Bengal public health report.

Contributors

Bengal (India). Public Health Department.

Publication/Creation

Calcutta : The Bengal Secretariat Book Depot, [1927]

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Government of Bengal

Public Health Department

Bengal Public Health Report

by

Dr. C. A. BENTLEY, M.B., D.P.H., D.T.M.&H.

Director of Public Health, Bengal

Reports of the Bengal Sanitary Board and the Chief Engineer Public Health Department

For the Year 1927

CALCUTTA

Bengal Secretariat Book Depot

1929

Price—Indian, Rs. 6-10; English, 10s. 9d.

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Published by the Bengal Secretariat Book Depot,
Writers' Buildings, Calcutta.

Agents in India.

Messrs. S. K. Lahiri & Co., Printers and Booksellers, College Street, Calcutta.
Messrs. Thacker, Spink & Co., Calcutta.

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Bengal Public Health Department

Part I

Sixtieth Annual Report of the Director of Public Health Bengal, 1927.

SECTION I.

Meteorology.

The Director-General of Observatories has furnished the following brief account of the rainfall over Bengal during the period May to October 1927:—

The total rainfall for the period May to October was nearly normal in Rajshahi and Cooch Behar and in slight defect in the remaining divisions. The table below shows the percentage departures from normal for each division of the province during each month and for the whole period:—

Departure expressed as a percentage of the Normal Rainfall.

Divisions.	May.	June.	July.	August.	September.	October.	Monsoon season, 1927.
Burdwan ..	−9	−18	−9	−25	−27	−45	−20
Presidency ..	−10	−12	−19	−44	−9	−41	−22
Rajshahi ..	−8	+10	−22	−38	+27	−28	−9
Dacca ..	+4	−34	−31	−45	+25	−26	−21
Chittagong ..	+7	−43	−28	−41	+63	+17	−14
Cooch Behar ..	+5	+34	+2	−31	+45	−21	+10

Sections II to IV (European Army, Indian Army and Jails respectively) are no longer dealt with in provincial reports.

SECTION V.

Vital Statistics.

2. **The Provincial Birth and Death Rates (Annual Forms Nos. I and II).**—Calculated on the total population of the province, excluding the Chittagong Hill Tracts—46,522,293 according to the last census—the provincial birth and death rates for the year 1927 were as follows:—

	Birth rate.	Death rate.
1927 (per mille)	27·7	25·6
1926 (per mille)	27·4	24·7
Increase or decrease (per cent.)	+1·1	+3·6
Quinquennial average ..	28·8	25·2
Increase or decrease (per cent.)	−3·8	+1·6

Allowing for a probable omission of 27 per cent. in the registration of births and deaths, the actual birth and death rates of the province may be assumed to be 35·17 and 32·51 respectively.

3. **Comparison of Bengal Vital Statistics with those of the Other Provinces.**—The following statement shows the vital statistics of the various provinces during the year 1927:—

Provinces.	Birth rate per mille of population for the year 1927.	Death rate per mille of population for the year 1927.	Infant mortality rate per mille calculated on the number of births registered during the year 1927.		
			Male.	Female.	Total.
1. Bengal Presidency ..	27·66	25·56	181·96	173·71	178·01
2. Madras Presidency ..	36·5	24·3	185·2	165·2	175·4
3. Bombay Presidency ..	36·85	25·72	167·89	154·55	161·48
4. United Provinces ..	36·73	22·59	156·94	145·92	151·75
5. Punjab ..	42·27	27·46	171·27	163·29	167·50
6. Central Provinces ..	45·58	31·31	234·88	207·58	221·60
7. Bihar and Orissa ..	37·64	25·08	142·30	124·14	133·39
8. North West Frontier Province ..	29·28	22·05	153·99	146·57	150·77
9. Burma ..	25·08	19·55	209·09	185·69	197·67
10. Assam ..	30·25	23·47	179·16	162·94	171·35

4. The rates of natural increase per mille in the population of every province for the year 1927 are stated below:—

Provinces.	Rate of natural increase per mille.
1. Punjab	14·8
2. Central Provinces ..	14·3
3. United Provinces ..	14·1
4. Bihar and Orissa ..	12·6
5. Madras	12·2
6. Bombay	11·1
7. North-West Frontier Province	7·2
8. Assam	6·8
9. Burma	5·5
10. *Bengal*	*2·1*

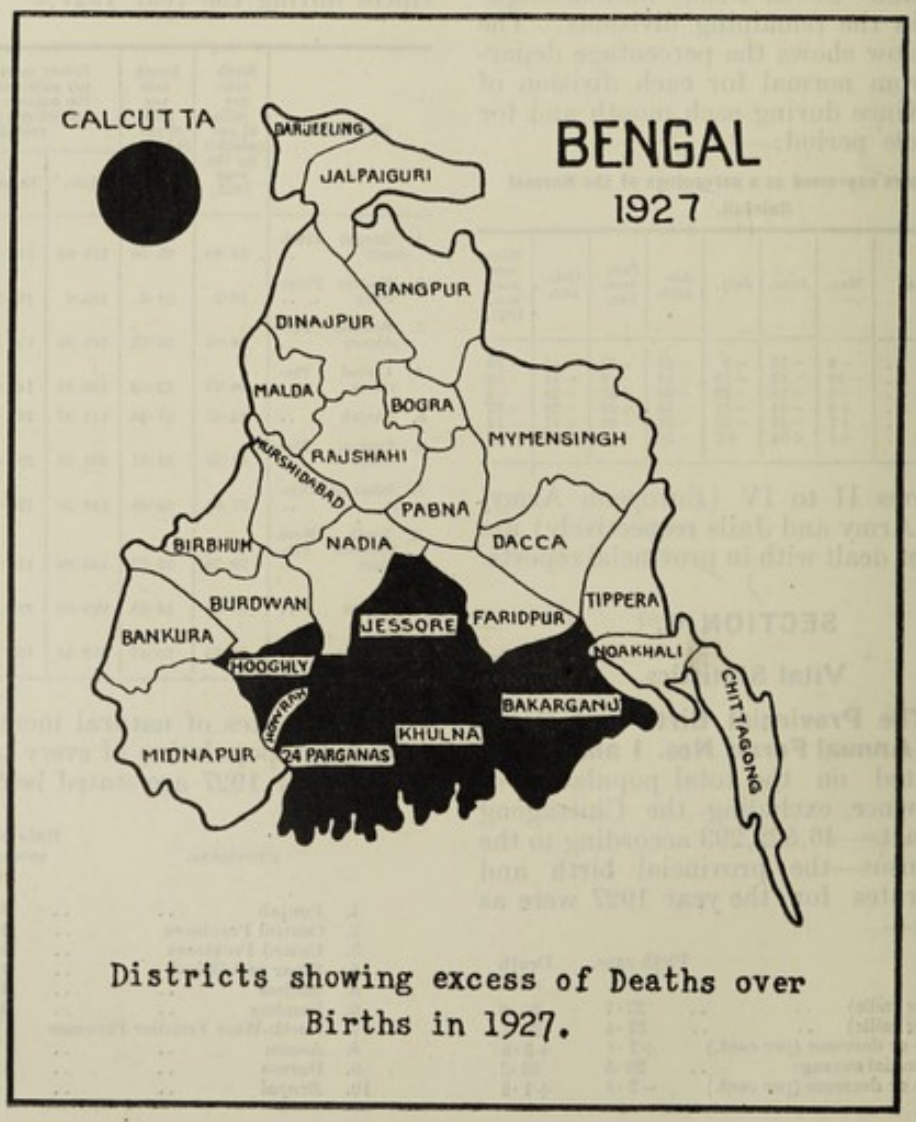
5. **Natural Increase in Population in Bengal: Decadent Areas.**—In 1927, births increased over deaths in the province by 97,493; consequently, the natural increase of population was 2·1 per mille in Bengal. This increase varied in the several divisions of the province as shown in the following statement, Presidency, however, showing a decrease. Compared with the previous year, Rajshahi alone registered an increase:—

Divisions.	Natural increase or decrease per mille.		Difference.
	1926.	1927.	
Burdwan ..	+5·7	+2·1	−3·6
Presidency ..	−2·7	−2·7	±0
Rajshahi ..	−0·5	+3·7	+4·2
Dacca ..	+5·0	+3·5	−1·5
Chittagong ..	+7·7	+3·8	−3·9

Twenty of the districts took their share in increasing the population (vide table below). Rangpur, Dinajpur Nadia, Rajshahi and Pabna, which showed decreases in the previous year, recorded increases in 1927—

Natural Increase in Districts.

	Districts.	Per mille.	
		1927.	1926.
1.	Birbhum ..	+7·5	+12·6
2.	Dacca	+7·1	+6·1
3.	Jalpaiguri ..	+6·7	+2·5
4.	Bankura ..	+6·5	+14·2
5.	Murshidabad ..	+6·3	+4·0
6.	Noakhali ..	+5·5	+11·5
7.	Malda	+5·2	+0·9
8.	Rangpur ..	+4·5	..
9.	Darjeeling ..	+4·3	+3·6
10.	Dinajpur ..	+4·1	..
11.	Tippera ..	+4·0	+6·4
12.	Faridpur ..	+3·9	+2·6
13.	Burdwan ..	+3·5	+5·7
14.	Bogra	+3·4	+2·1
15.	Mymensingh ..	+3·4	+5·1
16.	Nadia	+2·9	..
17.	Rajshahi ..	+2·3	..
18.	Midnapur ..	+2·1	+5·6
19.	Chittagong ..	+2·0	+6·3
20.	Pabna	+0·7	..



Districts showing excess of Deaths over Births in 1927.

The death rate exceeded the birth rate in the following 7 districts, as compared with 9 in the previous year:—

Excess of deaths over births.

Districts.	1926.			1927.		
	Birth rate per mille.	Death rate per mille.	Excess of deaths over births.	Birth rate per mille.	Death rate per mille.	Excess of deaths over births.
1. Calcutta ..	16·9	34·7	17·8	15·5	34·2	18·7
2. Jessore ..	23·5	28·5	5·0	23·7	29·7	6·0
3. Howrah ..	28·3	30·8	2·5	24·4	29·1	4·7
4. 24-Parganas ..	24·9	25·2	0·3	21·8	24·1	2·3
5. Hooghly ..	25·0	24·5	..	22·5	24·3	1·8
6. Khulna ..	27·5	25·0	..	26·7	28·1	1·4
7. Bakarganj ..	29·2	23·6	..	25·5	26·7	1·2

Of these latter, 5 have improved this year as stated above, while the remaining 4, viz., Calcutta, Jessore, Howrah and the 24-Parganas, continue the same. With Hooghly, Khulna and Bakarganj, which registered excess of birth over their death rates in the previous year, the case has been reversed this year.

This excess of deaths over births results in depopulation and the consequent decadent areas. The following statement shows that in 1927, while there was improvement in 10 districts so far as decadent areas were concerned, there was retrogression in 15 others, one district (Dacca) alone showing no such area for the last 3 years. Noakhali, which was free during the previous 2 years, again showed signs of decadence in 1927. The greatest retrogression in 1927 occurred in Pabna district and the lowest in Birbhum.

Decadent Areas in Bengal.

Districts.	Total decadent area in square miles.		Percentage of district.		Improvement + or retrogression —
	1926.	1927.	1926.	1927.	
Burdwan division—					
Burdwan	224	499	8·3	18·5	—
Birbhum	..	4	..	·2	—
Bankura	133	318	5·1	12·1	—
Midnapur	1,366	2,008	27·0	39·7	—
Hooghly	342	602	28·8	50·6	—
Howrah	288	267	54·3	50·4	+
Presidency Division—					
24-Parganas	1,547	2,390	31·9	49·3	—
Nadia	2,010	466	72·3	16·8	+
Murshidabad ..	418	416	19·7	19·6	+
Jessore	2,542	2,201	87·5	75·8	+
Khulna	764	1,205	16·1	25·5	—
Rajshahi Division—					
Rajshahi	1,652	616	63·0	23·5	+
Dinajpur	2,300	613	58·3	15·5	+
Jalpaiguri	931	4	31·8	·1	+
Darjeeling	254	662	21·8	56·9	—
Rangpur	1,905	664	54·5	19·0	+
Bogra	337	362	24·4	26·2	—
Pabna	784	1,057	46·7	63·0	—
Malda	618	498	33·7	27·2	+
Dacca Division—					
Dacca	..	..	..	..	..
Mymensingh	994	1,889	15·9	30·3	—
Faridpur	461	290	19·4	12·2	+
Bakarganj	8	1,236	·2	35·4	—
Chittagong Division—					
Chittagong	1·5	501	·06	20·1	—
Noakhali	..	443	..	29·2	—
Tippera	114	171	4·45	6·7	—

6. **Registration of Vital Occurrences.**—The registration of births and deaths in towns is controlled by the Births and Deaths Registration Act of 1873. In 1927, 334 persons were prosecuted in 34 out of a total of 116 municipalities for failing to register these vital occurrences; 243 were convicted and 17 acquitted; 60 cases were struck off or withdrawn, while 14 remained pending at the end of the year. Eighty-two municipalities did not prosecute a single defaulter. This laxity in the control of supervision over the registration of these occurrences manifests itself in a number of municipalities returning, year after year, obviously impossible rates, and this is helped to no small extent by the lenient view taken by the Magistrates in dealing with the offenders. The Act has been only recently applied to the rural areas, and it is yet too early to comment upon its working in those areas. The births and deaths registered in every circle in the rural areas are verified by the vaccination inspecting staff during recess, but since the

commencement of the present small-pox epidemic 3 years back it has been impossible for this staff to spare much time for performing this part of their duty. In fact, not a single case could be verified in Khulna and Malda districts. In other districts, however, an aggregate of 1·3 per cent. omissions among births and ·9 per cent. among deaths were detected.

The year 1927 has been marked with a great development in the system of collecting vital statistics in the rural areas. Prior to this date, the duty of collecting such statistics devolved upon the police, but in 1927 the local Government, by an executive order, transferred this duty to the union boards in union board areas, the police continuing to perform it in non-union board areas. During 1927, this transfer could be effected in only 11 districts, wholly in some and partly in others, depending upon the number of union boards established in each district. It is expected that by the time the union boards have been established in every district, this system will supersede every other in vogue at present.

7. **Comparison of Calcutta Birth and Death Rates with those of other Bengal Towns and Rural Areas.**—The birth rate in Calcutta in 1927 was less by 13·9 per cent. than the Bengal urban and by 45·4 per cent. than the rural rate as against a decrease of 8·6 per cent. and 39·9 per cent., respectively, during the last year. The death rate, on the other hand, showed increases of 59·1 per cent. and 34·1 per cent., respectively, over the mortality rates in Bengal towns and rural areas. Cholera and fevers were less prevalent in Calcutta, but all the other diseases increased as compared with the Bengal urban and rural areas.

Causes.	Calcutta. (1927.)	Bengal towns. (1927.)	Bengal rural areas. (1927.)
Birth rate ..	15·5	18·0	28·4
Death rate ..	34·2	21·5	25·5
Cholera	2·0	2·5	2·6
Small-pox.. ..	2·6	0·8	0·9
Plague	·001	..	..
Fevers	4·5	6·5	17·7
Dysentery and diarrhœa	3·6	2·7	0·5
Respiratory diseases ..	9·7	3·0	0·4
Injuries	0·7	0·4	0·4
Other causes ..	11·0	5·4	3·1

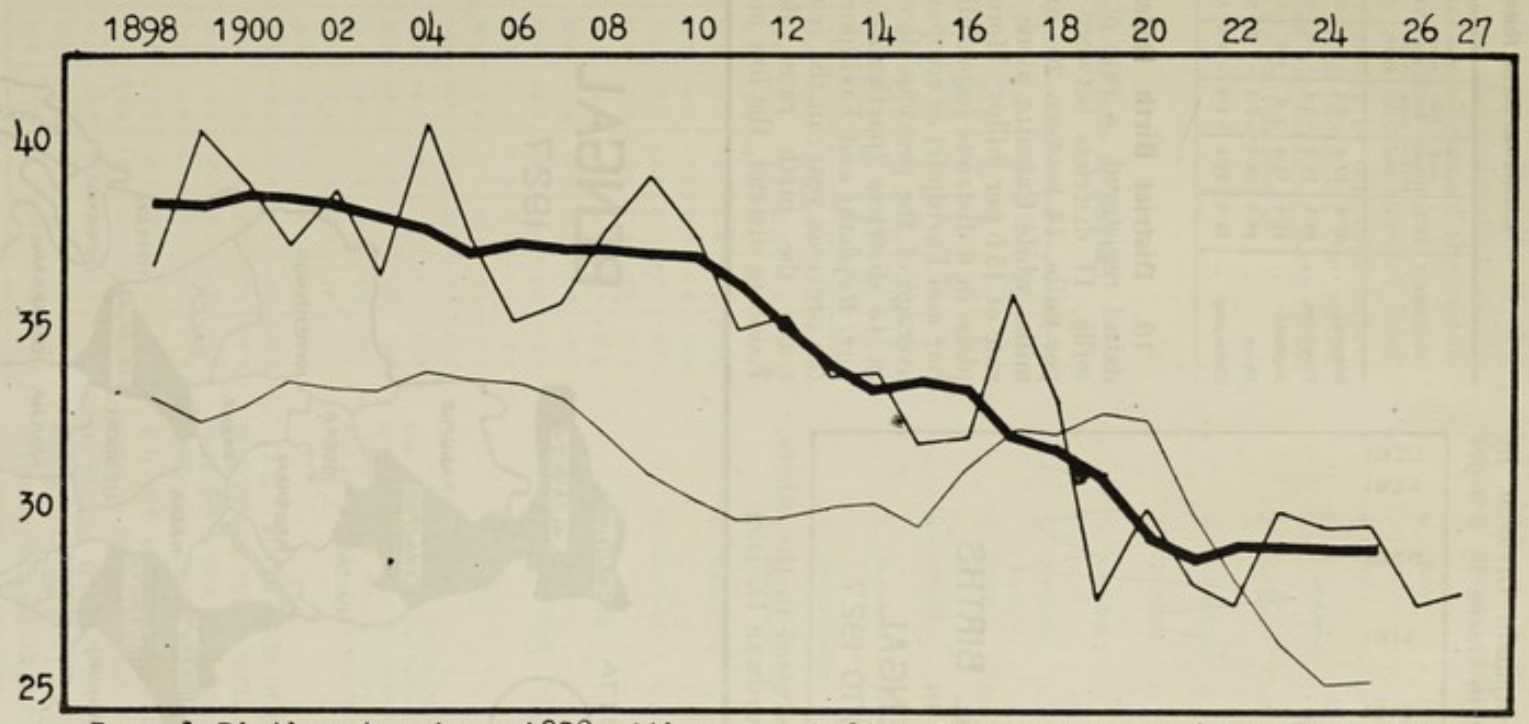
Turning to the subsidiary heads, with the exception of malaria and other fevers, the death rates from all other causes in Calcutta were in excess of those in other towns and rural areas of Bengal. Deaths from child-birth were, however, comparatively less than in other towns.

Causes.	Death rate per mille in 1927.		
	Calcutta.	Other Bengal towns.	Rural areas.
Malaria	1·35	2·00	9·75
Enteric	·80	·21	·09
Measles	·13	·04	·03
Relapsing fever ..	..	·05	·06
Kala-azar ..	·54	·39	·24
Other fevers ..	1·71	3·85	7·58
Dysentery ..	1·76	1·60	·27
Diarrhœa	1·81	1·13	·18
Influenza	·46	·06	·03
Pneumonia ..	3·86	1·47	·15
Phthisis	2·53	·48	·09
Other respiratory diseases ..	2·86	·99	·10
Child-birth ..	·10	·17	·09

Birth Rates.

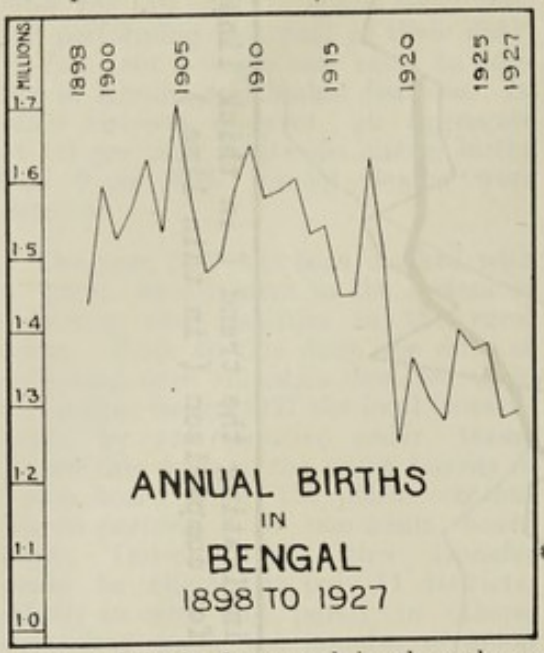
8. **Provincial Birth Rate.**—During the year under review 1,286,863 births were registered (exclusive of still-births), 670,251 being males and 616,612 females, giving a ratio of 108 males to every 100 females born, similar to the previous year. The number of births increased over that in the previous year by 10,483, while the birth rate showed a percentage increase of 1·1. Compared with the quinquennial average, the provincial rate decreased by 3·8 per cent. The birth rate curve shown in the diagram on the opposite page indicates, however, a very slight improvement, though it is too early to say whether this rise will be maintained.

9. **Divisional Birth rates.**—It will appear from the following table that all the divisions except Rajshahi recorded slight decreases in their birth rates as compared with the decennial mean. As against the previous year, the rates



Bengal Birth-rate since 1898 with curve indicating the trend (in thick line)
Curve showing the mortality trend added for comparison (in thin line)

increased in the Rajshahi Division by 16·2 per cent. and in Dacca by 3·5 per

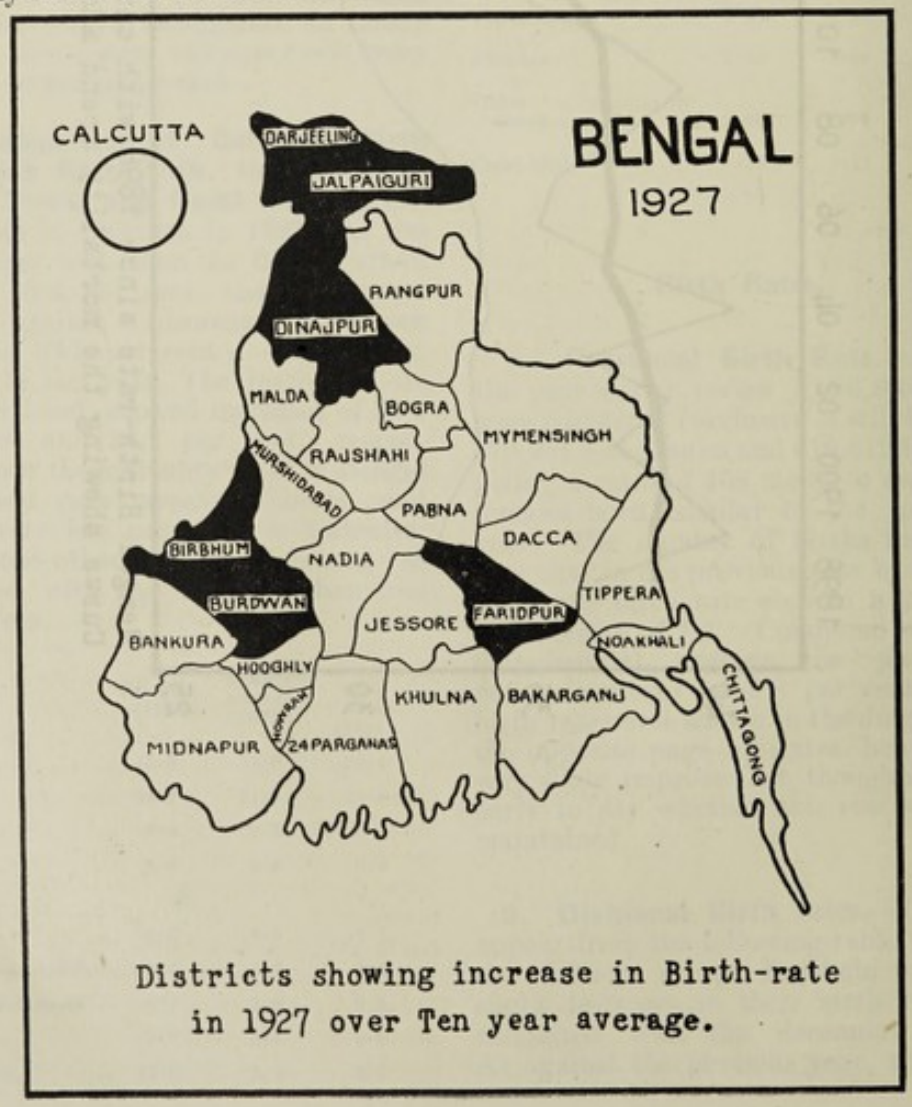


cent., while it decreased in the others, markedly in the Burdwan Division.

Divisional Birth Rates.

Divisions.	1927.	Decennial mean, 1917—26.	Difference.	Percentage variation.	1926.	Difference.	Percentage variation.
Burdwan ..	27·9	30·0	−2·1	−7·0	32·0	−4·1	−12·8
Presidency ..	26·1	28·5	−2·4	−8·4	26·3	−0·2	−0·8
Rajshahi ..	31·6	31·6	± 0	± 0	27·2	+4·4	+16·2
Dacca ..	26·5	28·7	−2·2	−7·7	25·6	+0·9	+3·5
Chittagong ..	25·3	28·1	−2·8	−10·0	27·3	−2·0	−7·3

10. **District Birth Rates.**—Murshidabad registered a rate of 40·1 per mille, 11 districts between 30 and 40 per mille, 14 between 20 and 30 per mille, while Calcutta alone returned a rate of 15·5 per mille. More births took place in 6 districts (especially in Dinajpur and Faridpur) as compared with the average of the previous decennium, and in 13 districts (particularly in Dinajpur, Rajshahi and Faridpur) as against the previous year; in the remaining districts the birth rates declined. In Bankura district, the low birth rate has



Districts showing increase in Birth-rate in 1927 over Ten year average.

been attributed by the District Health Officer chiefly to the emigration of the labouring classes and even of the middle class people to other districts due to local scarcity and high prices of food-stuffs; it may partly be due to defective registration, consequent on the recent transfer of the registration work from the police to the union boards.

Birth Rate per mille in Districts.

Districts.	Average birth rate for previous 10 years.	Birth rate per mille for 1927.	Difference between birth rates for 1927 and the decennial average.	Percentage of difference.	Birth rate per mille for 1926.	Difference between birth rates of 1926 and 1927.	Percentage of difference.
Murshidabad	40·3	40·1	−0·2	−0·5	38·5	+1·6	+4·1
Birbhum ..	36·5	36·6	+0·1	+0·3	41·8	−5·2	−12·4
Nadia ..	34·9	31·0	−3·9	−11·2	27·3	+3·7	+13·5
Dinajpur ..	34·9	38·1	+3·2	+9·1	30·6	+7·5	+24·5
Malda ..	34·4	34·2	−0·2	−0·6	29·6	+4·6	+15·5
Bankura ..	34·3	31·8	−2·5	−7·3	39·3	−7·5	−19·1
Rajshahi ..	34·2	33·9	−0·3	−0·9	27·4	+6·5	+23·7
Jalpaiguri ..	32·3	34·0	+1·7	+5·2	30·3	+3·7	+12·2
Noakhali ..	31·8	31·6	−0·2	−0·6	32·8	−1·2	−3·7
Darjeeling ..	31·6	32·3	+0·7	+2·2	33·5	−1·2	−3·6
Chittagong	31·2	27·2	−4·0	−12·8	28·3	−1·1	−3·9
Rangpur ..	31·2	30·2	−1·0	−3·2	25·9	+4·3	+16·6
Bakarganj ..	30·8	25·5	−5·3	−17·2	29·2	−3·7	−12·7
Burdwan ..	29·7	29·8	+0·1	+0·3	31·3	−1·5	−4·8
Khulna ..	29·3	26·7	−2·6	−8·9	27·5	−0·8	−2·9
Faridpur ..	29·2	31·4	+2·2	+7·5	25·5	+5·9	+23·1
Dacca ..	29·1	26·7	−2·4	−8·3	26·0	+0·7	+2·7
Midnapur ..	28·7	26·2	−2·5	−8·7	30·8	−4·6	−14·9
Howrah ..	27·6	24·4	−3·2	−11·6	28·3	−3·9	−13·8
Pabna ..	27·5	26·1	−1·4	−5·1	23·6	+2·5	+10·6
Mymensingh	27·2	24·5	−2·7	−9·9	23·5	+1·0	+4·2
Jessore ..	26·7	23·7	−3·0	−11·2	23·5	+0·2	+0·8
Hooghly ..	26·6	22·5	−4·1	−15·4	25·0	−2·5	−10·0
Bogra ..	26·3	23·9	−2·4	−9·1	22·2	+1·7	+7·6
24-Parganas	24·4	21·8	−2·6	−10·7	24·9	−3·1	−12·5
Tippera ..	24·3	20·8	−3·5	−14·4	23·7	−2·9	−12·2
Calcutta ..	16·7	15·5	−1·2	−7·2	16·9	−1·4	−8·3

11. **Birth Rate in Towns.**—The aggregate birth rate in the towns of Bengal during the year under review was 17·2 per mille, compared with 18·5 in the previous year, showing a decrease of 7·0 per cent. Kurseong alone as usual reported the highest birth rate, viz., 40 per mille, 3 towns between 30 and 40 per mille, 32 between 20 and 30 per mille and 62 below 20 per mille. The following 18 towns returned obviously absurd rates:—

1.	Bhola	4·4
2.	Suri	4·7
3.	Gobardanga	5·1
4.	Debhata	5·7
5.	Barrackpur	5·8
6.	Jhalakati	5·9
7.	Noakhali	6·0*
8.	Burdwan	6·1
9.	Bogra	6·6
10.	Comilla	7·4
11.	Jaynagar	7·6
12.	Budge-Budge ..	8·0
13.	Khulna	8·2
14.	Katwa	8·5
15.	Dainhat	8·7
16.	Baduria	9·6
17.	Gaibandha	9·7
18.	Dinajpur	9·8

* The District Health Officer, Noakhali, ascribes the low birth rate in the town to decrease in the town population, mainly the female section, by emigration, owing to the erosion of the municipal area by the river and to a certain extent to defective registration.

