	1,075	81
1972	2,260	1,082	214
1973	2,073	1,224	352
1974	2,823	1,639	363
1975	3,295	3,468	527
1976	2,430	1,648	312

DISEASES COMMON TO THE DISTRICT

The common diseases that occur in the Gurgaon district are typhoid group of fevers, tuberculosis, dysentery and diarrhoea, trachoma, chest infection (other than tuberculosis). Epidemic diseases, viz. cholera, plague and

smallpox are the three notifiable diseases under the Epidemic Diseases Act, 1897.

Of the three chief epidemic diseases, cholera and plague are no longer endemic in the State and the incidence of these diseases depends largely on the chance of importation of infection and laxity of preventive measures to check them.

Cholera.—Cholera is no longer an endemic disease in the Gurgaon district. Even in the past, it was always imported from the neighbouring States and districts after dispersal of gatherings at fairs and festivals of all-India fame, particularly the periodical Kumbh fairs at Hardwar (U.P.), solar and lunar eclipse fairs at Kurukshetra (Kurukshetra district), the Urs at Ajmer (Rajasthan) and similar gatherings at other places. However, the number of cholera cases has not been large in the last fifty years because of strict prophylactic and other anti-cholera measures like medical inspection posts and mass inoculation in hospitals and dispensaries. With the development and expansion of public health activities relating to disinfection of water and safe drinking water-supply, pavement and drainage of streets, removal of refuse and manure heaps, anti-fly and other general sanitation measures, the severity and incidence of cholera outbreaks is becoming a story of the remote past.

The result of all these measures was beneficial since no death occurred from cholera during 1953—64, 1967, 1968, 1970, 1971 and 1973—76 as shown in Table LIX of Appendix.

Plague.—Till 1929, plague was one of the most feared epidemics. The following figures¹ show its incidence in the district since the beginning of the present century :—

Year 1	Deaths 2
1903	4,118
1904	7,170
1905	29,172
1906	118
1907	5,879
1908	5,040

¹ District Gazetteer, 1910, p. 43.

1	2
1909	2,318
1910	18,652
1901—1905 (average)	6,092
1906—1910 (average)	6,401
1911	15,611
1911—1915 (average)	5,212
1916—1920 (average)	621
1923	1,010
1924	3,165
1925	3,795
1926	4,673
1927	369
1928	372
1929	26

Thereafter till 1944, there was no death on account of plague excepting 1 each in the years 1937, 1939 and 1944. During the last thirty two years, there has been no death resulting from this disease as shown in Table LIX of Appendix.

It is now no secret that this horrible disease has become an occurrence of the past. The factors determining its disappearance have been the spraying of houses with insecticides to kill rat flees and systematic de-ratting measures.

Smallpox.—This district has never been free from smallpox until recently. The incidence and deaths due to this disease in earlier years are given in Table LIX of Appendix. It was more common in the Nuh, Firozpur Jhirka and Palwal tahsils than other areas of the district. These three tahsils have a common border with the Bharatpur and Alwar districts of Rajasthan, and Mathura and Bulandshahr districts of the Uttar Pradesh where smallpox was endemic. The inhabitants of these tahsils paid occasional visits to

these adjoining areas. Thus there was always a possibility of the infection being imported from the neighbouring districts which rendered the task of controlling the disease in the district more difficult.

Many other factors also operated adversely. The cases were concealed by the villagers. The Hindus entertain the belief that it is a vision of goddess *mata* and the Muslims consider it an act of God (*Allah ki den*). The cases were thus not reported by the village officials, viz. Lambardars, Sarpanches, Panchayat Secretaries and Chowkidars. A sizeable number of the Muslim population of the Nuh and Firozpur Jhirka tahsils resisted vaccination. All new-born children were not vaccinated in time. Chowkidars did not register all the births; in this way unregistered children escaped vaccination. People, even in affected areas did not cooperate to get themselves and their children vaccinated. Many of the local bodies too did not pay serious attention to smallpox eradication work. Besides, the vaccination staff being insufficient could not always be very effective.

Smallpox cases occurred mostly during winter and the disease appeared in an epidemic form once in a span of 5 to 6 years. The National Smallpox Eradication Programme supported by the World Health Organisation was launched by the Government of India in April 1962. There was smallpox epidemic in the district in 1963 when 648 cases were detected. Out of these 99 died. Under the eradication programme mass vaccination and re-vaccination was carried out during 1962 and 1963, and this resulted in suppression of the epidemic during 1964 and 1965. During 1966, there was again increase in smallpox cases (352 cases and 57 deaths) and the disease spurted up during 1967 causing 137 deaths in the district. The people who could not be vaccinated in time caught the infection. This was a country-wide epidemic and timely action of the eradication staff reduced the infection in 1968 (228 cases and 20 deaths). In 1969, 93 cases of smallpox were reported and 24 deaths occurred. In 1970, there was again an increase in smallpox cases and deaths (802 cases and 125 deaths). Late reporting of cases led to the spread of the disease. The people who could not get themselves vaccinated in time also caught the infection.

In 1971, 1,744 cases were notified. This increase in cases can be attributed to ineffective containment measures in previous years, continued smouldering of infection for the last many years and improved notification in 1971. In 1972, active surveillance and improved containment measures brought the desired results and hidden cases were unearthed and transmission was successfully interrupted. In all 414 cases were detected. Of

The National T.B. Control Programme has also been launched in the district since January 1969. Medical facilities against the disease have been provided at T.B.Clinic, Gurgaon and primary health centres. All types of medicines required for the T.B. patients are made available there. The patients are treated in the Outpatient Department and no arrangement exists for indoor patients except at the E.S.I. Hospital, and the Badshah Khan Hospital, Faridabad and the Government General Hospital (T.B. Ward), Gurgaon.

Influenza.—Influenza is an acute infectious disease of the upper respiratory tract caused by the influenza virus. It occurred in a severe epidemic form in the district, as in many other parts, in 1918¹ after World War I, and again in 1957. Every year sporadic or isolated cases of influenza occur, sometime very serious, sometime only mild. As the symptoms are very similar to those of common cold, many a case of common cold is labelled as influenza. There is no specific treatment against the disease; but precautions similar to those for lung infections prevent its spread during an epidemic. The serious and complicated influenza cases are advised admission to a hospital and are treated with antibiotics. The number of reported cases of influenza since 1967, as shown below, show a steady decrease in the incidence of this disease :

Year	Cases
1967	1,984
1968	8,369
1969	11,789
1970	8,064
1971	2,192
1972	3,102
1973	3,010
1974	770
1975	280
1976	711

1. A total of 22,660 deaths occurred in the district in 1918 due to influenza. (*Gurgaon District Gazetteer, Statistical Tables, 1935, Table 11.*)

Trachoma.—It is a common eye disease. The Trachoma Eradication Programme, a centrally sponsored scheme, was launched in the district in 1966. In order to control the spread of this disease, children below the age of ten years are given application with antibiotic eye ointment twice a day for 5 days in a week extending over a period of six months. The primary health centres help in the control of the disease amongst the rural masses.

