

CHAPTER XIV.

MEDICAL AND PUBLIC HEALTH SERVICES.

SURVEY OF PUBLIC HEALTH AND MEDICAL FACILITIES IN EARLY TIMES.

This district has got a few clear-cut natural divisions. This has been discussed in the text 'General'. The topography of the district naturally has its impact on the general health of the people. Generally speaking the people of the plains enjoy a better incidence of health. The hilly and the forest areas have an extreme climate, poor facilities of good drinking water and a much lower standard of medical and public health services. The economic incidence of the people has also its effect on the general health. By and large, the economic incidence of the inhabitants in the hilly and the forest regions is poorer. The plains have a much better outturn of crops; the canal-irrigated area offers a rich rice bowl and the people are economically more stable.

The district was created in 1765. Dr. Hamilton Buchanan, the first historio-geographer of the East India Company had toured through Shahabad district in 1812-13 and his account of the district of Shahabad has now been published*. In spite of the fact that he had to depend on hearsay to a large extent his report is the first recorded survey of the district and gives some information regarding the public health and medical services in those times.

Prior to this it appears that the *Vaids*, *Hakims*, *Jarrahs* and witch-doctors were the sources of medical help. The *Vaids* and *Hakims* were schooled in *Kaviraji* and *Yunani* systems of medicines respectively and were dependent on traditional and indigenous medicinal herbs. The occupation of the Muslims must have given an encouragement to *Yunani* system. There was another class of people known as *Jarrahs* who treated ulcers and skin troubles either with the help of indigenous drugs or with knives. The oils and ointments of the *Jarrahs* are still in demand but to a smaller extent. The barbers used to conduct minor operations with knives, etc. The Kaimur plateau and the forest regions were rather inaccessible and contained a large number of the aboriginals and the semi-tribals (as they still do), and the people of this area had a great belief in witchcraft. To them the diseases were manifestations of the wrath of the spirits that rule their destiny. Wherever there is belief in witchcraft there are witch-doctors. This area had their indigenous witch-doctors who believed in incantations, quaint ceremonies and practices. Not much is known of the

* *An Account of the District of Shahabad in 1812-13* (Bihar Research Society, Patna).

incidence of public health but there can be no doubt that the general incidence must have been very poor.

Francis Buchanan has given a description of the medical facilities as they existed in the district in the beginning of the 19th century. There were two Brahmins who not only taught medicine but were actual practitioners. The Unani physicians among the Muslims, had no public teacher, but were educated as private pupils. Besides these, Buchanan heard of 103 Brahmins who practised medicine. There were five Muslim practitioners who pretended to be followers of Galen and Hippocrates. There were about 40 *Jarrahs* who treated sores. The midwives, besides cutting the umbilical chord, treated pains and tumours of the abdomen. About 2,000 men and 100 women pretended to possess the art of incantation; about 400 men were employed to cure snake-bites; and about 400 of the men called Bhakats took the devil to themselves when they expelled him from their patients. The number of small pox vaccinators was only 30, and they found the people unco-operative.*

Dr. Hamilton Buchanan's report has some reference to the indigenous herbs. He mentions**—

“.....Having at Patna heard that a great many of the medicinal herbs used there came from the woods of Jagdishpur, I took with me a *pasari* or druggist, and on my arrival near the woods, hired one of the Cheros† who collect drugs to accompany him, all time that was near these forests. They made daily excursions in search of herbs, but added little to my stock of knowledge. The plants were not in flower, and, what was worse, the two authorities often differed, which convinces me that in the investigation of the native materia medica the utmost caution is necessary to prevent mistakes that may be of a very fatal nature. For the reasons mentioned in the account of Behar, I do not think it necessary to enter into the details of this subject. There remain to be mentioned a few plants that are applied to various purposes.”

As a medical man, Buchanan's interest in the indigenous herbs and his scepticism are understandable. It may be mentioned that Jagdishpur area had extensive forests which were cleared about four decades after.

Shahabad district had figured prominently in insurrections of 1857. After normalcy was restored the British administration considered that it was very necessary to cut down the jungles, open more communications and to offer better medical facilities for

* *An Account of the District of Shahabad* in 1812-13, pages 174—76.

** *An Account of the District of Shahabad* in 1812-13, page 261.

† The Cheros are an aboriginal tribe now claiming to be Rajputs. They have been discussed elsewhere (P. C. R. C.).

stabilising the Government. A few hospitals and dispensaries were opened. The towns that were the headquarters of the subdivisions and the district were given the first hospitals and dispensaries. The facilities were extended slowly to the more populous villages.

W. W. Hunter gives reliable information regarding the medical facilities in the later times. He mentions in his *Statistical Account of Bengal** that in 1872 there were six charitable dispensaries in Shahabad, viz., Arrah, Jagdishpur, Sasaram, Buxar, Dumraon and Dehri-on-Sone. These were the earliest organised allopathic centres that gave medical relief.

The first was the dispensary at Arrah established in February, 1860, and was under the charge of a First Grade Sub-Assistant Surgeon in 1872. In 1872, the total number of indoor patients treated were 280, out of which 226 were recovered or relieved, 26 or 9.28 per cent had died and the average daily number of the sick was 11.51. During the same year the total number of outdoor patients treated were 8,752 and the average daily attendance at the dispensary was 112.31.

Jagdishpur Dispensary was established in 1864. In 1872 it was under the charge of a First Class Hospital Assistant. During the first half of the year the attendance was very good, but it subsequently fell off to such an extent that the total number of admissions of the indoor and outdoor patients in 1872 was less than that of the previous year by more than one thousand. The reason for this decline is not known. However, the total number of patients treated during 1872 was 88 out of which 64 recovered, 1 or 1.3 per cent died and the average daily number of sick was 2.90. The total number of outdoor patients treated was 2,906 and the average daily attendance at the dispensary was 42.06.

The dispensary at Sasaram was established in March, 1865, and at the close of the year 1872, was under the charge of a Sub-Assistant Surgeon. He had reported that cholera prevailed from April to June in 1872 and was largely diffused from village to village. Many indoor patients were admitted in a bad state, and the death-rate amounted to 18.78 per cent of the patients treated. During 1872, the total number of indoor patients treated was 165, out of which 126 recovered or relieved, 31 or 18.78 per cent died and the average daily number of sick was 7.27. The number of the outdoor patients treated in 1872 was 4,046 and the average daily attendance was 63.23.

Hunter mentions that the Dumraon Dispensary was established in 1871, and at the end of 1872, was under the charge of a Third Grade Sub-Assistant Surgeon. The total number of indoor patients treated was 55 out of which 36 recovered or relieved, 4 or 7.27 per cent died and the average daily number of sick was 5.00. The

* *A Statistical Account of Bengal*, 1878, Vol. XIII, Gaya and Shahabad, pages 289-291.

number of the outdoor patients in 1872, was 4,148, the daily average attendance being 122.00.

The Buxar Dispensary was established in July, 1866. In 1872, it was under the charge of a Third Class Hospital Assistant. The total number of the indoor patients treated in the dispensary in 1872 was 133 out of which 100 had recovered and 14 had died. The average daily number of the sick in the dispensary was 6.13. The number of the outdoor patients treated was 3,071 and the average daily attendance was 33.35.

Hunter further mentions—

“There is a second charitable institution at Buxar, the Railway Dispensary, which has been opened since May, 1872, and which Dr. Francis describes as follows:—

‘This is an admirable institution. It is situated sufficiently near the station to be useful to the railway employees and others, and yet far enough from its bustle and noise. It is intended for native pilgrims, for the servants of the company, and for European travellers out of health, requiring a day or two’s rest, and for whom there is no other accommodation in the station. The building consists of a single room for two or three Europeans, well furnished; a ward for twelve or fourteen natives; side-rooms and suitable out-offices; the whole having been fitted up at cost of £ 40. A palanquin has been provided for the transport of the sick to and from the railway station.’

“*Dehri-on-Sone Dispensary*.—This is a hospital situated at the headquarters of the irrigation works, forming the centre of medical relief for those employed in connection with the canals, the general population of the locality, and such pilgrims and travellers as may fall ill. The entire medical arrangements are under the charge of Dr. Jackson, who is assisted at headquarters by a Sub-Assistant Surgeon and native doctor, and has five native doctors located at the following stations:—

Barun, Barari, Walladad, Nasriganj and Dhandang.

The hospital at Dehri can contain 44 patients. The high death-rate during 1872, viz., 19.86, was mainly due to cholera, which caused 34 deaths, and dysentery, 11. In that year, the total income amounted to £ 577, 10s., and the expenditure to the same. Indoor patients: total cases treated, 287; recovered, 223; died 57, or 19.86; daily average number of sick, 11.64. The number of outdoor patients treated in 1872 was 3,627, the average daily attendance being 70.96”*.

* *A Statistical Account of Bengal*, 1878, page 291.

The much poorer facilities for medical treatment, the absence of modern surgical instruments and highly specialised knowledge lead one to believe that the standard of medical help rendered was quite high, the incidence of casualty being quite low.

The State Editor's article '*A Medical Image of Bihar*', published in the '*Souvenir, The Twenty-Third Bihar State Medical Conference, Katihar, 1963*', gives a rapid survey of the public health conditions and medical facilities in the State including Shahabad district from 1910-11 onwards. This is based on a study of the annual reports of the Medical Department published by the Government.

While discussing the vital statistics he mentions:—

"The basis of statistics for the registration of vital statistics even now is not very sound. It is no wonder that the Bengal Administration Report of 1910-11 mentions that the worst results were reported from Shahabad... ..when a verification of the registration of vital statistics was conducted on a large scale... .. plague, malaria, cholera and small-pox were the common diseases**".

He further mentions, "The Administration Report of 1910-11 shows wide spread of cholera in Patna and Tirhut divisions. Fever claimed a mortality of 30.25 per mille in Shahabad district". During 1912-13, Shahabad district was ravaged from plague and the two towns, viz., Sasaram and Jagdishpur suffered mostly. Besides inoculation, evacuation of houses was also practised in Shahabad district as a preventive measure against plague†. During the same period there were two itinerant dispensaries in Shahabad district to meet the particular outbreak of diseases.

In 1913-14, "we have a reference to the outbreaks of cholera, small-pox, fever and plague in the report... ..Inoculation of plague was unpopular... .." and for the first time a second class health officer was posted in Arrah Municipality. "The rate of mortality from small-pox was .22 for the year and... .. Shahabad... .., had a higher mortality than that prevailing in the Province." During the same year the travelling dispensaries in Shahabad did good work.

He further mentions, that in 1914-15, there was again an outbreak of plague in the province and Shahabad along with Saran and

* '*A Medical Image of Bihar*' by Shri P. C. Roy Chaudhury published in the *Souvenir, The Twenty-Third Bihar State Medical Conference, Katihar, 1963*, pages 21—30.

** '*A Medical Image of Bihar*' by Shri P. C. Roy Chaudhury published in the *Souvenir, The Twenty-Third Bihar State Medical Conference, Katihar 1963*, pages 21-22.

† Evacuation had often to be done almost forcibly through the help of the Magistracy and the Police.

Patna districts suffered most severely. The Administration Report of 1915-16 mentions that there were two malarial lecturers for the district of Shahabad and Purnea. The incidence of malaria in these two districts was obviously very high.

VITAL STATISTICS.

Regarding the vital statistics the *District Gazetteer of Shahabad*, 1924, mentions that in 1869, the duty of reporting deaths was imposed on the uneducated and mostly illiterate village *chaukidars* and the system was extended to births in 1876. But the returns thus obtained were naturally so incomplete and inaccurate that they were soon given up and except in towns deaths alone were registered. In 1892, the collection of the statistics of births as well as deaths was ordered again.