12. **Birth Rate in Rural Areas.**—The aggregate rural birth rate during 1927 was 28·4 per mille as against 28·1 per mille in 1926, showing an increase of 1·0 per cent. It exceeded the urban rate by 39·4 per cent. Nawabganj circle in Malda district as usual recorded the highest rate, viz., 91·5 per mille. Rates between 50 and 60 per mille were returned from 3 circles—viz., 58·6 from Kumarganj in Dinajpur district, 56·7 from Suri circle in Birbhum district, and 52·6 from Joypur in Bankura—between 40 and 50 from 39 circles, between 30 and 40 from 190 circles, between 20 and 30 from 238 circles and below 20 from the rest. Only one circle, Noapara in the 24-Parganas, registered a rate of 5·6 per mille. This marks a decided improvement over previous years.

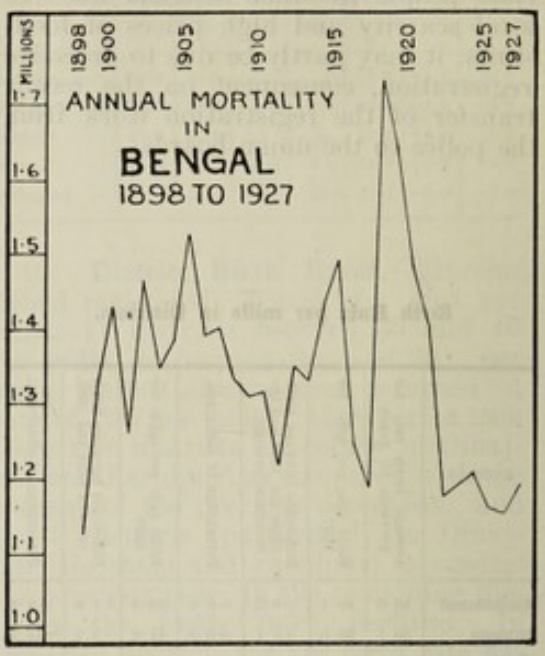
13. **Seasonal Incidence of Births.**—From the following table showing the crude birth rates in the province, month by month for 1927 and the previous year, it appears that the birth rate reached its maximum in March and its minimum in July of the year under review. Compared with the previous year, it showed an increase in January, August, September, October and December and a decrease in February, March and June, while it remained the same in the other months.

Seasonal Incidence of Births.

Months.	1926.	1927.	Difference.	Percentage of difference.
January ..	2·6	2·7	+0·1	+3·8
February ..	2·7	2·5	−0·2	−7·4
March ..	3·3	3·0	−0·3	−9·1
April ..	2·4	2·4	± 0	± 0
May ..	2·4	2·4	± 0	± 0
June ..	1·9	1·7	−0·2	−10·5
July ..	1·5	1·5	± 0	± 0
August ..	1·6	1·7	+0·1	+6·2
September ..	1·7	1·9	+0·2	+11·7
October ..	2·1	2·5	+0·4	+19·0
November ..	2·8	2·8	± 0	± 0
December ..	2·3	2·6	+0·3	+13·0

Death Rates.

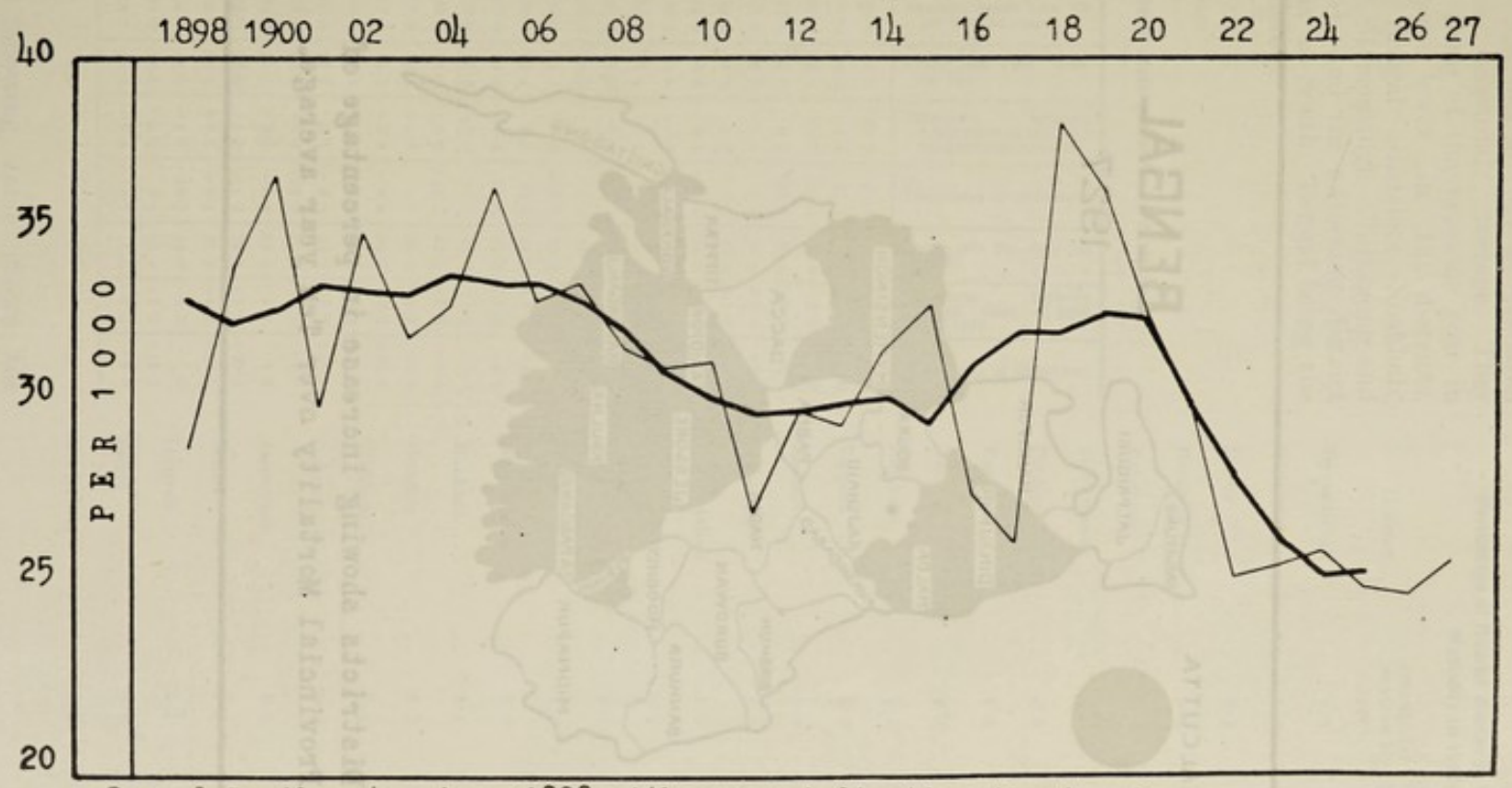
14. **Provincial Death Rates.**—614,685 males and 574,685 females, or a total of 1,189,370 persons, died in 1927 against 603,602 males and 547,595 females, making up 1,151,197 deaths, in 1926. The death rate showed an increase of 3·6 per cent. in comparison with the previous year and of 1·6 per cent. with the quinquennial average; 106 males died to every 100 females. Cholera and small-pox practically doubled, while dysentery and diarrhœa and respiratory diseases showed slight increases over the previous year, deaths from fever and all other causes declining to some extent.



15. **Divisional Death Rates.**—The highest death rate, 28·8 per mille, was returned from Presidency, followed by 27·9 in Rajshahi, the lowest (21·5) being recorded in the Chittagong Division. Compared with the decennial average, the rates decreased in all the divisions, markedly so in Burdwan. As against the previous year, they diminished in Burdwan and Presidency Divisions, and increased in the others, especially in the Dacca Division.

Divisions.	Death rate for the previous 10 years.	Death rate per mille, 1927.	Difference.	Percentage of difference.	Death rate per mille, 1926.	Difference.	Percentage of difference.
Burdwan ..	31·9	25·8	−6·1	−19·1	26·3	−0·5	−1·9
Presidency ..	30·7	28·8	−1·9	−6·2	29·0	−0·2	−0·7
Rajshahi ..	31·8	27·9	−3·9	−12·3	27·7	+0·2	+0·7
Dacca ..	24·7	23·0	−1·7	−6·9	20·6	+2·4	+11·6
Chittagong ..	23·5	21·5	−2·0	−8·5	19·6	+1·9	+9·7

16. **District Death Rates.**—(*a*) Four districts recorded death rates between 30 and 40 per mille, Calcutta heading the list with a rate of 34·2; 21 returned rates between 20 and 30 per



Bengal Death-rate since 1898 with curve indicating the trend.

Districts showing increase in percentage of Provincial Mortality over Ten year average.

mille. Dacca (19·6) and Tippera (16·8) registered the lowest rates. With the exception of Calcutta, Howrah, Faridpur, Khulna, Jessore and Noakhali, the mortality rates decreased in all the other districts in 1927 as compared with the decennial average. They exceeded those of the previous year in 14 and were lower in 13 districts, Eastern Bengal districts—Noakhali, Faridpur, Mymensingh, Chittagong and Bakarganj—and the adjoining district of Khulna in South Bengal being the worst sufferers.

Death Rate per mille in Districts.

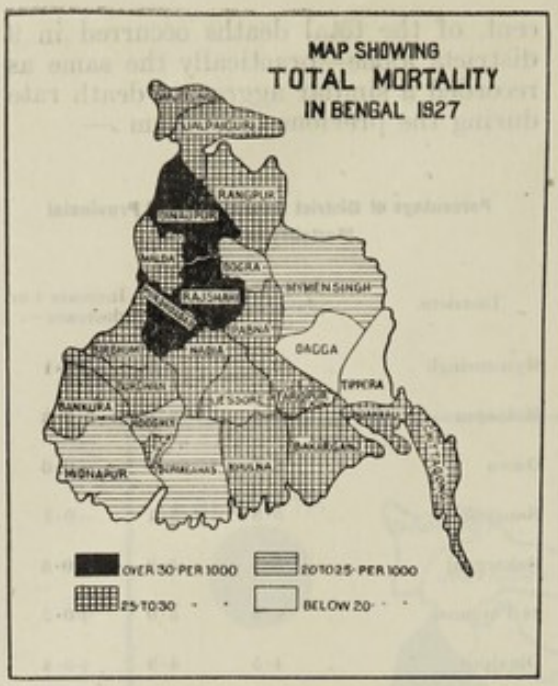
Districts.	Average death rate for previous 10 years.	Death rate per mille for 1927.	Difference between death rates of 1927 and the decennial average.	Percentage of difference.	Death rate per mille for 1926.	Difference between death rates of 1926 and 1927.	Percentage of difference.
Darjeeling ..	38·5	28·0	−10·5	−27·3	29·9	−1·9	−6·4
Murshidabad	38·0	33·8	−4·2	−11·1	34·5	−0·7	−2·0
Nadia ..	37·8	28·1	−9·7	−25·7	30·6	−2·5	−8·2
Birbhum ..	37·5	29·1	−8·4	−22·4	29·2	−0·1	−0·4
Rajshahi ..	37·2	31·6	−5·6	−15·1	30·8	+0·8	+2·6
Dinajpur ..	35·5	34·0	−1·5	−4·2	32·2	+1·8	+5·6
Burdwan ..	34·6	26·3	−8·3	−24·0	25·6	+0·7	+2·7
Bankura ..	33·1	25·3	−7·8	−23·6	25·1	+0·2	+0·8
Jalpaiguri ..	32·5	27·3	−5·2	−16·0	27·8	−0·5	−1·8
Hooghly ..	31·2	24·3	−6·9	−22·1	24·5	−0·2	−0·8
Malda ..	30·5	29·0	−1·5	−4·9	28·7	+0·3	+1·0
Midnapur ..	30·0	24·1	−5·9	−19·7	25·2	−1·1	−4·4
Pabna ..	29·4	25·4	−4·0	−13·6	24·3	+1·1	+4·5
Jessore ..	29·3	29·7	+0·4	+1·3	28·5	+1·2	+4·2
Rangpur ..	29·2	25·7	−3·5	−12·0	27·0	−1·3	−4·8
Calcutta ..	29·2	34·2	+5·0	+17·1	34·7	−0·5	−1·4
Howrah ..	27·8	29·1	+1·3	+4·7	30·8	−1·7	−5·5
Chittagong	27·8	25·2	−2·6	−9·4	22·0	+3·2	+14·5
Khulna ..	27·4	28·1	+0·7	+2·5	25·0	+3·1	+12·4
Bakarganj ..	26·8	26·7	−0·1	−0·4	23·6	+3·1	+13·1
Bogra ..	26·8	20·5	−6·3	−23·5	20·1	+0·4	+2·0
24-Parganas	26·3	24·1	−2·2	−8·4	25·2	−1·1	−4·4
Faridpur ..	26·2	27·5	+1·3	+4·9	22·9	+4·6	+20·1
Noakhali ..	26·0	26·1	+0·1	+0·4	21·3	+4·8	+22·5
Dacca ..	24·1	19·6	−4·5	−18·7	19·9	−0·3	−1·5
Mymensingh	23·3	21·1	−2·2	−9·4	18·4	+2·7	+14·7
Tippera ..	19·7	16·8	−2·9	−14·7	17·3	−0·5	−2·9

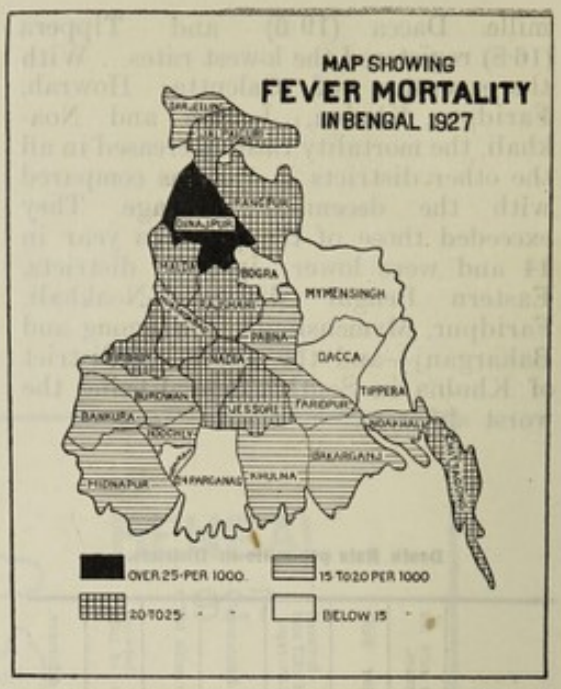
(*b*) The following table shows the percentage of district deaths to the total provincial mortality in 1927 and the average of the previous 10 years. As usual, Mymensingh headed the list and Darjeeling footed it. About 50 per cent. of the total deaths occurred in 9 districts alone—practically the same as recorded a similar aggregate death rate during the previous decennium :—

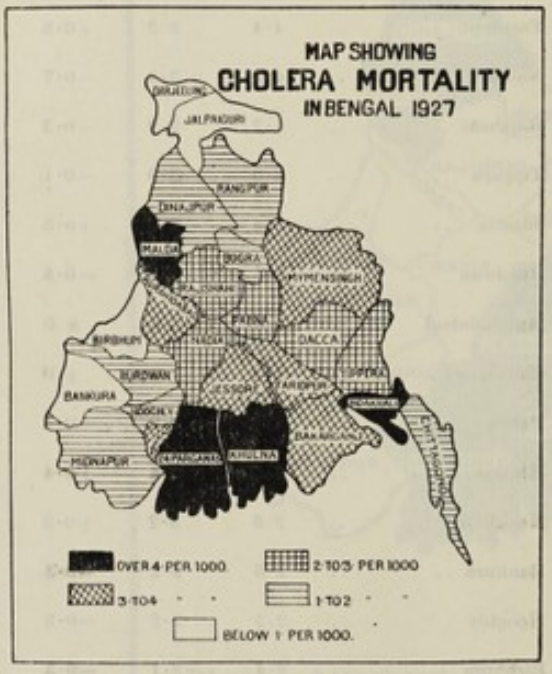
Percentage of District Deaths to Total Provincial Mortality in 1927.

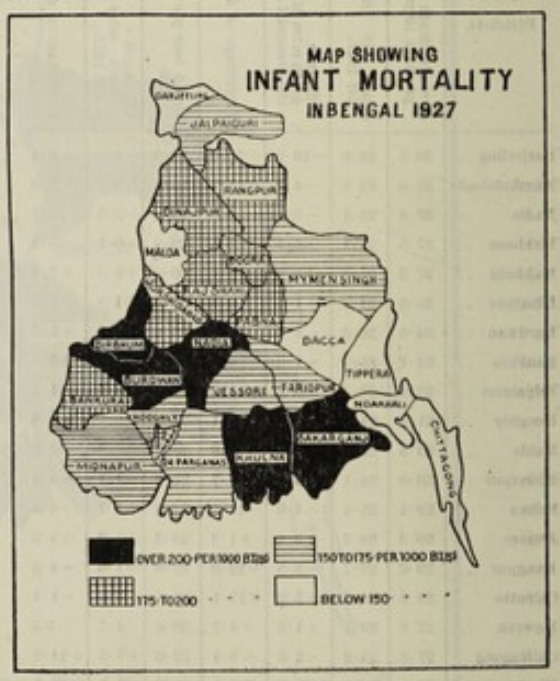
Districts.	Average for previous 10 years.	1927.	Increase + or decrease −.
Mymensingh ..	8·5	8·6	+0·1
Midnapur ..	6·0	5·4	−0·6
Dacca ..	5·7	5·1	−0·6
Rangpur ..	5·5	5·4	−0·1
Bakarganj ..	5·3	5·9	+0·6
24-Parganas ..	4·8	5·0	+0·2
Dinajpur ..	4·5	4·9	+0·4
Faridpur ..	4·4	5·2	+0·8
Nadia ..	4·2	3·5	−0·7
Rajshahi ..	4·2	3·9	−0·3
Tippera	4·0	3·9	−0·1
Jessore	3·8	4·3	+0·5
Burdwan ..	3·7	3·2	−0·5
Murshidabad ..	3·6	3·6	± 0
Chittagong ..	3·4	3·4	± 0
Pabna	3·1	3·0	−0·1
Khulna	3·0	3·4	+0·4
Noakhali ..	2·9	3·2	+0·3
Bankura	2·5	2·2	−0·3
Hooghly ..	2·5	2·2	−0·3
Birbhum ..	2·4	2·1	−0·3
Calcutta ..	2·4	3·1	+0·7
Jalpaiguri ..	2·3	2·1	−0·2
Malda	2·2	2·4	+0·2
Howrah ..	2·1	2·4	+0·3
Bogra	2·1	1·8	−0·3
Darjeeling ..	0·8	0·7	−0·1

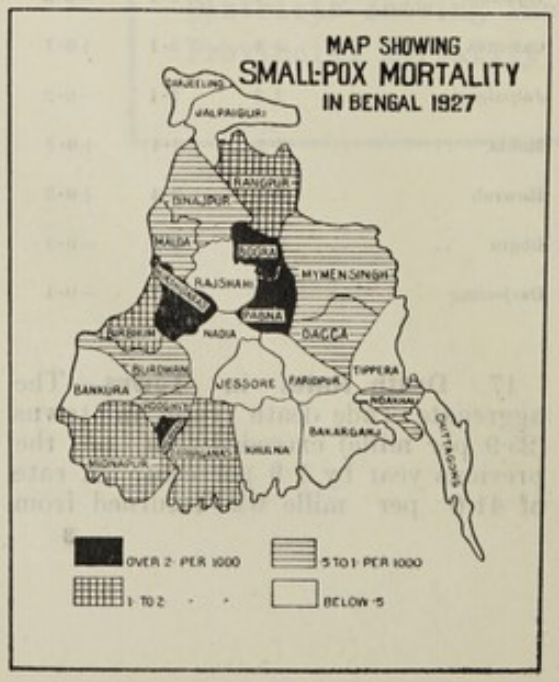
17. **Death Rates in Towns.**—The aggregate crude death rate in towns (25·9 per mille) exceeded that of the previous year by 1·9 per cent. A rate of 41·0 per mille was returned from

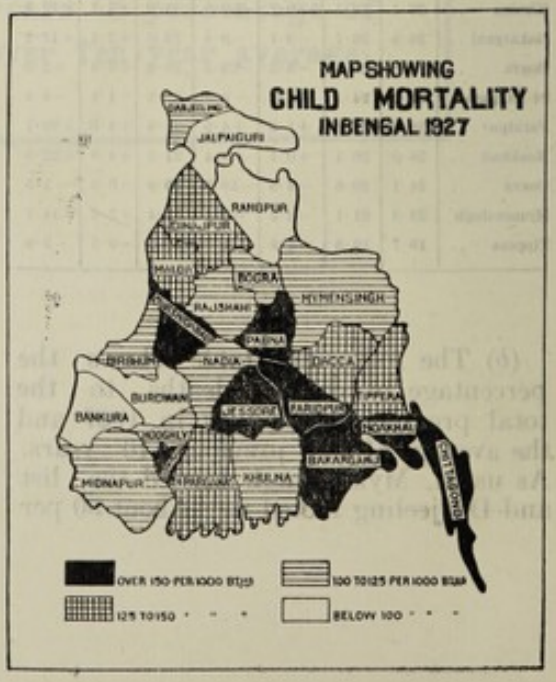

MAP SHOWING
TOTAL MORTALITY
IN BENGAL 1927
JALPAIGURI
RANGPUR
DINAJPUR
MALDA
BOGRA
RAJSHAHI
MYMENSINGH
PABNA
NADIA
DACCA
TIPPERA
BANKURA
JESSORE
FARIDPUR
HOOGHLY
BAKARGANJ
MIDNAPUR
KHULNA
OVER 30 PER 1000
20 TO 25 PER 1000
25 TO 30
BELOW 20


MAP SHOWING
FEVER MORTALITY
IN BENGAL 1927
DINAJPUR
MALDA
BOGRA
MYMENSINGH
PABNA
DACCA
TIPPERA
BURDWAN
BANKURA
JESSORE
FARIDPUR
HOOGHLY
BAKARGANJ
MIDNAPUR
KHULNA
OVER 25 PER 1000
15 TO 20 PER 1000
20 TO 25
BELOW 15


MAP SHOWING
CHOLERA MORTALITY
IN BENGAL 1927
JALPAIGURI
RANGPUR
DINAJPUR
MALDA
BOGRA
MYMENSINGH
PABNA
DACCA
BURDWAN
BANKURA
JESSORE
FARIDPUR
HOOGHLY
BAKARGANJ
MIDNAPUR
KHULNA
OVER 4 PER 1000
2 TO 3 PER 1000
3 TO 4
1 TO 2
BELOW 1 PER 1000


MAP SHOWING
INFANT MORTALITY
IN BENGAL 1927
JALPAIGURI
RANGPUR
MALDA
MYMENSINGH
DACCA
TIPPERA
BURDWAN
JESSORE
FARIDPUR
BAKARGANJ
MIDNAPUR
KHULNA
OVER 200 PER 1000
150 TO 175 PER 1000
175 TO 200
BELOW 150


MAP SHOWING
SMALL-POX MORTALITY
IN BENGAL 1927
JALPAIGURI
RANGPUR
DINAJPUR
MALDA
BOGRA
RAJSHAHI
MYMENSINGH
PABNA
NADIA
DACCA
BURDWAN
BANKURA
JESSORE
FARIDPUR
TIPPERA
BAKARGANJ
KHULNA
MIDNAPUR
OVER 2 PER 1000
5 TO 1 PER 1000
1 TO 2
BELOW 5


MAP SHOWING
CHILD MORTALITY
IN BENGAL 1927
JALPAIGURI
RANGPUR
MALDA
BOGRA
RAJSHAHI
MYMENSINGH
PABNA
NADIA
DACCA
BURDWAN
BANKURA
JESSORE
FARIDPUR
TIPPERA
BAKARGANJ
KHULNA
MIDNAPUR
OVER 150 PER 1000
100 TO 125 PER 1000
125 TO 150
BELOW 100

Kurseong, 11 towns recorded rates between 30 and 40 per mille, 35 between 20 and 30 per mille and 58 below 20 per mille. The following towns returned apparently impossible rates: Bhola and Suri, 6·4 each, Barrackpur and Comilla, 7·2 each, Noakhali, 8·8, Asansol, 9·5, and Bogra, 9·9 per mille. With the exception of Asansol, these are the very towns that have reported extremely low birth rates. This has been repeated year after year, and nothing seems to make the local authorities concerned appreciate the urgent necessity of exercising a better supervision over the registration of vital occurrences within their respective jurisdictions. Unless such occurrences are registered with proper accuracy, it is next to impossible for any sanitary authority to take steps necessary either to avert altogether or to combat any local outbreak of an infection whenever it occurs.

18. **Death Rates in Rural Areas.**—In rural areas, the crude aggregate death rate was 25·5 per mille in 1927 compared with 24·7 in 1926 and exceeded the latter by 3·2 per cent. It was less than the mortality rate in towns by 1·5 per cent. Nawabganj and Bholahat circles in Malda district returned rates of 64·3 and 63·2 per mille, respectively, followed by Joypur in Bankura with 61·3. Four circles recorded rates between 50 and 60 per mille, 20 between 40 and 50, 134 between 30 and 40, 288 between 20 and 30 and the remaining 72 below 20. Extremely low rates were reported from Boalia in Rajshahi (7·0) and Noapara in the 24-Parganas (7·3).

19. **Comparison of Death Rates in Towns with those in Rural Areas.**—The table below shows the death rates under each head of disease in the urban and rural areas :—

Cause of death.	Average of previous 10 years (1917—26.)			During 1926.			During 1927.		
	Urban.	Rural.	Combined.	Urban.	Rural	Combined.	Urban.	Rural.	Combined.
Cholera	1·6	1·3	1·3	1·5	1·2	1·3	2·3	2·6	2·5
Small-pox	0·7	0·3	0·3	0·7	0·5	0·5	1·4	0·9	0·9
Plague ..	0·04	·0002	·003	..	..	..	·0003	..	·00002
Fevers	7·7	22·7	21·7	6·2	18·5	17·7	5·8	17·7	17·0
Dysentery and Diarrhœa	2·6	0·4	0·5	2·8	0·4	0·5	3·0	0·5	0·6
Respiratory diseases ..	4·9	0·2	0·5	5·6	0·3	0·6	5·3	0·4	0·7
Injury	0·5	0·4	0·4	0·6	0·4	0·4	0·5	0·4	0·4
Other causes ..	7·0	3·5	3·8	7·9	3·3	3·6	7·4	3·1	3·4
All causes ..	25·0	28·9	28·6	25·4	24·7	24·7	25·9	25·5	25·6

It will be apparent from studying the table that cholera and fevers were more prevalent in rural than in urban areas in 1927, while the other causes of death held their sway in the latter. Deaths from fevers were less both in the urban and rural areas in 1927 as compared with the decennial mean and the previous year, but the other major diseases showed increases.

20. **Still-births.**—In 1927, 58,579 still-births were registered out of 1,345,442 total births compared with 59,571 out of a total of 1,335,951 in 1926, giving a ratio of 4·35 per cent. as against 4·46, showing a decrease of 2·5 per cent. compared with the previous year. Nine districts showed an excess, while 17 recorded a lesser number of still-births. The District Health Officer, Rangpur, states that venereal disease is probably chiefly responsible for the steadily increasing number of still-births in his district, and the ignorance of dais undoubtedly to some extent.

Districts.	Proportion of still-births to total births, per cent.		Increase + or decrease —
	1926.	1927.	
Calcutta ..	10·51	7·66	—
Rangpur	7·76	7·90	+
Chittagong ..	7·15	5·95	—
Noakhali ..	6·66	6·82	+
Rajshahi ..	6·52	6·05	—
Darjeeling ..	6·19	5·39	—
Pabna	6·12	6·40	+
Jalpaiguri ..	5·83	5·70	—
Bogra	5·73	5·64	—
Jessore	5·63	5·43	—
Mymensingh ..	5·51	5·74	+
Dacca	5·49	4·88	—
Dinajpur ..	5·02	5·03	+
Murshidabad ..	4·88	4·60	—
Tippera ..	4·67	4·40	—
Khulna	4·63	4·09	—
Faridpur ..	3·68	3·32	—
Birbhum ..	3·49	3·26	—
Malda	3·10	3·03	—
Howrah ..	3·10	1·62	—
Midnapur ..	2·93	2·95	+
Bakarganj ..	2·29	1·96	—
Nadia	1·84	1·86	+
24-Parganas ..	1·68	1·48	—
Burdwan ..	1·14	1·14	±
Hooghly	0·22	0·34	+
Bankura	0·17	0·34	+
Total for the province	4·46	4·35	—

21. **Deaths from Maternal Causes.**—Four thousand three hundred and ninety-seven deaths occurred from maternal causes in the province in 1927, 447 being in urban and 3,950 in rural areas. Such deaths are increasing year after year as shown in the following statement :—

1927	..	..	4,397
1926	..	..	3,228
1925	..	..	2,790
1924	..	..	1,972
1923	....	..	1,185

Within the last 5 years, the increase has been 271·9 per cent.

The following table gives the divisional distribution of these deaths :—

Divisions.	Deaths.	Rate per 1,000 births 1927.	Rate per 1,000 births 1926.	Increase + or decrease. –
Burdwan ..	727	3·2	2·2	+
Presidency ..	1,069	4·3	3·5	+
Rajshahi ..	968	2·9	2·5	+
Dacca ..	1,032	3·0	1·8	+
Chittagong ..	601	4·1	2·9	+
Total ..	4,397	3·4	2·5	+

22. **Mortality according to Sex.**—The following statement shows deaths classified according to sex :—

Sex.	Number of deaths.		Rate per mille.		Increase + or decrease – per cent.
	1927.	1926.	1927.	1926.	
Males ..	614,685	603,602	25·5	25·1	+1·6
Females ..	574,685	547,595	25·6	24·4	+4·9

The number of male to every 100 female deaths was 106, as compared with 110 in the previous year. The highest male death rate (34·6 per mille) was reported from Murshidabad district, and the highest female death rate (47·7 per mille) from Calcutta. Tippera recorded as usual the lowest death rate both among males and females, viz., 17·0 and 16·5 per mille respectively. In only one district, viz., Noakhali, the number of female deaths exceeded that among males; in all the other districts the reverse was the case.

23. **Mortality according to Class (Annual Form No. V).**—The death rate among the various classes is shown in the statement below, from which it will appear that as compared with the previous year, the death rate among Mussalmans increased by 5 per cent., while the excess among Hindus was only 1·6 per cent.

Deaths among Classes.