The year-wise number of cases treated for trachoma since 1967 is as follows :—

Year	Cases treated
1967	8,048
1968	9,535
1969	7,644
1970	8,153
1971	11,694
1972	13,887
1973	6,372
1974	14,115
1975	19,198
1976	13,187

Leprosy.—Judging from the number of cases brought on record, the incidence of this disease is insignificant. In recent years only a negligible number of such patients known below, was recorded to have reported for treatment at the Out-patient Departments of the hospitals in the district.:

Year	Cases
1967	6
1968	3
1969	—
1970	15
1971	23
1972	10
1973	5
1974	19
1975	30
1976	13

Malaria.—As recorded earlier, in the last quarter of the 19th century, the Gurgaon district suffered more from malaria epidemic than any other district of the then Punjab. In two years, i.e. 1878 and 1879, one-seventh of the population died. The Civil Surgeon estimated that 25 per cent of the population of the district had been affected by fever in 1879. For the month of October in that year the death-rate for the whole district reached the terrible figure of 204 per thousand per annum. The town of Palwal which was similarly visited in two successive years, lost 3,900 people out of 13,500; Hathin, Bahin, Manpur and other large villages, each lost one-fourth of its populations; while in Farrukhnagar, for several weeks, the death-rate was over 950 per thousand per annum and in Rewari 375. The *kharif* crop was an abundant one, but a great deal of grain was destroyed before it could be collected. Many proprietors offered half the crop for the labour of cutting it and still failed to get labourers able to undertake the work. The villages were a picture of misery, the houses in ruins, and their inhabitants in the extremity of weakness and despair. The enormous consumption of wood for funeral pyres led to a scarcity and consequent dearness.

The fever epidemic of 1908 was the severest known. The death-rate from fever amounted to 50.68 per thousand of the population in the district, being practically double that of any of the past five years. Malaria fevers were of course the prevailing type and the mortality was the highest amongst children and the aged. People were incapacitated for work by enormously enlarged spleen and anaemia. The harvesting and sowing of crops suffered seriously owing to peasants being prostrated by fever. The condition was very marked in villages situated in the low-lying tracts.

Subsequent to the year 1909, there occurred several epidemics of malaria but the more serious outbreaks were recorded in 1917, 1923, 1942 and 1950. The worst affected areas were along the banks of river Yamuna and Sahibi Nadi when the flood water receded. Innumerable spills and swamps were formed which served as breeding places for anopheles, the malaria carrying species of mosquito.

To eradicate this disease, which was a major health menace from the point of view of sickness, vitality and mortality, the Malaria Unit, Gurgaon was established in 1955 under National Malaria Control Programme with the aid and cooperation of international agencies such as World Health Organisation, Technical Cooperation Mission (Agency for International Development) and Ford Foundation. To start with, only the highly malarious areas of the district, viz. the Nuh, Firozpur Jhirka and Palwal tahsils, were

taken up. Primarily, this unit used to cover the Gurgaon district along with a major portion of the Rohtak district. This was done for proper execution of the programme which was to make up a population of one million for each malaria unit established in the State.

In 1958, National Malaria Control Programme was switched over to National Malaria Eradication Programme.¹ All the areas, both urban and rural, previously not under malaria control programme, were brought under the new programme, which consisted of two stages, i.e. D.D.T. spray and surveillance. In the first stage, the district was taken up for intensive D.D.T. spraying during transmission season every year till 1961-62. In the second stage, the phase of eradication (surveillance) was also started side by side towards the end of 1960. The two stages overlapped during 1961 when the transmission of the disease was checked in the district and D.D.T. spray was withdrawn. This marked the completion of the first phase of eradication. In November 1961, the Malaria Unit, Gurgaon was re-organised. It now covered only the Gurgaon district. The unit was further divided into four sub-unit offices located at Gurgaon, Palwal, Rewari and Nuh.

The second phase, the surveillance of residual foci of malaria infection, consisted of active and passive surveillance. Under active surveillance, the area of the district was divided into 100 sections, each section carrying a population of about 10,000 persons. The surveillance staff whose duty was to visit the houses for detection of fever cases and collection of blood smears, were recruited, trained and posted in sections. This insured a fortnightly ancillary visit to each family and collection of blood smears of fever cases and administration of 4 aminoquinoline tablets to suppress the disease. If a patient was found positive to malaria, he was administered radical treatment for 5 days to clear his blood from malaria parasite.

Under passive surveillance various hospitals, dispensaries and medical institutions played an important role as passive agencies and were expected to prepare the blood slides of every fever case reported to them. This measure screened all the fever cases for malaria parasite.

The Gurgaon unit entered into the consolidation phase of eradication

1. National Malaria Eradication Programme implies the reduction of parasite reservoirs in human population to such a degree that once it has been achieved there is no danger of resumption of local transmission.

programme in 1964. Active and passive surveillance were intensified throughout the area. On the basis of the appraisal of the results of malaria eradication work carried out within the area of Gurgaon, the whole of the Gurgaon district comprising 14 blocks entered the maintenance phase.

As a result of the National Malaria Eradication Programme, the incidence of the disease was considerably reduced. However, a set-back to this eradication programme occurred after 1966 due to the withdrawal of D.D.T. spray, unplanned development of new towns and immigration of population, especially labourers from other States. Accordingly, necessary eradication and control measures have been instituted to bring the situation under control. The details of surveillance activities carried out during 1967 to 1976 may be glanced through the following table :—

Year	Fever cases detected	Slides of fever cases			4-Amino-quinoline tablets administered	8-Amino-quinoline tablets administered
		obtained	examined	found positive		
1967	1,24,124	1,74,904	1,74,904	563	2,55,033	31,320
1968	1,21,327	1,61,076	1,61,076	265	3,79,680	11,808
1969	1,47,487	1,81,047	1,81,047	434	4,87,432	1,20,566
1970	1,91,631	1,91,631	1,91,631	1,086	6,14,807	34,465
1971	1,56,656	1,64,414	1,64,414	1,370	4,73,217	39,121
1972	1,66,521	1,76,180	1,76,180	3,885	3,38,852	41,508
(New district)						
1973	1,58,712	2,08,714	2,08,714	16,409	5,11,103	2,67,513
1974	1,72,623	2,41,382	2,41,382	30,901	6,75,908	3,75,439
1975	3,58,034	3,58,034	3,58,034	94,247	12,30,048	25,43,416
1976	5,87,834	5,28,525	5,13,915	1,00,457	30,39,107	17,60,439

~~Gastro-enteric~~ most common infectious diseases are typhoid and enteric group of fevers, dysentery and diarrhoea. These diseases are caused by 5 F's—flies, fingers, faeces, fomites and food. These can be well controlled by organised preventive measures like protection and disinfection of drinking-water wells, chlorination of drinking water and general sanitation measures taken by the public health staff at primary health centres/units and the supervisory staff at the district headquarters.