Under this system the vital occurrences were reported by the *chaukidars* to the police who submitted the monthly returns to the Civil Surgeon. The Civil Surgeon compiled the monthly statistics for the whole district*. This system continued till very recently.

The accuracy of the statistics, obtained through the agency of the village *chaukidars* was often treated with doubt. The diseases to which deaths were ascribed were often incorrectly stated and in their *hath chithas* (slips) usually three diseases used to be mentioned, viz., cholera, small-pox and fever. Besides at times when they fell ill, the reporting agency remained entirely suspended. During the epidemics it was hardly expected that they would keep a correct record. Hence, this system was given up and the system now in vogue was introduced.

Under the existing system neither the village *chaukidar* nor the Civil Surgeon are responsible for the collection and compilation of vital statistics. It is now the responsibility of the Directorate of Economics and Statistics, Bihar, Patna. The initial collection of vital statistics is done by the *Gram Sewaks*. The *Gram Sewaks* are at the lowest level of the *Gram Panchayat* organisation and are paid Government servants. They assist the *Mukhiyas* in maintaining the registers and statistics and also function as the bench clerks of the *Sarpanches*. The *Gram Sewaks* send monthly records of the initial vital statistics to the office of the District Statistical Officer who compiles them and sends the same to the Directorate of Economics and Statistics. This Directorate prepares the vital statistics for the State as a whole. This system has not been in vogue for a pretty long time and no appraisal appears to have been made as to the efficacy of the agency for collecting and reporting the statistics. The *Gram Sewaks* have been entrusted with quite a few responsible jobs and very much will depend on the zeal, honesty and sense of responsibility of the *Gram Sewaks* and the supervision of the superior authorities.

* *District Gazetteer of Shahabad*, 1924, page 57.

The table that follows shows the vital statistics of the district from 1883 to 1904*:-

Years.	Births.		Deaths.							
	Number.	Per mille.	Cholera.		Small-Pox.		Plague.		Fever.	
			Number.	Per mille.	Number.	Per mille.	Number.	Per mille.	Number.	Per mille.
1	2	3	4	5	6	7	8	9	10	11
1883	..	1,241	28.55	6,379	3.24	46	0.02	..	24,890	11.11
1884	..	723	16.63	1,775	0.90	396	0.20	..	25,319	12.88
1885	..	728	16.74	4,415	2.24	664	0.33	..	38,762	19.72
1886	..	194	4.46	6,140	3.12	166	0.07	..	57,379	29.20
1887	..	1,001	23.03	14,067	7.15	136	0.06	..	40,536	20.62
1888	..	3,145	27.22	1,824	0.92	91	0.04	..	39,399	20.05
1889	..	3,158	27.33	4,080	2.07	784	0.39	..	40,202	20.45
1890	..	3,131	27.10	3,750	1.90	527	0.26	..	39,706	20.20
1891	..	3,195	24.50	14,208	6.95	501	0.24	..	39,751	19.45
1892	..	54,892	26.60	6,946	3.36	393	0.19	..	46,554	22.56
1893	..	61,549	29.82	1,854	0.89	297	0.14	..	55,023	26.66
1894	..	60,633	29.37	19,484	9.44	161	0.07	..	78,918	38.23
1895	..	61,563	29.82	4,603	2.23	200	0.09	..	41,619	20.16
1896	..	73,139	35.49	2,859	1.38	1,429	0.69	..	42,864	20.80
1897	..	67,775	32.89	3,054	1.48	4,070	1.97	..	55,779	27.06
1898	..	61,401	29.79	244	0.11	28	0.01	..	39,147	18.99
1899	..	89,642	43.50	4,249	2.06	4	.01	..	50,777	24.64
1900	..	80,270	38.95	15,106	7.33	82	0.03	2	48,000	23.29
1901	..	86,255	43.94	899	0.45	88	0.04	5,081	37,437	19.07
1902	..	84,340	42.97	972	0.49	355	0.18	2,282	37,215	18.96
1903	..	81,954	41.75	12,027	6.12	810	0.41	7,596	57,097	29.08
1904	..	89,669	45.68	342	0.17	315	0.16	10,484	48,629	24.77

* Twenty years' Statistics, District Shahabad, page 37.

Giving an analysis of the vital statistics after the year 1892, Mr. O'Malley, in the *District Gazetteer of Shahabad*, 1906*, mentions that since that year to the end of 1904 there was but little increase in the population of the district as the excess of births over the deaths was only 66,000. Fever, famine and plague were the chief reasons for the slow growth of population. The vital statistics quickly indicated the effect of the famine of 1896-97, and the birth-rate dropped from 35.50 per mille in 1896 to 32.90 in the succeeding year and to 29.80 in 1898. However, a sudden rise to 43.50 was recorded in 1899, a ratio far above than any of those previously recorded. The mortuary returns also bore the effects of natural calamities and the death-rate suddenly rose from 27.70 per thousand in 1896 to 35.50 in 1897, but in 1898 it declined to 23.30.

The incidence of health of the district was distinctly decadent during the period 1892-1900 as there was 5,000 more deaths than the births. However, the period 1901-04 showed an excess of births over deaths, although the unusual mortality of 1903 greatly swelled the number of deaths. This figure was higher than any of the previous returns. The total number of deaths in 1903 was 90,000 (nearly 46 per thousand). Greater mortality had been noticed only in the year 1894. In the year 1904 the birth-rate was recorded at 45.70 per thousand, a rate higher than any previous return.

In 1903 the mortality in the different parts of the district was recorded in the following manner**:-

"In the Buxar thana the ratio was as high as 63.22; but the most noticeable feature of the mortuary returns was the excessive mortality in towns. In Sasaram it was 46.31, in Arrah 53.56, and in Jagdishpur 61.21 a thousand, the high death-rate in the first town being due to the prevalence of cholera, and in Arrah and Jagdishpur to plague, which caused a mortality of 35.04 and 28.29 per thousand of their population. In 1904, matters improved somewhat, as there was only 73,800 deaths, but even so the number of deaths recorded was greater than even in the famine year of 1897".

* *District Gazetteer of Shahabad*, 1906, pages 43-44.

** *Ibid*, p. 44.

The *Shahabad District Gazetteer, Statistics, 1900-1901* to 1910-11 mentioned the following figures of vital statistics* :—

Year.	Population under registration.	Births.	Deaths.	Deaths per 1,000 from—																						
	Number.	Ratio per 1,000.	Ratio per 1,000.	Plague.	Cholera.	Small-pox.	Fever.	Dysentery and Diarrhoea.	Respiratory disease.	Injury.	Other causes.	All														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14												
1905 ..	19,62,696	81,368	41.45	1,15,117	58.65	8.26	4.94	0.05	37.76	0.13	0.01	0.42	7.03													
1906 ..	19,62,696	77,632	39.55	78,782	40.13	3.01	2.55	0.08	27.51	0.26	0.01	0.42	6.25													
1907 ..	19,62,696	84,434	43.01	79,044	40.27	6.12	3.12	0.36	24.88	0.06	0.01	0.42	6.26													
1908 ..	19,62,696	79,436	40.47	73,645	37.52	1.03	2.87	1.43	25.97	0.09	0.01	0.43	6.65													
1909 ..	19,62,696	72,644	37.01	72,875	37.13	0.61	0.43	1.49	28.18	0.04	0.01	0.53	6.92													
1910 ..	19,62,696	69,593	35.45	96,851	49.34	3.65	9.15	0.07	30.25	0.14	0.01	0.44	5.59													
Average of 1901—1910.	..	8,07,325	41.128	78,758	40.123	3.453	3.029	0.427	26.643	1.07	0.0062	0.433	5.992													
1911 ..	18,65,660	82,854	44.41	89,498	47.97	6.89	3.19	0.03	30.21	0.09	0.01	0.50	7.01													

*Shahabad District Gazetteer, Statistics, 1900-1901 to 1910-11, page 7.

In the revised edition of the *Shahabad District Gazetteer*, published in 1924, a further analysis of the vital statistics has been given from the year 1912 onwards. The analysis runs as follows:—

“During the five years from 1912 to 1916 the mean ratio of births per thousand was 45.5; but in the subsequent quinquennial period it fell to 39.5. Deaths, which in the earlier period were 34.2 per thousand, rose in the second period to 47.3. 1918 was a very unhealthy year, when the deaths reported numbered 1,50,943 (80.9 per thousand), largely due to the influenza epidemic. Another unhealthy year was 1921, when 97,067 deaths were reported.

“The following table shows the infant mortality in Shahabad district during the five years ending with 1921:—

Year.	Births.		Deaths (under one year old).	
	Males.	Females.	Males.	Females.
1917	40,313	37,298	8,977	8,077
1918	38,521	36,026	10,816	9,788
1919	33,363	30,705	7,873	7,211
1920	34,607	31,887	8,582	7,202
1921	32,446	30,057	8,479	7,057

“The Civil Surgeon ascribes the high infant mortality to the fact that the parents are often badly nourished, and to disregard of the primary rules of sanitation. A large proportion of the infants (7,639 in 1921) died within a week of birth, which is attributed to the ignorance of women, relying entirely on untrained *Dais*, who have some empirical knowledge of how to deal with maternity cases, but have had no regular training”.*

The foregoing analysis of vital statistics shows that there had been several ups and downs in the birth-rate and death-rate during 1881–1921—at one time births exceeded deaths while at another deaths exceeded births. But during the same period, there was an average annual decrease at the rate of 0.17 per cent. “The decrease in the population between 1881 and 1921 would have been steeper still but for a large

* *District Gazetteer of Shahabad* (1924), pages 57-58.

increase in immigration caused by the opening up of the Sone canal and also the extension of cultivation in the eighties, and development of the lime industry in the decade 1911–20. The increase of 5.7 per cent in the population during the decade 1881–90 is largely illusory because but for large immigration in this period, the population would actually have registered a decrease**.

The opening year of the decade 1921–30, was no less unfavourable to Shahabad than it was to the adjacent districts of Patna and Gaya. "The number of deaths in 1921 was more than 50 per cent in excess of the number of births. Cholera alone was responsible for the loss of 17,000 lives in that year, and the mortality from fever was quite exceptionally high. The remainder of the decade saw a complete transformation in the standard of public health. The birth-rate in each of the nine following years was always well ahead of the death-rate. Fever was less destructive than it had been at any time during the past fifty years, and the annual mortality from cholera for the five years immediately after 1921 was only 750. There was a recrudescence of this disease towards the end of the decade, and Buxar in particular suffered severely from the outbreak which occurred in 1929. But in the light of the past history of Shahabad the death-roll from cholera during the whole of this period must be regarded as moderate. Plague was more active in this district than in the rest of South Bihar, but its activity was exhausted before the decade was half over. During the whole period some 10,400 deaths were caused by plague, and of these 9,000 were recorded in the first four years. The most violent outbreak took place in 1923, and here again Buxar was the chief sufferer. In 1927 small-pox was responsible for over 3,500 deaths, and less severe epidemics of the same disease broke out in 1926 and 1928**.

The *Census of India*, 1941, gives the following figures of vital statistics†:—

District.	1931—1941.		Per 1,000 of 1931 population.		Columns 2—3 ('000 omitted).	1941 minus 1931 (Census) ('000 omitted).
	Births.	Deaths.	Births.	Deaths.		
1	2	3	4	5	6	7
Shahabad	7,94,980	4,83,414	399	242	311	335

* *District Census Hand-Book of Shahabad*, 1951, page IV.