Classes.	Ratio of deaths per mile, 1926.	Ratio of deaths per mile, 1927.	Difference.	Percentage of difference
Christians ..	18·6	18·5	–0·1	–0·5
Hindus ..	25·3	25·7	+0·4	+1·6
Mussalmans ..	24·1	25·3	+1·2	+5·0
Buddhists ..	18·8	18·8	±0	±0
Other classes ..	31·3	32·9	+1·6	+5·1
Total ..	24·7	25·6	+0·9	+3·6

The divisional death rate among Hindus and Mussalmans was as follows:—

Divisions.	Hindus.	Mussalmans.	Difference.	Percentage.
Burdwan ..	25·3	28·4	+3·1	+12·2
Presidency ..	28·3	29·6	+1·3	+4·6
Rajshahi ..	26·8	27·9	+1·1	+4·1
Dacca	23·4	22·9	–0·5	–2·2
Chittagong ..	22·8	21·1	–1·7	–7·5

More Mussalmans died, as usual, in Burdwan, Presidency and Rajshahi Divisions than the Hindus, who showed an excess in their mortality rate in Dacca and Chittagong—the two divisions where Mussalmans generally predominate.

The highest death rates (34·9 and 35·3 per mille for Hindus and Mussalmans respectively) were reported from Calcutta; the lowest (19·2 and 15·9 for both these classes respectively) from Tippera. Bogra also returned a death rate of 192 per mille among Hindus.

24. **Mortality according to Age (Annual Form No. IV).**—(*a*) The table

below shows the variations of mortality at different age periods:—

Mortality according to Age.

Age periods.	1926 per mille.	1927 per mille.	Difference.	Percentage variation.
Under 1 month* ..	102·7	95·6	− 7·1	− 6·9
1—6 months*	53·6	47·1	− 6·5	−12·1
6—12 months*	40·4	35·3	− 5·1	−12·6
Under 1 year* ..	196·8	178·0	−18·8	− 9·6
1—5 years ..	34·5	36·5	+ 2·0	+ 5·8
5—10 ,, ..	11·9	12·7	+ 0·8	+ 6·7
10—15 ,, ..	9·5	9·9	+ 0·4	+ 4·2
15—20 ,, ..	14·5	15·7	+ 1·2	+ 8·3
20—30 ,, ..	15·6	17·2	+ 1·6	+10·2
30—40 ,, ..	17·3	18·6	+ 1·3	+ 7·5
40—50 ,, ..	20·8	22·1	+ 1·3	+ 6·2
50—60 ,, ..	32·2	34·0	+ 1·8	+ 5·6
60 years and above	67·4	70·5	+ 3·1	+ 4·6

*Per 1,000 births.

Excluding infancy, the death rate was highest at the age period of 60 years and above and the lowest between the ages of 10 and 15. As against the previous year, it was higher in 1927 in all age periods above 1 year but less among infants.

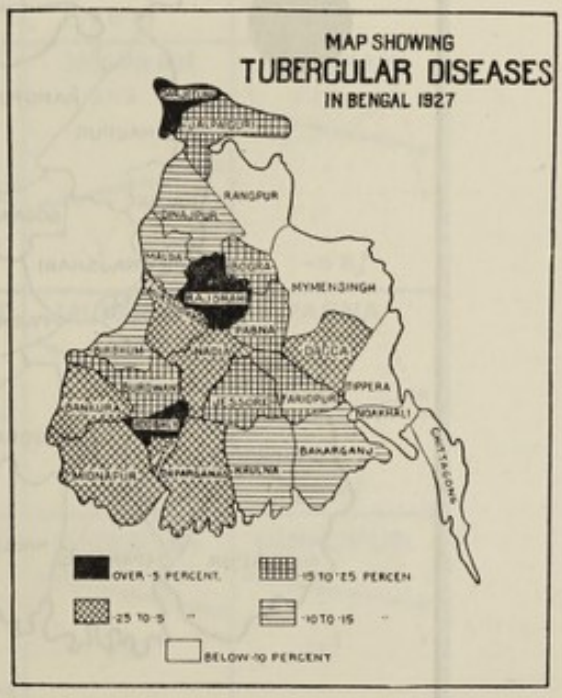
(*b*) Again it appears from the following statement that while 51·7 per cent., or a little more than half, of the total deaths occurred in children below 5 years and in age periods above 50, 48·3 per cent., or slightly less than half, were claimed by a community between the ages of 5 and 50, forming about 78 per cent. of the total population :—

Age periods.	Population.	Percentage of total population.	Deaths at each age, 1927.	Percentage of total deaths, 1927.
Under 1 year ..	1,370,066	3·0	229,078	19·3
1—5 years ..	4,606,461	9·9	168,392	14·2
5—10 ,, ..	7,318,153	15·7	93,104	7·8
10—15 ,, ..	5,322,228	11·4	52,623	4·4
15—20 ,, ..	4,484,329	9·6	70,398	5·9
20—30 ,, ..	8,536,967	18·3	147,124	12·4
30—40 ,, ..	6,453,782	13·9	120,469	10·1
40—50 ,, ..	4,136,614	8·9	91,342	7·7
50—60 ,, ..	2,355,751	5·1	80,142	6·7
60 and above ..	1,937,942	4·2	136,758	11·5

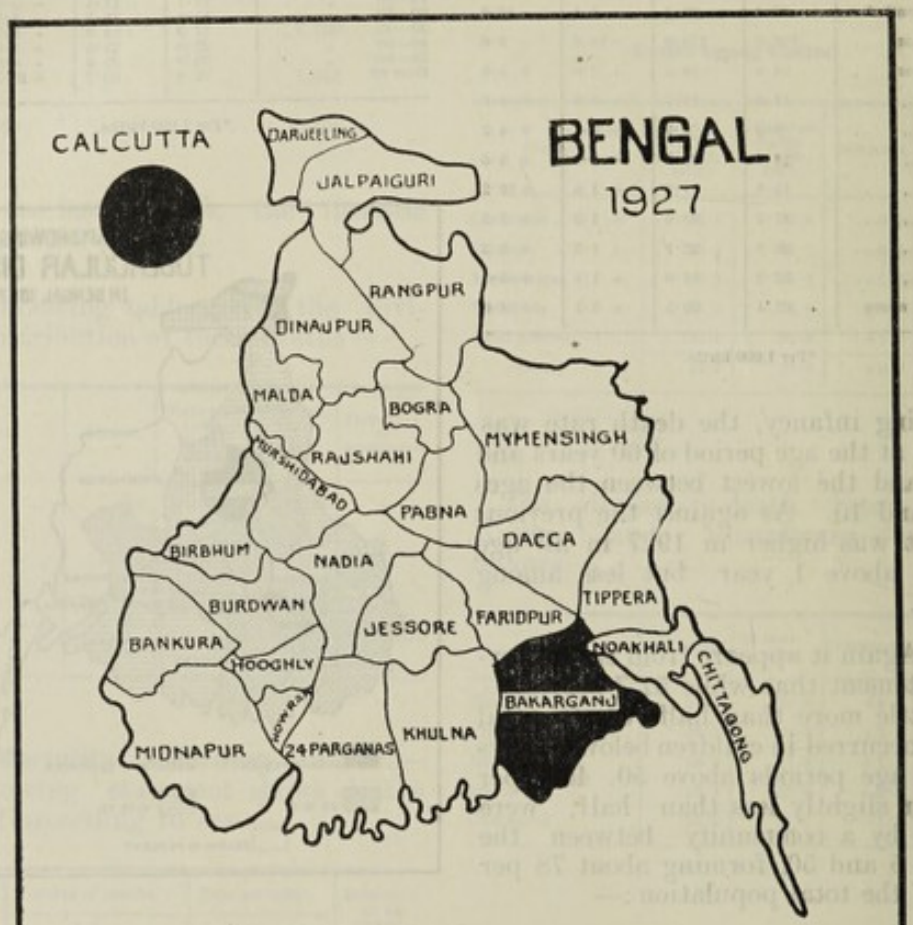
(*c*) Mortality among the sexes, when classified according to age, shows that more males died at extremes of age than females in whom the death rates increased between 10 and 40 years of age:—

Age periods.	Death rate per 1,000 living at various ages.			
	Males.	Females.	Difference.	Percentage.
Infants* ..	182·0	173·7	+ 8·3	+ 4·6
1—5 years ..	38·3	34·9	+ 3·4	+ 8·9
5—10 ,, ..	13·5	11·9	+ 1·6	+11·9
10—15 ,, ..	9·7	10·1	− 0·4	− 4·1
15—20 ,, ..	13·7	17·5	− 3·8	−27·7
20—30 ,, ..	15·1	19·2	− 4·1	−27·1
30—40 ,, ..	17·9	19·6	− 1·7	− 9·5
40—50 ,, ..	22·9	21·0	+ 1·9	+ 8·3
50—60 ,, ..	35·9	31·9	+ 4·0	+11·2
Over 60 ,, ..	75·9	65·2	+10·7	+14·1

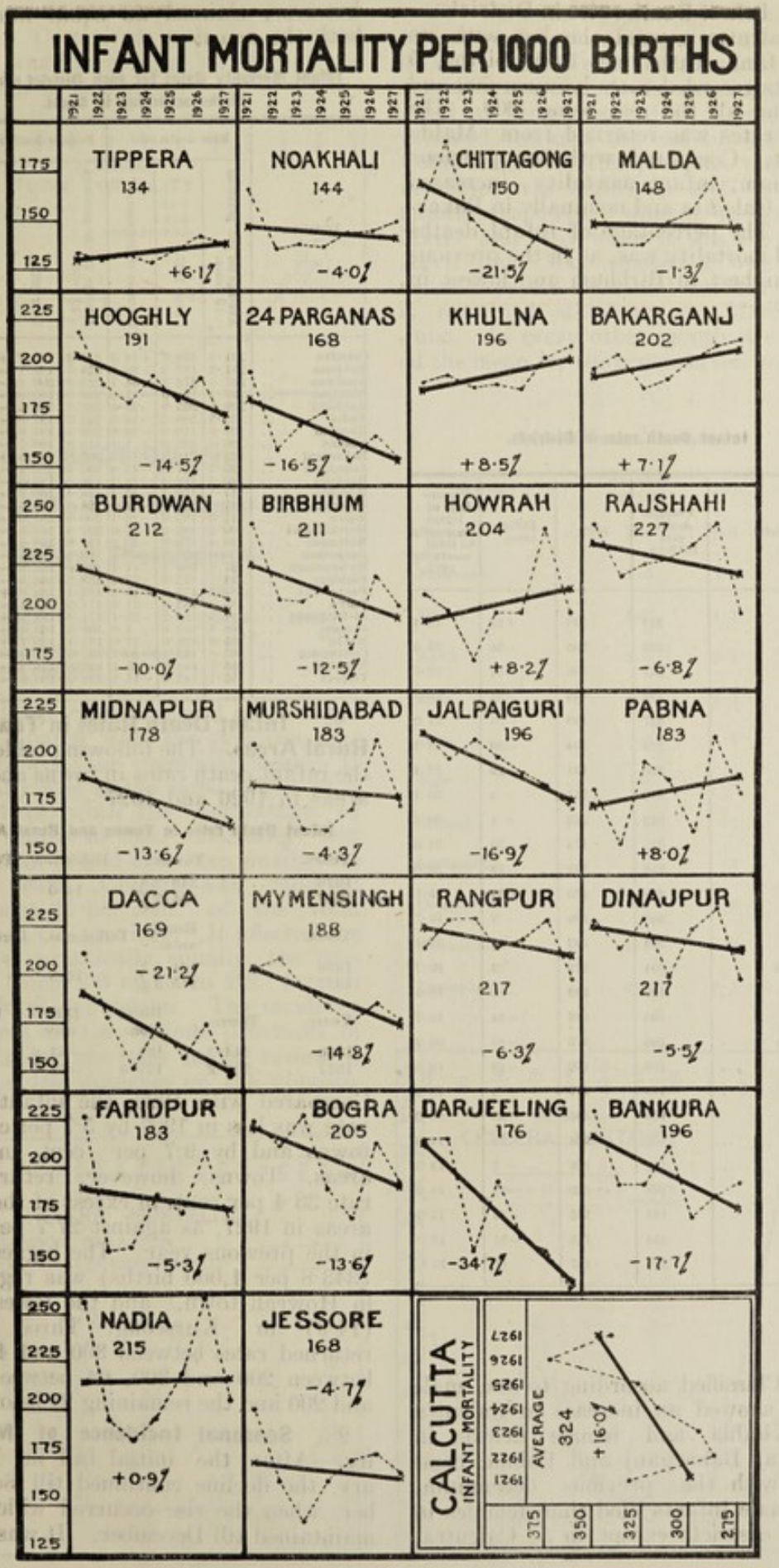
*Per 1,000 births.



25. **Infant Mortality in the Province.**—121,963 male and 107,115 female, or a total of 229,078 infants giving a ratio of 178·0 per 1,000 births, died during the year under review, as against 134,523 male and 116,661 female infants, or a total of 251,184 with a rate of 196·8 in 1926 The total infant death rate thus showed a decrease of 9·6 per cent., male infant rate of 10·2 per cent., and female rate of 8·8 per cent. 114 male infants died to every 100 females, compared with 115 to 100 in the previous year; 19·3 per cent. of the total deaths in the province occurred among infants; 53·7 per cent. of the infants died within a month of their birth, 26·5 per cent. between 1 and 6 months, and 19·8 per cent. between 6 and 12 months.



Districts showing increase in Infantile Mortality in 1927 over Ten year average.


INFANT MORTALITY PER 1000 BIRTHS
1921 1922 1923 1924 1925 1926 1927
TIPPERA 134 +6·1%
NOAKHALI 144 -4·0%
CHITTAGONG 150 -21·5%
MALDA 148 -1·3%
HOOGHLY 191 -14·5%
24 PARGANAS 168 -16·5%
KHULNA 196 +8·5%
BAKARGANJ 202 +7·1%
BURDWAN 212 -10·0%
BIRBHUM 211 -12·5%
HOWRAH 204 +8·2%
RAJSHAHI 227 -6·8%
MIDNAPUR 178 -13·6%
MURSHIDABAD 183 -4·3%
JALPAIGURI 196 -16·9%
PABNA 183 +8·0%
DACCA 169 -21·2%
MYMENSINGH 188 -14·8%
RANGPUR 217 -6·3%
DINAJPUR 217 -5·5%
FARIDPUR 183 -5·3%
BOGRA 205 -13·6%
DARJEELING 176 -34·7%
BANKURA 196 -17·7%
NADIA 215 +0·9%
JESSORE 168 -4·7%
CALCUTTA INFANT MORTALITY
AVERAGE 324 +16·0%
375 350 325 300 275

26. **Infant Death rates in Districts.**—(*a*) Calcutta topped the list with its 340 infant deaths per 1,000 births, 5 districts recorded rates between 200 and 300, and all the rest below 200. The lowest rates was returned from Malda district. Compared with the previous decennium, infant mortality increased only in Calcutta and nominally in Bakarganj. The percentage of infant deaths to total mortality was, as in the previous year, highest in Birbhum and lowest in Jessore:—

Infant Death rates in Districts.

Districts.	Average death rate, 1917-26.	1927.	Difference.	Percentage of infant mortality to total mortality 1927.
Calcutta ..	318	340	+22	15·4
Birbhum ..	239	203	−36	25·5
Burdwan ..	237	206	−31	23·3
Dinajpur ..	230	195	−35	21·8
Rajshahi ..	227	198	−29	21·2
Nadia ..	224	204	−20	22·4
Rangpur ..	220	191	−29	22·4
Khulna ..	216	211	− 5	20·1
Bakarganj ..	212	213	+ 1	20·3
Jalpaiguri ..	212	173	−39	21·6
Bankura ..	210	191	−19	24·0
Hooghly ..	209	170	−39	15·7
Howrah ..	208	199	− 9	16·7
Bogra ..	206	192	−14	22·4
Murshidabad ..	204	175	−29	20·7
Midnapur ..	197	169	−28	18·5
Darjeeling	190	136	−54	15·7
Mymensingh ..	190	175	−15	20·3
Faridpur ..	189	170	−19	19·5
Pabna ..	185	179	− 6	18·4
Dacca	179	146	−33	20·0
24-Parganas ..	177	154	−23	14·0
Jessore ..	169	166	− 3	13·2
Malda ..	164	129	−35	15·2
Chittagong ..	161	145	−16	15·7
Noakhali ..	154	143	−11	17·3
Tippera ..	148	137	−11	17·0

(*b*) Classified according to sex, male deaths showed an increase in Calcutta and Khulna and female deaths in Calcutta, Bakarganj and Pabna, compared with the previous decennium. More male infants died than females in all the districts except in 5; Calcutta, however, claimed an equal number of both the sexes:—

Infant Mortality Rates for each District per 1,000 Births according to Sexes.

Districts.	Male death rate.			Female death rate.			Increase + or decrease − of male compared with female deaths, 1927.
	Average for the previous 10 years.	Year 1927.	Increase or decrease.	Average for the previous 10 years.	Year 1927.	Increase or decrease.	
Calcutta ..	321·4	339·7	+18·3	313·2	339·7	+26·5	+ 0
Birbhum ..	251·2	212·7	−38·5	225·5	192·1	−33·4	+20·6
Burdwan ..	247·0	212·3	−34·7	226·9	200·2	−26·7	+12·1
Dinajpur ..	239·3	198·0	−41·3	220·8	190·9	−29·9	+ 7·1
Rajshahi ..	229·4	205·9	−23·5	223·7	189·6	−34·1	+16·3
Nadia ..	225·5	209·2	−16·3	223·2	197·8	−25·4	+11·4
Rangpur ..	229·5	119·9	−29·6	209·5	181·0	−28·5	+18·9
Khulna ..	220·3	222·0	+ 1·7	212·0	199·7	−12·3	+22·3
Bakarganj ..	223·7	218·5	− 5·2	200·0	206·9	+ 6·9	+11·6
Jalpaiguri ..	220·3	177·3	−43·0	202·9	168·9	−34·0	+ 8·4
Bankura ..	220·5	196·4	−24·1	198·8	185·3	−13·5	+11·1
Hooghly ..	217·1	170·7	−46·4	186·4	169·3	−17·1	+ 1·4
Howrah ..	217·0	204·1	−12·9	198·5	193·5	− 5·0	+10·6
Bogra ..	212·0	195·9	−16·1	200·0	187·9	−12·1	+ 8·0
Murshidabad ..	209·2	182·2	−27·0	207·9	167·5	−40·4	+14·7
Midnapur ..	198·4	170·2	−28·2	194·8	168·9	−25·9	+ 1·3
Darjeeling ..	200·0	136·3	−63·7	180·5	135·5	−45·0	+ 0·8
Mymensingh ..	197·2	180·1	−17·1	182·5	168·9	−13·6	+11·2
Faridpur ..	194·7	172·3	−22·4	183·2	168·3	−14·9	+ 4·0
Pabna ..	187·3	173·0	−14·3	182·1	186·8	+ 4·7	−13·8
Dacca ..	185·7	153·8	−31·9	171·5	138·1	−33·4	+15·7
24-Parganas ..	181·3	156·2	−25·1	171·8	151·5	−20·3	+ 4·7
Jessore ..	168·4	163·6	− 4·8	169·8	168·0	− 1·8	− 4·4
Malda ..	165·6	128·6	−37·0	163·1	129·1	−34·0	− 0·0
Chittagong ..	163·8	143·1	−20·7	157·6	147·6	−10·0	− 4·7
Noakhali ..	155·7	140·6	−15·1	152·8	145·3	− 7·5	− 4·5
Tippera ..	156·7	142·6	−14·1	139·0	130·6	− 8·4	+12·5

27. **Infant Death Rates in Towns and Rural Areas.**—The following table shows the infant death rates in towns and rural areas in 1926 and 1927:—

Infant Death rates in Towns and Rural Areas.

Years.	Towns.	Difference.	Percentage
1926 ..	248·2	−14·0	−5·7
1927 ..	234·2		

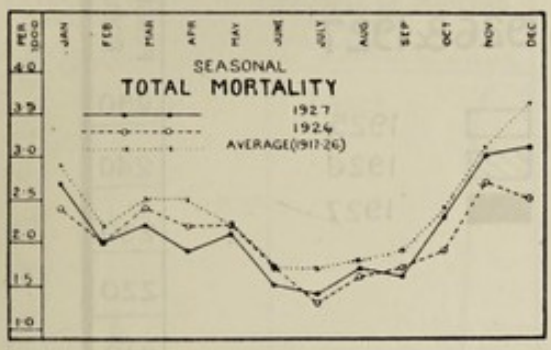
Years.	Rural areas.	Difference.	Percentage
1926 ..	194·4	−18·9	−9·7
1927 ..	175·5		

Years.	Towns.	Rural areas.	Difference.	Percentage.
1926 ..	248·2	194·4	−53·8	−21·7
1927 ..	234·2	175·5	−58·7	−25·1

Compared with 1926, the infant death rate was less in 1927 by 5·7 per cent. in towns and by 9·7 per cent. in rural areas. Towns, however, returned a rate 33·4 per cent. in excess of the rural areas in 1927, as against 27·7 per cent. in the previous year. The highest rate (343·8 per 1,000 births) was registered in Howrah town, and the lowest rate (14·9) in Kurseong. Three towns returned rates between 300 and 400, 28 between 200 and 300, 64 between 100 and 200 and the remaining 21 below 100.

28. **Seasonal Incidence of Mortality.**—After the initial fall in February, the decline continued till September, when the rise occurred which was maintained till December. It was never

higher in any month than the decennial average. Compared with the previous year, it was lower from March to June and again in September.



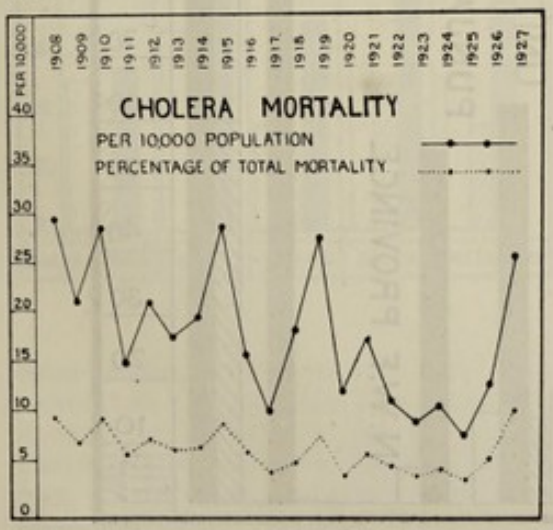
SECTION VI.

History of the Chief Diseases—Cholera.

29. **General Prevalence.**—

	1926.	1927.
Total deaths	59,106	118,377
Death rate	1·3	2·5
Percentage of cholera deaths to total mortality ..	5·1	9·9

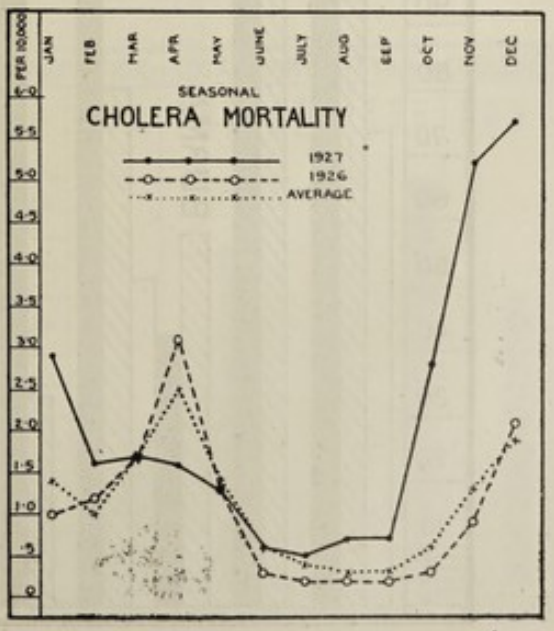
The death rate increased by 92·3 per cent. compared with the previous year and also with the decennial mean. It practically rose to the same height as it did in 1919, while the percentage of cholera deaths to total mortality was higher than it had ever been during the last 20 years. Cholera was reported from about 22 per cent. of the total villages in the province. It affected the two sexes practically equally, the proportion being 2·6 males to 2·5 females per mille of population. The incidence of cholera in the various provinces of India during the year under review is shown in the diagram on the opposite page.

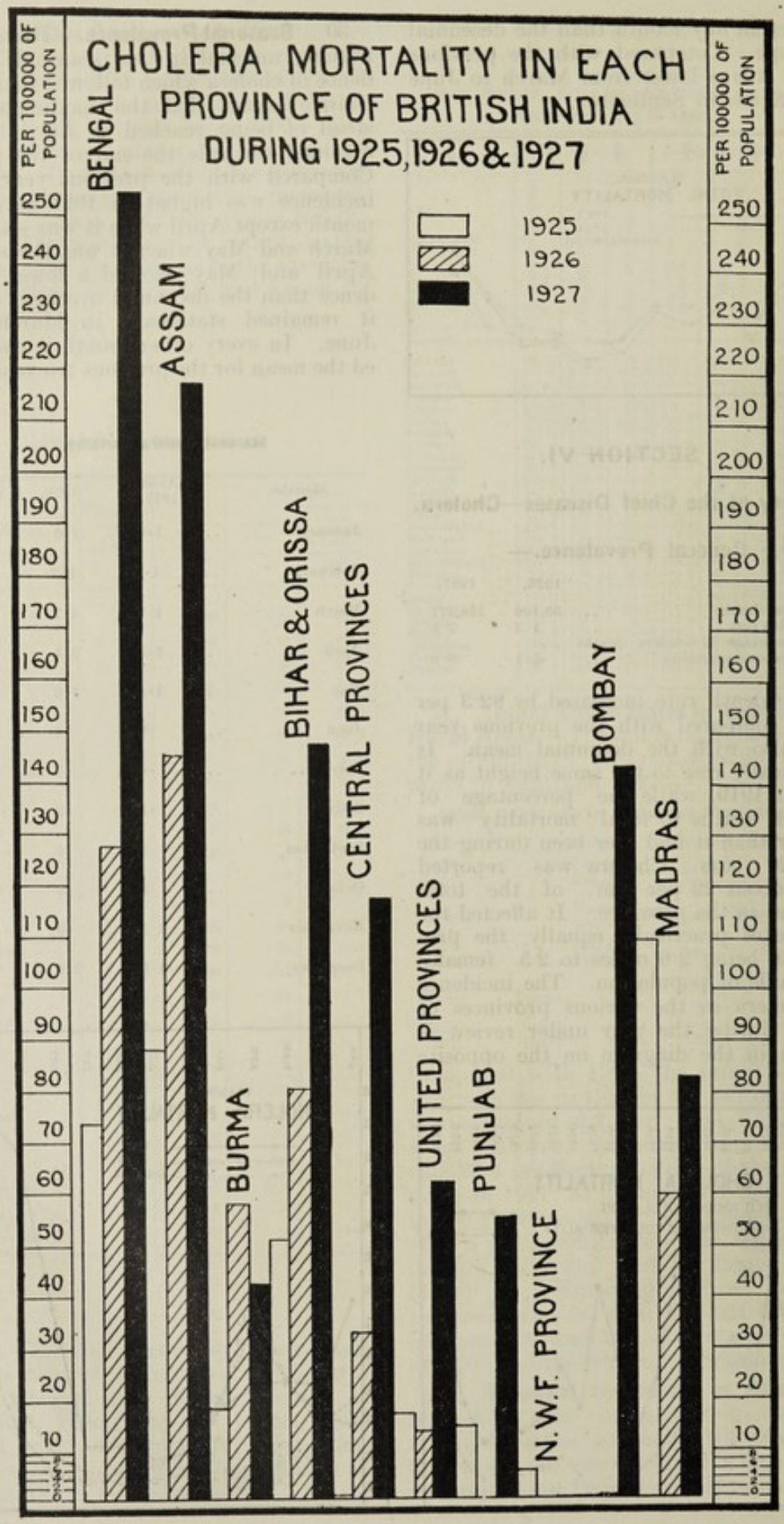


30. **Seasonal Prevalence.**—There was nothing unusual in the seasonal incidence of cholera which followed its usual course, except that the maximum, instead of being reached in April, was attained towards the end of the year. Compared with the previous year, the incidence was higher in 1927 in every month except April when it was less and March and May when it was the same. April and May showed a lower incidence than the decennial average, while it remained stationary in March and June. In every other month it exceeded the mean for the previous ten years:—

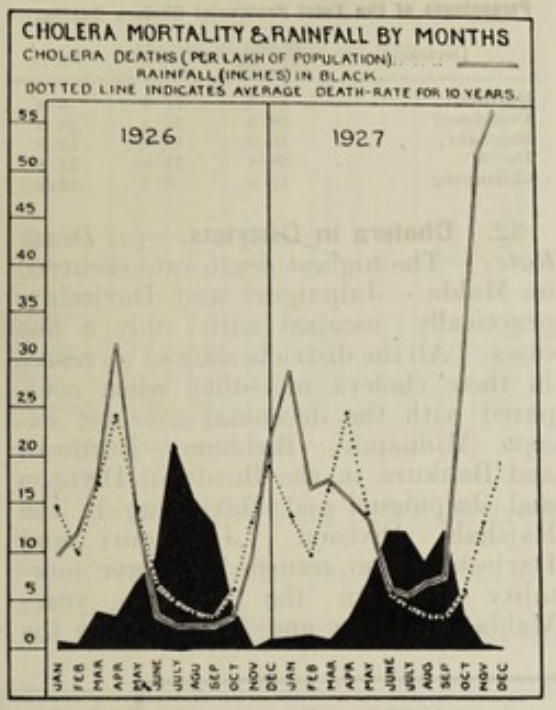
Seasonal Cholera Mortality.