VITAL STATISTICS

Constant epidemics of fevers and plague in the past wrought havoc on the population of the district. The following data illustrate this position clearly.¹

Year	Population	Births	Deaths			Total
			Fevers	Plague	Others	
1901	7,46,208	30,303	8,072	—	7,006	25,078
1902		34,367	22,176	—	8,791	30,967
1903		33,468	17,860	4,118	10,392	32,370
1904		34,729	18,253	7,170	11,580	37,003
1905		28,449	15,034	29,172	8,985	53,191
1906		29,230	14,579	118	10,325	25,022
1907		32,169	19,527	5,879	13,404	38,810
1908		29,950	37,821	5,040	19,874	62,735
Total :	7,46,208	2,52,665	1,63,322	51,497	90,357	3,05,176

Infant mortality was the highest under the age of one year, than between one and five years. On an average about one-fifth of the children born died before reaching one year of age, but during the year 1908, two-fifths of the number born succumbed. Malarial fevers and bowel complaints due to defective nourishment specially amongst the poor were the prevailing

1. Gurgaon District Gazetteer, 1910, p. 43.

causes of infant mortality. The statement below shows deaths by ages during the period 1901 to 1908¹ :

Year	Number of births during the year	Number of deaths										Total
		among children under one year of age	1 to 5 years	5 to 10 years	10 to 15 years	15 to 20 years	20 to 30 years	30 to 40 years	40 to 50 years	50 to 60 years	60 years and upwards	
1901	30,303	5,702	5,218	1,594	713	615	1,865	1,937	1,838	2,022	3,574	25,078
1902	34,367	8,023	5,762	1,709	910	724	2,505	2,568	2,451	2,301	4,014	30,967
1903	33,468	7,346	6,401	2,056	1,190	956	2,629	2,701	2,568	2,444	4,079	32,370
1904	34,913	8,125	7,177	2,596	1,806	1,234	3,201	3,267	2,874	2,565	4,158	37,003
1905	28,449	6,519	4,819	4,167	4,410	3,004	6,855	6,663	6,059	4,956	5,739	53,191
1906	29,230	6,319	5,732	1,237	696	766	1,704	1,758	1,907	1,867	3,005	24,991
1907	32,171	7,676	8,234	2,278	1,714	1,568	3,881	3,598	3,233	2,993	3,635	38,810
1908	29,950	12,656	12,584	4,060	3,516	3,172	4,430	4,527	4,460	4,358	8,972	62,735
Total :	2,52,851	62,366	55,927	19,697	14,955	12,039	27,070	27,019	25,390	23,506	37,176	3,05,145

1. *Gurgaon District Gazetteer*, 1910, p. 45.

The satisfactory results achieved by the Health Department after 1947 are reflected in the reduced incidence of diseases, lower mortality—both infant and adult, longer expectation of life and all-round better health of the community. Table LIX of Appendix showing the number of deaths caused by different diseases from 1950 onwards and the following table showing birth and death rate and infant mortality from 1957 onwards bring out the actual position :—

Year	Birth rate per thousand of population	Death rate per thousand of population	Infant mortality (under 1 year of age) per thousand live births
1957	49.80	17.90	98.8
1958	50.70	20.30	111.9
1959	49.00	15.10	97.3
1960	46.10	17.00	118.7
1961	36.70	14.68	112.8
1962	39.45	14.73	86.9
1963	39.12	15.43	70.6
1964	36.51	12.58	62.7
1965	30.21	10.62	71.0
1966	35.43	10.60	66.1
1967	37.90	10.70	62.4
1968	34.70	10.04	59.0
1969	34.92	11.77	69.1
1970	35.92	9.36	54.4
1971	32.72	8.88	56.3
1972	30.86	9.59	57.4
1973	30.63	9.26	46.7
1974	30.01	9.20	45.5
1975	27.76	8.77	51.52
1976	26.28	9.34	48.15

Taking 1957 as the base, the birth rate, which was already at an alarmingly high level of 49.80 per thousand, rose further to 50.70 in 1958. But thereafter it began to show a steady decline till the year 1965 when the birth rate dropped to 30.21 per thousand. During this span of seven years (1958 to 1965) the year 1961 was marked with distinction in as much as there was a precipitous fall in the birth rate in that year. The birth rate came down from 46.10 in 1960 to 36.70 in 1961. The decrease was again significant in 1965 which recorded 30.21 per thousand of population against 36.51 in 1964. From 1966 onward when it again stepped up to 35.43, the birth rate witnessed a mixed trend of rise and fall and hovered around 35 per thousand till 1970. From then on, however, the birth-rate took a downward course, registering a low of 9.64 per thousand over 1970.

Like the birth rate, the death-rate was also high at 17.90 and 20.30 per thousand in 1957 and 1958 respectively. It came down to 15.10 in 1959 but again went up to 17 per thousand in the following year. From 1961 onward, the death rate showed a downward trend, particularly after 1963, the year in which it went up to 15.43 after recording a comparatively low level in the preceding two years. The death rate was low in the same way as the birth rate in 1965. During the period 1965 to 1968, the death rate oscillated around 10 per thousand. It moved up in 1969 but again fell in 1970 and more or less stabilised at that level in the subsequent years. The downward trend in the death rate since 1965 can be ascribed in a large measure to better public health facilities and improved sanitary conditions.

Starting from 1957, the years 1958, 1960 and 1961 were marked by the highest rate of infant mortality at 111.9, 118.7 and 112.8 per thousand respectively. Infant mortality was also high in 1957 and 1959. There was a steep decline in the years 1962 and 1963, when it came down to 70.6 per thousand in the latter year. Thereafter, it remained below 70 per thousand in all the subsequent years with the exception of 1965. In 1976, the rate of infant mortality fell as low as 48.15 per thousand. Improved and better public health facilities, sanitary conditions, maternity services and prevention of the outbreak of epidemics are chiefly responsible for the perceptible progress achieved on the community health front.