** *Census of India*, 1931, Volume VII, Bihar and Orissa, Part I—Report, pages 36-37.

† *Census of India*, 1941, Vol. VII, Bihar, Tables, page 13.

The District Census Hand-Book of Shahabad, 1951, gives the following vital statistics from 1941—1950* :—

Year.	Births (registered).			Deaths (registered).		
	Persons.	Males.	Females.	Persons.	Males.	Females.
	1	2	3	4	5	6
1941 ..	..	80,093	42,096	37,997	53,310	26,936
1942 ..	..	73,082	38,445	34,637	43,769	22,348
1943 ..	..	70,265	36,863	33,402	45,928	23,444
1944 ..	..	66,964	34,979	31,985	49,393	25,586
1945 ..	..	69,450	36,155	33,295	61,211	31,681
1946 ..	..	69,335	36,632	32,703	46,629	24,095
1947 ..	..	62,483	32,856	29,627	52,288	26,963
1948 ..	..	62,781	33,657	29,124	49,828	25,526
1949 ..	..	61,250	32,489	28,761	32,461	15,822
1950 ..	..	68,317	35,982	32,335	40,399	22,079

From the statistics it is apparent that the birth-rate during the decade 1941—50 had decreased largely, being 80,093 in 1941 to 68,317 in 1950. The lowest births registered was in the year 1949 (61,250). From the same table of statistics it appears that the death-rate during the same decade had been on the decrease being 53,310 in 1941 and 40,399 in 1950. But the year 1945 shows an increase of 7,901 (61,211) over the total of 53,310 in 1941. This increase must have been due to the spread of epidemics and unhealthy climate. The lowest deaths registered was in the year 1949 (32,461).

* District Census Hand-Book of Shahabad, 1951, page 116.

The statement below shows the number of births and deaths registered, infant mortality and birth and death rates in Shahabad district from 1951 to 1961:—

Year.	Total number of live births registered.	Total number of deaths registered.	Infant mortality.	Birth rate of per 1,000 population.	Death rate of per 1,000 population.	Death due to—							
						Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injury.	All other causes.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1951 (a)	..	70,823	41,904	10,479	26.34	19.03	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1952 (b)	..	64,566	34,743	8,333	24.0	12.9	2,604	330	Nil	26,127	36	55	178
1953 (c)	..	55,456	30,218	7,266	20.6	11.2	2,557	98	Nil	22,514	40	77	139
1954 (d)	..	53,413	26,364	7,516	19.87	9.81	89	228	Nil	21,140	48	55	130
1955 (d)	..	58,961	23,672	5,762	21.93	8.81	128	50	Nil	18,786	76	77	163
1956 (e)	..	64,423	30,867	8,126	25.05	12.00	743	187	1	23,952	70	121	209
1957 (e)	..	54,249	32,291	6,033	31.86	18.96	4,339	417	1	23,806	86	56	164
1958 (c)	..	46,239	26,399	5,381	15.48	8.84	695	1,203	Nil	21,018	N.A.	N.A.	N.A.
1959 (c)	..	68,493	28,947	7,572	21.95	9.55	94	145	Nil	23,152	N.A.	N.A.	N.A.
1960 (f)	..	50,005	19,772	5,632	15.56	6.15	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1961 (g)	..	54,821	26,501	7,513	17.03	8.23	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A.—Not available.

(a) *Bihar Statistical Hand-Book*, 1952, p. 52.

(b) *Bihar Statistical Hand-Book*, 1953, p. 65.

(c) *Directorate of Statistics and Economics, Bihar, Patna.*

(d) *Bihar Statistical Hand-Book*, 1955, pages 70-71.

(e) *Bihar Statistical Hand-Book*, 1957, pages 87, 88 and 89,90.

(f) *Bihar through Figures*, 1960, p. 21.

(g) *Bihar through Figures*, 1961, pages 28-29.

It appears from the above table that during 1951–61 the births had decreased largely, being 70,823 in 1951 to 54,821 in 1961. It is further apparent from the above table that the death-rate during the same period had also been on decrease being 41,904 in 1951 and 21,501 in 1961. The lowest death-rate was in the year 1960 (19,772). Similarly the infant mortality was too on decrease being 10,479 in 1951 and 7,513 in 1961. The lowest infant mortality was in the year 1958 (5,381). In 1957, Shahabad had the highest infant mortality rate and also the highest death-rate per thousand of population in Bihar.

DISEASES.

Regarding the endemics and epidemics W. W. Hunter mentions in his 'A Statistical Account of Bengal, 1878' that the prevailing endemic diseases of Shahabad were intermittent and remittent fevers of the ordinary type, bowel complaints, ophthalmia and skin diseases. In 1873, fever was very common in the district and deaths due to it was 10,395 or 6.02 per thousand of the population as against 5,205 deaths or 3.01 per thousand in 1872. During April, 1873, an epidemic of cholera first assumed a serious form and in the next month became diffused over the whole of the district. Towards the middle of June it increased considerably in the neighbourhood of Arrah, reached its peak in July, and eventually died away in November. In 1873, the total number of deaths due to cholera was 4,692 or 2.72 per thousand of the population as against 540 or 0.31 per thousand of the population in 1872. Small-pox also prevailed during 1873 in various parts of the year and the district but there was reason to believe that cases of measles and chicken-pox were returned as small-pox. The total number of deaths recorded in 1873 due to it was 811 or 0.47 per thousand population while in 1872 it was 235 or 0.13 to every thousand of the population.*

Fever.

As regards the diseases prevalent in the district, fever being the foremost, the *District Gazetteer of Shahabad, 1906***, by Mr. L. S. S. O'Malley, mentions that on the basis of the returns, the greatest number of deaths was due to fever, from which the district was suffering severely for the past many years. It could be safely assumed that Shahabad suffered very badly from malaria. This disease was more or less persistent since 1879 and during the decade ending 1890 the recorded death-rate varied from 18.7 per mille in Belauti (Shahpur) to 31.8 in the Kargahar thana. During this decade the worst year was 1886 and the Shahabad district was stigmatized as the worst in the 'Province'† in respect of fever mortality. The

* *A Statistical Account of Bengal, 1878*, Vol. XII, Gaya and Shahabad, pages 287-288.

** *District Gazetteer of Shahabad, 1906*, pages 44-45.

† That is Bengal, Bihar and Orissa.

death-rate ranged from 30.4 per thousand in the Sasaram thana to as much as 42.9 in Kargahar. During 1885-89, the average mortality was higher than in any other part of the Patna Division and during the last year of this period upwards of 90 per cent of all the villages in the district suffered from its ravages. During 1891-1901, mortality averaged 24.8 and only twice fell below 20 a thousand and when the epidemic was at its height in 1894, the number of deaths due to it reached the appalling total of 78,918 or 38.23 per mille. In 1901 and 1902, the disease was not so prevalent but there was a recrudescence in 1903, the deaths recorded being over 57,000. In 1904, the number of deaths returned as due to fever was 48,600 or 24.77 as compared with 21.06 per mille in the whole of the Patna Division. The incidence of malaria was high and contagious in character and had spread from Burdwan where it had played a havoc.

In addition to the above details, the *District Gazetteer of Shahabad*, 1924, mentions as follows:—

“.....the Civil Surgeon reports that the fever which made its appearance in epidemic form in 1879 is still common in the district. The returns of 1918 showed 1,03,468 deaths ascribed to this cause, but these figures include most of the deaths from the influenza epidemic of that year.”*

The incidence of deaths due to malarial fever in the decade 1921-30 has already been mentioned elsewhere but it may be repeated here that the mortality due to fever was exceptionally high in 1921. In the next nine years malaria was less fatal than it had been at any time during the past fifty years.

In recent years again death due to malarial fever had been quite high. In 1952, 1953, 1954, 1955, 1956, 1957, 1958, and 1959 the number of recorded deaths due to malarial fever was 26,127, 22,514, 21,140, 18,786, 23,952, 23,806, 21,018 and 23,152 respectively. It appears from the above figures that the mortality due to malaria had been on the decrease in 1959 as against 1952. The mortality ascribed to fever is unusually high in the rural areas. The figures of death due to malarial fever from 1960 to 1963 were not available. The anti-malarial measures in recent years have been discussed elsewhere. According to the present (1964) Civil Surgeon of Shahabad, the figures appear high as even fever cases which were not necessarily malarial have been shown as due to malaria.

Influenza.

Regarding the incidence of influenza the *Shahabad District Gazetteer* (1924), mentions that the “district did not escape from the world-wide epidemic of influenza in 1918, which again attacked the

* *District Gazetteer of Shahabad*, 1924, pages 58 and 59.

district with less violence in the following year. The southern portion of the district, which is liable to be affected by drought, suffered most severely, as the bad rainfall of 1918 left the people ill-prepared to withstand the ravages of epidemic disease. Deaths from influenza were generally returned as caused by fever, as has been already mentioned; but it is this epidemic which accounts for the abnormal figures of 1918. The disease first appeared in a mild form early in July and abated temporarily after three or four weeks' stay. It reappeared in September and rapidly spread over the district, the utmost severity of the disease being marked in the months of November and December. In the second period of the epidemic the disease was very virulent and fatal. Death in the majority of cases was due to long complications in the form of pneumonia."*

The incidence of influenza as an epidemic has abated but there are usually stray cases every year. Influenza is now more easily controlled and is not allowed to assume an epidemic form.

Plague.

Plague was imported into Shahabad district from the neighbouring districts during 1900, but its attack was felt only in the north-east portions of the district and the mortality was slight. During 1901, its outbreak was much more serious and it took 5,000 lives. In 1902 there were 2,280 deaths. In 1903, it was more severe and there were 7,600 deaths. During 1904 and 1905 it took 10,480 and 15,800 lives respectively.

The District Gazetteer (1924) mentions that the death-roll from plague was again high in 1914 (12,880), closely followed by the returns of 1911 and 1918 (12,859 and 12,685 respectively). The death-rate from plague during these years has varied from 0.69 per mille in 1922 to 6.86 in 1914. "The disease pursues a regular course, decreasing or disappearing entirely in the hot and rainy weather months, reappearing after the rains and reaching its climax in the cold weather. The only means employed by the people to stamp out the disease are disinfection and the evacuation of affected areas. The former method is unpopular and has been but little resorted to. Evacuation has, however, increased in popularity, as the people, though at first averse to it, have year by year become more ready to leave their houses and to build temporary shelters during the period of the epidemic. Inoculation as a preventive measure is by no means popular."**

In the decade 1921-30, the incidence of plague went down. During the decade the total number of deaths due to plague was 10,400 out of which 9,000 were recorded in the first four years. The most violent outbreak was in 1923 and Buxar was the chief target.†

* *District Gazetteer of Shahabad, 1924, page 59.*

** *District Gazetteer of Shahabad, 1924, pages 59-60.*

† *Census of India, 1931, Vol. VII, Bihar and Orissa, Part I Report, page 37.*

After this plague abated except stray cases. From 1941 to 1959 only 67* persons died of plague. There have been no reports of plague since. Plague appears to have been wiped out.

Cholera and Small-pox.