Months.	Average 1917-26.	1926.	1927.
January ..	1·4	1·0	2·9
February ..	1·0	1·2	1·6
March ..	1·7	1·7	1·7
April	2·5	3·1	1·6
May	1·4	1·3	1·3
June	·6	·3	·6
July	·4	·2	·5
August ..	·3	·2	·7
September ..	·3	·2	·7
October ..	·6	·3	2·8
November ..	1·3	·9	5·2
December ..	1·9	2·1	5·7

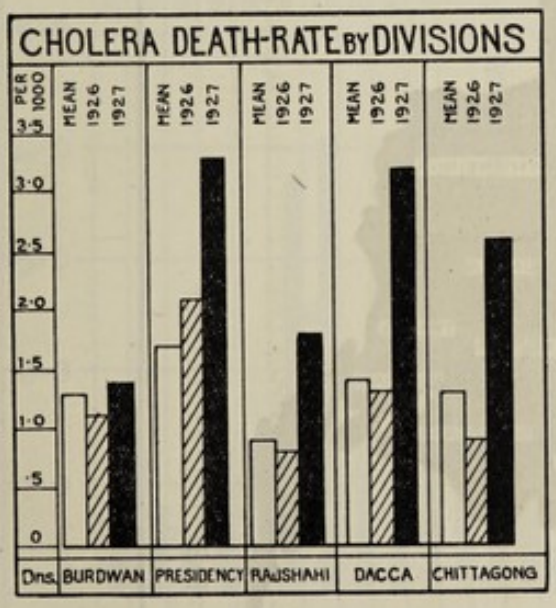



CHOLERA MORTALITY IN EACH
PROVINCE OF BRITISH INDIA
DURING 1925, 1926 & 1927
PER 100000 OF POPULATION
1925
1926
1927
BENGAL
ASSAM
BURMA
BIHAR & ORISSA
CENTRAL PROVINCES
UNITED PROVINCES
PUNJAB
N.W.F. PROVINCE
BOMBAY
MADRAS
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10

The following graph shows the effect of rainfall on cholera:—



31. **Cholera by Divisions.**—(*a*) *Death Rates.*—From the table and histogram below it will be seen that Presidency and Dacca Divisions suffered the most



from cholera. The death rate was more than doubled in Dacca, exactly doubled in Presidency, Rajshahi and Chittagong and slightly raised in Burdwan Division as compared with the decennial mean. Against the previous year, the rate increased in every division, especially Chittagong, where it was nearly trebled:—

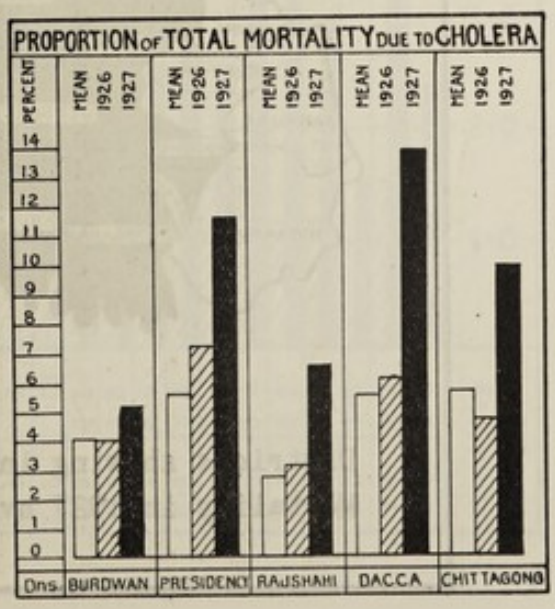
Cholera Death Rates by Divisions per mille of population.

Divisions.		Mean, 1917-26.	1926.	1927.
Burdwan	..	1·3	1·1	1·4
Presidency	..	1·7	2·1	3·3
Rajshahi	..	·9	·8	1·8
Dacca	..	1·4	1·3	3·2
Chittagong	..	1·3	·9	2·6

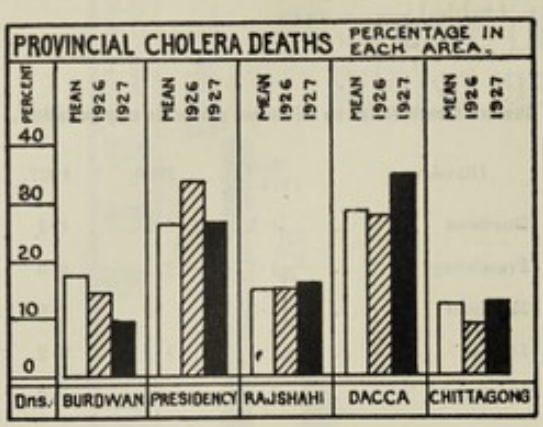
(*b*) *Proportion of Total Mortality due to Cholera.*—The proportion of cholera deaths to the total mortality was higher in every division than that in the previous year and the average of the previous decennium. In 1927, one in 7 deaths occurring in Dacca Division was due to cholera, 1 in 9 in Presidency, 1 in 10 in Chittagong, 1 in 15 in Rajshahi and 1 in 19 in Burdwan Division :—

Proportion of Total Mortality due to Cholera.

Divisions.		Mean, 1917-26.	1926.	1927.
Burdwan	..	4·2	4·0	5·3
Presidency	..	5·6	7·3	11·6
Rajshahi	..	2·8	3·1	6·6
Dacca	..	5·6	6·1	13·9
Chittagong	..	5·7	4·7	9·9



(*c*) *Percentages of the Total Provincial Cholera Deaths.*—34·8 per cent. of

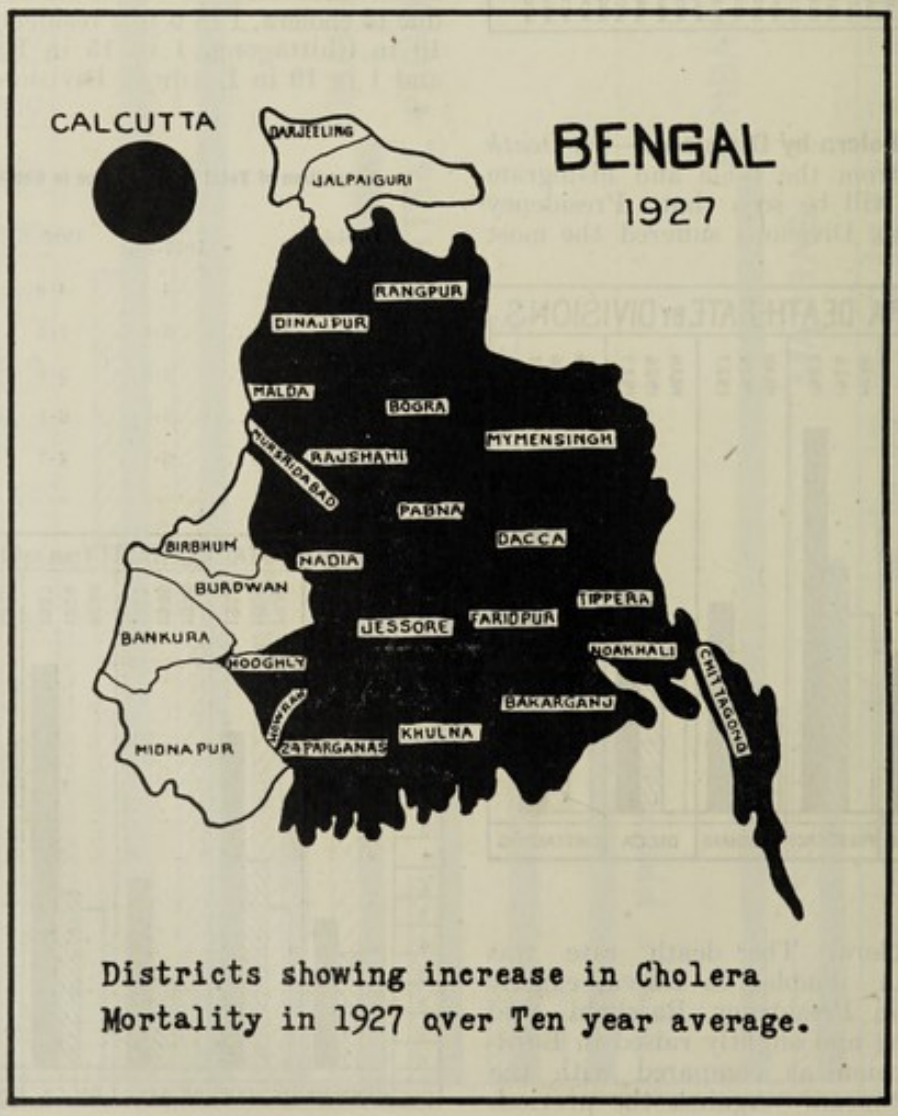


the total cholera deaths occurred in Dacca Division and 26·7 per cent. in the Presidency Division. This percentage was in excess of that of the previous year in Rajshahi, Dacca and Chittagong Divisions, but less in Burdwan and Presidency Divisions. Compared with the decennial mean, it increased in all the divisions except Burdwan:—

Percentages of the Total Provincial Cholera Deaths.

Division.		Mean. 1917-26.	1926.	1927.
Burdwan	..	17·4	14·5	9·4
Presidency	..	26·3	33·8	26·7
Rajshahi	..	15·0	15·0	16·2
Dacca	..	28·8	27·5	34·8
Chittagong	..	12·5	9·1	12·9

32. **Cholera in Districts.**—(*a*) *Death Rates.*—The highest death rate occurred in Malda. Jalpaiguri and Darjeeling practically escaped with only a few cases. All the districts showed increases in their cholera mortality when compared with the decennial average, except Midnapur, Birbhum, Burdwan and Bankura in the Burdwan Division and Jalpaiguri and Darjeeling in the Rajshahi Division. Jalpaiguri and Darjeeling also returned a lower mortality rate than the previous year. Malda, Faridpur and Khulna were the



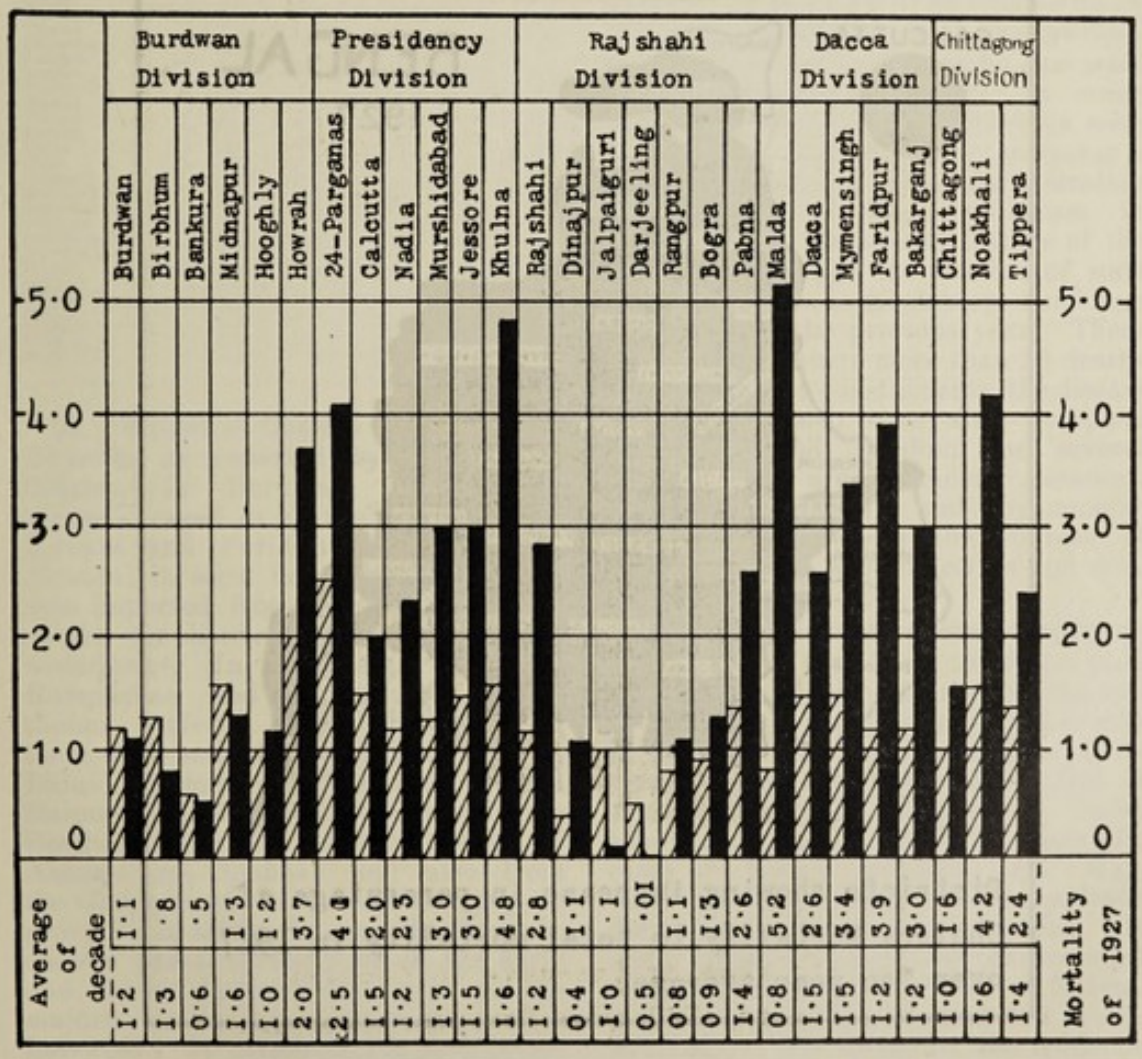
Districts showing increase in Cholera Mortality in 1927 over Ten year average.

worst sufferers during the last 10 years, and Noakhali, Dinajpur and Chittagong when compared with the previous year:—

Cholera Death Rate per Mille.

Districts.	Decennial average.	1927.	Increase + or decrease —.	Percentage of increase or decrease.	1926.	Increase + or decrease —.	Percentage of increase or decrease.
24-Parganas	2·5	4·1	+1·6	+ 64·0	3·4	±0·7	+ 20·6
Howrah ..	2·0	3·7	+1·7	+ 85·0	2·5	+1·2	+ 48·0
Midnapur ..	1·6	1·3	−0·3	− 18·8	1·3	± 0	± 0
Noakhali ..	1·6	4·2	+2·6	+162·5	0·6	+3·6	+600·0
Khulna ..	1·6	4·8	+3·2	+200·0	2·1	+2·7	+128·5
Jessore ..	1·5	3·0	+1·5	+100·0	2·5	+0·5	+ 20·0
Mymensingh	1·5	3·4	+1·9	+126·7	0·7	+2·7	+385·7
Calcutta ..	1·5	2·0	+0·5	+ 33·3	1·6	+0·4	+ 25·0
Dacca ..	1·5	2·6	+1·1	+ 73·3	1·4	+1·2	+ 85·7
Pabna ..	1·4	2·6	+1·2	+ 85·7	1·7	+0·9	+ 52·9
Tippera ..	1·4	2·4	+1·0	+ 71·4	1·5	+0·9	+ 60·0
Birbhum ..	1·3	0·8	−0·5	− 38·5	0·3	+0·5	+166·6
Murshidabad	1·3	3·0	+1·7	+130·8	1·4	+1·6	+114·3
Nadia ..	1·2	2·3	+1·1	+ 91·6	0·6	+1·7	+283·3
Faridpur ..	1·2	3·9	+2·7	+225·0	2·3	+1·6	+ 69·5
Burdwan ..	1·2	1·1	−0·1	− 8·4	0·8	+0·3	+ 37·5
Rajshahi ..	1·2	2·8	+1·6	+133·3	0·8	+2·0	+250·0
Bakarganj	1·2	3·0	+1·8	+150·0	1·2	+1·8	+150·0
Chittagong	1·0	1·6	+0·6	+ 60·0	0·3	+1·3	+433·2
Jalpaiguri	1·0	0·1	−0·9	− 90·0	0·2	−0·1	− 50·0
Hooghly ..	1·0	1·2	+0·2	+ 20·0	0·6	+0·6	+100·0
Bogra ..	0·9	1·3	+0·4	+ 44·4	1·0	+0·3	+ 30·0
Rangpur ..	0·8	1·1	+0·3	+ 37·5	0·5	+0·6	+120·0
Malda ..	0·8	5·2	+4·4	+550·0	2·5	+2·7	+108·0
Bankura ..	0·6	0·5	−0·1	− 16·7	0·4	+0·1	+ 25·0
Darjeeling	0·5	0·01	−0·5	− 98·0	0·03	−0·02	− 66·7
Dinajpur ..	0·4	1·1	+0·7	+175·0	0·2	+0·9	+450·0

Graph showing the Relative Intensity of Cholera mortality in each district of Bengal Presidency during the year 1927 and the Average of decade 1917-26.

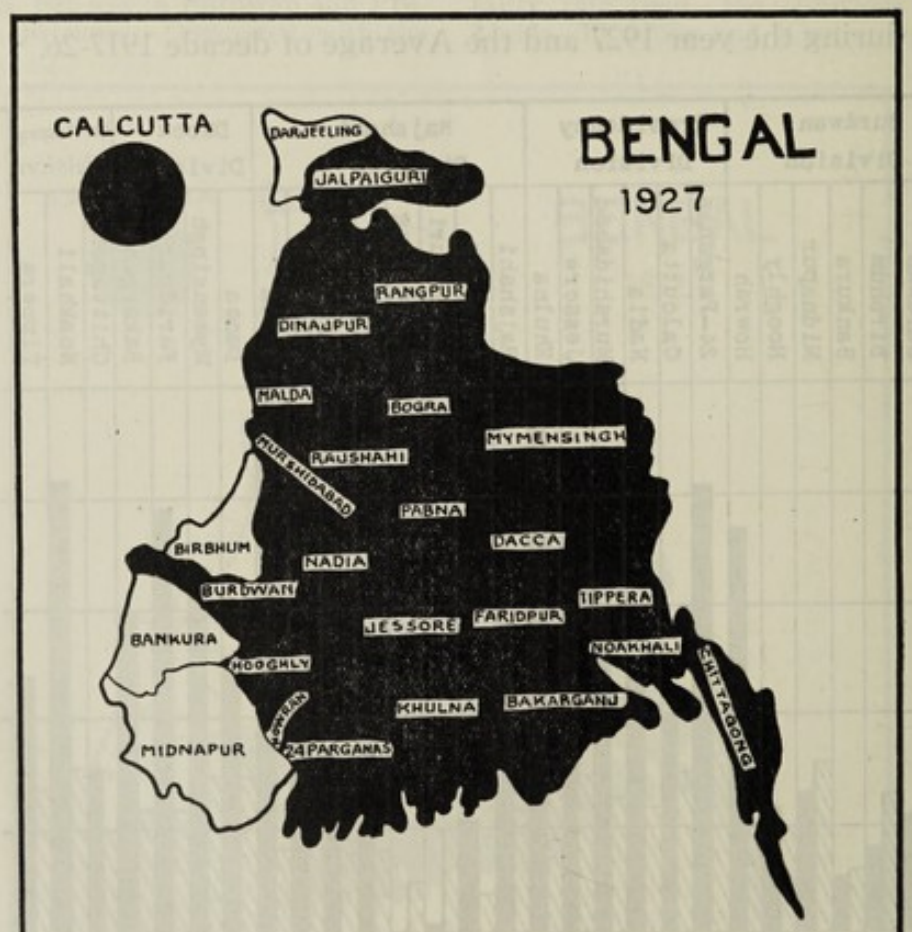


Mortality of 1927 ■ Average of decade ▨

(*b*) *Relative Importance of Cholera as a Cause of Death.*—From the table below it appears that 17·9 per cent. of the total deaths in the Malda district in 1927 were due to cholera; this represented the highest percentage of such deaths occurring in any district in the province; in other words, cholera was responsible for 1 in 5 deaths in this district. The lowest percentage was obtained in Darjeeling where 1 death in 250 was due to this cause. Excepting Birbhum, Bankura, Midnapur and Darjeeling, cholera accounted for a larger proportion of the total mortality in all the other districts than it had done during the previous 10 years. Compared with the previous year, this proportion was increased in all the districts.—

Cholera as a Percentage of Total Mortality.

Districts.	Decennial average.	1927.	Increase + or decrease −.	1926.	Increase + or decrease −.
24-Parganas ..	9·6	16·9	+ 7·3	13·4	+ 3·5
Howrah ..	7·3	12·7	+ 5·4	8·2	+ 4·5
Tippera ..	7·0	14·2	+ 7·2	8 5	+ 5·7
Mymensingh ..	6·6	16·2	+ 9·6	4·1	+12·1
Dacca ..	6·2	13·2	+ 7·0	6·9	+ 6·3
Noakhali ..	6·1	16·0	+ 9·9	3·1	+12·9
Khulna ..	5·8	17·2	+11·4	8·3	+ 8·9
Midnapur ..	5·3	5·3	± 0	5·1	+ 0·2
Jessore ..	5·3	10·2	+ 4·9	8·8	+ 1·4
Calcutta ..	5·2	5·9	+ 0·7	4·6	+ 1·3
Pabna ..	4·9	10·1	+ 5·2	7·2	+ 2·9
Faridpur ..	4·6	14·1	+ 9·5	10·0	+ 4·1
Bakarganj ..	4·3	11·1	+ 6·8	5·1	+ 6·0
Chittagong ..	3·7	6·5	+ 2·8	1·2	+ 5·3
Birbhum ..	3·6	2·7	− 0·9	1·1	+ 1·6
Murshidabad ..	3·5	9·0	+ 5·5	4·1	+ 4·9
Bogra ..	3·5	6·4	+ 2·9	4·9	+ 1·5
Burdwan ..	3·5	4·0	+ 0·5	3·2	+ 0·8
Nadia ..	3·3	8·1	+ 4·8	1·8	+ 6·3
Rajshahi ..	3·1	8·9	+ 5·8	2·6	+ 6·3
Hooghly ..	3·1	5·1	+ 2·0	2·6	+ 2·5
Jalpaiguri ..	3·1	4·8	+ 1·7	0·8	+ 4·0
Rangpur ..	2·9	4·4	+ 1·5	1·8	+ 2·6
Malda ..	2·6	17·9	+15·3	8 6	+ 9·3
Bankura ..	1·8	1·8	± 0	1·5	+ 0·3
Darjeeling ..	1·3	0·4	− 0·9	0·1	+ 0·3
Dinajpur ..	1·1	3·4	+ 2·3	0·7	+ 2·7



Districts showing increase in percentage of Cholera Mortality to total mortality in 1927 over Ten year average.

(*c*) *Districts as Cholera Centres.*—About 50 per cent. of the total cholera deaths for the province was returned in 1927 from six districts, 4 of which—Dacca, Mymensingh, Faridpur and Bakarganj are situated in the Dacca and Khulna and 24-Parganas in the Presidency Division. All the former are river districts, contiguous to one another, while the 24-Parganas contains Calcutta which is the centre of communication for the rest of India with Bengal. The percentage of provincial cholera mortality increased in 10 districts and was reduced in 17 others when compared with the decennial average. It was higher in 12 and lower in 15 districts as against the previous year :—

Percentage of Provincial Cholera Mortality in each District.

Districts.	Decennial average.	1927.	Increase + or decrease −.	1926.	Increase + or decrease −.
Mymensingh ..	12·0	14·0	+ 2·0	6·2	+ 7·8
24-Parganas ..	9·9	8·4	− 1·5	14·0	− 5·6
Dacca ..	7·5	6·8	− 0·7	7·3	− 0·5
Midnapur ..	6·9	2·9	− 4·0	5·9	− 3·0
Tippera ..	6·1	5·5	− 0·6	6·8	− 1·3
Bakarganj ..	4·9	6·6	+ 1·7	5·3	+ 1·3
Faridpur ..	4·3	7·4	+ 3·1	8·7	− 1·3
Jessore ..	4·3	4·4	+ 0·1	7·3	− 2·9
Noakhali ..	3·8	5·2	+ 1·4	1·6	+ 3·6
Khulna ..	3·7	5·9	+ 2·2	5·1	+ 0·8
Rangpur ..	3·4	2·4	− 1·0	2·1	+ 0·3
Howrah ..	3·2	3·1	− 0·1	4·3	− 1·2
Pabna ..	3·2	3·0	− 0·2	4·1	− 1·1
Nadia ..	3·0	2·8	− 0·2	1·4	+ 1·4
Rajshahi ..	2·8	3·5	+ 0·7	2·0	+ 1·5
Murshidabad ..	2·7	3·2	+ 0·5	3·0	+ 0·2
Burdwan ..	2·7	1·3	− 1·4	2·0	− 0·7
Calcutta ..	2·6	1·8	− 0·8	2·9	− 1·1
Chittagong ..	2·6	2·2	− 0·4	0·7	+ 1·5
Birbhum ..	1·8	0·6	− 1·2	0·5	+ 0·1
Hooghly ..	1·7	1·1	− 0·6	1·2	− 0·1
Bogra ..	1·6	1·2	− 0·4	1·7	− 0·5
Jalpaiguri ..	1·5	0·1	− 1·4	0·3	− 0·2
Malda ..	1·3	4·3	+ 3·0	4·1	+ 0·2
Dinajpur ..	1·1	1·7	+ 0·6	0·6	+ 1·1
Bankura ..	1·0	0·4	− 0·6	0·6	− 0·2
Darjeeling ..	0·2	·002	−0·198	0·02	−0·018

33. **Extent of Cholera in the Various Districts as reported by the Health Officers.**—In Burdwan district, the epidemic raged in all the thanas except Kanksa and Faridpur in Asansol subdivision; in some instances, the disease was imported from fairs and festivals outside the district and later on became widespread. In Birbhum, Muraroi, Rampurhat and Muhammad Bazar thanas suffered most. In Bankura there were mild forms of epidemic in Indus, Borjora, Mejhia, Saltora and Raipur thanas, mostly imported from Burdwan district mining areas of Asansol and Dhanbad and also from the Ganga Sagar Mela. In Hooghly, it prevailed in all the thanas. In Howrah, cholera prevailed furiously in the early and latter parts of the year. In the majority of the cases, the disease was imported. In Midnapur, it was particularly prevalent in police-station Khejri (6·5 per mille), Nandigram (4·07), Sutahata (3·4), Ramnagar, Bhagbanpur and Maisadal (2·4 each). All these thanas are contiguous except Ramnagar; their inhabitants go out in large numbers to the Sunderbans and there become infected with the disease. The previous year's epidemic, which starting in December was continued in the first quarter of the year under review, reached its height during March and then gradually subsided.

In the 24-Parganas, the previous year's epidemic subsided in May but reappeared in November in several thanas of Basirhat and Diamond Harbour subdivisions. In Nadia, all the thanas were affected in both the waves—January to April and September to December—except Damurhuda and Karimpur which showed only a few cases in the last wave. In Murshidabad, cholera prevailed throughout the year and was at its worst during the latter part of the year. Jangipur subdivision suffered most—in police-station Suti alone 57 out of a total of 86 villages being affected. In Khulna, as in the previous year, a recurrent and sporadic character of the disease was observed. In many areas, subsidence and reappearance were noticed more than once and, excepting a few truly epidemic areas, the limitation of the disease to one or two houses in each area was the special feature of the outbreak, although the number of such affected areas was much more numerous than that of the previous year. There were villages where more than 50 deaths occurred in 3 or 4 instalments, the disease reappearing each time after complete subsidence and freedom for several weeks. The areas under Assasuni, Kaliganj, Batiaghata and Shyamnagar police-stations, where the sources of drinking water were defective and deficient, suffered most.

In Rajshahi, the cholera outbreak took a severe turn from the latter part of September and continued till the end of December, resulting in 3,294 deaths in the 3 months out of a total of 4,180 deaths during the whole year. Out of 4,180 deaths, 2,658 occurred in Sadar subdivision alone. In Malda, sporadic cases of cholera continued till May, when the disease assumed an epidemic form, but subsided in August. It again broke out in October and reached its maximum in the last week of November when 800 attacks and 600 deaths took place. In Rangpur, the epidemic occurred in November and December and

was responsible for 1,827 cases in police-stations Gaibandha, Gobindganj, Palashbari and Shaghatta of the Gaibandha subdivision and Nageswari and Bhurungamari in the Kurigram subdivision. In Gaibandha subdivision, the infection came from the other side of the Brahmaputra and in Nageswari from Cooch Behar, viâ the river Fulkumar. Temporary importation of cooly gangs for extension of railway lines at Teestamookh Ghat from other sections of the railway and the outbreak of cholera amongst the coolies who fled away to other villages carrying infection with them contributed to increase the disease. In Dinajpur, the epidemic continued throughout the year in 25 thanas, the highest number of deaths—318—occurring in Itahar police-station. Out of a total of 1,974, 1,289 deaths occurred in November and December, the thanas of Itahar, Parbatipur, Birol, Kotwali, Gangarampur and Kaharol being responsible for 1,140 deaths during the year. The duration of the epidemic was prolonged by the refusal of females, contact or otherwise, to be inoculated. In Pabna, there was a mild epidemic from March to June, but a severe one from September to November being unusually serious in October. The earlier epidemic affected the thanas of Pabna and Kamarkhand mainly and Algharia, Santhea and Chatmohar slightly, and was responsible for more than 300 attacks and 200 deaths. The second epidemic affected 6 thanas and was responsible for more than 900 attacks and 500 deaths. In Bogra, the first epidemic started in January, being imported into this district from the Fulchari Mela held within the Rangpur district and affected 100 villages, the number of attacks being 418 with 226 deaths. This epidemic was quickly controlled within a month. The second epidemic practically started in August in the flooded area of Dhunot police-station, being imported there from Sonamukhi and Bhanudanga within Serajganj subdivision of the Pabna district. It gradually pushed its way to the Sariakandi police-station through the agency of fakirs. Police-stations Dhunot, Sariakandi and Gabtoli were mostly affected. Subsiding here, it broke out next within the Dhupchanchia, Kahalu and Adamdighi police-stations, having been brought there from Rajshahi district. There was another recrudescence at Panchbibi in the last part of December. The main feature of this latter epidemic was that infection began to continually pour in from surrounding districts, and as soon as the outbreak was brought under control in one set of villages, a fresh set became affected in succession and so on.

In Mymensingh district, timely steps were taken to arrest the progress of the April epidemic, but the second seasonal prevalence commenced too early, i.e., in September, and spread to almost the whole of the district in the course of the next 2 months. In Bakarganj, the epidemic was most virulent, especially in December, the worst thanas being Bhola, Patuakhali, Gaurnadi, Baranadi, Nalchiti, Jhalakati, Mathbaria, Mehendiganj, Sarupkati, Barisal and Baufal.

In Chittagong, cholera broke out in an epidemic form, especially in thanas Rangunia, Rauzan, Boakhali and Sitakund. In the first 3 thanas, it was imported along the river Karnafuli and its tributaries from Chandraghona in the jurisdiction of the Chittagong Hill Tracts. In Sitakund, it started at the local Sivaratri Fair. In Tippera, the epidemic continued throughout the year, and all the thanas and the municipalities were heavily affected, the largest number of deaths occurring in Brahmanbaria.

34. **Cholera in Towns.**—7,212 deaths occurred in urban areas in 1927, giving a rate of 2·3 per mille of population compared with 4,584 deaths and a rate of 1·5 in 1926. The death rate, therefore, increased by 53·3 per cent. over that of the previous year. It was less than the rural rate (2·6 per mille) by 11·5 per cent. Four towns, viz., Ramjibanpur (Midnapur district), Darjeeling and Kurseong (Darjeeling district), and Nalchiti (Bakarganj district), did not report a single death from cholera. The highest rate (11·0 per mille) was returned from Dhulian in Murshidabad district and the lowest (·05) from Vishnupur in Bankura district; 21 districts registered rates below 1·0 per mille.