PREVENTIVE MEASURES TO PROMOTE PUBLIC HEALTH

The modern conception of good health lays more stress on the prevention of disease. This necessitates various kinds of measures. The younger generation at school as well as the older members of the community require health education which is perhaps the most important activity for any effective

preventive measures. The importance of good health habits formed in earlier years cannot be over-emphasised. Likewise, family planning and maternity welfare require the greatest attention if the problem of over-population has to be satisfactorily dealt with. It is equally necessary to take suitable measures to prevent adulteration of food, promote desirable knowledge and practice of nutritive food, make supply of safe drinking water possible for even those living in rural areas and to take all other such steps which will improve environmental hygiene.

General standard of health.—The decrease in death-rate shows that there is a general improvement in health noticeable due to the launching of various public health programmes¹ and better medical care. The general standard of health of the inhabitants of the district is fair. The people are generally tall, healthy and possess good physique.

From a layman's point of view, the people of the district take sufficient protein in the form of *lassi* and fat in the form of *ghi*. But a closer analysis would show that the diet of the common man, although rich in carbohydrates, is deficient in protein and to some extent in fats and vitamins. There is more of malnutrition than under-nutrition. By and large, people are vegetarian and usually consume *chapatis* or rice with *dals*; a few take vegetables. Only a small section of them take body building protein (meat, eggs, fish and milk) and other protective foods (green leafy vegetables, salad, fresh fruit, etc.) but they too do not seem to be regular in their food habits and rarely conscious about the need for a balanced and nutritive diet. The large-sized families, especially among the poorer classes, suffer both from under-nourishment and mal-nutrition. The family planning services have still to make an effective impact on family budget and nutrition.

School health services.—Healthy children ensure a healthy nation. To promote this aspect, a School Health Clinic was established at Gurgaon in 1963-64. The staff consisted of one Medical Officer, one Eye and Ear Specialist, one Dental Surgeon and one Staff Nurse besides the ministerial staff. These Medical Officers examined the children at their clinics and those having an ailment were referred to the Civil Hospital.

The School Health Clinic was abolished in 1968 with the introduction of the School Health Service Scheme. The staff employed under this scheme consists of two District School Medical Officers and one Staff Nurse. They

1. National Malaria Eradication Programme, National Smallpox Eradication Programme, Trachoma Eradication Programme, School Health Programme, Population Explosion Control Programme (Family Planning); Community Development Programme, etc.

visit different schools in the district for a medical check-up of the students. The children with an ailment are referred to the Civil Hospital. The Medical Officers also render advice to the heads of the institutions regarding proper sanitation, construction of hygienic latrines and urinals, provision for safe drinking water-supply and arrangements for the midday meals of the school children. At the block level, the Block Medical Officer examines the school children of the age of 6, 11 and 14 years, on every Saturday from 12 noon to 1 p.m. The cost of spectacles and special appliances for the students is borne by the Education Department. The service is inadequate as is evident from the following data about the work done under this scheme during the period 1963 to 1976 :—

Year	Students examined	Students found with an ailment	Students treated
1963	1,357	384	384
1964	2,768	803	803
1965	2,547	901	901
1966	5,491	625	625
1967	5,900	896	896
1968	3,683	27	27
1969	1,297	205	205
1970	1,743	271	271
1971	1,381	374	374
1972	1,287	252	252
1973	1,826	332	332
1974	713	531	531
1975	3,370	1,337	1,337
1976	1,020	507	507

Health education.—The aim of health education is to provide integrated curative and preventive service for better health of the citizens. The State Government is working actively for the improvement of health of the masses

in the State. Proper health education is the main pre-requisite for the success of all the health programmes and is the integral responsibility of all the medical and para-medical personnel in the district. With increased emphasis on special services, it has been possible to give greater importance to health promotion schemes and the scope of health activities has expanded considerably. Stress had been laid on environmental hygiene, control of communicable diseases like malaria, smallpox and cholera and other programmes like maternity and child health care, school health services, paediatrics and family planning.

The medical officer is incharge of primary health centres/units, and their staff carry out health education propaganda. The District Family Planning Education Officer also utilises his staff to disseminate health education. This programme creates health consciousness in the younger and older members of the community.

Family planning.—The problem of increasing population in the Gurgaon district is similar to that of other areas of the State. To control the population explosion, the Government concentrated its efforts on the programme of family planning in 1966-67 although it had been introduced in the district in 1957-58 with the opening of 3 Family Planning Clinics at Rewari, Aurangabad and Ballabgarh. The main aim of Family Planning Programme is to reduce the birth rate to 25 per thousand by the end of 1980. Launched as a national programme, all efforts are afoot to make it a success. The institutions, as shown below, were in existence on the re-organisation of the district in December 1972, offering advice and assistance on family planning :

the institution	Number	Place where situated	Tahsil in which situated
1	2	3	4
Government			
District Family Planning Bureau	1	Gurgaon	Gurgaon
Urban Family Planning Units	3	Gurgaon	Gurgaon
		Faridabad	Ballabgarh
		Palwal	Palwal
Rural Family Planning Centres	13	Farrukhnagar	Gurgaon
		Bahora Kalan	Do

1	2	3	4
		Ghangola	Gurgaon
		Pataudi	Do
		Ballabgarh	Ballabgarh
		Kheri Kalan	Do
		Punahana	Firozpur Jhirka
		Nagina	Do
		Nuh	Nuh
		Mandkola	Do
		Dudola	Palwal
		Aurangabad	Do
		Hasanpur	Do
Maternity and Child Welfare Centres	2	Palwal	Do
		Hodal	Do
Family Organisations			
(a) New Delhi Family Planning Centre	2	Hodal	Do
(a) Family Planning Centres		Firozpur Jhirka	Firozpur Jhirka
(b) Mission Hospital	1	Palwal	Palwal
(c) Sewa Samiti Hospital	1	Faridabad	Ballabgarh
(d) New Delhi Family Planning Association	1	Faridabad	Do

The Family Planning Centres at the Mission Hospital, Palwal and the Sewa Samiti Hospital at Faridabad were closed in 1973 while that of the New Delhi Family Planning Association at Faridabad was closed in 1974.

The family planning services are now rendered through the family planning clinics working independently or as wings of the existing institutions like civil hospital, dispensaries, maternity and child welfare centres and primary health centres. Vasectomy and I.U.C.D. camps are organised at all these centres/units and maternity and child welfare centres. The conventional contraceptives such as condoms, foam tablets, jellies, diaphragms, etc., are also distributed through contraceptive depots/centres. Among the methods

of contraception, Nirodh is widely accepted. In 1974-75, 4,11,385 Nirodh pieces were distributed through 446 Nirodh depots¹ spread over the district.