In Shahabad Gazetteer, 1906, Mr. O'Malley mentions that after fever and plague, the principal diseases were dysentery, diarrhoea, cholera and small-pox. In 1903, the district lost 6.12 per mille of its population due to cholera. "The epidemic prevailed from June to August, causing 10,600 deaths during this period; it is reported to have been aided by the late commencement of the monsoon, the disease diminishing greatly when rain fell in sufficient quantity to flush and cleanse the sources of drinking supply. Blindness is unusually common, the proportion of persons afflicted (181 per 1,00,000) being greater than in other district in Bengal except Patna; its prevalence appears to be due to the glare and dust accompanying a hot and dry climate."**

Regarding cholera the Shahabad Gazetteer, 1924, mentions that the most severe cholera epidemic occurred in 1908 which was aided by the late commencement of monsoon and it took 21,280 lives or 11.41 per mille. The Civil Surgeon had reported that the disease diminished when rain fell to flush and cleanse the infected sources of drinking supply. In 1921, it broke in epidemic form again and 16,937 persons or 9.3 per mille died in Shahabad. Out of this number 4,858 died in July, and 8,994 in August.† The climatic conditions of that season were particularly favourable to the multiplication of the carrier flies. There was a temporary failure of the monsoon rains for five or six weeks after their first onset in the middle of June. Temperature and humidity both favoured the rapid multiplication of flies, and there was no heavy rain to wash the land clean.‡

During the decade 1921-30, cholera was responsible for 17,000 deaths in 1921 and the annual mortality from it for the five years immediately after 1921 was only 750. It broke out afresh in 1929 and Buxar was in particular the chief victim. In 1927 small-pox was responsible for over 3,500 deaths and less severe epidemics of the same disease broke out in 1926 and 1928@.

* Civil Surgeon's Office, Arrah.

** *District Gazetteer of Shahabad*, 1906, page 45.

† *District Gazetteer of Shahabad*, 1924, page 60.

‡ On the agency of flies in spreading cholera, and the circumstances of this epidemic, see the *Annual Public Health Report for Bihar and Orissa*, 1921, by Lt.-Col. W. C. Ross, I.M.S., pages 5-8.

@ *Census of India*, 1931, Vol. VII, Bihar and Orissa, Part I, Report, page 37.

Cholera and small-pox have never been totally absent from the district. From the statistics of eleven years (1951-61) it appears that cholera and small-pox took 11,249 and 2,658 lives respectively in the district.

Vaccination and inoculation have been given a detailed description at another place.

Bowel complaints.

Bowel complaints, dysentery and diarrhoea are quite common in the district due to the impurity of the drinking water specially in the hilly regions. In these regions only wells and springs (*chuans*) are the sources of water-supply the purity of which is doubtful. Pipe water-supply is available only in Arrah and Sasaram towns and that also in an inadequate quantity. The low economic condition of the poorer sections forces them to consume various types of undigestive food particularly at times of scarcity.

The statement below gives the number of deaths due to dysentery and diarrhoea from 1951 to 1957:—

	1951.	1952.	1953.	1954.	1955.	1956.	1957.
1	2	3	4	5	6	7	8
Diarrhoea and dysentery	N.A.	36	40	48	76	70	86

The figures from 1957 onwards are not available.

Tuberculosis.

Due to poverty, ignorance, mal-nutrition, unhealthy and unhygienic environmental sanitation the incidence of tuberculosis was on the increase in the district. T. B. cases, in the past, were mostly not brought to the hospitals.

In 1952, a T. B. clinic with 10 beds (6 males and 4 females) was started and was attached to the Sadar Hospital, Arrah. During the Second Five-Year Plan tuberculosis wards with 10 beds have been started at the Subdivisional Hospitals, Sasaram and Bhabua and during the same period the building for a Tuberculosis clinic has been completed at Buxar Subdivisional Hospital. A T. B. Hospital at Koilwar is functioning since 1959; the Methodist Mission Hospital at Pratapsagar is also treating the patients suffering from tuberculosis. Near Dehri-on-Sone there is a T. B. clinic which is known as Jagjiwan Ram T. B. clinic. The incidence of tuberculosis is now not large due to the activities of the World Health Organisation and the State Tuberculosis Association, Bihar. The total number of indoor patients treated in the Sadar Hospital, Arrah, was 76 in 1953, 59 in 1954, 52 in 1955, 50 in 1956, 45 in 1957, 42 in 1958, 44 in 1959, 42 in 1960, 40 in 1961, 41 in 1962 and 30 in 1963. The statistics given by the Civil Surgeon's office indicate that the

incidence of cases of tuberculosis brought to the hospital is on the decline. There has been no census of T. B. patients in the district but because of the expert medical help available now, it is expected that the incidence has gone down. The B. C. G. campaign was a help in controlling the disease.

Venereal diseases.

Venereal diseases are quite common in the district. It is prevalent both in the rural and urban areas. This was mostly due to the high incidence of prostitution. This is perhaps the only district where there used to be prostitutes or *natin* girls available in almost every large village. The modern treatments and the introduction of various preventives have contributed to a lesser incidence of the venereal diseases.

MEDICAL AND HEALTH ORGANISATION.

The Civil Surgeon (now called the Senior Executive Medical Officer and the Civil Surgeon) is the head of the medical organisation in the district. He is the Inspecting Officer of all the Government hospitals and dispensaries including the District Board dispensaries. He is the Superintendent of all the hospitals and dispensaries in the district maintained either by the District Board or the Government. He exercises complete professional control over the Government Medical Officers in the hospitals and dispensaries. He is also expected to help the Mission and the other private hospitals within the district. He has also the responsibility of the preventive and curative sides of the diseases for the whole district. For this purpose he is assisted by the District Medical Officer of Health. One of the responsibilities of the Civil Surgeon is to prevent the outbreak of epidemics, and in case of an outbreak to control it. He is also the authorised Drugs Inspector for the district.*

The District Medical Officer of Health is the head of the health organisation of the district. He is posted at the district headquarters and is responsible for public health organisation in the rural area. At each subdivisional headquarters Health Officers and Assistant Health Officers are posted for health work under the District Medical Officer of Health. Health Officers have also been posted at Arrah and Sasaram Municipalities. At each Block headquarters there is one Sanitary Inspector. Besides them, there are 94 vaccinators (88 appointed by the District Board and six by the Municipalities) and 42 Disinfectors in the district.** More details of health organisation have been discussed elsewhere in the text on 'Local Self-Government'.

Regarding the relationship of the Civil Surgeon and the District Medical Officer, the present (1964) Civil Surgeon reports, "Although Senior Executive Medical Officer and Civil Surgeon of the district

* Civil Surgeon's Office, Arrah.

** District Board, Arrah.

has full responsibility for preventing the outbreak of epidemic, the District Medical Officer of Health who is supposed to assist him has not been posted under him. The District Medical Officer of Health has a separate existence and is independent of the Senior Executive Medical Officer and Civil Surgeon. To have a proper co-ordination the L. S.-G. Act needs amendment."

HOSPITALS AND DISPENSARIES.

Regarding medical institutions in the district Mr. O'Malley mentions, "The number of medical institutions in the district has more than doubled within the last 30 years, and there are now 13 dispensaries, of which the oldest and most important is that in Arrah town, established in 1860. Besides this, there are dispensaries at each of the subdivisional headquarters Buxar, Sasaram and Bhabua, and at Akbarpur, Dehri, Dumraon, Jagdishpur, Nasriganj and Surajpura. The other institutions of this kind are those situated at Sikraul, Koath and Basaon, which are kept up by the Public Works Department for the medical relief of those employed in connection with the canals and of the general population of the locality. By far the largest number of patients are treated for fever and next to that for skin diseases. Cataract operations are very numerous, and during the period 1896-1900 successful operations of this nature were performed in the case of 831 women and 744 men."*

The following tables give the number of dispensaries and treatment given in 1904**:-

Name of dispensary.	Year of establishment.	Diseases treated.				
		Fever.	Diseases of the skin.	Diseases of the ear.	Diseases of the digestive organs.	Diseases of the eye.
1	2	3	4	5	6	7
	September,					
Akbarpur	.. 1904	290	73	53	37	32
Arrah	.. 1860	2,071	1,382	1,401	1,324	1,353
Bhabua	.. 1873	1,233	749	846	383	191
Buxar	.. 1868	1,538	921	814	787	404
Dehri	.. 1872	1,104	318	365	316	277
Dumraon	.. 1871	1,316	1,702	1,368	1,665	1,486
Jagdishpur	.. 1864	2,051	1,099	862	683	652
Nasriganj	.. 1874	1,842	305	407	456	106
Sasaram	.. 1865	1,636	1,049	1,027	1,020	616
Surajpura	.. July, 1904	872	512	408	600	279
Irrigation Dispensary at—						
Basaun	.. 1893	337	140	27	55	15
Koath	.. 1899	139	37	9	44	13
Sikraul	.. 1874	368	37	8	67	7
TOTAL		14,797	8,324	7,975	7,437	5,431

* District Gazetteer of Shahabad, 1906, pages 47-48.

** Ibid, p. 47.

Name of dispensary.	Receipts.				Expenditure.	
	Government contribution.	District.	Municipal funds.	Subscriptions and other sources.	Establishment.	Medicine, diet, buildings, etc.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Akbarpur ..	..	509	..	..	134	375
Arrah ..	198	4,500	1,700	3,392	3,212	4,409
Bhabua ..	67	459	430	568	743	765
Buxar ..	111	2,000	1,483	638	917	3,315
Dehri ..	1,561	..	..	..	894	667
Dumraon ..	38	180	444	4,578	4,200	1,040
Jagdishpur ..	165	1,500	763	731	1,374	1,655
Nasriganj ..	492	225	..	953	580	417
Sasaram ..	37	675	2,604	3,089	3,354	1,453
Surajpura ..	..	2,597	..	..	451	2,146
Irrigation dispensary at—						
Basaun ..	779	..	..	..	606	179
Koath ..	494	..	..	..	349	145
[Sikraul ..	847	..	..	..	312	535
TOTAL ..	4,789	12,643	7,424	13,949	17,126	17,101

The *District Gazetteer of Shahabad* (1924) mentions that in the next 18 years the number of medical institutions almost doubled and there were twenty-five hospitals and dispensaries in the district of which the oldest and most important was that at Arrah. The next in importance were the subdivisional hospitals at Bhabua, Buxar and Sasaram. The Public Works Department maintained hospitals at Dehri, Agiaon, Basaon, Koath, Manoharpur and Sikraul, primarily for the medical relief of the persons employed on the canals, which were of great benefit to the people of the localities mentioned. In 1922, in addition to the fixed dispensaries, there were three travelling dispensaries (field hospitals) in the district which treated in Buxar, Sasaram and Sadar subdivisions 462, 2,445 and 4,564 patients respectively. It was reported by the Civil Surgeon that those travelling dispensaries were very useful, but it was necessary to find young and energetic medical men to manage them.*

* *District Gazetteer of Shahabad, 1924, pages 61-62.*

The following table shows the receipts and expenditure of hospitals and dispensaries in 1922* :—

Hospital or dispensary.	Govern- ment grants.	District Board.	Municipal- ity.	Subscrip- tions.	Establish- ment.	Medicine etc.	Expenditure.