35. **Preventive Measures.**—The following steps were taken to control the cholera outbreaks in the various districts:—

(*a*) *Inoculation.*—This year 1,299,630 cubic centimetres of anti-cholera vaccine were issued compared with 256,000 cubic centimetres in 1926; 781,872 inoculations were reported by the various agencies mentioned in the statement below, against 57,395 in the previous

year. Although all inoculations performed were not completely performed, these figures prove the increasing popularity of the inoculation, due to its undoubted efficacy.

Districts.	Quantity of anti-cholera vaccine issued.	Number of inoculations performed.	Number of cholera deaths.
Burdwan	22,430	24,514	1,537
Birbhum	11,200	25,215	676
Bankura	400	No return	477
Midnapur	19,500	8,798	3,385
Hooghly	12,455	9,190	1,329
Howrah	26,345	19,427	3,688
24-Parganas ..	58,600	67,631	9,995
Nadia	40,300	22,084	3,376
Murshidabad ..	53,760	44,316	3,844
Jessore	31,780	31,469	5,208
Khulna	53,460	30,116	7,008
Rajshahi	61,000	40,377	4,180
Jalpaiguri	3,340	1,089	124
Darjeeling	..	..	3
Dinajpur	40,420	4,416	1,972
Rangpur	24,690	24,075	2,824
Bogra	17,850	17,229	1,378
Pabna	59,460	27,749	3,577
Malda	88,045	67,345	5,136
Dacca	28,880	4,754	8,077
Mymensingh.. ..	146,420	115,831	16,558
Faridpur	75,020	10,679	8,718
Bakarganj	50,685	25,964	7,807
Chittagong	31,500	36,443	2,657
Tippera	53,380	29,993	6,530
Noakhali	98,880	28,057	6,142
Chittagong Hill Tracts ..	5,050	5,180	Not reported.
Central Co-operative Anti-Malarial Society and Bengal Health Association	17,140	16,374	..
Mills and Factories ..	8,560	482	..
Railways and Steamer Companies ..	20,825	676	..
Hospitals and Dispensaries	5,415	305	..
Tea gardens ..	132,840	36,957	..
Puri Pilgrims ..	..	4,464	..
Publicity Branch ..	..	673	..
Total for 1927 ..	1,299,630	781,872	116,206
Total for 1926 ..	256,000	57,395	57,395

(*b*) *Disinfection of Water-Supplies.*—39,356 wells and 33,550 tanks, in addition to a number of river ghats, were disinfected by the District Sanitary Staff during the year, besides 3,592 wells, 1,235 tanks and 504 latrines disinfected by the staff of Sub-Assistant Surgeons and Sanitary Inspectors deputed by the Public Health Department to the various districts for anti-cholera work.

(*c*) Disinfection of the infected houses and of the patients' clothes was also undertaken by the local sanitary authorities.

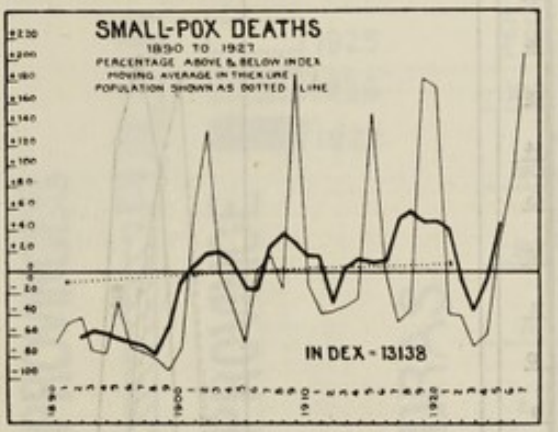
(*d*) Besides despatching ample supplies of bleaching powder, the Bengal Public Health Department assisted the local authorities with the services of 20 medical officers from the field staff augmented by a temporary epidemic staff of 20 Sub-Assistant Surgeons and 100 Sanitary Inspectors.

(*e*) Lectures and magic lantern demonstrations by the local health staffs and the Publicity Branch of the Bengal Public Health Department along with the supply of posters and leaflets.

(*f*) Special watch was maintained over pilgrims for the Puri Rathjatra and the Gangasagar mela by the local authorities concerned to detect suspected cases.

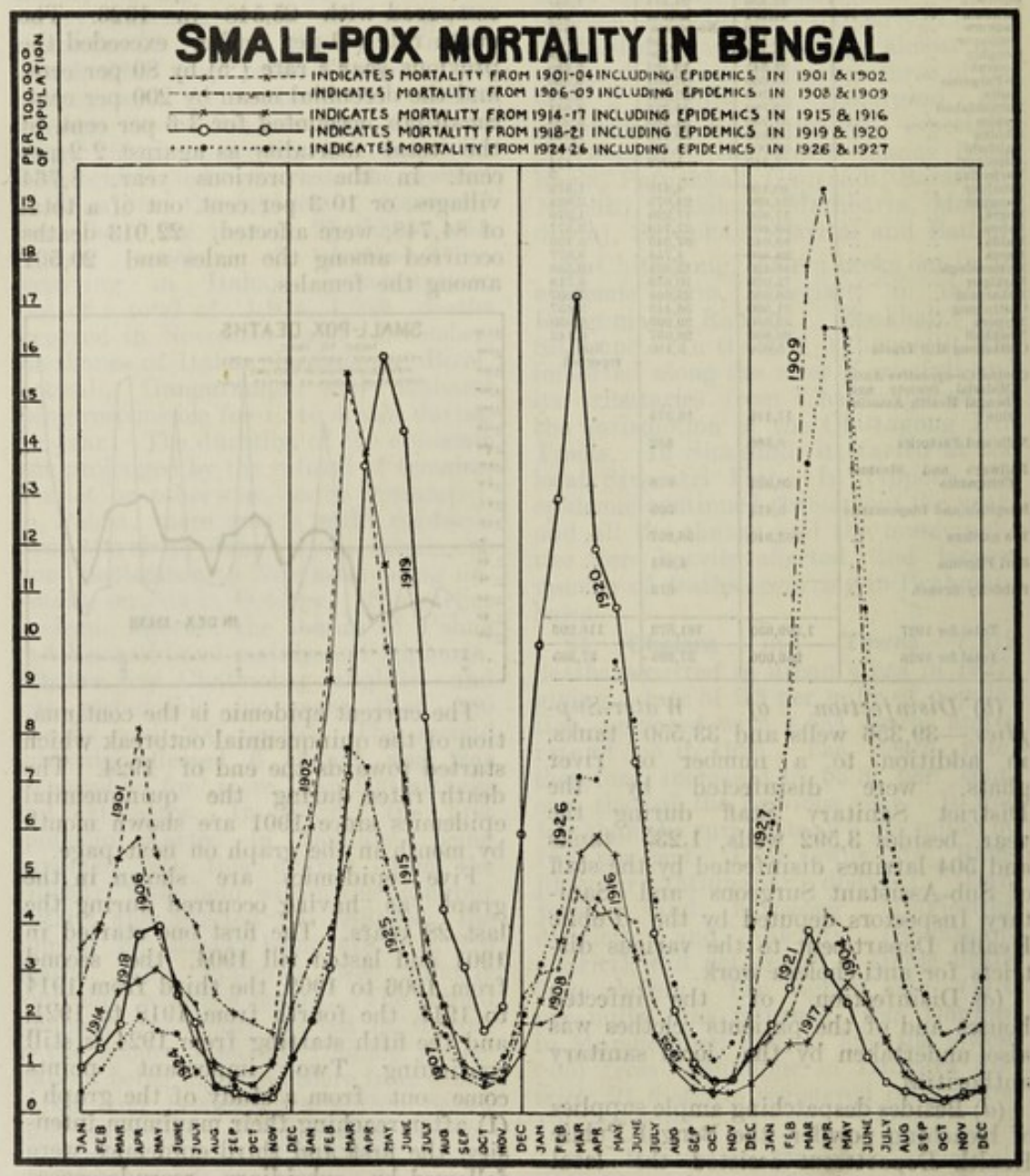
Small-pox.

36. **General Prevalence.**—In 1927, 42,514 deaths from small-pox occurred, compared with 25,548 in 1926. The death rate (·9 per mille) exceeded the previous year's rate (·5) by 80 per cent. and the decennial mean by 200 per cent. Small-pox accounted for 3·6 per cent. of the total mortality as against 2·2 per cent. in the previous year. 8,764 villages, or 10·3 per cent. out of a total of 84,748, were affected. 22,013 deaths occurred among the males and 20,501 among the females.



The current epidemic is the continuation of the quinquennial outbreak which started towards the end of 1924. The death rates during the quinquennial epidemics since 1901 are shown month by month in the graph on next page.

Five epidemics are shown in the graph as having occurred during the last 28 years. The first one started in 1901 and lasted till 1904, the second from 1906 to 1909, the third from 1914 to 1917, the fourth from 1918 to 1921, and the fifth starting from 1924 is still continuing. Two important points come out from a study of the graph: (1) after reaching their maximum intensity, the first and third epidemics were followed by subsidiary recrudescences which lasted a year or two before they finally subsided; the second was preceded by a rise in the death rate for 3 years before it reached its maximum; the fourth had two peaks in 2 consecutive years before it came down; the fifth has shown a gradual rise every year since its commencement and is not yet ended; possibly it will merge into the


SMALL-POX MORTALITY IN BENGAL
INDICATES MORTALITY FROM 1901-04 INCLUDING EPIDEMICS IN 1901 & 1902
INDICATES MORTALITY FROM 1906-09 INCLUDING EPIDEMICS IN 1908 & 1909
INDICATES MORTALITY FROM 1914-17 INCLUDING EPIDEMICS IN 1915 & 1916
INDICATES MORTALITY FROM 1918-21 INCLUDING EPIDEMICS IN 1919 & 1920
INDICATES MORTALITY FROM 1924-26 INCLUDING EPIDEMICS IN 1926 & 1927
PER 100,000 OF POPULATION
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEP
OCT
NOV
DEC
1901
1902
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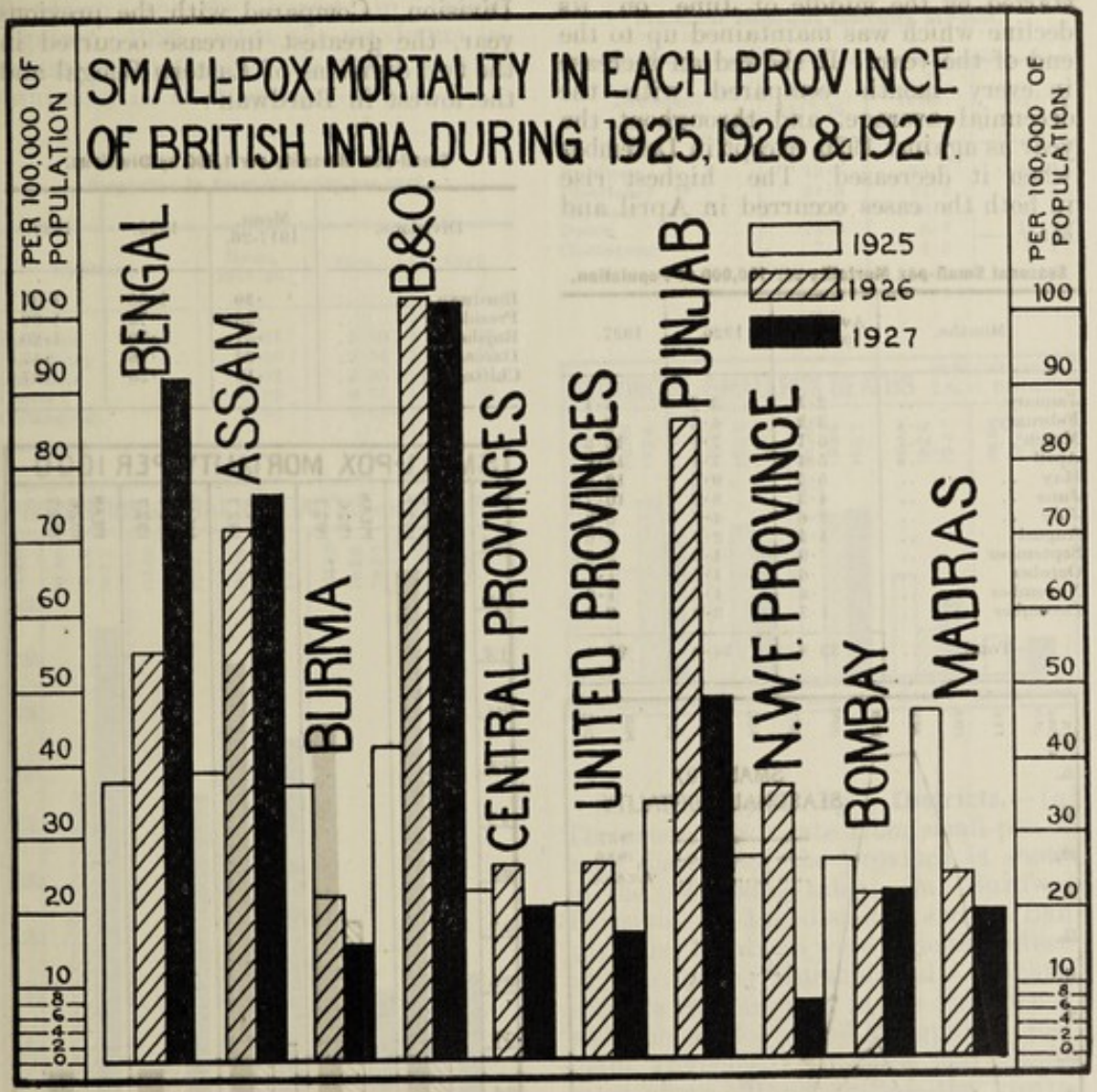

SMALL-POX MORTALITY IN EACH PROVINCE OF BRITISH INDIA DURING 1925, 1926 & 1927.
PER 100,000 OF POPULATION
100
90
80
70
60
50
40
30
20
10
8
6
4
2
0
BENGAL
ASSAM
BURMA
B.&O.
CENTRAL PROVINCES
UNITED PROVINCES
PUNJAB
N.W.F. PROVINCE
BOMBAY
MADRAS
1925
1926
1927

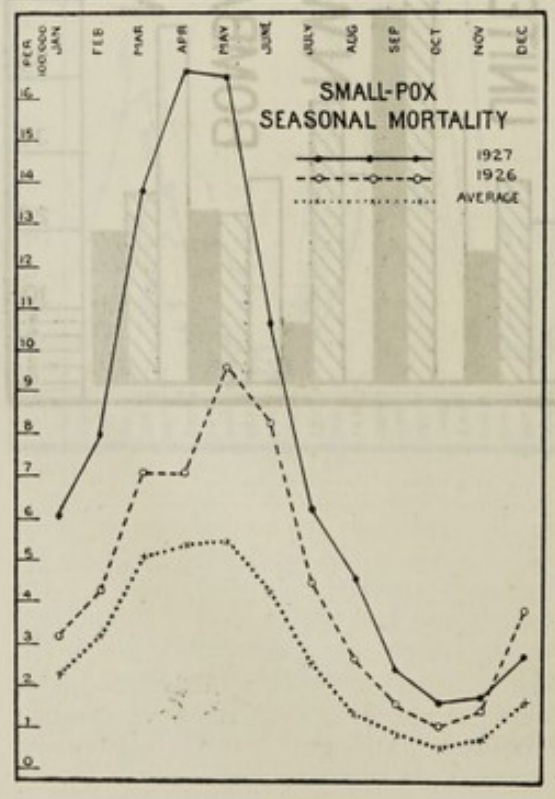
approaching pandemic; (2) in every epidemic the rise began about November and December, the peak was attained in March or April, and the decline began about the middle of June.

The graph on page 35 shows the small-pox mortality in each province of British India during 1925, 1926 and 1927.

37. **Seasonal Incidence.**—The death rate began to increase in March, continued doing so in April and May and started by the middle of June on its decline which was maintained up to the end of the year. It showed an increase in every month compared with the decennial average, and throughout the year as against 1926, except in December when it decreased. The highest rise in both the cases occurred in April and May :—

Seasonal Small-pox Mortality per 100,000 of Population.

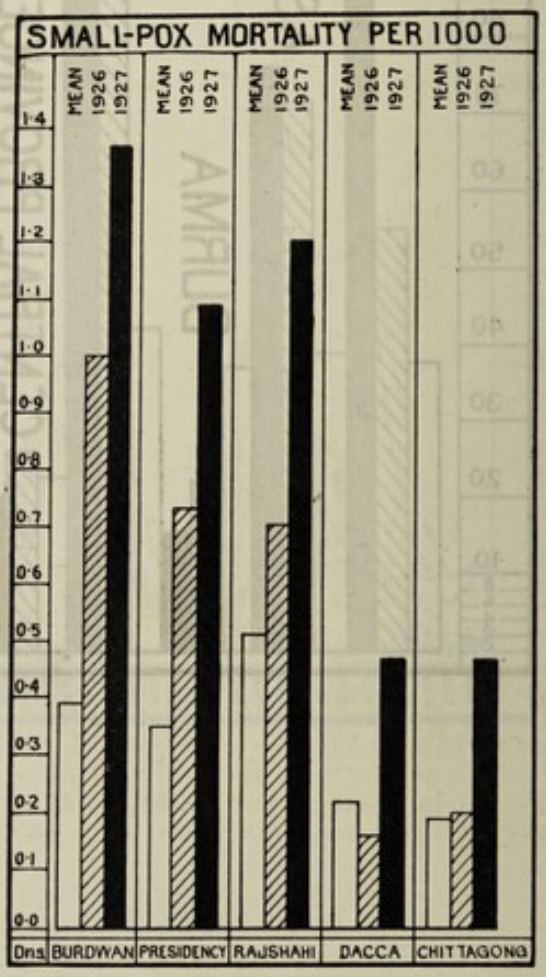
Months.	Average, 1917-26.	1926.	1927.
January ..	2·3	3·2	6·1
February ..	3·2	4·3	8·0
March	5·1	7·1	13·8
April ..	5·4	7·1	16·6
May	5·5	9·6	16·5
June	4·3	8·3	10·7
July	2·6	4·5	6·3
August ..	1·4	2·7	4·6
September ..	·9	1·6	2·5
October ..	·6	1·1	1·7
November ..	·8	1·5	1·8
December ..	1·7	3·9	2·8
Total ..	33·8	54·9	91·4



38. **Small-pox by Divisions.**—(*a*) *Small-pox Mortality per Mille.*—Western Bengal, probably on account of its contiguity to the province of Bihar on one side and Calcutta on the other, fared worst and was closely followed by Northern Bengal. Eastern Bengal escaped rather lightly. The mortality in 1927 was about 4 times of the previous decennial average in Burdwan, 3 times in Presidency, 2½ times in Rajshahi and Chittagong and double in Dacca Division. Compared with the previous year, the greatest increase occurred in the two divisions of Eastern Bengal and the lowest in Burdwan :—

Small-pox Mortality per 1,000 by Divisions.

Divisions.	Mean, 1917-26.	1926.	1927.
Burdwan ..	·39	1·00	1·37
Presidency ..	·35	·73	1·09
Rajshahi ..	·51	·70	1·20
Dacca	·22	·16	·47
Chittagong ..	·19	·20	·47

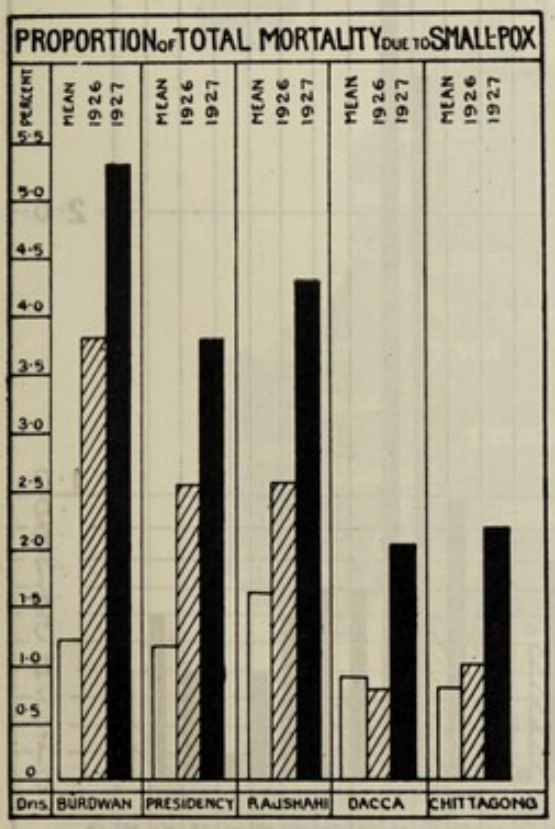


(*b*) *Proportion of Total Mortality due to Small-pox.*—The following statement

shows the percentage proportion of small-pox to total mortality in each division. The highest percentage in 1927 occurred in Burdwan Division and the lowest in Dacca. Roughly speaking, 1 in 19 deaths in Burdwan was due to small-pox, 1 in 23 in Rajshahi, 1 in 27 in Presidency, 1 in 48 in Chittagong and 1 in 50 in Dacca Division. Compared with the decennial mean, this proportion rose in all the divisions, the highest rise occurring in Burdwan and the lowest in Dacca. Against 1926 rates, the maximum increase was noticed in Rajshahi and the minimum in Chittagong :—

Proportion to Total Mortality per cent.

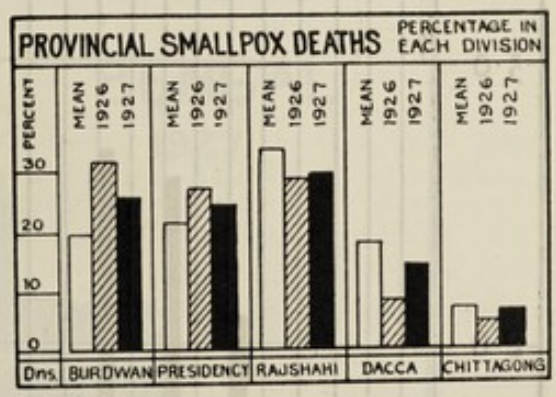
Divisions.	Mean, 1917-26.	1926.	1927.
Burdwan ..	1·21	3·80	5·30
Presidency ..	1·16	2·54	3·79
Rajshahi ..	1·62	2·55	4·30
Dacca ..	0·89	0·79	2·03
Chittagong ..	0·81	1·01	2·18



(*c*) *Divisions as Small-pox Centres.*—This year, 29·2 per cent., or a little less than one-third of the total small-pox deaths, occurred in Rajshahi Division, while Dacca and Chittagong Divisions together claimed about one-fifth of such deaths. Rajshahi, Dacca and Chittagong Divisions appear to have improved during the last 10 years, while Burdwan and Presidency to have become worse so far as small-pox is concerned. Compared with the previous year, while the proportion of such deaths decreased in the Burdwan and Presidency Divisions, the remaining 3 divisions showed an increase :—

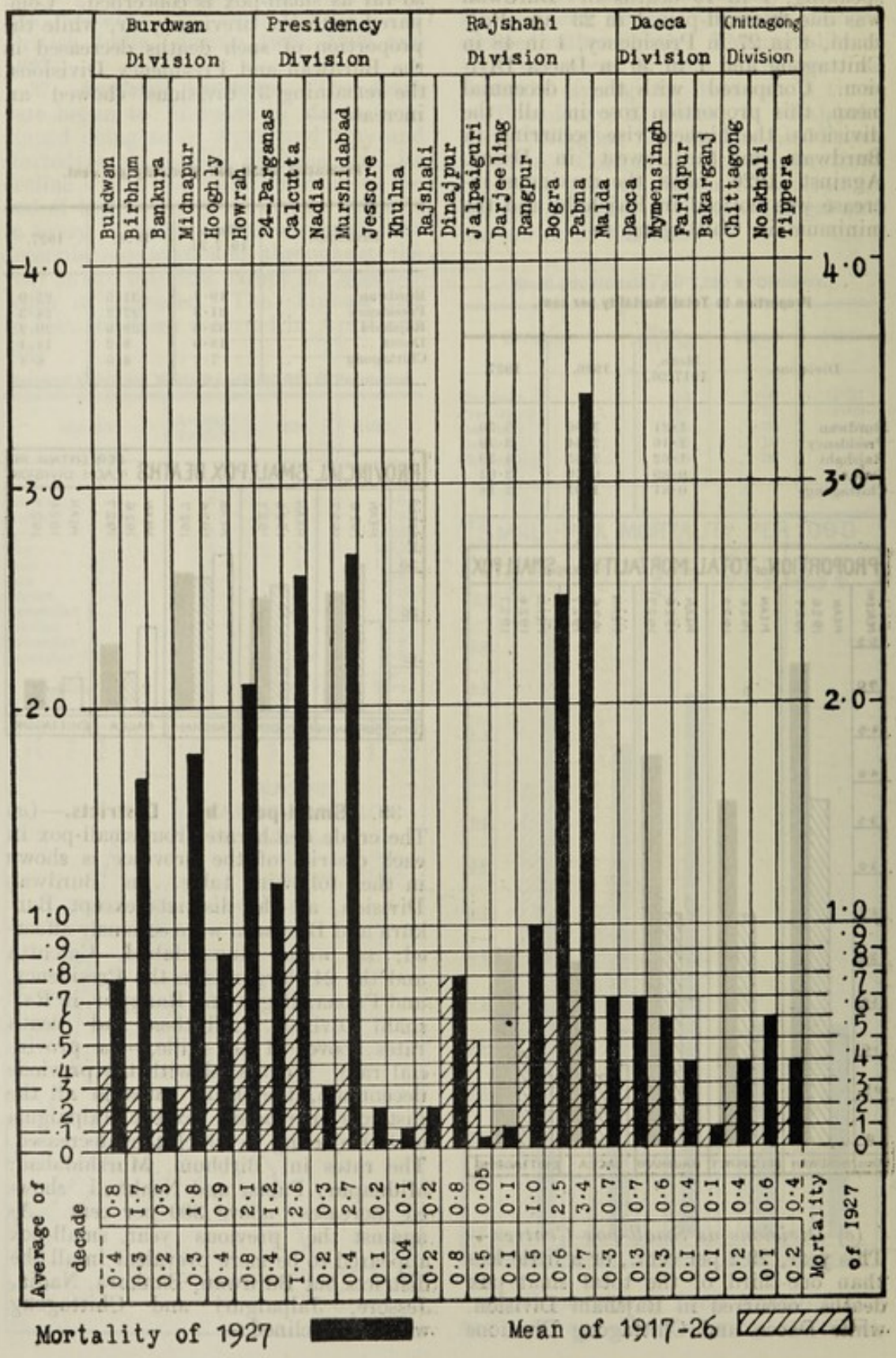
Provincial Small-pox Mortality per cent.

Divisions.	Mean, 1917-26.	1926.	1927.
Burdwan ..	19·7	31·5	25·9
Presidency ..	21·3	27·2	24·3
Rajshahi ..	33·8	28·6	29·2
Dacca	18·0	8·2	14·1
Chittagong ..	7·1	4·5	6·4



39. **Small-pox by Districts.**—(*a*) The crude death rate from small-pox in each district of the province is shown in the following table. In Burdwan Division, all the districts except Bankura and Burdwan were seriously affected; so were Murshidabad, Calcutta and the 24-Parganas in the Presidency, and Pabna, Bogra and Rangpur, in Rajshahi Division. All these had death rates above ·91 per mille,—the provincial rate. Compared with the previous decennium, the death rates in all the districts increased, except Jalpaiguri and Darjeeling in which they decreased. The rates in Birbhum, Murshidabad, Midnapur, Pabna and Noakhali showed increases above 300 per cent. As against the previous year, small-pox appeared to be more prevalent in all the districts but Burdwan, Bankura, Nadia, Jessore, Jalpaiguri and Chittagong where it declined :—

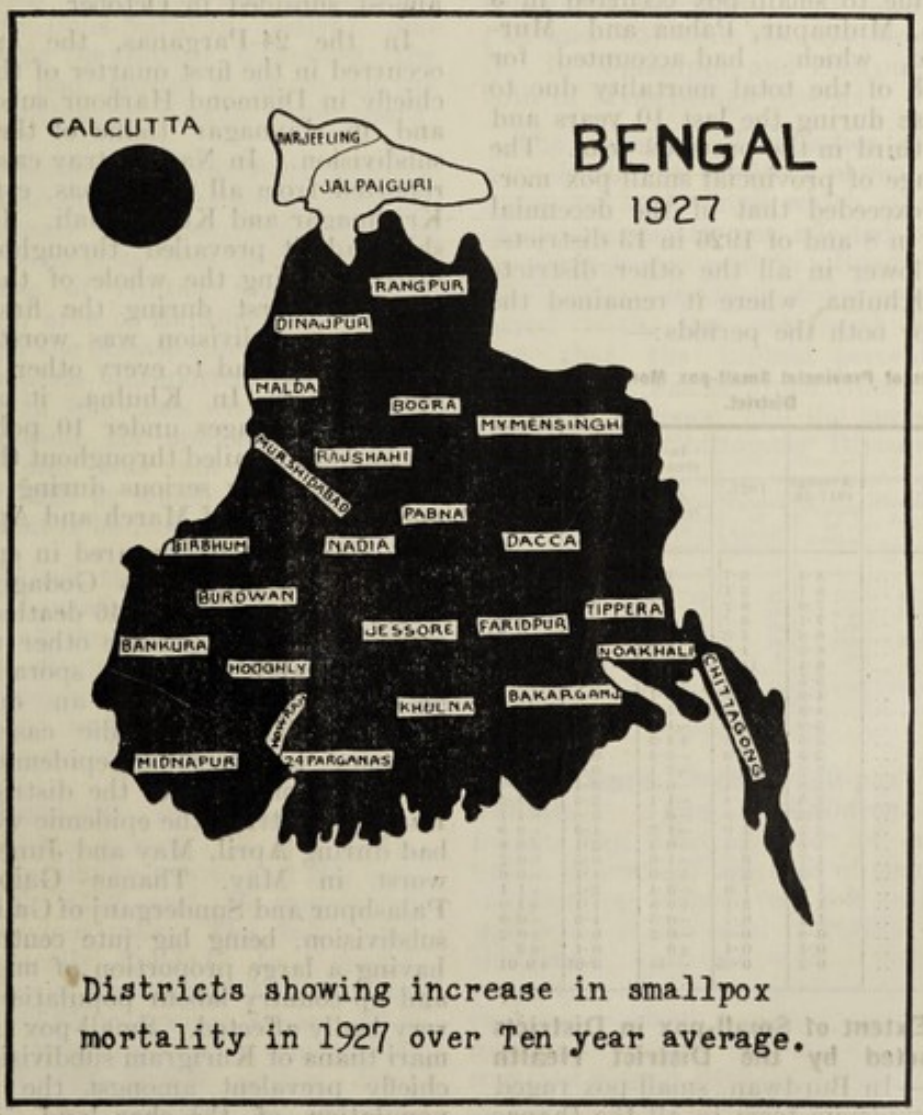
Graph showing the Relative Intensity of Small-pox mortality in each district of Bengal Presidency during the year 1927 and the Average of decade 1917-26.