Wide publicity to popularise this programme is given through various Government/voluntary organisations. The progress of family planning work in the Gurgaon district during 1966-67 to 1976-77 is shown below :

Year	Sterilizations			Intra Utrine Contra- ceptive Device Users			Conventional Contra- ceptive Users		
	Target	Achievement	Percent- age	Target	Achievement	Percent- age	Target	Achievement	Percent- age
1966-67	1,400	1,176	84.0	13,000	9,221	70.9	—	—	—
1967-68	5,798	1,797	31.0	12,095	10,152	83.9	—	—	—
1968-69	9,384	2,193	23.4	6,255	3,347	53.6	9,394	916	9.8
1969-70	5,182	2,205	42.6	5,854	4,959	100.2	9,074	2,924	32.2
1970-71	5,724	4,495	78.5	5,510	4,307	78.0	15,072	12,625	83.8
1971-7	4,587	10,309	224.7	6,286	3,868	61.5	10,494	18,029	176.8
1972	15,152	7,589	50.1	3,408	2,942	82.3	11,928	16,847	141.2
1973	8,784	1,669	34.9	4,100	2,633	64.2	10,934	10,948	100.1
1974	8,722	10,643	122.0	5,680	8,032	141.4	25,261	18,383	72.7
1975-76	10,179	5,169	50.7	8,220	4,651	56.5	27,961	18,077	82.3
1976-77	27,342	48,534	177.49	10,253	9,579	93.42	30,759	29,479	95.15

The following data show the eligible population covered per thousand₂ by different methods of family planning in the district since inception of the programme (1960) up to March 1976 :—

	Total cases	Coverage per 1,000
Sterilizations	44,831	29.3
Intra Utrine Contraceptive Device Users	58,784	38.5
Conventional Contraceptive Users	80,570	52.7

1. This included 49 post offices, 29 Government ayurvedic and unani dispensaries, 6 panel doctors, 90 shops, 2 courts, 18 trained *dais*, 1 cooperative bank, 33 Gram Sewaks, 33 industries, 22 schools, 6 cooperative marketing societies, 105 private doctors, 8 roadways depots, 5 cinemas, 14 panchayats and 25 Government offices.

2. On the basis of the estimated population of 15,27,534 in 1976,

Efforts are afoot to make the people fully conscious of the need for family planning programme through intensive health education. The family planning camps under the supervision of a Medical Officer are organised in every block where vasectomy operations are performed and family planning activities are explained and highlighted. The following expenditure has been incurred on this programme during 1966-67 to 1976-77 :—

Year	Expenditure (Rs. in lakhs)
1966-67	2.44
1967-68	3.10
1968-69	5.23
1969-70	7.57
1970-71	10.46
1971-72	23.34
1972-73	18.50
1973-74	10.97
1974-75	13.52
1975-76	15.25
1976-77	53.74

Maternity and child health.—Maternal mortality was high before the Independence. There was also the question of long lasting ill health of many of those who survived. The organisation of satisfactory maternity services, therefore, demanded attention. During recent years, much progress has been made in the expansion of maternity and child health services with the result that maternal mortality has been considerably reduced. In 1943-44, maternal mortality was 23 per thousand whereas in 1970, it was reduced to about 8 per thousand.

The district has one maternity hospital at Hailey Mandi, with proper arrangement for indoor patients. All other hospitals and primary health centres also provide maternity and child health services. The District Red Cross Society, Gurgaon, is running two maternity and child welfare centres at Palwal and Hodal (tahsil Palwal). Six sub-centres are attached to each of the primary

health centres. There has also been a steady increase in the number of Nurse Dai and Trained Dai Centres. Prior to the Independence, there was only one Nurse Dai and one Trained Dai Centre whereas now there are 15¹ centres. Domiciliary maternity service through midwives and trained Dais have been extended considerably. Although no target has been fixed, every year midwifery training is imparted to about 25 to 30 Dais at maternity and child health centres and various primary health centres. The aim is to have a trained midwife in every village for conducting maternity cases.

Primary health centres.—In each of the 11 blocks of the district, there is one primary health centre whereas the two blocks Sohna and Hodal can boast of having two centres each. The staff attends to all the work connected with both preventive and curative sides. The staff at a primary health centre generally consists of one Medical Officer, one Pharmacist, one Lady Health Visitor and one Sanitary Inspector supported by other staff. Six sub-health centres, three for maternity child health and three for family planning, have been attached to each primary health centre. Previously, emphasis had been on the treatment in hospitals, but now these centres also take care of preventive and curative programmes. These include treatment of outdoor and indoor cases, maternity and child health work, family planning work, environmental sanitation, nutrition, school health services, immunisation programmes and water-supply.

The primary health centres are UNICEF aided and have been provided with UNICEF jeeps, refrigerators and other equipment including certain drugs and vitamins. UNICEF executes its Milk Feeding Programme through these centres and sub-centres.

Prevention of adulteration in food-stuffs.—Every effort is being made to eradicate adulteration in food-stuffs under the Prevention of Food Adulteration Act, 1954. The officers invested with the powers of Food Inspector are: Chief Medical Officer; Deputy Chief Medical Officer (Health); Deputy Chief Medical Officer (Medical); Government Food Inspector, Gurgaon; Senior Medical Officer, Government General Hospital, Gurgaon; Superintendent of Badshah Khan Hospital, Faridabad; all Medical Officers in charge of the hospitals, primary health centres, dispensaries and Tahsil Sanitary Inspectors. The

1. Primary Health Centres, Farrukhnagar, Ghangaula, Bahora Kalan, Ballabgarh, Kheri Kalan, Nagina, Punahana, Nuh, Mandkaula, Dudaula, Hasanpur, Aurangabad, Pataudi and Maternity and Child Welfare Centre Hodal and Palwal.

work done about the prevention of adulteration in food-stuffs is detailed below:

Year	Samples seized	Samples found adulterated	Fine realised	Persons sent to jail
	(Number)	(Number)	(Rs.)	(Number)
1964	848	263	21,155	12
1965	660	164	8,555	1
1966	389	66	6,735	—
1967	331	61	4,912	—
1968	485	48	6,130	16
1969	225	14	3,615	1
1970	498	56	2,000	2
1971	1,372	197	10,270	1
1972	251	58	8,035	—
1973	786	320	41,000	5
1974	670	222	56,250	11
1975	888	226	30,000	14
1976	617	122	87,500	68

Nutrition.—The primary health centres/units deal with the oral nutrition programme particularly in maternity and child welfare centres by organising feeding programmes, providing vitamins A and D capsules, iron and multi-vitamins tablets and B-complex tablets received from the UNICEF. They also help in providing nutrients and medicines under school health service to the needy school children through the Education Department and the Red Cross Society. With the assistance of the Government of India and UNICEF, the Applied Nutrition Programme is being carried out in Sohna and Ballabgarh blocks of the district. It aims at educating people in taking a balanced and nutritive diet from the available food items. For this, pamphlets and literature on nutrition are distributed. The demonstrations are arranged on proper cooking and emphasis is laid on food hygiene, consumption of general vegetables and cheap proteins.