1	2	3	4	5	6	7
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Atrah	910	22,877	4,383	1,113	14,016	13,931
Basoon	1,730	605	..	..	1,908	350
Koohus	64	1,812	..	..	1,291	404
Koath	1,545	738	..	..	1,847	341
Sikraul	1,456	656	..	..	1,771	275
Sasaram	1,025	4,004	1,830	1,692	4,673	2,528
Jagdishpur	410	2,000	362	1,044	1,209	1,752
Nokha	145	4,935	..	27	1,023	4,032
Shahpur	125	2,969	..	24	1,287	1,498
Alkarpur	35	1,718	..	12	1,433	180
Piro	40	1,751	..	..	1,273	379
Agiaon	1,962	459	..	..	2,187	114
Adhaura	10	380	..	..	..	380
Bhabua	351	2,250	483	149	1,316	1,463
Nasriganj	679	5,136	..	573	1,698	4,114
Ghazipur	130	2,274	..	..	1,476	718
Surajpura	195	5,114	..	108	2,511	2,576
Sarinja	16	917	..	..	210	702
Raghunathpur	30	800	..	..	1,164	762
Mobania	68	1,413	..	45	1,351	249
Buxar	2,023	4,000	1,000	665	2,530	4,762
Chenari	135	1,938	..	..	1,083	714
Dabari	3,993	..	..	..	2,558	1,098
Dumraon**	..	..	..	..	7,889	2,470
Manoharpur	1,235	..	..	..	886	324
Travelling—	..	..	..	..	..	..
Badar..	20	2,082	..	..	1,381	647
Buxar	16	445	..	..	314	71
Sasaram	12	2,139	..	..	1,116	823
TOTAL	18,338	73,412	8,058	5,452	61,401	47,658

* District Gazetteer of Shahabad, 1924, p. 62.

** Supported entirely by Maharaja Bahadur Kesho Prasad Singh of Dumraon.

Prior to 1945, the hospitals and dispensaries were managed by the Joint Committee of the District Board and Municipalities and Government from time to time used to give grants to them. On 1st April, 1945, the Sadar Hospital, Arrah was provincialised. The Subdivisional Hospitals, Sasaram, Buxar and Bhabua were provincialised on 1st April, 1955, 15th July, 1955 and 23rd July, 1955 respectively.

During the Second Five-Year Plan (1956-60), the following hospitals and dispensaries were provincialised:—

Adhaura, Agiaon, Basaon, Bihiya, Chand, Chenari, Darigaon, Dehri, Dinara, Hatkhari Gaon, Jagdishpur, Kargahar, Koath, Koilwar, Kudra, Manoharpur, Mohania, Nasriganj, Nauhatta, Nokha, Piro, Raghunathpur, Ramgarh, Shahpur, Sheosagar and Sikraul*. Prior to this the dispensaries at Agiaon, Basaon, Koath, Manoharpur and Sikraul were maintained by the Irrigation Department.

Besides the Sadar hospital (Arrah) there is a morgue at the each subdivisional hospital and at Jagdishpur State Dispensary.

The table below shows the number of hospitals and dispensaries during February, 1964:—

Hospitals and dispensaries.	Rural.	Urban.	Total.
State Hospitals	Nil	4	4
State Dispensaries	30	1	31
State Police Hospitals	1	1	2
District Board Dispensaries	20	Nil	20
Private Aided Hospitals	2	Nil	2
Mission Hospitals	2	Nil	2
Private Non-aided Hospitals	Nil	1	1
TOTAL	55	7	62

Besides there are 41 Community Development Blocks in the district each covering a population of 50,000 to 1,00,000. There is a Medical Officer at the Block headquarters who is responsible for public health and sanitation works in the Block area. Each Block has three health sub-centres in the interior villages where Auxiliary Health Staff are posted and Medical Officer visits each sub-centre twice a week. Owing to paucity of doctors a number of Blocks is without a doctor.

* *Shahabad Zila ki Pragati, Azadi Ke Chaudah Varsh*, published by the Directorate of Public Relations Department, page 14.

The table below shows the name of the different hospitals and dispensaries, their management, classification of beds, etc., during February, 1964*:-

Serial no.	Name of the institution.	Class.	Government managed or local municipal or private, etc.	Male.	Female.	Children.	Emergency.	Total.
1	2	3	4	5	6	7	8	9
ARRAH SADAR SUBDIVISION.								
1	Agiaon State Dispensary ..	..	I Government	Nil	Nil	Nil	Nil	Nil
2	Arrah Police Hospital ..	..	II Ditto ..	24	Nil	Nil	Nil	24
3	Arrah Sadar Hospital ..	..	I Ditto ..	96	47	Nil	Nil	143
4	Bihiya State Dispensary ..	..	I Ditto ..	4	2	Nil	Nil	6
5	Jagdishpur State Dispensary ..	..	I Ditto ..	10	6	Nil	Nil	16
6	Koilwar State Dispensary ..	..	I Ditto ..	4	2	Nil	Nil	6
7	Piro State Dispensary ..	..	I Ditto ..	4	2	Nil	Nil	6
8	Shahpur State Dispensary ..	..	I Ditto ..	10	6	Nil	Nil	16
9	Udwantnagar State Dispensary ..	..	I Ditto ..	4	2	Nil	Nil	6
10	Barkagaon District Board Dispensary ..	..	III Local Bodies	Nil	Nil	Nil	Nil	Nil
11	Gaziapur District Board Dispensary ..	..	III Ditto ..	Nil	Nil	Nil	Nil	Nil
12	Jamira District Board Dispensary ..	..	III Ditto ..	Nil	Nil	Nil	Nil	Nil
13	Karisath District Board Dispensary ..	..	III Ditto ..	Nil	Nil	Nil	Nil	Nil

14	Kori District Board Dispensary	..	III	Ditto	..	Nil	Nil	Nil	Nil	Nil
15	Manichapara District Board Dispensary	..	III	Ditto	..	Nil	Nil	Nil	Nil	Nil
16	Parsaunda District Board Dispensary	..	III	Ditto	..	Nil	Nil	Nil	Nil	Nil
17	Sahar District Board Dispensary	..	III	Ditto	..	Nil	Nil	Nil	Nil	Nil
18	Semraon District Board Dispensary	..	III	Ditto	..	Nil	Nil	Nil	Nil	Nil
19	Arrah-Sasaram Light Railway Dispensary		VI	Railway	..	Nil	Nil	Nil	Nil	Nil

SASARAM SUBDIVISION.

20	Akbarpur State Dispensary	..	I	Government		6	Nil	Nil	Nil	6
21	Bhimkarup State Dispensary	..	I	Ditto	..	Nil	Nil	Nil	Nil	Nil
22	B. M. P. Dehri Hospital	..	II	Ditto	..	40	Nil	Nil	Nil	40
23	Chenari State Dispensary	..	I	Ditto	..	6	Nil	Nil	Nil	6
24	Darigaon State Dispensary	..	I	Ditto	..	6	Nil	Nil	Nil	6
25	Dehri State Dispensary	..	I	Ditto	..	8	4	Nil	Nil	12
26	Dinara State Dispensary	..	I	Ditto	..	6	Nil	Nil	Nil	6
27	Kargahar State Dispensary	..	I	Ditto	..	6	Nil	Nil	Nil	6
28	Koath State Dispensary	..	I	Ditto	..	Nil	Nil	Nil	Nil	Nil
29	Nasriganj State Dispensary	..	I	Ditto	..	10	2	Nil	Nil	12
30	Nauhatta State Dispensary	..	I	Ditto	..	Nil	Nil	Nil	Nil	Nil
31	Nokha State Dispensary	..	I	Ditto	..	6	Nil	Nil	Nil	6
32	Sasaram Subdivisional Hospital	..	I	Ditto	..	26	20	Nil	Nil	46

1	2	3	4	5	6	7	8	9
33	Sheosagar State Dispensary ..	..	I Government	Nil	Nil	Nil	Nil	Nil
34	Bikramganj Raj Hospital ..	..	V Private ..	8	Nil	Nil	Nil	8
35	Dalmianagar Factory Hospital ..	..	V Ditto ..	22	6	Nil	Nil	28
36	Chamardihri District Board Dispensary		III Local Bodies	Nil	Nil	Nil	Nil	Nil
37	Darihat District Board Dispensary ..	..	III Ditto ..	Nil	Nil	Nil	Nil	Nil
38	Gorari District Board Dispensary ..	..	III Ditto	Nil	Nil	Nil	Nil	Nil
39	Kochas District Board Dispensary ..	..	III Ditto ..	Nil	Nil	Nil	Nil	Nil
40	Surajpura District Board Dispensary ..	..	III Ditto ..	Nil	Nil	Nil	Nil	Nil
41	Tilouthu District Board Dispensary ..	..	III Ditto ..	Nil	Nil	Nil	Nil	Nil
BUXAR SUBDIVISION.								
42	Buxar Subdivisional Hospital ..	..	I Government	23	20	Nil	Nil	43
43	Manoharpur State Dispensary ..	..	I Ditto ..	Nil	Nil	Nil	Nil	Nil
44	Raghunathpur State Dispensary ..	..	I Ditto ..	Nil	Nil	Nil	Nil	Nil
45	Sikraul State Dispensary ..	..	I Ditto ..	Nil	Nil	Nil	Nil	Nil
46	Simri State Dispensary ..	..	I Ditto ..	Nil	Nil	Nil	Nil	Nil
47	Dumraon Raj Hospital ..	..	V Private ..	30	35	Nil	Nil	65
48	Chaugain District Board Dispensary ..	..	III Local Bodies	Nil	Nil	Nil	Nil	Nil
49	Manikpur District Board Dispensary ..	..	III Ditto ..	Nil	Nil	Nil	Nil	Nil
50	Nihalpur District Board Dispensary ..	..	III Ditto ..	Nil	Nil	Nil	Nil	Nil

51	Sarinja District Board Dispensary	..	III	Ditto	..	Nil	Nil	Nil	Nil	Nil
52	Adhaura State Dispensary	..	I	Government		Nil	Nil	Nil	Nil	Nil
53	Basaon State Dispensary	..	I	Ditto	..	Nil	Nil	Nil	Nil	Nil
54	Bhabua Subdivisional Hospital	..	I	Ditto		10	6	Nil	Nil	16
55	Bhagwanpur State Dispensary	..	I	Ditto	..	4	2	Nil	Nil	6
56	Chand State Dispensary	..	I	Ditto	..	6	Nil	Nil	Nil	6
57	Durgawati State Dispensary	..	I	Ditto	..	Nil	Nil	Nil	Nil	Nil
58	Hatkhari Gaon State Dispensary	..	I	Ditto	..	6	Nil	Nil	Nil	6
59	Kudra State Dispensary	..	I	Ditto	..	4	2	Nil	Nil	6
60	Mohania State Dispensary	..	I	Ditto	..	6	Nil	Nil	Nil	6
61	Ramgarh State Dispensary	..	I	Ditto	..	4	2	Nil	Nil	6
62	Cheharia District Board Dispensary	..	I	Local Bodies		Nil	Nil	Nil	Nil	Nil

* Civil Surgeon's Office, Arrah.

Sadar Hospital, Arrah.

It is the oldest medical institution in the district which was established in 1860. It was previously maintained by the local bodies but in 1945 when it was provincialised there were only 100 beds. During the First Five-Year Plan period (1951-56) the Government gave sanction for another 13 beds. In 1952 ten beds (6 males and 4 females) were added for tuberculosis patients. In 1955, again 20 more beds were recommended for the general patients and a Child Welfare Centre was also started in the hospital. During the same period two nurses, one dresser, three ward coolies and one sweeper were appointed. In the same year 10 beds were also added in the hospital for children. With the increase in the number of beds and staff, proportionally medicines and other equipments were increased. As soon as an Infectious Clinic was opened in 1958, one Specialist, one Health Inspector, one laboratory assistant, one 'A' grade nurse, one dresser and a sweeper more were appointed. In 1959 one additional Transfusion unit was sanctioned for this hospital*.