Small-pox Death Rates per mille.

Districts.	Average of decade, 1917-26.	1927.	Increase + or decrease −.	Percentage of increase + or decrease −.	1926.	Increase + or decrease −.	Percentage of increase + or decrease −.
Calcutta ..	1·04	2·65	+1·61	+154·8	·87	+1·78	+204·5
Howrah ..	·77	2·15	+1·38	+179·2	1·90	+ ·25	+ 13·2
Dinajpur ..	·75	·78	+ ·03	+ 4·0	·36	+ ·42	+116·7
Pabna ..	·73	3·45	+2·72	+372·5	2·32	+1·13	+ 48·7
Bogra ..	·65	2·50	+1·85	+284·6	1·37	+1·13	+ 82·5
Jalpaiguri ..	·54	·05	− ·49	− 90·7	·19	− ·14	− 73·7
Rangpur ..	·50	1·05	+ ·55	+110·0	·46	+ ·59	+128·2
Murshidabad	·45	2·72	+2·27	+504·4	2·15	+ ·57	+ 26·5
24-Parganas	·43	1·24	+ ·81	+188·4	·89	+ ·35	+ 39·3
Burdwan ..	·42	·84	+ ·42	+100·0	1·09	− ·25	− 22·9
Hooghly ..	·40	·95	+ ·55	+137·5	·74	+ ·21	+ 28·3
Dacca ..	·33	·67	+ ·34	+103·0	·19	+ ·48	+252·6
Midnapur ..	·32	1·83	+1·51	+471·8	·87	+ ·96	+110·3
Malda ..	·29	·66	+ ·37	+127·6	·55	+ ·11	+ 20·0
Birbhum ..	·28	1·74	+1·46	+521·4	1·23	+ ·51	+ 41·4
Mymensingh	·27	·58	+ ·31	+114·8	·25	+ ·33	+132·0
Chittagong	·24	·36	+ ·12	+ 50·0	·41	− ·05	− 12·2
Nadia ..	·23	·28	+ ·05	+ 21·7	·32	− ·04	− 12·5
Tippera ..	·19	·45	+ ·26	+136·8	·08	+ ·37	+462·5
Bankura ..	·18	·28	+ ·10	+ 55·5	·40	− ·12	− 30·0
Rajshahi ..	·18	·20	+ ·02	+ 11·1	·09	+ ·11	+122·2
Faridpur ..	·15	·36	+ ·21	+140·0	·09	+ ·27	+300·0
Noakhali ..	·14	·62	+ ·48	+342·9	·19	+ ·43	+226·3
Jessore ..	·13	·24	+ ·11	+ 84·6	·32	− ·08	− 25·0
Darjeeling..	·13	·07	− ·06	− 46·2	·007	+ ·063	+900·0
Bakarganj..	·05	·10	+ ·05	+100·0	·04	+0·6	+150·0
Khulna ..	·04	·12	+ ·08	+200·0	·06	+0·6	+100·0

(*b*) *The Relative Importance of Small-pox as a Cause of Death.*—In Pabna 1 death in every 7, in Bogra 1 in every 8 and in Calcutta and Howrah 1 in every 13 was due to small-pox in 1927. At the other extreme, Jalpaiguri returned 1 in 555 and Darjeeling 1 in 385 deaths accounted for by small-pox. In every district except Jalpaiguri and Darjeeling, deaths due to small-pox accounted for a larger proportion of the total district mortality than it had done during the previous 10 years. Compared with 1926, 6 districts showed a lower and the remaining 21 a higher proportion of their total mortality as due to small-pox :—



Districts showing increase in smallpox mortality in 1927 over Ten year average.

Small-pox as a Percentage of the Total Mortality.

Districts.	Average 1917-26.	1927.	Increase + or decrease −.	1926.	Increase + or decrease −.
Calcutta ..	3·57	7·77	+ 4·20	2·50	+5·27
Howrah ..	2·78	7·40	+ 4·62	6·16	+1·24
Pabna ..	2·47	13·58	+11·11	9·52	+4·06
Bogra ..	2·44	12·18	+ 9·74	6·80	+5·38
Dinajpur ..	2·12	2·29	+ ·17	1·12	+1·17
Rangpur ..	1·70	4·10	+ 2·40	1·72	+2·38
Jalpaiguri ..	1·66	·18	− 1·48	·68	− ·50
24-Parganas ..	1·62	5·14	+ 3·52	3·52	+1·62
Dacca ..	1·37	3·43	+ 2·06	·97	+2·46
Hooghly ..	1·29	3·89	+ 2·60	3·01	+ ·88
Burdwan ..	1·22	3·20	+ 1·98	4·27	−1·07
Murshidabad ..	1·18	8·06	+ 6·88	6·23	+1·83
Mymensingh ..	1·18	2·78	+ 1·60	1·34	+1·44
Midnapur ..	1·08	7·59	+ 6·51	3·46	+4·13
Malda ..	·96	2·27	+ 1·31	1·92	+ ·35
Tippera ..	·96	2·67	+ 1·71	·44	+2·23
Chittagong ..	·87	1·44	+ ·57	1·87	− ·43
Birbhum ..	·76	5·99	+ 5·23	4·22	+1·77
Nadia ..	·61	1·00	+ ·39	1·05	− ·05
Faridpur ..	·59	1·32	+ ·73	·38	+ ·94
Bankura ..	·55	1·12	+ ·57	1·59	− ·47
Noakhali ..	·54	2·37	+ 1·83	·90	+1·47
Rajshahi ..	·49	·63	+ ·14	·30	+ ·33
Jessore ..	·44	·81	+ ·37	1·11	− ·30
Darjeeling ..	·35	·26	− ·09	·02	+ ·24
Bakarganj ..	·17	·36	+ ·19	·17	+ ·19
Khulna ..	·15	·42	+ ·27	·26	+ ·16

(*c*) *Districts as Small-pox Centres.*—A little less than one-third of the total deaths due to smalll-pox occurred in 3 districts, Midnapur, Pabna and Murshidabad, which had accounted for one-sixth of the total mortality due to this cause during the last 10 years and for one-third in the previous year. The percentage of provincial small-pox mortality exceeded that of the decennial average in 8 and of 1926 in 13 districts. It was lower in all the other districts except Khulna, where it remained the same, for both the periods:—

Percentages of Provincial Small-pox Mortality in each District.

Districts.	Average 1917-26.	1927.	Increase + or decrease −.	1926.	Increase + or decrease −.
Mymensingh ..	8·4	6·7	−1·7	4·7	+2·0
Dinajpur ..	8·1	3·1	−5·0	2·4	+0·7
Rangpur ..	7·9	6·2	−1·7	4·6	+1·6
Calcutta ..	7·1	6·7	−0·4	3·7	+3·0
24-Parganas ..	6·6	7·2	+0·6	8·5	−1·3
Dacca ..	6·6	4·9	−1·7	2·4	+2·5
Pabna ..	6·4	11·3	+4·9	12·6	−1·3
Midnapur ..	5·5	11·5	+6·0	9·1	+2·4
Howrah ..	4·9	5·0	+0·1	7·4	−2·4
Bogra ..	4·3	6·2	+1·9	5·6	+0·6
Burdwan ..	3·9	2·8	−1·1	6·2	−3·4
Murshidabad ..	3·6	8·1	+4·5	10·6	−2·5
Tippera ..	3·3	2·9	−0·4	0·8	+2·1
Jalpaiguri ..	3·2	0·1	−3·1	0·7	−0·6
Hooghly ..	2·8	2·4	−0·4	3·1	−0·7
Chittagong ..	2·5	1·4	−1·1	2·6	−1·2
Faridpur ..	2·2	1·9	−0·3	0·8	+1·1
Nadia ..	2·2	1·0	−1·2	1·9	−0·9
Malda ..	1·8	1·5	−0·3	2·1	−0·6
Rajshahi ..	1·7	0·7	−1·0	0·5	+0·2
Birbhum ..	1·5	3·5	+2·0	4·1	−0·6
Jessore ..	1·4	1·0	−0·4	2·1	−1·1
Noakhali ..	1·3	2·1	+0·8	1·1	+1·0
Bankura ..	1·2	0·7	−0·5	1·6	−0·9
Bakarganj ..	0·8	0·6	−0·2	0·4	+0·2
Khulna ..	0·4	0·4	±0	0·4	±0
Darjeeling ..	0·2	0·05	− ·15	0·01	+0·04

40. **Extent of Small-pox in Districts as reported by the District Health Officers.**—In Burdwan, small-pox raged in an epidemic form in all the thanas except Kanksa and Faridpur in Asansol subdivision. In Birbhum, Nalhati (361 deaths), Rampurhat (340), Maureswar (204), Murarai (179) and Labpur (120) thanas suffered most. During the early part of the year, some persons belonging to Rampurhat subdivision were attacked in Murshidabad, the neighbouring district, and concealed the disease which thus spread unnoticed. In Hooghly, small-pox prevailed mostly in Sadar and Serampur subdivisions. In Howrah, the first few cases were imported, and the disease raged furiously throughout the greater part of the year. In Midnapur it was particularly prevalent in police-stations Sabong and Potaspur where the death rate was 4·7 and 4·4, respectively, and also in police-stations Nayagram and Gopiballabpur (3·1 each), Tamluk (2·8), Midnapur and Narayangarh (2·7 each) and Khejri (2·2); it prevailed in all the thanas more or less throughout the year, rose to its maximum in March-May and almost subsided in October.

In the 24-Parganas, the epidemic occurred in the first quarter of the year, chiefly in Diamond Harbour subdivision and in Jaynagar thana of the Sadar subdivision. In Nadia, stray cases were reported from all the thanas, especially Krishnagar and Kumarkhali. In Murshidabad, it prevailed throughout the district during the whole of the year, but was worst during the first half. Jangipur subdivision was worst, from whence it spread to every other part of the district. In Khulna, it affected about 157 villages under 10 police-stations, and prevailed throughout the year, becoming rather serious during the hot and dry months of March and April.

In Rajshahi, it appeared in epidemic form in police-stations Godagiri and Bagnara, where 64 and 46 deaths occurred respectively. In the other thanas, the cases were sometimes sporadic and on other occasions took an epidemic form. In Malda, sporadic cases with tendency to becoming epidemic were reported from all over the district. In Rangpur district, the epidemic was very bad during April, May and June, being worst in May. Thanas Gaibandha, Palashpur and Sunderganj of Gaibandha subdivision, being big jute centres and having a large proportion of migratory and up-country labour population, were very badly affected. Small-pox in Chilmari thana of Kurigram subdivision was chiefly prevalent amongst the Bhatia population of the char land. Domar thana, which was reported to be very bad in the previous year and where

vaccination had systematically been performed in almost all the villages, was very slightly affected this year. In Pabna, it prevailed throughout the year, though in epidemic form during the first 6 months only. It reached its climax in April, when it was responsible for more than 2,000 attacks and about 500 deaths, and began to subside from May. It affected 8 thanas seriously, viz., Belkuchi, Raiganj, Tarash, Ullapara, Shahzadpur, Chauhali, Kamarkhand and Santhia and 4 others less so. During December, there were some localised outbreaks in Pabna and Shujanagar thanas of Sadar and Tarash thana in Serajganj subdivision. In Bogra, the epidemic prevailed from the beginning of the year at the Gabtoli, Shibganj and later in the Dhunot police-stations. It broke out at first in December of the previous year at Kagoil but the people refused to take vaccination before the Pous-Narayan festival, and by the time the festival was over, the epidemic had spread to nearly all the villages within the Kagoil union board.

In Mymensingh, the epidemic occurred in May and June in Itna and Austogram thana areas. In Bakarganj, the epidemic was most virulent in the colonisation areas of Amtali thana and at Charfason area of Baranadi thana. In the former the disease started in January and remained unreported till March, resulting in 785 cases with 224 deaths. At Charfason, the epidemic started in October and was not reported till January 1928 by which time 43 cases with 6 deaths had occurred.

In Noakhali, the disease was imported from Calcutta and Chittagong. In Tippera, all the thanas and municipalities were affected, and the disease prevailed throughout the year. The largest number of deaths (759) occurred in Brahmanbaria thana.

41. **Small-pox in Towns.**—4,519 deaths, with a rate of 1·45 per mille, occurred in all the towns in 1927, compared with 2,338 and ·75 respectively in the previous year. The death rate was practically doubled. In Calcutta, the number of deaths was 2,860 and the death rate 2·65, as against 934 and ·87 in 1926, the death rate being thus trebled in 1927; 37,995 deaths with a death rate of ·87 was reported from the rural areas, compared with 23,210 deaths and ·53 death rate in the previous year, showing an increase of about 64 per cent. The urban rate exceeded the rural by about 66 per cent.

Small-pox in Towns.

	1926.	1927.
Total number of deaths—		
Province	25,548	42,514
Towns	2,338	4,519
Calcutta	934	2,860
Rural areas	23,210	37,995
Death rate per mille of population—		
Province	·55	·91
Towns	·75	1·45
Calcutta	·87	2·65
Rural areas	·53	·87

No deaths were reported from 20 towns. The highest death rate (6·1) was reported from Tamluk in Midnapur district, followed by 4·2 in Ramjibanpur and 3·8 in Kharar (both in the same district), Gaibandha (3·6) and Jaynagar (3·2). Five towns returned a rate between 2 and 3 per mille, 16 between 1 and 2 per mille and 90 below 1·0 per mille. The lowest rates (·04 and ·05) were recorded, respectively, in Jamalpur and Sherpur towns, both in Mymensingh district.

The divisional distribution of small-pox deaths in towns is shown in the following table from which it appears that more deaths per affected town on an average occurred in Burdwan and Dacca than in other divisions as compared with the provincial average, and that the highest percentage of such deaths was returned from those in Burdwan Division, and the lowest from those in the Chittagong Division :—

Divisions.	Total number of towns.	Number of towns infected.	Number of deaths.	Percentage of deaths.	Average deaths per town.
Burdwan ..	29	25	767	46·2	30·7
Presidency ..	47	38*	409	24·6	10·8
Rajshahi ..	15	10	119	7·2	11·9
Dacca	19	16	335	20·2	20·9
Chittagong ..	6	6	29	1·7	4·8
Total ..	116	95	1,659	100·0	17·5

* Excluding Calcutta.

42. **Deaths from Small-pox among Infants and Children.**—2,932 infants and 8,020 children of one and under 10 years of age died of small-pox, representing respectively 6·9 and 18·9 per cent. of the total mortality due to this cause, compared with a percentage proportion of 8·3 and 20·9 in the previous year. About a quarter of the total number of deaths thus appear to have occurred among persons below 10 years of age and the remaining three-fourths among age periods above 10. The following statement shows the divisional distribution of small-pox deaths among

infants and children between 1 and 10 years of age :—

Divisions.	Number of small-pox deaths.		Total number of small-pox deaths at all ages.
	Under 1 year.	Between 1 and 10 years.	
Burdwan	690	1,991	11,019
Presidency (including Calcutta)	1,033	2,646	10,351
Rajshahi	1,015	2,865	12,406
Dacca	70	201	6,008
Chittagong	124	317	2,730
Total ..	2,932	8,020	42,514

No death among this community was reported from Hooghly, Nadia, Jessore, Rajshahi, Jalpaiguri, Darjeeling, Dacca, Faridpur and Bakarganj districts. Only 11 deaths were returned from Dinajpur among children between 1 and 10 years of age, but none among infants. Khulna recorded only 15 and 2 deaths in the 2 communities respectively. The highest number of deaths (650 and 1,775 among both the communities respectively) were reported from Pabna, a distinct proof of extremely defective primary vaccination.

43. **Preventive Measures.**—Vigorous campaigns of vaccination and revaccination were undertaken in most of the districts, in addition to disinfection of infected houses and clothes and propaganda work. The Public Health Department placed the services of its Vaccination Bureau officers, the Circle Assistant Directors and its Publicity Branch at the disposal of the local bodies whenever necessary. The local Government contributed as usual Rs. 50,000 with a view to encourage free vaccination. Detailed information about vaccination is given in another report. Here it may be mentioned that opposition to vaccination in normal times is still a prominent feature amongst many communities in Bengal, and this accounts for the accumulation of unprotected persons, and the resultant small-pox epidemics. Opinions solicited on the necessity of some sort of temporary emergency legislation to compel people to take revaccination show that a vast majority of the local bodies are in its favour and the Public Health Department is considering the question of moving the local Government for the issue of special regulations under the Epidemic Diseases Act.

44. **Admission of Small-pox Cases in Hospitals in Bengal.**—The following statement shows, in addition to the vaccinal condition of small-pox patients admitted to the various hospitals in Bengal, that out of 1,198 admissions 120 had modified, 280 discrete, 487 confluent, 245 semi-confluent and 66 hæmorrhagic small-pox. Classified according to age, 23 cases occurred in infants, 93 in children between 1 and under 10 years of age, 182 between 10 and under 20, 457 between 20 and under 30 and 443 above 30 years of age. From this it appears that liability to small-pox increased with age, due to wearing away of the immunity conferred by the primary vaccination in youth.

Statement showing the Vaccinal Condition of Small-pox Patients treated at the Various Medical Institutions during 1927.

Districts.	Total number of admissions from small-pox.	Number vaccinated as shown by the presence of one or more vaccination cicatrices.	Number stated to have been successfully vaccinated but bearing no vaccination cicatrices.	Number stated to be unvaccinated or vaccinated unsuccessfully bearing no vaccination mark.	Number previously unvaccinated but vaccinated during incubation of small-pox.	Number stated to have been successfully revaccinated.	Type of small-pox.					Vaccination according to age.				
							Modified.	Discrete.	Confluent.	Semi-confluent.	Hæmorrhagic.	Under 1 year.	1 year and under 10.	10 years and under 20.	20 years and under 30.	Upwards.
Burdwan ..	41	5	18	18	..	..	6	22	11	..	2	1	6	15	10	9
Birbhum ..	28	21	..	6	1	..	19	2	6	..	1	1	1	3	13	10
Bankura ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Midnapur ..	14	10	..	4	..	..	6	6	1	1	..	..	..	3	9	2
Hooghly ..	7	5	..	1	..	1	..	..	7	..	..	..	..	2	2	3
Howrah ..	20	2	..	18	..	..	..	2	18	..	..	..	..	1	11	8
24-Parganas ..	3	1	..	2	..	..	1	1	1	..	..	..	..	1	1	1
Calcutta (Campbell Medical Hospital).	859	433	81	328	4	13	24	173	377	228	57	14	53	125	335	332
Nadia	9	5	2	2	..	..	3	3	3	..	..	..	3	2	2	2
Murshidabad ..	3	1	..	..	2	..	..	..	3	..	..	..	..	..	3	..
Jessore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Khulna ..	7	7	..	..	..	..	4	1	1	1	..	..	..	..	6	1
Rajshahi ..	27	19	..	5	2	1	11	7	6	2	1	..	6	5	7	9
Dinajpur ..	6	2	..	3	..	1	..	1	..	5	..	..	..	..	4	2
Jalpaiguri ..	22	10	..	4	4	4	8	7	5	2	..	..	1	3	5	13
Darjeeling ..	18	9	..	9	..	..	4	1	13	..	..	..	6	2	6	4
Rangpur ..	5	1	2	2	..	..	..	2	3	..	..	..	..	2	3	..
Bogra	..	..	..	..	..	Information not received				..	..	..	..	..	..	..
Pabna	3	1	..	..	..	2	1	1	1	..	..	..	..	..	2	1
Malda	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dacca	2	2	..	..	..	..	..	1	..	..	1	..	..	..	..	2
Mymensingh ..	54	7	2	45	..	..	25	9	18	2	..	5	13	16	11	9
Faridpur ..	49	36	..	13	..	..	2	38	5	2	2	2	1	2	17	27
Bakarganj ..	18	15	2	..	..	1	6	3	8	..	1	..	3	..	9	6
Chittagong ..	3	3	..	..	..	..	..	..	..	2	1	..	..	..	1	2
Noakhali ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tippera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	1,198	595	107	460	13	23	120	280	487	245	66	23	93	182	457	443

Fevers.

45. **General Prevalence.**—In 1927, 789,006 deaths with a death rate of 17·0 per mille occurred from fever, compared with 822,774 deaths and 17·7 rate per mille in 1926, showing a decrease of 4·0 and 21·7 per cent. as against the previous year's rate and the decennial average respectively. Fevers accounted for 66·3 per cent. of the total mortality, compared with 71·5 in 1926; the percentage in 1927 was thus lower than the previous year by 7·3 per cent. There was a proportionate decrease in malaria, kala-azar and relapsing fever death rates, while enteric, measles and other fevers remained the same. The statement below gives an analysis of the various sub-heads of fever during 1926 and 1927 :—

Analysis of Fever Deaths in 1926 and 1927.

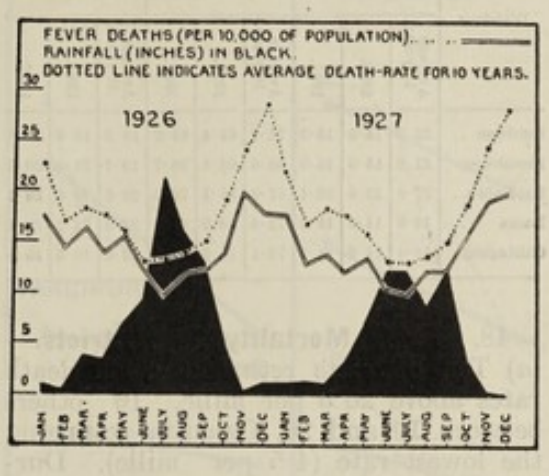
Causes.	Number.		Percentage of increase + or decrease —.	Percentage of total fever mortality.		Death rates per mille.	
	1926.	1927.		1926.	1927.	1926.	1927.
Malaria fever	458,198	429,143	— 6·4	55·7	54·4	9·8	9·2
Enteric fever	5,368	5,077	— 5·4	0·6	0·6	0·11	0·11
Relapsing fever.	3,075	2,894	— 5·9	0·4	0·4	0·07	0·06
Measles ..	1,432	1,425	— ·5	0·2	0·2	0·03	0·03
Kala-azar	14,275	11,855	— 17·0	1·7	1·5	0·3	0·25
Other fevers	340,426	338,612	— ·5	41·4	42·9	7·3	7·3

46. **Seasonal Fever Mortality.**—Fever deaths began to increase from July and continued to do so till the end of the year. The lowest figures were obtained in June and September. Compared with the previous year, the number of deaths decreased from February to June, and in September and November, but increased in other months. Fever deaths were reduced in every month compared with the decennial average :—

Fever Deaths.

Months.	Average, 1917-26.	1926.	1927.	Percentage of difference between 1926 and 1927.
January ..	102,602	81,321	83,290	+ 2·4
February ..	77,420	67,420	60,241	—10·7
March ..	85,213	76,999	65,878	—14·5
April ..	81,561	64,988	55,949	—13·9
May ..	73,566	72,784	64,404	—11·5
June ..	60,998	58,042	47,951	—17·4
July ..	60,547	45,759	56,106	+ 0·8
August ..	64,090	55,908	56,661	+ 1·3
September ..	69,751	58,400	55,369	— 5·2
October ..	88,101	64,487	71,792	+11·3
November ..	113,782	93,618	89,100	— 4·8
December ..	131,290	83,048	92,265	+11·1

The following graph shows that the prevalence of fever in any year is in inverse proportion to the amount of rainfall in it :—



47. **Fever Mortality by Divisions.**—(*a*) *Crude Death Rates.*—The death rate was highest in Rajshahi Division and lowest in Dacca in 1927. The greatest reduction, 28·8 per cent. during the previous 10 years, was noticed in Burdwan and the lowest (19·5) in the Presidency Division. Compared with the previous year, the death rates were lower in every division, except Dacca where they were the same.

(*b*) *Relative Importance of Fever as a Cause of Death in Divisions.*—In Rajshahi 79·5 per cent. of the total deaths were due to fever, and in Presidency Division 58·7 per cent. The proportion in other divisions lay between these 2 percentages. The greatest reduction, 10·8 per cent. in this proportion during the last 10 years, occurred in Dacca and the lowest (7·8) in Rajshahi Division. Compared with the previous year, the proportion of total deaths due to fever was reduced in every division, markedly so in Chittagong.

(*c*) *Divisions as Fever Centres.*—Rajshahi claimed 29·1 per cent. of the total provincial mortality due to fever, while Chittagong returned the lowest percentage (10·8). During the previous 10 years, this percentage has increased in every division except Burdwan which shows a slight reduction. Rajshahi Division on every

count thus appears to have been the worst sufferer from fevers :—

Divisions.	Fever death rate per mille.			Proportion of total deaths due to fever, per cent.			Percentage of provincial fever mortality.		
	Average 10 years.	1926.	1927.	Average 10 years.	1926.	1927.	Average 10 years.	1926.	1927.
Burdwan ..	22·9	16·9	16·3	71·7	64·4	63·2	18·2	16·6	16·6
Presidency	21·0	18·3	16·9	68·6	63·1	58·7	19·7	21·0	20·3
Rajshahi ..	27·8	23·6	22·1	87·3	85·1	79·5	28·5	29·6	29·1
Dacca ..	18·0	14·2	14·2	72·6	69·0	61·8	22·9	22·2	23·1
Chittagong	18·4	14·9	14·7	78·1	75·9	68·5	10·6	10·5	10·8

48. **Fever Mortality by Districts.**—(*a*) Ten districts returned crude death rates above 20·0 per mille, 16 others between 10 and 20, Calcutta returning the lowest rate (4·5 per mille). During the last 10 years, every district improved, so far as fever was concerned except Calcutta, which showed a slight rise. Compared with the previous year, there was an increase of fever in 8 districts and a reduction in all the others except Khulna where the death rate remained the same.

Fever Death Rate per Mille.

Districts.	Average of 1917-26.	1927.	Increase + or decrease −.	1926.	Increase + or decrease −.
Dinajpur ..	32·5	29·8	− 2·7	29·3	+ 0·5
Rajshahi ..	31·8	24·3	− 7·5	26·2	− 1·9
Birbhum ..	31·1	21·8	− 9·3	22·2	− 0·4
Nadia ..	30·4	20·4	−10·0	24·7	− 4·3
Murshidabad ..	29·8	22·5	− 7·3	24·9	− 2·4
Darjeeling ..	27·1	18·6	− 8·5	20·5	− 1·9
Rangpur ..	27·0	22·6	− 4·4	25·3	− 2·7
Jalpaiguri ..	26·9	23·2	− 3·7	23·8	− 0·6
Burdwan ..	26·8	18·4	− 8·4	17·6	+ 0·8
Malda ..	25·6	20·1	− 5·5	22·4	− 2·3
Pabna ..	25·3	17·1	− 8·2	18·2	− 1·1
Chittagong ..	24·7	20·7	− 4·0	19·3	+ 1·4
Jessore ..	24·1	23·3	− 0·8	22·5	+ 0·8
Bankura ..	24·0	16·7	− 7·3	15·9	+ 0·8
Bogra ..	22·5	14·1	− 8·4	15·1	− 1·0
Hooghly ..	22·1	15·8	− 6·3	16·2	− 0·4
Midnapur ..	22·0	15·7	− 6·3	17·0	− 1·3
Faridpur ..	20·4	17·8	− 2·6	16·2	+ 1·6
Noakhali ..	19·7	16·7	− 3·0	16·1	+ 0·6
Khulna ..	18·8	16·4	− 2·4	16·4	± 0
Bakarganj ..	18·0	17·0	− 1·0	15·2	+ 1·8
Mymensingh ..	17·6	13·0	− 4·6	13·7	− 0·7
24-Parganas ..	17·3	13·1	− 4·2	14·9	− 1·8
Dacca ..	16·8	11·2	− 5·6	12·9	− 1·7
Tippera ..	13·9	10·0	− 3·9	11·6	− 1·6
Howrah ..	12·4	10·4	− 2·0	13·1	− 2·7
Calcutta ..	4·4	4·5	+ 0·1	5·1	− 0·6

(*b*) *Relative Importance of Fever as a Cause of Death in Districts.*—In 4 districts, viz., Rangpur, Dinajpur, Jalpaiguri and Chittagong, the percentage of fever deaths to the total district mortality was above 80; in 4 others, between 70 and 80; in 14 between 60 and 70; in 3 between 50 and 60; in Howrah 35·9; while in Calcutta it was the lowest (13·2). All the districts except Jalpaiguri showed a distinct improvement in this respect as against the previous decennium. Compared with the previous year, this percentage was reduced in all the districts except in Burdwan and Bankura where it was increased :—

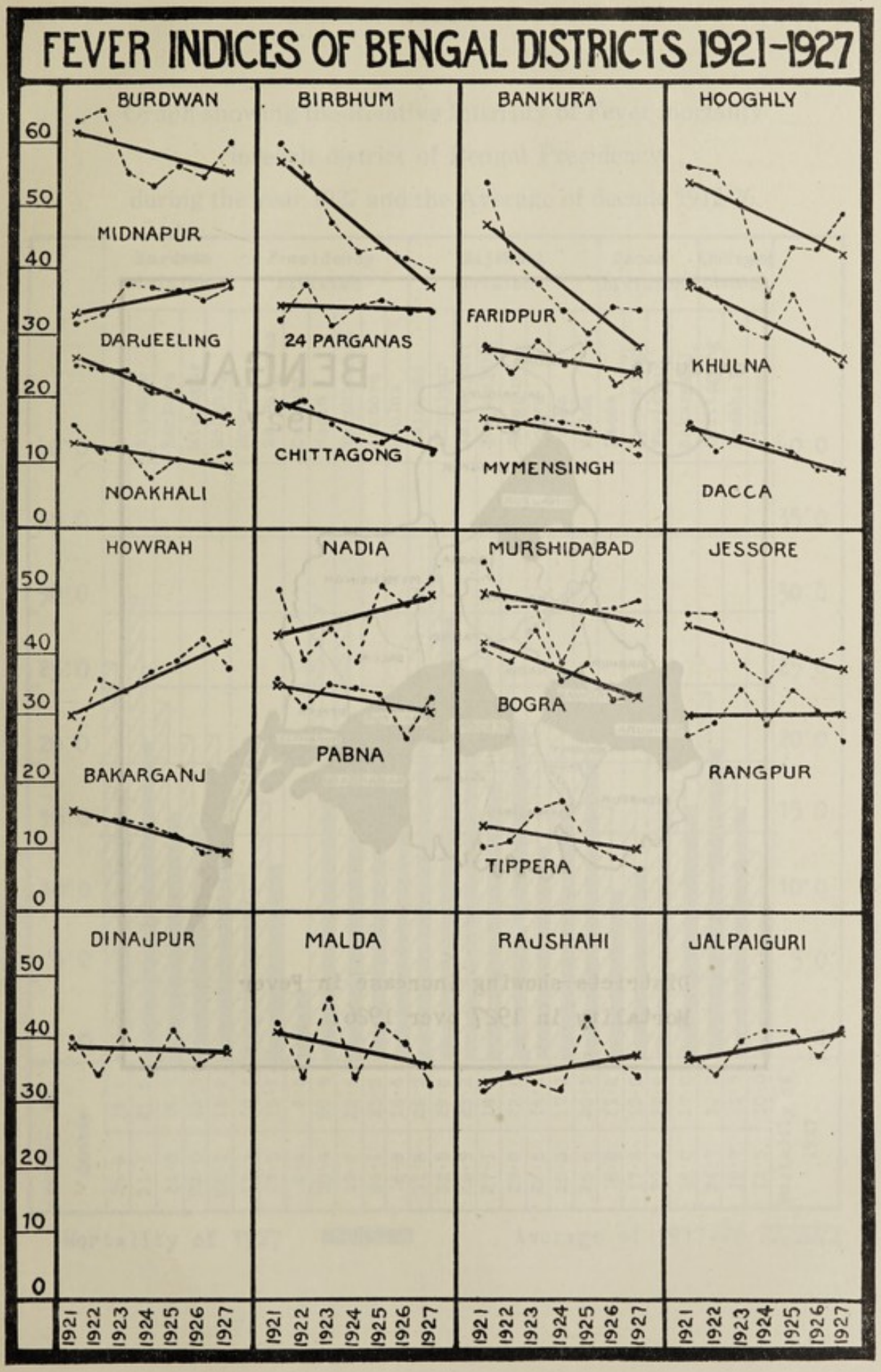
Fevers as a Percentage of the Total Mortality.