Environmental hygiene.—In recent years there has been a lot of improvement in the environmental hygiene. With the development of blocks, there has been an all-round activity for the improvement of villages in regard to pavement of streets, drainage and water-supply by providing ideal wells, hand-pumps and tubewells. Food sanitation, school health service and measures to control communicable diseases are some of the other factors which contribute towards the improvement of environmental hygiene. Unfortunately, the maintenance of wells is poor. The panchayats generally do not pay constant attention to this work. In most villages there are no satisfactory arrangements for the disposal of human and cattle excreta and sullage water. The sullage water is disposed of either in the ponds or drained off in the open fields. Unless the financial resources of the panchayats are augmented, the desired improvement in matters of environmental hygiene cannot be achieved.

The sanitation work is looked after by the Deputy Chief Medical Officer (Health). He is assisted by Tahsil Sanitary Inspectors (6), Sanitary Inspectors (16) and Swasthya Sahayaks (12). They frequently visit the rural areas in order to improve the environmental sanitation. The staff under the Block Medical Officer has also been entrusted with this work. Under the present set-up, in which the supervisory staff is effective, there is no doubt some improvement in the environmental sanitation in rural areas which is reflected by decrease in the death rate. On the whole, however, the position cannot be called satisfactory and much needs to be done.

The sanitation arrangements are relatively more satisfactory in the urban areas. The sullage water is usually disposed of away from the towns where it is converted into compost and sold to the agriculturists. These arrangements are looked after by the municipal authorities.¹

Sanitation.—Sanitation includes disinfection and protection of drinking water-supply, safe and hygienic disposal of refuse, nightsoil, liquid waste, etc., and cleanliness of houses, streets and surroundings of towns and villages.

The State Health Department is responsible for the maintenance and improvement of sanitation. The Chief Medical Officer of Gurgaon has the overall charge of the sanitation work in the district. He is assisted by the Deputy Chief Medical Officer (Health). The Senior Sanitary Inspector at district headquarters, Tahsil Sanitary Inspector at sub-divisional and tahsil level and Sanitary Inspector at primary health centre look after the sanitation work within their respective jurisdiction. In urban areas, Municipal Medical

1. For details, see Chapter on 'Local Government'.

Officer (Health), Sanitary Inspector, Sanitary Daroga and conservancy staff look after the safe removal and disposal of refuse, nightsoil and liquid waste, cleanliness of streets and surroundings of the towns.

The sanitary staff perform multifarious duties and also secure co-operation and participation of people towards improving sanitation. In order to protect the drinking-water sources, they advise and guide village panchayats on keeping drinking-water wells clean, cement lining of inside of wells and removal of waste water away from the wells. They educate the people for the proper disposal of refuse into the manure pits and in the construction of family dug-well latrines. They attend to complaints relating to insanitation, undertake immunisations and take steps to control communicable diseases. During epidemics of diarrhea, cholera and dysentery, sanitary staff undertake disinfection of well-water with bleaching powder. Similar disinfection is also done after the rains and floods.

The integrated and comprehensive health services provided by the Government through the primary health centres, are playing a significant role in making the people of the rural areas conscious about the need for improving the sanitation. Due to poor economic condition and educational backwardness of the village population, progress in family dug-well latrines has been slow. To achieve the desired results, latrine seats and pit covers were provided free of cost within the limited funds, to the families who agreed to construct such latrines and super structure. Arrangements have, however, been made for the supply of piped water to hospitals, primary health centres and sub-health centres (both rural and urban).

UNICEF work and other preventive programmes.—UNICEF aid has been very valuable to promote good health in the district. It is supplying aid in many ways. In addition to providing vehicles to promote various programmes and also to the primary health centres, it supplies to the latter medicines and other equipment including a microscope and a refrigerator. All the primary health centres in the Gurgaon district are getting UNICEF assistance.¹ The programmes being aided by UNICEF include Malaria, Trachoma, Nutrition, School Health Clinics, Milk Distribution, Dais and B.C.G. The Applied Nutrition Programme is being implemented at two centres, viz. Sohana and Gangola.

1. To qualify for such an assistance, a primary health centre must fulfil certain conditions such as the staff must consist of at least one Medical Officer, one Pharmacist, one Lady Health Visitor and one Sanitary Inspector.

The following table may be glanced for an instant flash about the development of the medical and health facilities in the re-organised Gurgaon district after the Independence (1947) :—

	1952	1961	1971	1974	1975	1976
1. No. of hospitals and dispensaries	33	37	47	47	47	48
2. No. of beds	417	528	835	835	835	847
3. No. of outdoor patients treated		3,54,901	7,07,888	10,88,094	12,98,626	13,23,240
4. No. of indoor patients treated	2,74,783	9,709	21,785	26,626	29,531	31,812
5. Total income from various sources to hospitals/ dispensaries	—	2,54,087	1,80,344	2,01,253	1,58,975	84,200
6. Total expenditure on dispensaries and hospitals (excluding medicines)	—	6,98,801	29,00,064	52,24,015	60,99,338	63,31,575
7. Expenditure on medicines	—	89,472	8,34,024	13,24,018	19,06,945	22,46,706
8. No. of Ayurvedic dispensaries	—	37	3	37	37	40
9. No. of medical personnel	195	691	819	1,001	1,003	1,071

The above figures show that the number of hospitals/dispensaries in the district increased from 33 in 1952 to 48 in 1976, showing an increase of only 14 institutions during the 22-year period. The number of beds went up to

835 from only 417 beds. Thus the attempt has been to strengthen and add more facilities in the existing institutions rather than to increase their number. The availability of more medical facilities has brought a parallel increase in the number of patients attending these institutions. The expenditure on medical and public health services which includes diet, apparatus and salaries to the medical and para-medical staff increased more than seven times during the period 1952—1974 while the increase in expenditure on medicines has been about fifteen times. The existence of 37 Ayurvedic dispensaries in the district indicates the popularity of this indigenous system of medicine. The number of medical personnel increased from 195 in 1952 to 1,001 in 1974, which is also an appreciable addition.

The medical and public health services have been considerably improved after the Independence. To achieve better coordination in the agencies of medical relief and prevention of diseases, the medical and health services have been integrated. Infectious and communicable diseases have been controlled to a large extent. Adequate family planning measures are being taken to control the population explosion. The birth rate has shown appreciable decline, particularly during the last few years. The infant and maternal mortality as well as death rate in general have gone down and consequently life expectancy has gone up. The standards of health, nutrition, environmental sanitation and water-supply have also improved.