In February, 1964, there were a Deputy Superintendent, six Civil Assistant Surgeons and two Lady Civil Assistant Surgeons in the hospital. The hospital is equipped with one X-ray plant. There are a tuberculosis clinic and a tuberculosis ward and also a venereal diseases clinic with six indoor beds (4 males and 2 females). The total number of beds excluding tuberculosis and venereal diseases beds is 143 (96 males and 47 females). Specialised treatments in surgery, tuberculosis, etc., are given in the hospital. Patients are given free diet @ 87 nP. per general bed and Rs. 1.37 nP. per tuberculosis bed**. The diet allowance is meagre.

The statistics of the indoor and outdoor patients from 1956 to 1963 is as follows**:-

Year.	Number of indoor patients.	Number of outdoor patients.
1956	9,803	82,979
1957	9,411	47,945
1958	8,986	52,213
1959	9,288	50,476
1960	10,468	72,319
1961	9,794	53,352
1962	10,911	65,580
1963	Not available	Not available

* *Shahabad Zila Ki Pragati, Azadi Ke Chaudah Varsh*, published by the Directorate, Public Relations, Bihar, page 14.

** Civil Surgeon's Office, Arrah.

Subdivisional Hospital, Sasaram.*

This institution was established in 1865 and was taken over by the Government in 1945. There are two Civil Assistant Surgeons and one Lady Assistant Surgeon. The strength of beds in the hospital during February, 1964, was 46 (26 males and 20 females). During the Second Five-Year Plan, 10 beds were added in the tuberculosis ward of the hospital. This hospital is equipped with one X-ray plant which was installed in the year 1961. The statistics for the indoor and outdoor patients from 1959 to 1964 (till 11th January) are as follows:—

Year.		Number of indoor patients.	Number of outdoor patients.	Anti-Rabic treatment.	Operations performed.	
					Indoor.	Outdoor.
1		2	3	4	5	6
1959 ..	..	18,227	96,838	N.A.	N.A.	N.A.
1960 ..	..	15,797	97,613	N. A.	N. A.	N. A.
1961 ..	..	13,319	69,163	768	900	2,227
1962 ..	..	13,323	59,039	846	745	2,013
1963 ..	..	12,592	57,535	644	1,131	2,015
1964 (Till 11th January, 1964).		328	1,525	Nil	N.A.	N.A.

Subdivisional Hospital, Buxar.*

This institution was established in July, 1866 and was taken over by the Government on 15th July 1955. The hospital has two Civil Assistant Surgeons and one Lady Assistant Surgeon. The hospital is equipped with 43 indoor beds. The table below shows the number of the indoor and outdoor patients treated from 1960 to 1963:—

Year.		Labour cases.		Patients treated.		Operations conducted.
		Normal.	Abnormal.	Indoor.	Outdoor.	
1		2	3	4	5	6
1960 ..	..	444	59	2,278	41,554	773
1961 ..	..	528	54	2,623	31,125	543
1962 ..	..	529	65	2,526	24,938	2,857
1963 ..	..	Not available	Not available	3,140	22,437	Not available.

* Civil Surgeon's Office, Arrah.

During the Second Five-Year Plan the building for the tuberculosis clinic was constructed within the hospital premises.

Subdivisional Hospital, Bhabua.

This hospital was established in 1873.

There are one Civil Assistant Surgeon and one Lady Assistant Surgeon at Bhabua hospital. The hospital is equipped with 17 indoor beds (males 8, females 6, isolation 2 and 1 paying).

The table below shows the number of indoor and outdoor patients treated at the hospital from 1960 to 1963:—

Year.	Patients treated.		Operations conducted.	
	Indoor.	Outdoor.	Major.	Minor.
1960	6,292	30,317	17	662
1961	6,658	34,249	9	769
1962	6,113	31,786	44	644
1963	4,854	31,805	17	380

A Tuberculosis Clinic with 10 beds is attached to this hospital and its separate building is under construction.

Jagdishpur State Dispensary.

The dispensary at Jagdishpur was established in 1864 which has now been provincialised. There is one Civil Assistant Surgeon to look after the dispensary and the patients. This dispensary maintains 16 indoor beds (10 males and 6 females). The dispensary building was substantially improved and additions were made in 1943 due to the efforts of the then Sadar Subdivisional Officer who was the Chairman of the Committee. The indoor wards, doctor's quarters and other staff quarters are in deplorable condition (1964).

Dehri State Dispensary.

There are one Civil Assistant Surgeon and one Lady Assistant Surgeon in the dispensary. The dispensary maintains 12 indoor beds (8 males and 4 females).

Tuberculosis Hospital, Koilwar.*

This hospital is located at Koilwar about 10 miles east of Arrah town on the bank of the river Sone. It covers an area of 128 acres of land. On the east and north-east there is the river Sone which often creates havoc by its flood. To avoid this situation, a protective mud *bund* runs around the hospital.

* Based on the information supplied by the Superintendent, Tuberculosis Hospital, Koilwar.

About four or five decades back, many persons from Bengal as well as from other parts of Bihar used to come over here (Koilwar), off and on, for a change and lived in hutments. These changers included some tuberculosis patients also. Those were the days when there were no antibiotics and at that time the place was famous for the salubrious climate which was a great help for the treatment of tuberculosis. But day by day the number of changers began to decline because the place was not immune to dacoits and thieves and there was danger to life and property as well. The number of the Bengali changers also began to decline because of the better accommodation facilities at Deoghar, Simultala, Madhupur, etc.

The climate of the place is healthy. Some water is taken to be very digestive. The place where the hospital is now located was full of *Kans* jungle and, therefore, the land was quite cheap. To provide better hospitalised treatment to the tuberculosis patients, the Government decided in 1951 to start a tuberculosis hospital at Koilwar.

During the same year, a philanthropic widow Shrimati Dharakshna Kunwar of Dumri in Buxar subdivision, was approached for donations. She promised to pay a sum of Rs. 50,000 in donation but actually she gave Rs. 1,00,000. Shrimati Rajkumari Amrit Kaur, the then Health Minister at the Centre took great interest in tuberculosis institutions and gave a tremendous incentive in the development of such hospitals with no exception to the tuberculosis hospital at Koilwar. A master plan was drawn for this hospital. The plan consisted of a 750-bedded hospital.

The initial non-recurring grant for equipping (only the medical section) the hospital was Rs. 62,000 and it has got an annual recurring grant of Rs. 2,16,000.

The real shape for the organisation of the hospital was given by the appointment of the Superintendent and the staff in December, 1959, which consisted of a Superintendent, two Medical Officers, one sister and 12 'A' grade nurses, an occupational therapist and others consisting of a total of 102 staff. However, till now (February, 1964) hardly one or two nurses have been appointed and the work is carried on mainly with the help of dressers.

At present (February, 1964) it consists of only 64 beds for the males. There are no beds for females. Neither it gives any outdoor facility nor there is any domiciliary service arrangement or provision for surgery or a well developed laboratory or any culture or sensitivity is done here. So far as the medical treatment of the patients is concerned it is very well developed. However, patients requiring surgery treatments are sent to Patna General Hospital and some of them who can afford prefer to go to the Kasturba Memorial Hospital, Mysore.

The 64 beds have been divided into different quotas. Four for Shahabad district, three for the remaining districts of the State (Bihar), two for Government servants and ten for the Employees State Insurance Scheme. A waiting list is maintained by the Superintendent and admission is done according to the serial order.

The building is now ready for 110 bedded female and 40 bedded additional male wards which have not yet been started.

Amenities provided by the hospital consist of practically all indoor games, occasional dramas, dances and recitations and outdoor picnics for the patients. As yet a fullfledged cinema house has not started but provisions for it have already been made. The treatment including medicine, food and other minor personal requirements are all provided free by the hospital authorities including occasional monetary grants from the Government.

The hospital has got its own X-ray plant both static and portable and a small laboratory for routine pathological examination. It also maintains a metalled approach road of about one and half miles in length from the Arrah-Patna Road. The hospital is electrified and has got telephone and its own water-supply.

The table below shows the number of patients admitted, died, cured, etc., at the hospital from 1960 to 1963:—

Year.	Patients.			
	Admitted.	Died.	Cured.	Other.
1960	45	3	6	1
1961	48	5	18	10
1962	32	9	20	3
1963	52	7	31	11
TOTAL ..	177	24	75	25

The column 'Other' includes those patients who were discharged as they were not tuberculosis patients or sent to other hospitals or left this hospital for some reason or other.

Homoeopathic, Ayurvedic and Yunani Dispensaries.

The table below shows the number of Homoeopathic, Ayurvedic and Yunani dispensaries maintained by the District Board from 1958-59 to 1961-62:—

Year.	Homoeopathic.	Ayurvedic.	Yunani.
1958-59	3	20	5
1959-60	6	23	4
1960-61	6	24	5
1961-62	7	24	6

During 1959-60, three more Homoeopathic and three *Ayurvedic* dispensaries were opened as against three Homoeopathic and 20 *Ayurvedic* dispensaries during 1959-60. In 1960-61, one more *Ayurvedic* and during 1961-62, one more Homoeopathic dispensaries were started. During 1961-62, one *Yunani* dispensary at Jamuhar was re-started and a qualified *Hakim* and a peon were placed. This dispensary had to be closed during the year 1959-60, due to non-availability of a qualified *Hakim*.

Each dispensary is under the charge of a qualified Homoeopathic Doctor, a qualified *Vaidya* and a qualified *Hakim*.

Health Sub-centres.

Health Sub-centres have been opened in all the Community Development Blocks. As mentioned elsewhere there are at present 41 Blocks and each Block has three Health Sub-centres. It is, however, a regrettable fact that because of want of doctors, many Blocks and Health Sub-centres are medically unattended.

The following table shows the names of only 39 Blocks and Health Sub-centres functioning during February, 1964:—

Serial no.	Name of the blocks.	Name of the Health Sub-centres.
<i>Arrah Sadar Subdivision.</i>		
1.	Koilwar Block ..	Chandi, Shripalpur and Daulatpur.
2.	Barhara Block ..	Bishunpur, Bakhorapur and Baluan.
3.	Arrah Moffasil Block ..	Dhamar, Pirauta and Salempur.
4.	Udwantnagar Block ..	Kasap, Bilaur and Asani.
5.	Bihya Block ..	Mahuaon, Amri Nawadah and Bara.
6.	Shahpur Block ..	Barisawan. Benwalia and Isharpura.
7.	Jagdishpur Block ..	Manudehri, Air and Kitapar.
8.	Sahar Block ..	Azimabad, Ekwari and Chauri.
9.	Sandesh Block ..	Pratappur, Deonpur and Sandesh.
10.	Charpokhari Block at Garhani.	Charpokhari, Makundpur and Manjhiaon.
11.	Tarari Block ..	Ramnagar, Tarari and Khar-sawan.
12.	Piro Block	Kabar, Agiaon and Jamuaon.