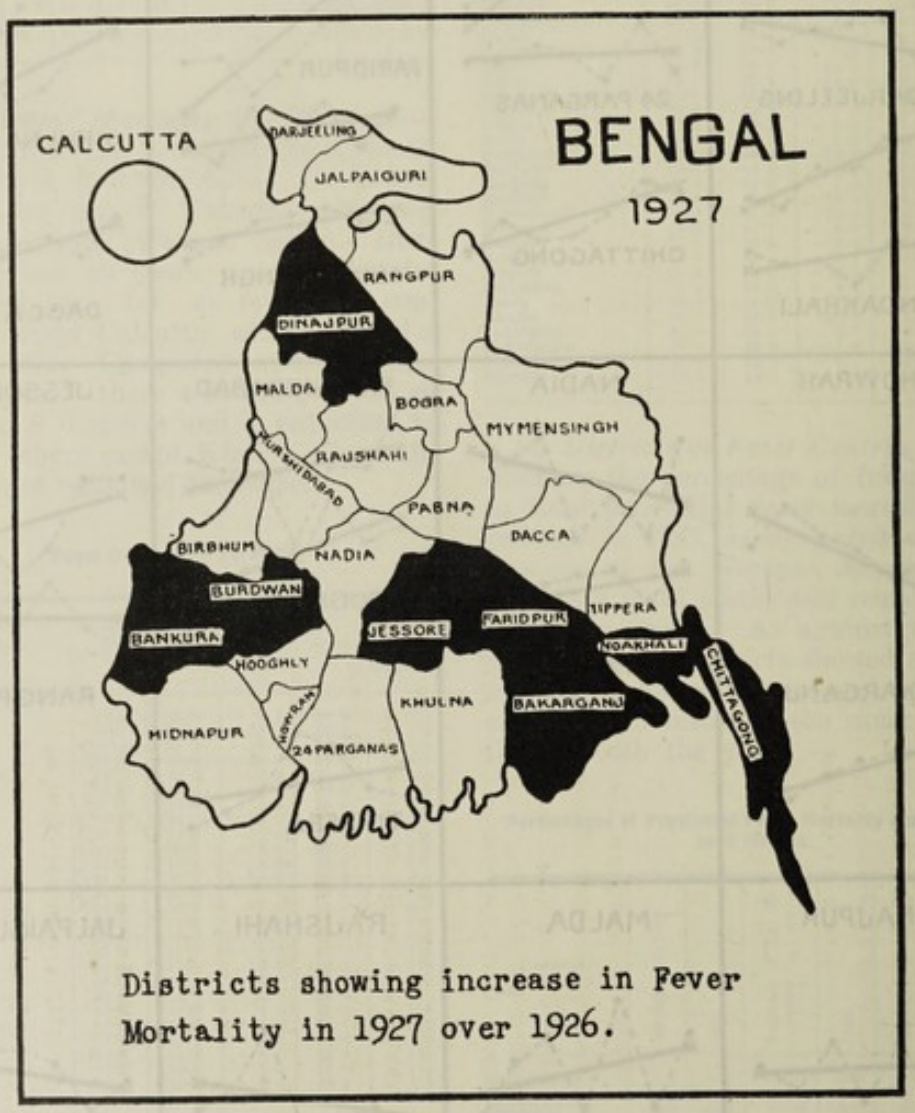
Districts.	Average for 1917-26.	1927.	Increase + or decrease −.	1926.	Increase + or decrease −.
Rangpur ..	92·5	87·8	− 4·7	93·8	− 6·0
Dinajpur ..	91·7	87·8	− 3·9	91·0	− 3·2
Chittagong ..	89·0	82·3	− 6·7	87·9	− 5·6
Pabna ..	85·9	67·4	−18·5	74·7	− 7·3
Rajshahi ..	85·6	77·1	− 8·5	84·9	− 7·8
Bogra ..	84·2	68·7	−15·5	74·9	− 6·2
Malda ..	84·1	69·1	−15·0	78·0	− 8·9
Jalpaiguri ..	83·0	85·0	+ 2·0	85·7	− 0·7
Birbhum ..	82·8	74·9	− 7·9	75·9	− 1·0
Jessore ..	82·3	78·5	− 3·8	78·9	− 0·4
Nadia ..	80·6	72·7	− 7·9	80·7	− 8·0
Murshidabad ..	78·5	66·6	−11·9	72·1	− 5·5
Faridpur ..	78·0	64·8	−13·2	70·6	− 5·8
Burdwan ..	77·4	69·8	− 7·6	68·7	+ 1·1
Noakhali ..	75·8	63·9	−11·9	75·4	−11·5
Mymensingh ..	75·4	61·8	−13·6	74·3	−12·5
Midnapur ..	73·2	65·2	− 8·0	67·5	− 2·3
Bankura ..	72·5	66·2	− 6·3	63·3	+ 2·9
Hooghly ..	70·8	65·1	− 5·7	66·2	− 1·1
Tippera ..	70·8	60·0	−10·8	67·2	− 7·2
Darjeeling ..	70·4	66·3	− 4·1	68·4	− 2·1
Dacca ..	69·5	57·2	−12·3	64·8	− 7·6
Khulna ..	68·7	58·5	−10·2	65·5	− 7·0
Bakarganj ..	67·0	63·3	− 3·7	64·2	− 0·9
24-Parganas ..	66·0	54·6	−11·4	59·2	− 4·6
Howrah ..	44·6	35·9	− 8·7	42·4	− 6·5
Calcutta ..	15·0	13·2	− 1·8	14·7	− 1·5

(*c*) *Districts as Fever Centres.*—In 15 districts the percentage of fever deaths to total provincial fever mortality was reduced in 1927, as compared with the average of the previous decennium; it increased in 11 others and remained the same in Malda. As against the previous year, 10 districts showed a higher and 12 a lower percentage, while the remaining 5 returned the same proportion in both the years :—

Percentages of Provincial Fever Mortality occurring in each district.

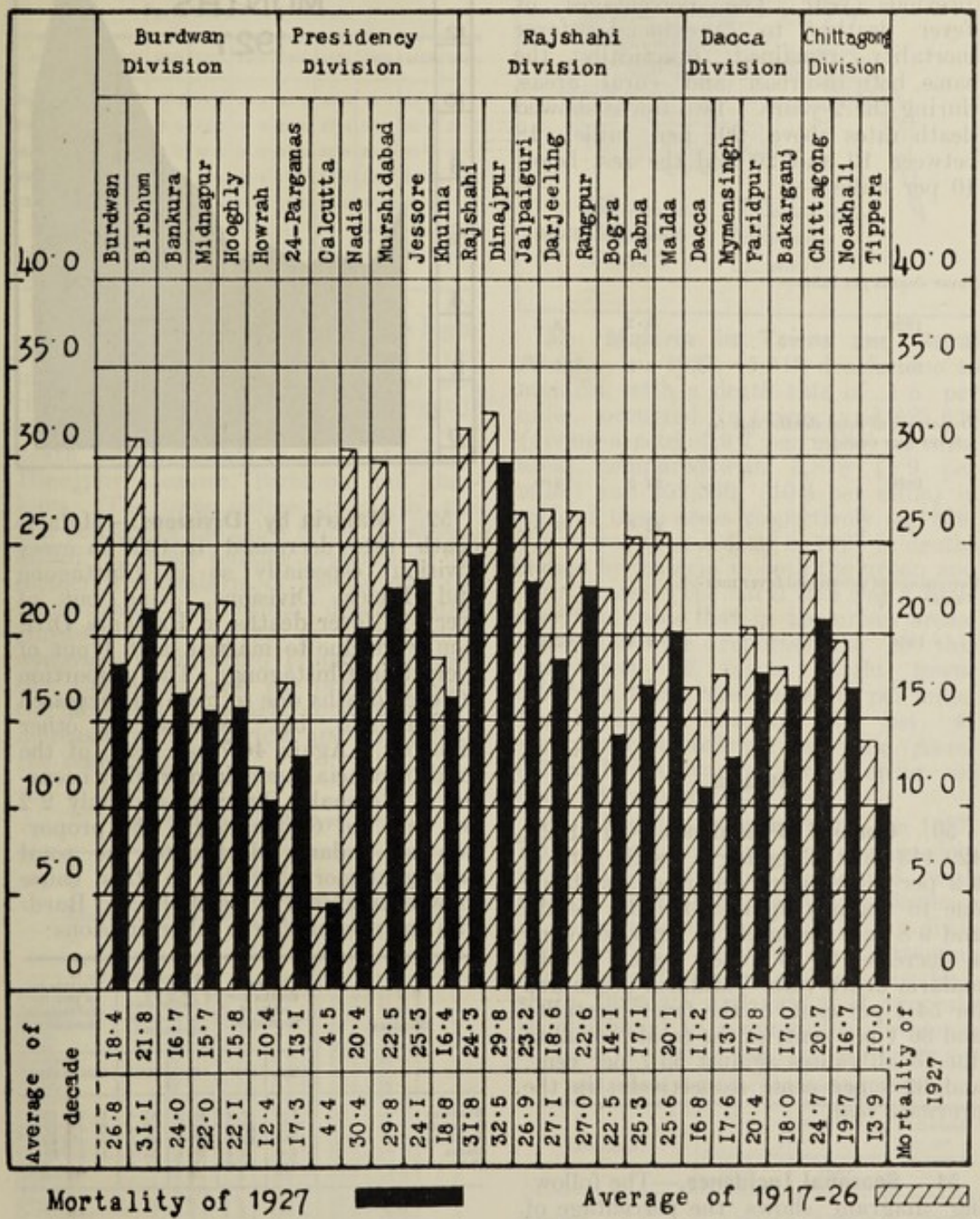
Districts.	Average, 1917-26.	1927.	Increase or decrease + or −.	1926.	Increase or decrease + or −.	Percentage of total reported malaria deaths, 1927.
Mymensingh ..	8·4	8·0	− ·4	8·0	±0	1·1
Rangpur ..	6·7	7·2	+ ·5	7·7	− ·5	12·0
Midnapur ..	5·8	5·3	− ·5	5·5	− ·2	4·6
Dinajpur ..	5·5	6·4	+ ·9	6·1	+ ·3	9·6
Dacca ..	5·2	4·4	− ·8	4·9	− ·5	·7
Rajshahi ..	4·7	4·6	− ·1	4·7	− ·1	8·2
Bakarganj ..	4·7	5·6	+ ·9	4·8	+ ·8	·4
Faridpur ..	4·5	5·1	+ ·6	4·4	+ ·7	7·9
Nadia ..	4·5	3·9	− ·6	4·5	− ·6	5·9
24-Parganas .	4·2	4·1	− ·1	4·4	− ·3	2·4
Jessore ..	4·1	5·1	+1·0	4·7	+ ·4	8·5
Chittagong ..	3·9	4·2	+ ·3	3·8	+ ·4	·5
Burdwan ..	3·8	3·4	− ·4	3·1	+ ·3	3·5
Tippera ..	3·8	3·5	− ·3	3·9	− ·4	1·2
Murshidabad ..	3·7	3·6	− ·1	3·8	− ·2	5·9
Pabna ..	3·5	3·0	− ·5	3·1	− ·1	5·0
Noakhali ..	2·9	3·1	+ ·2	2·9	+ ·2	·5
Khulna ..	2·7	3·0	+ ·3	2·9	+ ·1	4·0
Birbhum ..	2·6	2·3	− ·3	2·3	±0	·7
Jalpaiguri ..	2·5	2·7	+ ·2	2·7	±0	5·0
Malda ..	2·5	2·5	±0	2·7	− ·2	4·3
Bankura ..	2·4	2·2	− ·2	2·0	+ ·2	·8
Hooghly ..	2·4	2·2	− ·2	2·1	+ ·1	3·2
Bogra ..	2·3	1·9	− ·4	1·9	±0	2·1
Howrah ..	1·2	1·3	+ ·1	1·6	− ·3	1·0
Darjeeling ..	·8	·7	− ·1	·7	±0	·5
Calcutta ..	·5	·6	+ ·1	·7	− ·1	·3


FEVER INDICES OF BENGAL DISTRICTS 1921-1927
BURDWAN
MIDNAPUR
DARJEELING
NOAKHALI
BIRBHUM
24 PARGANAS
CHITTAGONG
BANKURA
FARIDPUR
MYMENSINGH
HOOGHLY
KHULNA
DACCA
HOWRAH
BAKARGANJ
NADIA
PABNA
MURSHIDABAD
BOGRA
TIPPERA
JESSORE
RANGPUR
DINAJPUR
MALDA
RAJSHAHI
JALPAIGURI
60
50
40
30
20
10
0
1921
1922
1923
1924
1925
1926
1927



Districts showing increase in Fever Mortality in 1927 over 1926.

Graph showing the Relative Intensity of Fever mortality in each district of Bengal Presidency during the year 1927 and the Average of decade 1917-26.



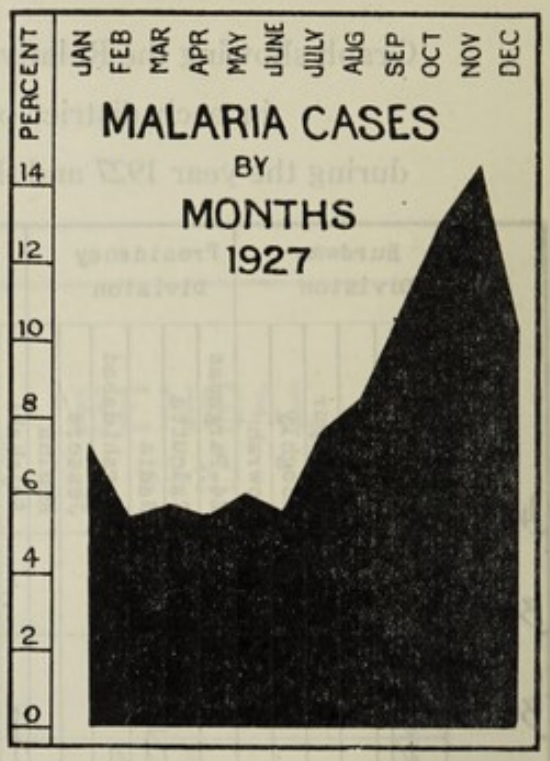
49. **Fever Mortality in Towns and Rural Areas.**—The crude urban and rural death rates in 1927 were 6·5 and 4·3 per cent. less respectively than those in 1926. The rural rate was, however, about 3 times the urban rate. The percentage proportion borne by fever to total deaths was reduced by 7·8 per cent. in urban and by 7·2 per cent. in rural areas as compared with the previous year. The percentages of fever deaths to provincial fever mortality remained practically the same, both in urban and rural areas, during the 2 years. Two towns showed death rates above 20 per mille, 18 between 10 and 20 and the rest below 10 per mille :—

	Municipal area.	Rural area.
Fever deaths per mille—		
1926	6·2	18·5
1927	5·8	17·7
Proportion of total deaths due to fever (per cent.)—		
1926	24·5	74·9
1927	22·6	69·5
Percentage of provincial fever mortality—		
1926	2·3	97·6
1927	2·3	97·7

Malaria.

50. **General Prevalence.**—In 1927, 429,143 deaths, giving a death rate of 9·2 per mille, were reported as being due to malaria against 458,208 deaths and 9·8 rate per mille in 1926, showing a decrease by 6·1 per cent. in the malaria death rate. Malaria accounted for 54·4 per cent. of the fever mortality and 36·1 per cent. of the total mortality due to all causes against 55·7 per cent. and 39·8 per cent. respectively, in the previous year.

51. **Seasonal Incidence.**—The following diagram shows the percentage of malaria cases admitted to the various medical institutions in the province to total admissions therein, month by month. From this it will appear that after the initial decline in February, the number of cases began to increase gradually from July till it reached its maximum in November.



52. **Malaria by Divisions.**—Malaria death rate decreased in 1927 in every division, especially so in Chittagong and Dacca Divisions. Nine out of every 10 fever deaths in Rajshahi Division were due to malaria and 1 out of every 9 in Chittagong. The proportion of fever deaths due to malaria increased in Rajshahi, but decreased in other divisions. Again 46·7 per cent. of the total provincial malaria mortality occurred in Rajshahi Division, and only 2·2 per cent. in Chittagong. The proportion of malaria deaths to the total provincial mortality due to this cause showed an excess in Rajshahi and Burdwan and a reduction in other divisions:—

Divisions.	Malaria deaths per mille of population.		Proportion of fever deaths due to malaria (per cent.).		Percentages of provincial malaria mortality.	
	1926.	1927.	1926.	1927.	1926.	1927.
Burdwan ..	7·8	7·4	46·2	45·3	13·7	13·9
Presidency ..	13·3	12·2	72·7	72·4	27·4	27·0
Rajshahi ..	19·6	19·4	83·4	87·5	44·4	46·7
Dacca ..	4·0	3·4	28·1	23·9	11·2	10·2
Chittagong ..	2·5	1·6	17·0	11·0	3·2	2·2

53. **Fever Indices by Divisions.**—The following table shows the ratio of new admissions from malaria to the various hospitals and dispensaries throughout the province to the total new

admissions from all diseases. The general incidence of malaria was highest in Burdwan Division in 1927, and lowest in Dacca and Chittagong Divisions. Compared with the previous year, malaria decreased in all the other divisions except Burdwan, where it showed an increase. The fever index for the province was reduced by 1·5.

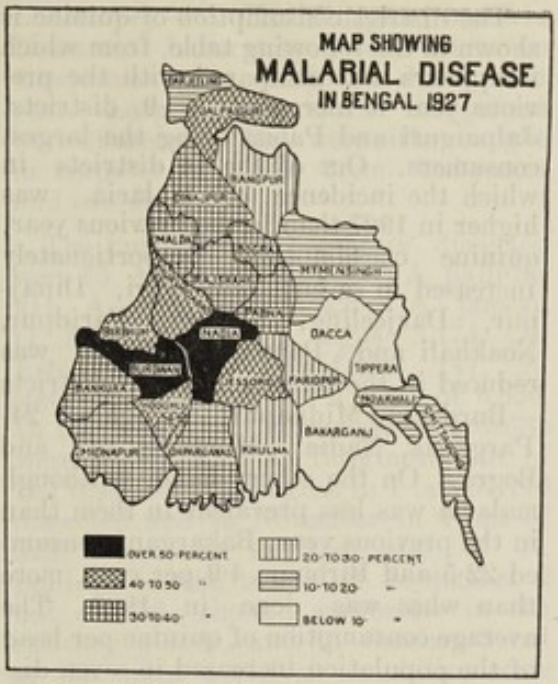
Fever Indices in Divisions.

Divisions.	1912.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.
Burdwan ..	35·4	48·2	48·5	48·1	47·3	40·6	44·1	43·4	45·1
Presidency	33·2	45·9	44·7	41·8	29·2	27·4	31·8	29·6	27·9
Rajshahi ..	25·2	34·6	36·8	33·0	37·1	32·9	38·2	33·4	32·8
Dacca ..	9·9	17·5	19·4	16·8	17·4	16·3	15·7	12·9	11·9
Chittagong	5·5	13·1	14·9	14·3	16·3	13·2	11·6	11·2	9·7
Total for the province.	24·9	34·8	35·4	33·1	28·7	26·0	29·2	26·7	25·2

54. **Malaria by Districts.**—The highest death rate from malaria (24·2 per mille) was returned from Dinajpur and the lowest (0·7) from Bakarganj. Compared with the previous year, the death rate increased in the districts of Dinajpur, Jessore, Birbhum and Bankura. The fever indices given in the last column of the table below, however, afford a more reliable evidence of the incidence of malaria in the various districts than the crude death rates. Burdwan thus appears to be the most malarious district and Tippera the least so. Compared with the previous year, the incidence of malaria appears to have increased in 14 districts and reduced in the remaining 13:—

Death Rates from Malaria per Mille.

Districts.	1926.	1927.	Increase + or decrease −.	Fever Indices. 1927.	1926.	Increase + or decrease −.
Rajshahi ..	25·2	23·6	−1·6	34·9	37·4	−
Jalpaiguri ..	23·1	22·8	− ·3	42·0	38·0	+
Murshidabad ..	22·4	20·2	−2·2	48·8	47·7	+
Malda ..	21·1	18·6	−2·5	33·0	39·6	−
Nadia ..	20·9	16·9	−4·0	52·1	48·0	+
Rangpur ..	20·9	20·6	−0·3	27·2	31·6	−
Dinajpur ..	20·8	24·2	+3·4	38·9	36·5	+
Jessore ..	20·0	21·2	+1·2	41·3	39·5	+
Faridpur ..	15·9	15·0	−0·9	24·8	22·6	+
Pabna ..	15·8	15·5	−0·3	33·7	26·9	+
Khulna ..	13·1	11·8	−1·3	25·1	28·7	−
Hooghly ..	12·6	12·6	±0	49·8	44·0	+
Burdwan ..	12·3	10·5	−1·8	60·0	54·6	+
Bogra ..	10·2	8·7	−1·5	33·5	33·3	+
Darjeeling ..	9·9	7·4	−2·5	17·6	16·3	+
Midnapur ..	8·5	7·5	−1·0	37·7	35·8	+
Howrah ..	5·6	4·4	−1·2	38·1	42·5	−
24-Parganas ..	4·6	4·2	−0·4	33·9	33·6	+
Noakhali ..	3·5	1·4	−2·1	11·6	10·4	+
Bankura ..	2·4	3·4	+1·0	34·4	34·7	−
Tippera ..	2·3	1·9	−0·4	7·5	9·3	−
Mymensingh ..	2·1	1·0	−1·1	11·7	14·0	−
Chittagong ..	2·0	1·3	−0·7	11·8	15·7	−
Calcutta ..	1·6	1·3	−0·3	8·9	9·0	−
Birbhum ..	1·1	3·5	+2·4	40·1	42·0	−
Dacca ..	1·1	1·0	−0·1	8·8	9·6	−
Bakarganj ..	0·8	0·7	−0·1	9·1	9·4	−



55. **Malaria in Towns and Rural Areas.**—In 1927, 5,513 deaths due to malaria, with a death rate of 1·8 per mille, occurred in towns, and 423,630 (giving a rate of 9·7 per mille) in rural areas, compared with 5,878 (1·9 per mille) and 452,330, (10·4 per mille) in each of these areas respectively in 1926. There was thus a drop in 1927 in deaths caused by malaria in both the urban and rural areas. The rural rate was a little over five times that in the urban areas. No deaths were reported due to this cause from 12 towns. Eight towns returned death rates above 10 per mille, Kotchandpur heading the list; 41 recorded rates below 1 per mille, Asansol and Narayanganj registering ·04 and ·03 respectively.

56. **Quinine Consumption.**—In 1927, 7,169·5 lbs. of quinine were consumed in the whole province, compared with 8,396·6 lbs. in 1926, showing a decrease in consumption by 1,227·1 lbs. This decrease was greatest in Chittagong and Dacca Divisions and least in Rajshahi Division, and can most properly be attributed to a diminished incidence of malaria during the last two years:—

Total amount of Quinine consumed by Divisions.

Divisions.	Total amount in lbs. 1926.	1927.	Increase + or decrease −.
Burdwan ..	1,191·8	1,020·9	−170·9
Presidency ..	1,814·6	1,639·2	−175·4
Rajshahi ..	1,132·8	1,111·0	− 21·8
Dacca	2,327·8	2,034·6	−293·2
Chittagong ..	1,929·6	1,363·8	−565·8
Total ..	8,396·6	7,169·5	−1,227·1

The district consumption of quinine is shown in the following table, from which it appears that compared with the previous year it increased in 9 districts, Jalpaiguri and Pabna being the largest consumers. Out of the 14 districts in which the incidence of malaria was higher in 1927 than in the previous year, quinine consumption proportionately increased in seven—Jalpaiguri, Dinajpur, Darjeeling, Jessore, Faridpur, Noakhali and Pabna, while it was reduced in the remaining seven districts —Burdwan, Midnapur, Hooghly, 24-Parganas, Nadia, Murshidabad, and Bogra. On the other hand, although malaria was less prevalent in them than in the previous year, Bakarganj consumed 22·5 and Birbhum 4·9 per cent. more than what was done in 1926. The average consumption of quinine per head of the population increased in seven districts :—

57. **Experimental Anti-Malaria Schemes.**—(*a*) *Banka Valley Scheme.*—In spite of shortage in rainfall during the year, flushing was done through the Mahisjola Cut from the 7th July to the 11th October, except for short intervals with the fall of the Banka river.

Comparative Results of the Banka Valley Anti-malaria Scheme.

Heads.	Treated area.			Untreated area.		
	1927.	1926.	Average for the last five years 1922-26.	1927.	1926.	Average for the last five years 1922-26.
Spleen Index ..	45·3	52·1	53·7	63·4	41·3	55·05
Total death-rate	26·5	2·8	37·3	18·4	26·04	30·3
Malaria death-rate	5·3	6·8	8·06	6·1	8·9	8·2
Birth-rate ..	33·7	33·2	39·5	38·1	27·4	33·02
Infant mortality per 1,000 births	148·9	260·8	175·9	125	250	187·5
Malaria sickness rate ..	348·8	321·3	412·02	512·6	533·2	483·8
Natural increase or decrease ..	+7·2	+0·4	+2·2	+19·7	+1·36	+2·7

Districts.	Total quinine sold in lbs.		Increase + or decrease −.	Grains of quinine consumed per head of the population.		Increase or decrease in grain per head.	Fever indices.		Increase + or decrease −.
	1926.	1927.	Per cent.	1926.	1927.		1926.	1927.	
Mymensingh ..	1,148·5	776·0	−32·4	1·7	1·1	−0·6	14·0	11·7	−2·3
Tippera ..	978·2	517·1	−47·2	2·5	1·3	−1·2	9·3	7·5	−1·8
Chittagong ..	645·7	508·5	−21·3	2·8	2·2	−0·6	15·7	11·8	−3·9
Faridpur ..	392·0	502·2	+28·1	1·2	1·6	+0·4	22·6	24·8	+2·2
Jessore ..	409·1	465·7	+13·8	1·7	1·9	+0·2	39·5	41·3	+1·8
Dacca ..	488·5	390·2	−20·1	1·1	0·9	−0·2	9·6	8·8	−0·8
Bakarganj ..	298·8	366·2	+22·5	·8	1·0	+0·2	9·4	9·1	−0·3
Nadia ..	419·4	365·7	−12·8	2·0	1·7	−0·3	48·0	52·1	+4·1
Noakhali ..	305·7	338·2	+10·6	1·4	1·4	±0	10·4	11·6	+1·2
Burdwan ..	323·4	321·7	− ·5	1·6	1·6	±0	54·6	60·0	+5·4
Pabna ..	190·2	289·7	+52·3	0·9	1·5	+0·6	26·9	33·7	+6·8
Khulna ..	344·0	256·0	−25·6	1·6	1·2	−0·4	28·7	25·1	−3·6
24-Parganas ..	273·7	225·1	−17·8	0·8	0·6	−0·2	33·6	33·9	+0·3
Murshidabad ..	262·2	220·5	−15·9	1·4	1·2	−0·2	47·7	48·8	+1·1
Midnapur ..	256·0	209·7	−18·1	0·7	0·5	−0·2	35·8	37·7	+1·9
Rangpur ..	240·0	193·5	−19·4	0·7	0·5	−0·2	31·6	27·2	−4·4
Hooghly ..	204·0	178·8	−12·4	1·3	1·2	−0·1	44·0	49·8	+5·8
Rajshahi ..	184·0	173·7	− 5·6	0·9	0·8	−0·1	37·4	34·9	−2·5
Malda ..	199·4	128·5	−35·6	1·4	0·9	−0·5	39·6	33·0	−6·6
Dinajpur ..	115·4	124·0	+ 7·4	0·5	0·5	±0	36·5	38·9	+2·4
Birbhum ..	115·4	121·1	+ 4·9	0·9	1·0	+0·1	42·0	40·1	−1·9
Bogra ..	146·2	111·4	−23·8	1·0	0·7	−0·3	33·3	33·5	+0·2
Calcutta ..	106·2	106·2	± 0	0·7	0·7	±0	9·0	8·9	−0·1
Bankura ..	154·8	150·1	−32·1	1·1	0·7	−0·4	34·7	34·4	−0·3
Howrah ..	138·2	84·5	−38·9	1·0	0·6	−0·4	42·5	38·1	−4·4
Jalpaiguri ..	42·8	69·7	+62·8	0·3	0·5	+0·2	38·0	42·0	+4·0
Darjeeling ..	14·8	20·5	+38·5	0·4	0·5	+0·1	16·3	17·6	+1·3
Total ..	8,396·6	7,169·5	−14·7	..	..	..	..	..	..