Water-supply

The quality of subsoil water in greater part of the district is not good for domestic purposes. The water is excessively mineralised and brackish. The areas having moderately brackish water and having salts less than 1,500 mg. per litre or sweet water with salts up to 500 mg per litre are confined to fringe areas along the Yamuna or Agra Canal or the foot hills or some pockets here and there. In the Ballabgarh tahsil, the areas fringing the Yamuna and Agra Canal have potable water. In other areas of the district, the availability of sweet water pockets is due to leaching action of ponds or nullahs and nearness to the foot of the hills.¹

Formerly, people depended on artificial or natural ponds, streams, hand-pumps and open wells for their daily requirement of water. They wasted much time and energy in bringing water over their heads from far off places; the time and energy thus wasted could otherwise be better utilised in more productive and useful pursuits. The unprotected water-supply, being

1. For more details about the subsoil water, see Chapter on 'Agriculture and Irrigation'.

susceptible to contamination, was a big health hazard due to water-borne diseases. The only solution to this acute problem was to ensure tapped water supply for drinking purposes.

Concrete steps in this direction were taken after the formation of Haryana in 1966 and since then a number of percolation wells and tubewells were constructed at various places in the district for supplying tap water to the people both in rural and urban areas. A number of clean water tanks and overhead service reservoirs have been constructed for the supply of potable water after proper treatment.

The position of rural and urban water-supply schemes is detailed below

Rural.—There has been acute scarcity of potable water in about 70 per cent of the villages in the Nuh and Ferozpur Jhirka tahsils while in the Ballabgarh, Palwal and Gurgaon tahsils, acute scarcity prevails to the extent of about 50 per cent. Prior to 1966, only 14 villages in the district were provided with drinking water-supply.

A number of schemes are being executed under the National Water-Supply and Sanitation Programme to provide piped water-supply to the rural areas. These schemes are financed partly by the Government of India, the State Government and to some extent by beneficiaries themselves. The present financing pattern of the rural water-supply schemes is as under :

From State Plan : 88 per cent

Beneficiary share : 12 per cent (5 per cent in cash and 7 per cent in the shape of land and labour)

However, for the schemes falling in the Ferozpur Jhirka and Nuh tahsils which come under the drought prone areas, the 12 per cent beneficiary share excluding cost of land is met by the State Government out of the provision under head "289—Relief on account of Natural Calamities".

Generally, the water is supplied at the rate of 10 gallons per head per day. From the tubewells the water is pumped to the overhead service reservoirs from where it is supplied to the villagers through public standposts installed on the periphery of a village so that there may not be any drainage problem inside the village. On an average one standpost is provided for 200 persons. Water-supply was made available to 115 villages (up to March 31, 1977). The work of construction of water-supply schemes to 38 villages was in progress.

The villages that have benefited from these schemes were taken up in several groups. Some of the important schemes are given below :

Scheme	Estimated cost (Rs. in lakhs)
1. Water-supply for group of 45 villages with Head Water-works at Deeg (tahsil Ballabgarh)	53.02
2. Water-supply for group of 11 villages with Head Water-works at Meoli Kalan (tahsil Nuh)	18.07
3. Water-supply for a group of 12 villages with Head Water-works at Kherla (tahsil Gurgaon)	10.73
4. Water-supply for a group of 12 villages with Head Water-works at Kansli (tahsil Firozpur Jhirka)	9.46
5. Water-supply for a group of 12 villages with Head Water-works at Rewason (tahsil Nuh)	7.41
6. Water-supply for a group of 5 villages with Head Water-works at Ghasera (tahsil Nuh)	7.05
7. Water-supply for a group of 4 villages with Head Water-works at Bahin (tahsil Nuh)	6.11
8. Water-supply for a group of 5 villages with Head Water-works at Rajpura (tahsil Gurgaon)	4.21
9. Water-supply for village Badshahpur (tahsil Gurgaon)	4.12

The progress made towards the rural drinking water-supply schemes in the district has been slow for want of adequate funds. Due to power shortage and limited storage capacity, protected water is supplied for limited periods. Domestic connections have not been given. Only public taps have been erected at focal points.

Water-supply (urban).—There are eleven towns in the district, viz. Gurgaon; Palwal, Hodal, Sohna, Nuh, Hasanpur, Firozpur Jhirka, Pataudi, Hailey Mandi, Farrukhnagar and Faridabad Complex (Ballabgarh, Faridabad Old and Faridabad Township). Town-wise details of water-supply are as under :

Gurgaon.—The town had poor water-supply in the past. Augmentation Water-Supply Scheme costing Rs. 112 lakh was approved in June 1971. This scheme envisaged drilling of tubewells in the vicinity of Badshahpur and

then bringing water to the town through Rising Mains discharging water into underground tanks at two places, from where the water would be boosted into the existing system. This scheme has been divided into two phases. In the first phase, 10 tubewells are to be drilled besides the construction of one overhead tank, one Rising Main, one underground tank of the capacity of 2,00,000 gallons and a boosting station. The second phase includes drilling of 10 more tubewells besides the construction of one overhead reservoir, second Rising Main with boosting arrangements. The work of the first phase was taken in hand and an expenditure of Rs. 18.25 lakh was incurred up to March 1977. This included drilling of 5 tubewells.

The water-supply works for Sectors 4 and 7 of the Urban Estate, Gurgaon were almost completed and that of Sector 14 was in progress. In Sector 14, 3 tubewells were bored against a provision of 10 tubewells. Two underground tanks of 2,00,000 gallons capacity were under construction. Two overhead reservoirs of 1 lakh gallons capacity each were commissioned in Urban Estate Sector 4 and 7.

Palwal.—The town was provided with skeleton water-supply against an estimate of Rs. 6.28 lakh. A scheme costing Rs. 41 lakh, for augmenting the existing water-supply, was approved in 1971. In its first phase, the scheme included drilling of eight tubewells besides the construction of one overhead service reservoir, one underground tank and Rising Main. The second phase included drilling of additional tubewells and the laying of distribution system. Underground tank and the boosting station were commissioned and part of the Rising Main was laid. An expenditure of Rs. 8.92 lakh was incurred up to March 1977.

Hodal.—A skeleton water-supply scheme provided at a cost of Rs. 4.41 lakh exists in the town. An augmentation scheme costing Rs. 3.71 lakh was in progress and expenditure against this scheme up to March 1977 was Rs. 3.55 lakh.

Sohna.—The town had no safe water-supply in the past. A scheme of water-supply costing Rs. 6.87 lakh was approved in 1969. The scheme provided for drilling of a tubewell, an overhead service reservoir and distribution system. These works were partially completed and skeleton water-supply provided in 1970. An expenditure of Rs. 5.13 lakh was incurred up to March 1977.