Serial no.	Name of the blocks.	Name of the Health Sub-centres.
<i>Buxar Subdivision.</i>		
13.	Buxar Block ..	Chousa, Manjhuria and Baruna.
14.	Dumraon Block ..	Koran Saraiyan, Ariaon and Attaon.
15.	Itarhi Block ..	Bashundhar, Unwas and Hakimpur.
16.	Simri Block ..	Ganguauli, Dumri and Dulahpur.
17.	Rajpur Block ..	Kharhana, Nagendrapur and Sangarpur.
18.	Nawanagar Block at Athur	Karsar, Waina and Kanjhia.
<i>Sasaram Subdivision.</i>		
19.	Sasaram Block ..	Gobina, Karbandia and Dhawdarh.
20.	Dehri Block ..	Patruwan, Pahleja and Karkatpur.
21.	Sheosagar Block ..	Torni, Raipurchor and Parsi.
22.	Kargahar Block ..	Rampur Naresh, Sheikh Bahuara and Torni.
23.	Dinara Block ..	Natwar, Chitaon and Bharsar.
24.	Nasriganj Block ..	Khiriaon, Birodih and Malaon.
25.	Chenari Block ..	Chandrakaithi, Sadokhara and Khurmabad.
26.	Rohtas Block ..	Karma, Kariari and Rohtas Fort
27.	Nauhatta Block ..	Rehal, Tiarkala and Bhadara.
28.	Dawath Block ..	Semari, Chitaon and Dhergaon.
29.	Karkat Block ..	Karkat and at other two places the Sub-centres have not been opened as yet.
30.	Bikramganj Block ..	Sheopur, Sanjhouli and Parsa.
31.	Nokha Block ..	Barraon, Sisiratpur and Panchpokhari.
<i>Bhabua Subdivision.</i>		
32.	Bhabua Block ..	Dihara, Kunj and Sonhau.
33.	Mohania Block ..	Ahinoura, Lohiribari and Akorhigola.

Serial no.	Name of the blocks.	Name of the Health Sub-centres.
34.	Durgawati Block ..	Kurharia, Kabilaspur and Chhanuri.
35.	Ramgarh Block ..	Upry, Nuaon and Kuchala.
36.	Kudra Block ..	Bahuara, Jagdishpur and Ghataon.
37.	Chainpur Block ..	Fakara bandh, Jagnia and Berhuna.
38.	Bhagwanpur Block ..	Ramgarh, Nauhatta and Sabar.
39.	Adhaura Block ..	Khondhar, Choudhrana and Garkey.

Each sub-centre is expected to have one trained *dai*, one health worker and one servant. As a preventive measure these sub-centres disinfect wells and houses, give cholera inoculations, vaccination against small-pox, distribute freely skimmed milk-powder to the needy and poor people in the area covered by each sub-centre and distribute multivitamin tablets free of cost to the needy population. Outdoor patients are treated free of cost at each sub-centre. The Medical Officer of the Block headquarters is expected to attend each sub-centre twice a week and examine the patients and give medicines to them. Besides, within a radius of one mile the trained *dais* visit the expectant mothers at their residences. But our personal investigations and tours showed that some of the Blocks are going without any doctor for months and the health sub-centres particularly at the outlying places are not regularly visited by the doctors. Unless the Blocks are fully manned by medical personnel it cannot be expected that the health sub-centres will be properly catered for.

Dispensaries of the Community Development Blocks.

Each Community Development Block Dispensary is expected to consist of the following staff:—

One Medical Officer, one Sanitary Inspector, one Lady Health Visitor, three Auxiliary Nurses or trained *dais* and one Auxiliary Health Worker or Health Worker.

The function of these dispensaries is to maintain the proper incidence of health in the rural areas. Disinfection of wells, inoculation and vaccination are some of the preventive measures while the Block Doctor treats the patients at the Block dispensaries and health sub-centres.

MEDICAL PRACTITIONERS.

There is no system under which every qualified doctor has to register himself with any authority. Even an unregistered doctor duly qualified may practise. There is no bar to an unqualified man

practising as a doctor unless he does anything against the law. The State branch or the district branch of the Indian Medical Association is there but an allopathic doctor may not join it. Even unqualified doctors, nurses and midwives are carrying on practice and even surgery. The homoeopathic doctors are also not statutorily obliged to register themselves. There are many unqualified homoeo, *unani* or *Vaid* doctors.

There is a great dearth of qualified nurses. Most of the hospitals are without the adequate quota of nurses. The number of dressers, compounders and pharmacists is also inadequate. There are training centres for the dressers at the subdivisional hospitals and the Dumraon and Dalmianagar hospitals. *Dais* are trained at Koilwar, Bihiya and Mohania. There are very few trained lady social welfare workers or lady health visitors in the Blocks, or in the maternity centres.

In the year 1940 a separate unit of the Indian Medical Association was started at Arrah, named as the Shahabad Branch. Now the strength of the members of the Shahabad Branch of the Indian Medical Association is 120 out of which 50 are local, 50 are from the rural area and 20 are non-members who only attend the conference.

There does not appear to have been any contribution to medical research from the doctors of this district.

MATERNITY AND CHILD WELFARE CENTRES.

To provide better care and medical attention to the mothers in both pre-natal and post-natal stages and also to the children from their birth up to a certain age, four Maternity and Child Welfare Centres have been started by the Government at Arrah, Sasaram, Buxar and Bhabua. Each centre is expected to have a trained Lady Health Visitor and a trained *dai* (midwife).

FAMILY PLANNING CENTRES.

The population explosion of the country has accentuated the economic problem and Family Planning is being recommended as a matter of vital importance to the State. It is held that the problem of unemployment, scarcity of food, high prices, etc., are also associated with the problem of the ever growing population. The advocacy of the family planning methods has been started some years back but it is felt that the achievement is very small. The problem is more a social one and has to be fought in the villages more than in the towns. The contraceptives distributed to the blocks and health sub-centres are hardly used and if used, there is very little of concrete result. Individuals visit the family planning centres all alone and would not like their visit to the centres to be known to others. It is, however, a fact that the knowledge to determine the size of the family is spreading amongst the educated middle class people.

In Shahabad district there is an Urban Family Planning Centre at Arrah Sadar Hospital where no staff has been posted although the post of a Lady Social Worker was sanctioned long ago. In the rural Family Planning Centres of which there are two, viz., at Sasaram and Sheosagar Blocks only six trained *dais* have been posted (one for each Health Sub-centre).

Besides, at each Block, hospital and dispensary contraceptives are available but they are mostly lying in stock to deteriorate.

No voluntary association seems to be actively working on this line.

PRIVATE MEDICAL INSTITUTIONS.

The details of some of the private hospitals are as follows:—

Raj Hospital, Dumraon.

In 1871, a dispensary at Dumraon was established which was later on converted into a hospital. This is a private hospital managed by a trust created by the Dumraon Raj. Another Raj hospital, managed by the same trust, is running at Bikramganj. The Dumraon Raj Hospital maintains 65 beds. The staff of the hospital consists of one Medical Officer, a Second Medical Officer and a Lady Assistant Surgeon.

Dr. Soule's Christian Hospital, Arrah.

This private nursing home was started by Dr. Mrs. E. G. Soule in 1946. From the beginning of a clinic, it has been converted into a private hospital with 10 indoor beds. Most of the patients are women. The hospital is running in a private house but it expects to have its own building soon. The new building is under construction. This is more of a type of nursing home and the result of individual efforts.

Methodist Hospital, Pratapsagar.

There is a Methodist Hospital at Pratapsagar in Dumraon police-station since 1950. The hospital gives treatment to the outdoor patients only. A fair number of T. B. patients is given specialised treatment. In 1962, it had treated over 42,000 patients. The hospital is cited in a spacious area and is said to maintain a high standard.

Roman Catholic Mission Dispensaries.

There are Roman Catholic Mission dispensaries at Arrah, Buxar, Koath and Shahpur. The dispensary at Arrah was established in 1939 and at Shahpur in 1953. The Shahpur dispensary is in the charge of the Mothers of the Institute of the Blessed Virgin Mary. This is likely to be expanded into a hospital in the near future. The dispensary at Koath was established in the year 1948. There is also a Jain Charitable Homoeopathic Dispensary at Arrah.

There is also a dispensary attached to the unrecognised Girls' Middle School at Buxar run by this Mission and is conducted by the Indian Sisters. This dispensary was established in 1940.

Private hospitals and dispensaries in the industrial areas run by the employers and under the Employees' State Insurance Scheme have been mentioned in the text on Industries.

HEALTH SANITARY ORGANISATION.

This has been discussed elsewhere in the text on "Local Self-Government".

RURAL AND URBAN SANITATION.

This also has been discussed elsewhere in the text on "Local Self-Government".

It may be repeated here regarding the water-supply in the district that there is piped water-supply only at Arrah and Sasaram. The rest of the towns, i.e., Buxar, Jagdishpur, Dumraon, Bhabua, Dehri-on-Sone, etc., have their supply of drinking water from wells and tube-wells. In most of the villages there are *pucca* and *kutchu* wells and tube-wells for the supply of drinking water.

• ANTI-MALARIAL MEASURES.

In order to eradicate the scourge of malaria an Anti-Malaria Survey team conducted a survey with regard to the incidence of malaria at Rohtas and Adhaura hills of the district in the months of October and November, 1951, respectively.

So far the Rohtas hills are concerned, the survey revealed an appalling situation. At village Babhan Talab, it was found that 40 per cent of the population was suffering from malaria, whereas in village Balatu, the percentage was 8.7. Parasite-rate was recorded at 13.3 per cent which was considered to be high and the population formed a reservoir of malaria infection. Culicifacies, which is responsible for transmitting malaria, was collected from the residential places. However, fluviatilis, which is suspected to transmit malaria during winter was not found.

The sanitary condition was very unsatisfactory, which was subject to further deterioration during the rainy season. Poverty, scanty clothing and mal-nutrition were the contributory causes. The only medical help possible was available at the District Board dispensaries of the area and the Dalmianagar and Dehri hospitals. The help was inadequate and due to bad communications was not always available to the villagers.

The survey of the Adhaura hills showed no less striking facts than that of Rohtas hills. The people of this area, apart from being illiterate and backward, were superstitious and had a strong belief that buffalo milk carried malaria.

The spleen census, 1951, recorded that the area was "hyperendemic" as at village Dumrama the spleen-rate was found to be as high as 63 per cent. As high as 41.7 per cent of parasite-rate was recorded on the hills, which showed that most of the inhabitants were suffering from malaria and formed reservoir of infection. High endemicity was recorded in most of the villages of this area. Culicifacies was found breeding in canals, paddy fields and at other places where water got stagnant.

For the first time only in a portion of Bhabua subdivision of the district of Shahabad, the anti-malarial measures were launched during the year 1956-57. At that time it was a sub-unit under the National Malaria Control Unit functioning at Daltonganj in the district of Palamau*. It functioned under Daltonganj unit till 1958-59. During 1959-60, when three Anti-Malaria Control units at Arrah, Buxar and Sasaram were established in the district, the Bhabua sub-unit amalgamated in the Sasaram unit.

When only the Bhabua sub-unit was functioning in the district, only epidemiological assessments used to be conducted till the Surveillance Programme was introduced in early 1961. The information regarding Bhabua area is mentioned here separately. As a control measure only two rounds of spraying of D. D. T. used to be done.

The assessment survey record of this area is as follows:—

Year.								
1956-57. 1957-58. 1958-59. 1959-60. 1960-61. 1961-62. 1962-63. 1963-64.								
1	2	3	4	5	6	7	8	9
Spleen-rate ..	66.6	54.1	2.14	2.78	0.7	Due to introduction of Surveillance Programme, the epidemiological assessment was dropped.		
Child parasite-rate.	Nil	Nil	0.0	0.12	0.0			
Infant parasite-rate.	Nil	Nil	0.0	0.45	0.0			

When the units at Arrah, Buxar and Sasaram were started in 1959-60, there was a coverage of the houses during spraying of insecticide, i.e., D. D. T.

* District Gazetteer of Palamau, 1961, page 453.

Since 1962-63 onwards the spraying has been withdrawn as per recommendations of the Independent Appraisal Team, Government of India.