Nuh.—The town had no piped water-supply in the past. Water-supply to the town was commissioned in 1963 against an estimate of Rs. 6.82 lakh.

Hasanpur.—A scheme to provide piped water-supply at an estimated cost of Rs. 6.77 lakh was started in 1976-77. An expenditure of Rs. 0.36 lakh was incurred up to March 1977.

Firozpur Jhirka.—Skeleton water-supply scheme against an estimate of Rs. 6.06 lakh was commissioned in 1971-72. An augmentation scheme for the town costing Rs. 7.54 lakh was approved in the same year. It included drilling of 4 tubewells besides the construction of one underground tank, one overhead service reservoir, a Rising Main and distribution system. Against this, two tubewells were drilled in addition to the construction of an underground tank. The distribution system was also laid partially. The expenditure incurred up to March 1977 was Rs. 4.05 lakh.

Pataudi.—This town had also no safe water-supply in the past. A water-supply scheme costing Rs. 5.03 lakh was approved in 1970. It included drilling of two tubewells besides the construction of one overhead service reservoir, a Rising Main and distribution system. The project had not been partly completed and put into operation in 1971-72. The expenditure incurred up to March 1977 was Rs. 4.20 lakh.

Hailey Mandi.—The town had no water-supply in the past. A water-supply scheme costing Rs. 21 lakh was approved in 1968. The scheme comprised drilling of tubewells besides the construction of one overhead service reservoir, a Rising Main and distribution system. The project was partly completed with an expenditure of Rs. 2.22 lakh and was put into operation in January 1973.

Farrukhnagar.—It had no water-supply in the past. A water-supply scheme costing Rs. 6.06 lakh was approved in 1971. The scheme included drilling of two tubewells besides the construction of one overhead service reservoir, a Rising Main and distribution system. The project after its partial completion was put into operation in 1971-72. Expenditure up to March 1977 was Rs. 5.65 lakh.

Faridabad Complex.—The complex covers urban areas of Ballabgarh, Faridabad Old, Faridabad Township and Urban Estate of Faridabad besides certain villages.

Ballabgarh town had no water-supply in the past. The existing water-supply in the town is based on underground source and was provided at a cost of Rs. 5.10 lakh. This scheme is for supplying water at the rate of 25 gallons per head per day.

For the purpose of augmenting this project to supply 45 gallons of water

per head per day, a scheme costing Rs. 10.22 lakh was prepared in 1971. The work on this scheme was in progress. Besides two water-supply schemes costing Rs. 15.83 lakh to four colonies of Ballabgarh, namely Chawla Colony, Rishi Colony, Saban Colony and Vikram Puri were also in progress.

In Faridabad Old people used to draw water from hand-pumps and percolation wells. The existing water-supply scheme had been provided against three estimates costing Rs. 13.52 lakh and is based on underground source. These facilities are adequate for supplying water at the rate of 30/40 gallons per head per day.

The Faridabad Township, comprises five neighbourhoods and an Industrial Area. Public Health amenities in Neighbourhood No. 4 have been provided by the Central Government. In the other four neighbourhoods, these are the responsibility of Faridabad Complex Administration. Originally, however, the water-supply facilities in the neighbourhoods (1, 2, 3 and 5) were provided by the Rehabilitation Department during the period 1948—52. Subsequently, the Public Health Department renovated the water-supply system by installing more tubewells and by laying additional distribution lines. The following projects have been completed :—

Name of the project	Cost (Rs. in lakhs)	Date of completion
1. Renovation of water-supply scheme in Neighbourhood No. 5	7.53	August 1973
2. Water-supply scheme in Nishan Huts area in Neighbourhood No. 5	4.81	October 1975
3. Renovation of water-supply system in Neighbourhood Nos. 2 and 3	7.77	November 1975
4. Renovation of water-supply system in Neighbourhood No. 1 and Industrial Area	25.20	May 1975

With the completion of the above projects it has been possible to supply piped water to the residents at the rate of 30/40 gallons per head per day. The works relating to the construction of underground storage reservoirs and boosting arrangements in all the Neighbourhoods and Industrial Area were in progress in 1977. These projects were estimated to cost Rs. 15.38 lakh.

Prior to the creation of Haryana, water-supply works had been taken

in hand only in Sectors 6, 7 and a part of Sector 4 of Urban Estate, Faridabad. It was after 1966 that the pace of development in respect of water-supply was accelerated and the works in the above Sectors were completed. The works in Sectors 9, 14, 15, 15-A, 16, 16-A, 17, 18-A, 19, 21, 24 and 25 were brought to such a stage where connections could be given to the individuals. (In Sector 27-A, 27-B, 27-C, and 27-D only sewerage and storm water was being provided as no water-supply scheme was to be provided by the Government in this Sector). Water-supply lines were laid, partly in Sector 8 and work was in progress.

Urban Sewerage

Gurgaon.—At the time of formation of Haryana, partial sewerage facilities existed in Gurgaon town. A sewerage augmentation scheme costing Rs. 101.65 lakh was approved in 1971 and was under execution with the assistance of the Life Insurance Corporation of India. Expenditure up to March 1977 was Rs 17 lakh. Some more areas of the town were provided with sewerage system.

Faridabad Complex.—In Ballabgarh area, sewerage facilities were provided against two estimates costing Rs. 9.21 lakh and 9.48 lakh. In Faridabad Old intramural sewers were provided against 2 schemes costing Rs. 11.94 lakh and Rs. 2.48 lakh, i.e. Rs. 14.42 lakh in all.

In Faridabad Township, open drainage was provided by the Rehabilitation Department of the Government of India in all the Neighbourhoods (except Neighbourhood No. 4). In these Neighbourhoods and Industrial Area, underground sewers were provided against various schemes costing Rs. 75.74 lakh.

Before the formation of Haryana, partial sewerage was available in sectors 6, 7 and part of Sector 4 only. The works in Sectors 9, 14, 15, 15-A, 16, 16-A, 17, 18-A, 19, 21, 24, 25 and 27-A, were brought to such a stage where connections could be given. Work was in progress in Sector 27-B, 27-C, 27-D and Sector 8.

Sohna.—A sewerage scheme costing Rs. 4.75 lakh was commissioned in Sohna in 1975.

Nuh.—In Nuh, partial sewerage was provided against an estimate of Rs. 6.82 lakh. This was put into operation in 1975-76.

Hailey Mandi.—The work on a sewerage scheme costing Rs. 2.52 lakh was in progress in Hailey Mandi. The remaining six towns of the district, namely Palwal, Hodal, Hasanpur, Firozpur Jhirka, Pataudi and Farrukhnagar were yet without sewerage facilities.