The epidemiological survey of the above areas from 1959-60 to 1960-61 mentions the following figures:—

Name of the unit.	Spleen-rate.		Child parasite-rate.		Infant parasite-rate.	
	1959-60.	1960-61.	1959-60.	1960-61.	1959-60.	1960-61.
1	2	3	4	5	6	7
Arrah ..	7.6	2.55	0.38	0.32	0.0	0.0
Buxar ..	2.7	1.61	0.0	0.0	0.0	0.0
Sasaram ..	1.82	0.40	0.35	0.0	0.0	0.0

After 1960-61, the assessment survey was also withdrawn with the launching* of the Surveillance Programme in early 1961 as mentioned earlier.

VACCINATION.

Vaccination is well recognised for preventing small-pox. As vaccination has had a chequered career and by constant official efforts has become successful a detailed description is given. Regarding vaccination Dr. Hamilton Buchanan's 'An Account of the District of Shahabad in 1812-13', mentions that during his tours only 30 inoculators for small-pox were living in the district but they were unable to cover the whole district, hence, a number of inoculators came from the north side of the river Ganga. Of the late, the practice seemed to have been fast gaining.

Hunter's 'A Statistical Account of Bengal, 1878', gives some information regarding the progress of vaccination. He mentions that in 1873, ten vaccinators were employed to conduct vaccine operations and the result of their work was that out of 5,700 persons vaccinated 4,994 cases proved successful, 35 doubtful, and 671 failed. "In one place an outbreak of small-pox was traced to inoculation, which had been carried on by two old inoculators who had received vaccinating certificates. They admitted the charge, but pleaded that they were compelled to return to their former practice, as the people declined to pay for vaccination."*

* *A Statistical Account of Bengal, 1878, Vol. XII, Gaya and Shahabad, page 288.*

Further information on vaccination is furnished by the 'Twenty Years' Statistics, District Shahabad'. It gives the following figures of vaccination from 1883-84 to 1903-04:—*

Area, 4,373 square miles. Population—Census 1881, 1,949,900; Census 1891, 2,000,579; Census 1901, 1,962,296.

Years.	Average number of vaccinators.	Total number of primary vaccinations.	Total re-vaccinations.	Total persons vaccinated.	Percentage of successful cases.		Degree of protection afforded to Infants in Rural area.				
					Primary.	Re-vaccination.	Estimated birth.	Mortality among infants under one year.	Surviving population.	Number successfully vaccinated.	Number fully vaccinated per 10,000.
1	2	3	4	5	6	7	8	9	10	11	12
1883-84	..	26	8,215	63	8,278	93.55	60.31	..	..	..	..
1884-85	..	66	38,526	105	38,631	97.88	36.19	..	..	..	..
1885-86	..	64	28,316	106	28,422	97.00	26.41	..	..	..	..
1886-87	..	91	54,143	74	54,217	97.39	17.56	..	..	..	..
1887-88	..	43	25,524	34	25,558	96.36	67.64	73,833	8,211	65,622	375.1
1888-89	..	49	22,759	28	22,787	96.23	64.28	73,833	10,436	63,397	252.3
1889-90	..	39	30,406	125	30,531	97.47	19.20	73,833	8,419	65,414	212.1
1890-91	..	59	32,383	36	32,419	96.33	66.67	73,833	8,109	65,724	348.4
1891-92	..	55	26,236	10	26,246	96.00	70.00	76,672	8,061	68,611	305.6
1892-93	..	74	23,006	6	23,012	94.92	16.66	77,486	10,462	67,024	270.2
1893-94	..	98	37,466	22	37,488	97.15	90.90	77,486	12,422	65,064	443.2
1894-95	..	72	29,620	144	29,764	96.63	63.88	77,509	14,496	63,013	2,427
1895-96	..	77	40,040	342	40,382	98.63	41.22	77,509	12,749	64,760	2,946
1896-97	..	79	50,376	651	51,027	98.89	22.58	77,375	14,302	63,073	4,615
1897-98	..	71	28,604	876	29,480	97.54	45.77	77,375	15,027	62,348	4,505
1898-99	..	73	25,367	449	25,816	97.67	31.40	77,375	12,583	64,792	3,936
1899-1900	..	72	23,568	337	23,905	96.95	37.98	96,719	19,409	77,310	4,748
1900-01	..	82	27,882	499	28,381	97.12	44.49	96,719	18,096	78,623	6,052
1901-02	..	82	32,992	789	33,781	98.01	48.54	92,229	15,240	76,989	10,516
1902-03	..	96	52,421	476	52,897	98.07	41.80	74,042	16,863	57,179	12,898
1903-04	..	99	51,682	563	52,245	98.00	55.59	71,939	19,303	52,636	11,449

* Twenty Years' Statistics, District Shahabad, page 38.

In the old *District Gazetteer of Shahabad*, 1906, revised in 1924, it has been mentioned that there was no compulsory vaccination system excepting in the Municipal areas. This was performed by salaried vaccinators in towns, but in villages licensed vaccinators were to do this job for a fee of 2 annas per person vaccinated. The number of vaccinators was not steady but fluctuating. However, generally about a hundred were employed. There were four Sub-Inspectors and one District Inspector under the control of the Civil Surgeon to supervise the work. The district as a whole was opposed to vaccination at first. The opposition was prevalent in all the *Bhojpuri* speaking races of adjoining districts in contrast to the *Maghi*-speaking districts of Gaya and Patna, where strong opposition was not noticeable. At first the measure was met with strong opposition, but the consent of Raja Bikramajit Singh of Dumraon to vaccine his grandsons had a very good effect. The hostility to vaccination gradually began to decline as is evident from the fact that in 1900-01 the number of vaccinations was only 11.78 per mille whereas in 1921-22 the figure rose to 38 per mille.*

In between the years 1925 to 1950 vaccinations and inoculations were being regularly carried on but the figures for the same are not available. From the later figures, i.e., 1951 to 1963, it appears that the people have become much more conscious of the need of vaccination.

Primary vaccination is now compulsory in the whole country including the Shahabad district. In the Municipal areas it is carried on by the vaccinators employed by the Municipalities functioning in the district. Mass vaccination in the rural areas is carried on by the vaccinators employed by the District Board. Vaccinations are now made free.

The total number of persons given primary vaccination from 1947 to 1950 was 1,85,077 and 1,33,880 persons were re-vaccinated. During the First Five-Year Plan (1951-55) 2,44,399 persons were given primary vaccination and 5,12,992 persons were re-vaccinated. Primary vaccination and re-vaccination given during the Second Five-Year Plan (1956-60) were 2,87,117 and 12,37,588 respectively.**

The table below shows the primary vaccination and re-vaccination conducted in the district from 1961 to 1963:—†

Year.	Primary vaccination.	Re-vaccination.
1961 ..	59,371	4,64,919
1962 ..	1,13,139	4,49,018
1963 ..	1,47,850	14,53,065

* *District Gazetteer of Shahabad*, 1924, page 61.

** *Shahabad Zile ki Pragati, Azadi ke Chaudah Varsh*, page 15.

† Civil Surgeon's Office, Arrah.

The State Government have recently launched the Small-pox Eradication Scheme. Since the introduction of this scheme in 1963 the number of persons re-vaccinated during 1963 has abnormally risen to 14,53,065 as against 4,64,919 and 4,49,018 in 1961 and 1962 respectively.

During January, 1964, the total number of persons given primary vaccination and re-vaccination were 21,835 and 1,70,468 respectively.*

INOCULATION.

From 1947 to 1950 the total number of persons inoculated against cholera was 24,88,682 and 3,89,011 wells were disinfected but during the First Five-Year Plan (1951-55) only 23,23,182 persons were given inoculation and 7,61,563 wells were disinfected. During the Second Five-Year Plan (1956-60) 52,35,688 persons were inoculated and 13,67,493 wells were disinfected. In this period the inoculation figures rose abnormally because of the fact that during this period extensive measures were taken in eradicating the disease (cholera)*. The total number of persons given inoculation during 1961, 1962 and 1963 was 13,88,093, 12,38,944 and 12,60,816 respectively. During January, 1964, 4,580 persons were inoculated and 8,442 wells were disinfected.

SLUM CLEARANCE, ETC.

Slums are, in a way the by-products of urbanisation and industrialisation. We have discussed elsewhere the quick trends of urbanisation in different parts of the district and details have been given about Arrah. It is unfortunate that urbanisation has been left to itself and has more of an oblique growth. People are building houses on the peripheries of the towns without any definite planning to a larger interest. Sanitary measures taken by the municipalities or other local bodies are far too inadequate. Slums have been allowed to exist even in the heart of the towns and the slums have naturally encouraged more of insanitation. The very fact that only a small percentage of the houses in the towns have lavatories, suggests the acuteness of the problem.

Enquiries made from the office of the Town Planner, Bihar, have not elicited any information that any definite planning is going to be implemented soon for the towns of Shahabad district.

There are definite pockets of slums in the towns of Arrah, Buxar and Sasaram. There has been no programme for the clearance of the slums or the rehabilitation of the slum population in other areas. Any slum clearance programme now will be a costly scheme as land price has very much appreciated.

* Civil Surgeon's office, Arrah.

Industrialisation, particularly in Dehri (Dalmianagar) area has also led to an acute housing problem and the question of slums has become important there also.

It has also to be mentioned that there is no underground drainage in any of the urban areas of this district. As a result, although malaria has gone down the number of mosquitoes has gone up multiplying. The mosquitoes carry filaria germs and the mosquito problem is a menace even in Arrah. The provision of protected water-supply has been discussed elsewhere. On the whole the administrative set up for the maintenance of public health and sanitation in urban areas has been found to be rather ill-equipped due mainly to financial grounds to meet the ever-growing problem squarely. There is also a want of civic sense on the part of most of the residents who think that it is only the duty of the municipality to maintain the sanitary services.

The problem in the rural areas is not so acute in normal times. But the problem of the maintenance of public health and sanitation becomes very acute when there are epidemics. On the whole the administrative set up of public health, sanitation and medical services in the rural areas may be described to be rather inadequate if we take the number of doctors available with reference to the population. The number of beds available is too inadequate for the population they are meant. There is also a concentration of doctors in the towns while there is a serious dearth of qualified medical practitioners in the rural areas. The Block doctors could have done a lot if only they had a little of missionary zeal.

It has also to be mentioned that there are no medical and public health research centres. Although a comparatively advanced district, Shahabad doctors probably have not made any remarkable contribution in medical research. There is also very little research work done in the Government hospitals although it cannot be said that there are no facilities. On the other hand the Government hospitals and dispensaries are flooded with very interesting cases for clinical research. The district and particularly the hilly areas has indigenous herbs which are utilised by the *Vaids* and the *Hakims*. They do not appear to have been scientifically studied.

It is also unfortunate that there should not be a proper appreciation of the need for the maintenance of correct statistics. It is also a common complaint of the private practitioners that they have to face a serious unequal competition with the Government doctors. Private practice is now allowed to the Government doctors at the hospitals and dispensaries. A common complaint is that the Government doctors pay much more attention to their private practice and that at the cost of the patients in the hospitals.

It is also a common complaint that the market is flooded with spurious drugs. Many reputed pharmaceutical firms do a good business in the district through their medical representatives but they also complain about the sub-standard medicines of pharmaceutical firms of doubtful standard. Drug control has not been very firm and the Civil Surgeon who has multifarious duties can hardly be expected to do much. The Inspectorate for Drug Control, throughout the State is inadequately staffed. There is also no check on the marketing of processed foods either in tins or in packets. There is very little check on the sale of contaminated cooked food or over-ripe cut fruits by the road side or near an open drain. Thousands of meals are sold daily in Arrah, in very uncongenial environs. Highly adulterated cooking medium is commonly used for such meals. It has, however, to be mentioned that the problems discussed are not peculiar to Shahabad district alone.