The result was satisfactory, both in the case of health and crops.

(*b*) *Singaran-Toposi Scheme.*—Here also, as in other years, close watch was kept on the result of the operation. The scheme chiefly consists of the flushing of the Singaran river which used to breed an enormous quantity of A. culicifacies.

Comparative Results of the Singaran-Toposi Anti-malaria Scheme.

Heads.	Area.	1927.	1926.	Average of the last five years 1922-26.
Spleen index	Treated ..	9·6	6·4	10·1
	Untreated ..	3·08	2·4	1·7
Total death-rate	Treated ..	12·6	20·1	28·08
	Untreated ..	15·6	21·4	18·2
Malaria death-rate	Treated ..	0·0	2·2	2·4
	Untreated ..	1·9	1·3	0·6
Birth-rate	Treated ..	24·1	25·7	35·4
	Untreated ..	25·9	26·9	26·3
Infant mortality	Treated ..	95·2	43·4	151·7
	Untreated ..	125	128·2	77·2
Malaria sickness rate	Treated ..	39·1	44·7	53·7
	Untreated ..	21·4	27·6	16·8
Population	Treated ..	869	894	819
	Untreated ..	1,542	1,448	1,480

The spleen index shows that there has been an increase in the enlarged spleen over last year, but it is lower than the average of the previous 5 years. The death rate from all causes as well as from malaria is considerably less this year. Infant mortality is also less.

(*c*) *Meenglas Tea Estate Scheme.*—The operations were carried out as in previous years. The results of the operation are recorded as below :—

Heads.	1927.	1926.	Average of last five years 1922-26.
Spleen index ..	56·8	56·6	56·7
Total death-rate ..	33·6	39·2	42·8
Malaria ..	0·8	1·6	4·6
Birth-rate ..	27·7	55·1	40·9
Natural increase or decrease ..	−5·9	+15·9	−1·2
Malaria sickness rate	366	358	393
Average population	1,188	1,198	1,098

The spleen index is in a static condition almost from the last 3 years. The death rate has come down, so also the birth rate. Malaria sickness rate is almost the same. The experiment should be watched a few years more to see if the condition would improve or deteriorate as the result of the cyclic character of malarial intensity.

(*d*) *Jangipur Flushing Scheme.*—During the year, the river Bhagirathi did not rise high enough to introduce flood water into the system of anti-malarial channels.

(*e*) *Krishnagar Malaria Research Laboratory.*—In Krishnagar Malaria Research Laboratory observations on mosquitoes were continued during the year. Large numbers of mosquitoes were dissected. They were either caught in traps or collected from bed-rooms and cow-sheds.

The number of A. sinensis dissected were 75, A. fuliginosis 1,437, A. pallidus 911, A. philippiensis 225, A. jamesii 11, A. rossi 783, A. vagus 3,174, A. listoni 82; A. culicifacies 147, A. stephensii 11, with a total of 6,856. In the month of February, sporozoits were found in 2 A. fuliginosis out of 199 dissected, in August in 1 out of 116 dissected and in November in 1 out of 323 dissected. In the case of A. pallidus in the month of September 2 out of 186 showed sporozoits in the salivary glands, and in October 3 out of 189 were positive. A philippiensis was also found infected in nature, in the month of October 1 out of 124, and in November 4 out of 96 showed sporozoits in the salivary glands.

Feeding experiments were also carried out. In August 1 out of 15 A. fuliginosis, in September 3 out of 30, in October nil out of 21, and in November 1 out of 8 showed sporozoits in the salivary glands. In the case of A. rossi, in November only 1 out of 14 mosquitoes fed on malaria patients developed sporozoits in the salivary glands. This mosquito might be of the vagus type. In the case of A. sinensis the experiments were a failure, as the mosquitoes do not either feed on the patients or survive long enough to develop the sporozoits. Very few mosquitoes of the A. listoni type were fed and the result was negative. In the case of A. stephensii, in July 1 out of 4 mosquitoes fed on malarial patients developed sporozoits.

58. **Anti-malarial Activities of the District Boards.**—In Burdwan, in addition to the 24 permanent dispensaries, 14 temporary ones were opened during the fever season (September to March). Fever cases were also treated at 20 union board dispensaries. Besides these, 62 registered anti-malarial societies received help from the district board. Quinine was distributed free to the public through these societies and through Presidents of some union boards and Sanitary Inspectors of the

health circles. In Asansol mining area, tanks infected with malaria-carrying mosquitoes were cleansed of weeds. In Birbhum, the measures taken consisted in (1) the free distribution of cinchona and quinine tablets in the affected parts through the Presidents of the union boards, Vaccination Inspecting Staff and Circle Sanitary Inspectors, (2) free treatment by doctors in affected localities, (3) formation of 27 anti-malarial societies whose work lay in cutting jungles, kerosenizing tanks and ditches and treating malaria cases, and (4) magic lantern demonstrations. In Bankura, no special work was done except the treatment of fever cases by the District Health Officer and the kala-azar doctors, and the distribution of quinine throughout the district, especially in affected areas, through the Health Officer and his staff including the Sanitary Inspectors and the Presidents of union boards. In Hooghly, 62 registered anti-malarial co-operative societies cleared tanks, filled up dobas, cut drains and distributed quinine. Some anti-malarial operations were also carried out by the Sanitary Inspectors and their staff. In Midnapur, 12 anti-malarial societies were working during the year. Twenty-seven doctors treated 7,156 new malaria cases at malaria treatment centres. Quinine and cinchona were distributed by Sanitary Inspectors and Health Assistants.

In the 24-Parganas, anti-malarial operations were carried out in the dispensaries and kala-azar centres and sub-centres opened for free treatment of malaria and kala-azar. In Nadia, jungle-clearing, drain-cutting, kerosenization of dobas and distribution of quinine were conducted by 11 co-operative anti-malarial societies. Two of these societies also ran treatment centres for malaria and kala-azar. One society was purely a treatment centre. The other 22 societies distributed quinine and carried out minor operations regularly; 140 lbs. of quinine were distributed through these societies and 125 lbs. through 10 special kala-azar centres and 6 rural health circles. In Murshidabad, 2 anti-malarial societies were registered and 1 was newly started. In Jessore, distribution of quinine and cinchona was carried on through the District Board Health Staff, union committees, union boards and anti-malarial societies. Some municipalities, union boards and union committees did jungle-cutting. Anti-malarial operations, e.g., jungle-cutting, doba-filling, kerosenizing insanitary dobas and ditches, distribution of quinine, etc., were carried out by the registered and unregistered societies. In Khulna, minor operations were undertaken by anti-malarial and other health societies in their respective areas. The village health societies increased from 118 in 1926 to 160 in 1927 and the registered ones from 29 in 1926 to 78 in 1927. Quinine and cinchona were distributed through 59 anti-malarial and other health societies and through 11 members of the District Board Health Staff. Besides the 10 kala-azar doctors, 2 voluntary epidemic doctors were maintained by the district board for the treatment of kala-azar and malaria cases.

In Rajshahi, 9 registered anti-malaria societies worked during the year. Malaria patients generally were treated at the district board dispensaries and by kala-azar doctors. Four co-operative anti-malarial societies were established during the year at Mirjapur Digha, Krishnapur Digha and Harishpur in Nator subdivision and Badipara in Sadar subdivision. In Malda, 9 registered societies worked during the year. Quinine and cinchona were distributed through the various agencies. In Rangpur, quinine was distributed through kala-azar doctors, anti-malarial and health societies, union boards and sanitary officers and vaccinators. Malaria cases were treated at hospitals and dispensaries as well as in rural kala-azar centres. Out of the 4 societies reported last year, only 2 (Dariapur Anti-malarial Society in Gaibandha police-station and Bhogdanga Society in Kurigram police-station) had been satisfactorily working in 1927 in clearing jungles, attending to dobas and depressions and removing water-hyacinth from tanks and canals. Both these societies maintained charitable dispensaries and were supplied with quinine from the District Health Officer's stock. Propaganda work by lantern lectures by the District Health Officer and his sanitary officers, distribution of leaflets, and occasional demonstrations about breeding places of mosquitoes and how to attend to them formed other items of work. In Dinajpur, quinine was distributed free in the interior of the

district where there were no dispensaries. Lantern lectures were also delivered. One anti-malarial co-operative society was established at Raiganj and registered. In Pabna, filling up of insanitary ditches and tanks, cleansing of weeds and kerosenization, quinine distribution and treatment of malaria patients, etc., were carried out by 6 registered anti-malarial and public health societies. In Bogra, distribution of quinine, clearing of jungles, filling up of dobas by the union boards of Talora, Kagoil, Moidanhata, Hilli, Kallerpara, and a few others were the only measures undertaken. In Jalpaiguri, Sanitary Inspectors and supernumerary doctors of the district board were deputed to distribute quinine tablets free to malaria-stricken people and the needy. Medical officers of the board and of aided dispensaries and kala-azar doctors were supplied with quinine tablets for free distribution. The Manager of Chaklajat Estate of the Maharaja of Cooch Behar was also supplied with quinine tablets for free distribution, through his officers, in the villages in his jurisdiction. No anti-malarial co-operative society could be started. In Darjeeling, no anti-malarial operations were carried out during the year except the distribution of quinine.

In Dacca, 4 anti-malarial societies were registered. Distribution of quinine and cinchona through anti-malarial societies and kala-azar centres and treatment of patients at the 24 district board charitable dispensaries were the chief measures taken against malaria. In Mymensingh, epidemic doctors deputed on kala-azar duty treated malarial patients free of cost. Free distribution of quinine was also undertaken by the staff. In Bakarganj, quinine tablets were distributed to 7,812 patients. Anti-malarial societies, of which one was registered, were working for malaria prevention during the year. The treatment of malaria patients was undertaken, in addition to dispensary and kala-azar doctors, by epidemic doctors, Sanitary Inspectors and vaccination inspecting officers. In Tippera, 7 co-operative anti-malarial societies worked for the prevention of malaria.

In Chittagong, 2 anti-malarial societies and 70 union boards performed anti-malarial operations, and distributed quinine among the malaria-stricken people. In Noakhali, 4 anti-malarial societies were organized. Quinine was distributed through Sanitary Inspectors of rural public health circles. In Tippera, the dispensaries treated 35,795 patients—epidemic staff 1,812, and kala-azar doctors 2,320. The local sanitary staff distributed 50 lbs. of quinine; the Mahar Union Board cleared jungles and tanks, kerosenized the latter and did other works. Seven registered anti-malarial societies treated 280 malaria patients and also cleared jungles and tanks.

Kala-azar.

59. **General Prevalence.**—This year 11,855 deaths in the province, out of which 1,385 occurred in urban and 10,470 in rural areas, were due to kala-azar as against 14,275, 1,913 and 12,362, respectively, in the previous year. The death rates in 1927 were reduced by 19·4 per cent. for the province, 27·4 per cent. for the towns and 14·3 per cent. for the rural areas, when compared with those for 1926. In Calcutta, the decrease was 15·6 per cent. Thus, the reduction started throughout the previous year was maintained in the year under review. Thirty-one towns did not report any death from kala-azar. Chandrakona returned a death rate of 3·1 per mille and Jamalpur 2·6 per mille, 8 others registered rates between 1 and 2 per mille, and the rest below 1 per mille, the lowest rate (·04) being returned from Barrackpur. Kala-azar accounted for 1·5 per cent. of fever and 1·0 per cent. of total mortality against 1·7 and 1·2, respectively, in 1926:—

Deaths and Death-rates from Kala-azar.

Years.	Number of deaths.			
	Bengal Presidency.	All Bengal towns.	Calcutta.	Rural areas.
1921 ..	1,552	626	204	926
1922 ..	1,531	604	287	927
1923 ..	4,565	1,098	501	3,467
1924 ..	9,997	1,571	665	8,426
1925 ..	16,766	2,051	823	14,715
1926 ..	14,275	1,913	693	12,362
1927 ..	11,855	1,385	582	10,470
	Ratio per mille.			
1921 ..	·03	·20	·19	·02
1922 ..	·03	·19	·26	·02
1923 ..	·10	·35	·46	·08
1924 ..	·21	·51	·62	·19
1925 ..	·36	·66	·76	·34
1926 ..	·31	·62	·64	·28
1927 ..	·25	·45	·54	·24

60. **Kala-azar by Districts.**—The crude death rates do not give any accurate idea of the distribution of kala-azar in the province; a reliable estimate, however, can be formed from a study of the number of kala-azar cases admitted to the various medical institutions in every district of the province. From the table below it will appear that kala-azar admissions have been increasing in the province ever since any record has been maintained of such admissions, viz., 1923. They came down in the previous year, but during the year under review the number has again increased, the percentage of increase being 9·3. The admissions appear to have increased in 18 districts, especially in Bankura (where the number rose from 165 to 2,048) and Midnapur (from 438 to 2,716). All the districts of the Burdwan Division were involved in this increase. In the Presidency Division, with the exception of Khulna and Murshidabad, which showed reductions, the increase was in evidence in all the other districts. In the Rajshahi Division, Bogra and Jalpaiguri alone recorded decreases, while in other districts the reverse was the case. In Eastern Bengal, Faridpur and Chittagong registered excesses over the previous year, while the remaining 5 districts were on the minus side:—

the thanas of Lillooah, Jagatballavpur, Amta and Domjur. According to the District Health Officer, since the opening of the kala-azar centres all over the affected places, the disease has declined to a marked extent. In Murshidabad, 4 groups of 12 centres were opened by the district board, besides 3 voluntary centres. In Khulna, the number of patients considerably decreased, due to the cure of many patients and to less fresh attacks consequent on the comparative dying out of the infection. In Rajshahi, kala-azar patients were

Kala-azar Statement, 1923-27.

Districts.	1923.			1924.			1925.			1926.			1927.		
	Dispensaries.	Special treatment centres.	Total.	Dispensaries.	Special treatment centres.	Total.	Dispensaries.	Special treatment centres.	Total.	Dispensaries.	Special treatment centres.	Total.	Dispensaries.	Special treatment centres.	Total.
24-Parganas	4,224	11,126	15,350	8,207	10,117	18,324	13,742	14,208	27,950	10,564	14,145	24,709	7,969	17,615	+25,584
Rajshahi ..	1,213	74	1,287	5,130	5,761	10,891	12,679	3,141	15,820	16,608	1,468	18,076	7,694	11,307	+19,001
Jessore ..	1,170	153	1,323	3,845	1,708	5,553	7,016	1,625	8,641	4,835	1,745	6,580	3,779	13,962	+17,741
Calcutta ..	5,498	..	5,498	18,133	..	8,133	11,228	..	11,228	9,947	..	9,947	13,278	..	+13,278
Bakarganj ..	792	268	1,060	4,414	1,527	5,941	8,360	5,158	13,518	7,478	5,381	12,859	4,796	4,497	− 9,293
Nadia ..	1,549	..	1,549	3,262	4,944	8,206	4,672	2,924	7,596	4,244	1,409	5,653	7,215	1,600	+ 8,815
Tippera ..	2,203	2,392	4,595	9,403	4,867	14,270	13,311	6,233	19,544	7,068	2,511	9,579	5,067	3,667	− 8,734
Dacca ..	2,237	19	2,256	4,190	787	4,977	6,921	638	7,559	7,634	1,387	9,021	6,649	968	− 7,617
Mymensingh ..	7,397	..	7,397	8,690	..	8,690	11,181	5,758	16,939	6,787	2,987	9,774	5,034	2,418	− 7,452
Khulna ..	457	444	901	1,733	1,861	3,594	5,077	3,373	8,450	4,596	4,808	9,404	2,837	5,024	− 6,861
Rangpur ..	923	23	946	1,787	1,519	3,306	4,130	1,094	5,224	3,225	2,160	5,385	2,581	4,003	+ 6,584
Faridpur ..	716	694	1,410	2,346	1,372	3,718	4,924	1,987	6,911	4,400	1,896	6,296	3,251	3,167	+ 6,418
Malda ..	1,065	469	1,534	2,555	3,041	5,596	3,142	1,748	4,890	2,592	1,712	4,304	2,728	2,391	+ 5,119
Noakhali ..	2,640	771	4,311	8,687	4,876	13,563	6,792	2,645	9,437	3,536	2,738	6,274	2,107	2,857	− 4,964
Hooghly ..	1,804	279	2,083	2,768	4,677	7,445	3,144	1,887	5,031	3,057	839	3,896	2,523	1,865	+ 4,388
Pabna ..	460	118	578	568	324	892	970	224	1,194	1,110	1,871	2,981	1,137	2,589	+ 3,726
Howrah ..	302	407	709	635	5,040	5,675	1,184	3,143	4,327	1,600	958	2,558	1,541	2,091	+ 3,632
Dinajpur ..	1,068	59	1,127	1,671	345	2,016	2,676	308	2,984	2,891	155	3,046	2,917	394	+ 3,311
Burdwan ..	1,333	60	1,393	1,451	62	1,513	1,957	76	2,033	1,877	417	2,294	1,610	1,624	+ 3,234
Bogra ..	516	501	1,017	1,638	2,333	3,971	4,527	370	4,897	3,401	1,467	4,868	1,675	1,405	− 3,080
Murshidabad	920	..	920	1,377	..	1,377	2,178	118	2,296	3,088	633	3,721	1,464	1,412	− 2,876
Midnapur ..	123	..	123	193	..	193	411	29	440	338	100	438	349	2,367	+ 2,716
Chittagong ..	98	..	98	336	187	523	721	607	1,328	686	1,068	1,754	591	1,838	+ 2,429
Bankura ..	33	..	33	37	..	37	55	5	60	35	130	165	50	1,998	+ 2,048
Jalpaiguri ..	154	..	154	204	..	204	301	24	325	448	385	833	420	398	− 818
Darjeeling ..	434	..	434	398	..	398	278	..	278	247	..	247	308	..	+ 308
Birbhum ..	52	..	52	79	..	79	44	..	44	34	..	34	47	..	+ 47
Total ..	39,381	17,857	57,238	83,737	55,348	139,085	131,621	57,323	188,944	112,326	52,370	164,696	89,617	90,457	180,074

61. **Anti-kala-azar Activities of the District Health Officers.**—In Howrah, a fair number of cases were detected in many parts of the district, especially in

treated in 48 independent centres started under the Government scheme and 32 centres attached to district board dispensaries; 67,834 kala-azar patients were treated, of which 30,834 (2,633 new and 28,201 old) attended the district board dispensaries, 25,693 (3,768 new and 21,925 old) the private dispensaries, and 11,307 (3,230 new and 8,077 old) the special kala-azar centres. The kala-azar centre at Naogaon treated 15,878 patients (1,036 new and 14,842 old). In Rangpur, 35 special centres for the treatment of kala-azar cases were maintained by the district board, though some had to be closed due to reduction in the expected provincial contribution. According to the District Health Officer, kala-azar appeared to be prevalent in 1927 in a very scattered form in 3 out of the 4 subdivisions of the district; the disease has not been eradicated; in fact, it has become endemic. In Pabna, 8 groups of kala-azar centres were run in 1927, but the attendance gradually declined in all the groups excepting one near Panchbibi where there was a steady rise in attendance. In Dacca, 17 centres were maintained for the treatment of kala-azar patients. In Tippera, the largest number of persons were affected in Laksham and the minimum in Hajiganj thana. Eighteen units of 3 kala-azar centres in each were maintained.

Enteric fever.

62. Enteric fever claimed 5,077 victims in the province, out of which 1,293 (including 857 in Calcutta) belonged to the urban and 3,784 to rural areas, against 5,368, 1,172 (760) and 4,196, respectively, in 1926. There was thus a reduction in deaths of 5·4 per cent. in the province as a whole, and 9·8 in the rural areas, and an excess of 10·3 per cent. in the towns and 12·8 in Calcutta. The number of deaths from this cause has been gradually increasing in towns, especially in Calcutta, since the registration of such deaths separately in 1921; this is possibly the case, because there are better means of accurate diagnosis available in urban than in rural areas. Sixty-seven out of 116 towns did not register any death from enteric. Calcutta returned the highest death rate, and Bhadreswar and Asansol the lowest. None of the towns returned a rate above 1·0 per mille. Enteric fever was responsible for ·64 per cent. of the fever and ·43 per cent. of the total mortality:—

Deaths and Death-rates from Enteric Fever.

Years.	Number of deaths.			
	Province.	All towns.	Calcutta.	Rural areas.
1921.. ..	5,693	678	328	5,015
1922.. ..	5,564	821	413	4,743
1923.. ..	6,680	974	460	5,706
1924.. ..	5,574	1,146	557	4,428
1925.. ..	7,752	1,020	613	6,732
1926.. ..	5,368	1,172	760	4,196
1927.. ..	5,077	1,293	857	3,784
	Death rates per mille.			
1921.. ..	0·12	0·22	0·30	0·11
1922.. ..	0·12	0·26	0·38	0·11
1923.. ..	0·14	0·31	0·43	0·13
1924.. ..	0·12	0·37	0·52	0·10
1925.. ..	0·17	0·33	0·57	0·15
1926.. ..	0·11	0·38	0·70	0·10
1927.. ..	0·11	0·42	0·79	0·09

Measles.

63. The number of deaths that occurred in the province from this cause was practically the same as in the previous year. Unlike enteric, the number of deaths was reduced in towns, especially in Calcutta, and increased in the rural areas, the reduction being 30·7 and 38·5, respectively, in the former 2 and an excess of 8·1 per cent. in the latter. Only 35 towns including Calcutta recorded measles mortality. Vishnupur and Sonamukhi, both in Bankura district, returned rates of ·5 and ·4 per mille, respectively, while the lowest rate (·04) was registered in Bhadreswar, Bally, Tollyganj, Santipur and Berhampur. Measles accounted for ·18 per cent. of the fever deaths and ·12 per cent. of the total mortality:—

Deaths and Death-rates per Mille from Measles.

Years.	Number of deaths.			
	Province.	All towns.	Calcutta.	Rural areas.
1921.. ..	1,537	339	144	1,198
1922.. ..	1,160	117	65	1,043
1923.. ..	1,424	186	56	1,238
1924.. ..	1,542	337	266	1,205
1925.. ..	1,146	168	67	978
1926.. ..	1,432	316	221	1,116
1927.. ..	1,425	219	136	1,206
	Death-rates per mille.			
1921.. ..	·03	·11	·13	·03
1922.. ..	·02	·03	·06	·02
1923.. ..	·03	·06	·05	·03
1924.. ..	·03	·11	·25	·03
1925.. ..	·02	·05	·06	·02
1926.. ..	·03	·10	·20	·02
1927.. ..	·03	·07	·13	·03

Relapsing fever.

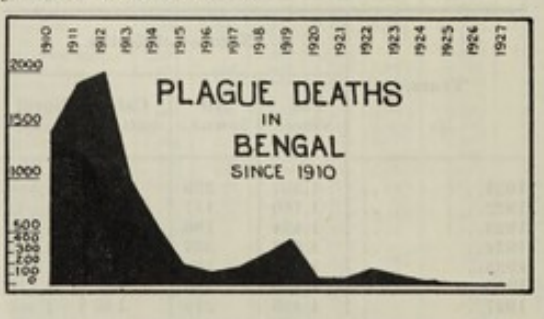
64. The number of deaths from this cause appears to be getting gradually less and less every year, since such deaths are being registered separately. There was a further reduction of 5·9 per cent. each in the provincial as well as rural deaths from relapsing fever during the year under review. The difference in urban deaths in the 2 years was practically nil. No death from this cause was reported from Calcutta. Only 22 out of 116 towns registered deaths due to relapsing fever. Chittagong returned the highest rate (1·6 per mille) followed by 1·2 in Kanchrapara, while the lowest rate (·03 per mille) was recorded in Midnapur and Hooghly-Chinsura, ·37 per cent. of the fever and ·24 per cent. of the total mortality were due to this cause:—

Deaths and Death-rates from Relapsing Fever.

Years.	Number of deaths.			
	Province.	All towns.	Calcutta.	Rural areas.
1921.. ..	6,798	494	..	6,304
1922.. ..	5,285	307	2	4,978
1923.. ..	6,340	87	1	6,253
1924.. ..	4,034	119	..	3,915
1925.. ..	3,161	131	..	3,030
1926.. ..	3,075	112	..	2,963
1927.. ..	2,894	106	..	2,788
	Death-rates per mille.			
1921.. ..	·14	·16	..	·14
1922.. ..	·11	·10	·002	·11
1923.. ..	·14	·02	·001	·14
1924.. ..	·09	·04	..	·09
1925.. ..	·07	·04	..	·07
1926.. ..	·07	·03	..	·07
1927.. ..	·06	·03	..	·06

Plague.

65. One case of plague occurred in Calcutta in the month of April of the year under review.



Dysentery and Diarrhœa.

66. **General Prevalence.**—The death rate from these 2 diseases combined rose in 1927 by 16·7 per cent. The dysentery rate taken separately was ·37 per mille and diarrhœa ·26 per mille, against ·32 and ·21 per mille in 1926, showing an excess of 15·6 and 23·8 per cent., respectively, over the previous year. The dysentery rate was higher than that of diarrhœa by 42·3 per cent. Dysentery and diarrhœa together accounted for 2·47 per cent. of the total mortality:—

Deaths.	1926.	1927.
Deaths	24,978	29,358
Death-rate per mille ..	·54	·63
Percentage of dysentery and diarrhœa deaths to total mortality	2·17	2·47

67. **Seasonal Incidence.**—After an initial rise in January, the number of deaths began gradually to decrease until it reached its minimum in June; thereafter, it rose again till the end of the year, to attain its maximum in November. Compared with the previous year, there was an excess of deaths from this cause in every month of the year except April and May when they decreased.

68. **Dysentery and Diarrhœa by Divisions.**—(*a*) *Crude Death Rates.*—The highest death rate was registered in the Burdwan Division and the lowest in Rajshahi. Compared with the average of the previous decennium, there was a rise in all the divisions except Rajshahi, the maximum rise (50·0 per cent.) occurring in Dacca Division. Every division recorded an increase as against the previous year.

(*b*) *Relative Importance of Dysentery and Diarrhœa as a Cause of Death.*—One death in every 24 was due to these 2 diseases in the Burdwan Division, 1 in every 36 in the Presidency, 1 in every 116 in the Rajshahi, 1 in every 38 in the Dacca, and 1 in every 42 in the Chittagong Division.

(*c*) *Divisions as Dysentery and Diarrhœa Centres.*—Of the total deaths due to dysentery and diarrhœa 30 per cent. occurred in the Burdwan Division, while the lowest percentage was returned from Rajshahi:—

Divisions.	Death-rate per mille.			Proportion of total mortality due to dysentery and diarrhœa.			Percentage of total provincial mortality.		
	Average, 1917-26.	1926.	1927.	Average, 1917-26.	1926.	1927.	Average, 1917-26.	1926.	1927.
Burdwan ..	1·08	·94	1·09	3·39	3·55	4·23	35·23	30·09	29·97
Presidency	·63	·72	·78	2·05	2·49	2·72	24·15	27·41	25·24
Rajshahi ..	·25	·22	·24	·79	·80	·86	10·63	9·12	8·45
Dacca ..	·40	·46	·60	1·61	2·22	2·60	20·72	23·59	26·15
Chittagong	·39	·42	·51	1·67	2·14	2·39	9·25	9·78	10·19

From the following table showing the death rates from dysentery and diarrhœa in each of the divisions, it will appear that the rates for dysentery were higher than those for diarrhœa in all the divisions except Burdwan :—

Divisions.	Death-rates per mille.	
	Dysentery.	Diarrhœa.
Burdwan	·44	·65
Presidency	·42	·36
Rajshahi	·14	·11
Dacca	·46	·13
Chittagong	·36	·15

69. **Dysentery and Diarrhœa by Districts.**—(*a*) The highest rate (3·90 per mille) was returned from Howrah, followed by 3·57 from Calcutta. Darjeeling and Hooghly returned 1·94 and 1·25 per mille, respectively, the rest registering rates below 1·0 per mille. The lowest rate (·07) was returned from Rajshahi and Dinajpur. Compared with the decennial average, excepting 7 districts, all the others showed an increase, whilst against the previous year 9 showed a reduction, 17 an excess and in one the rate remained the same in both the years :—

Dysentery and Diarrhœa Death-rates per mille.

Districts.	Average of decade.	1927.	Increase + or decrease −.	1926.	Increase + or decrease −.
Howrah ..	3·64	3·90	+ ·26	3·26	+ ·64
Calcutta ..	2·90	3·57	+ ·67	3·71	− ·14
Darjeeling ..	2·54	1·94	− ·60	2·03	− ·09
Hooghly ..	1·61	1·25	− ·36	1·35	− ·10
Jalpaiguri ..	1·19	·85	− ·34	·91	− ·06
Bankura ..	·78	·98	+ ·20	·70	+ ·28
24-Parganas ..	·77	·80	+ ·03	·66	+ ·14
Dacca ..	·72	·75	+ ·03	·81	− ·06
Burdwan ..	·63	·78	+ ·15	·44	+ ·34
Midnapur ..	·57	·51	− ·06	·52	− ·01
Tippera ..	·56	·65	+ ·09	·66	− ·01
Faridpur ..	·31	·78	+ ·47	·39	+ ·39
Mymensingh ..	·29	·50	+ ·21	·32	+ ·18
Bakarganj ..	·29	·42	+ ·13	·34	+ ·08
Noakhali ..	·27	·37	+ ·10	·16	+ ·21
Chittagong ..	·22	·41	+ ·19	·25	+ ·16
Nadia ..	·20	·38	+ ·18	·38	± 0
Bogra ..	·20	·35	+ ·15	·24	+ ·11
Khulna ..	·19	·39	+ ·20	·21	+ ·18
Murshidabad ..	·16	·12	− ·04	·13	− ·01
Birbhum ..	·12	·08	− ·04	·07	+ ·01
Pabna ..	·10	·13	+ ·03	·10	+ ·03
Jessore ..	·09	·17	+ ·08	·09	+ ·08
Rajshahi ..	·09	·07	− ·02	·12	− ·05
Rangpur ..	·06	·10	+ ·04	·04	+ ·06
Malda ..	·06	·10	+ ·04	·07	+ ·03
Dinajpur ..	·05	·07	+ ·02	·04	+ ·03

(*b*) The statement below shows that the dysentery death rate was above 1 per mille in 3 districts—Calcutta, Howrah and Darjeeling—and diarrhœa only in the former 2; in all the other districts both the rates were below 1 per mille. While Calcutta recorded the highest death rate (1·76) from dysentery, Howrah on the other hand topped the list of diarrhœa deaths, with its rate of 2·58 per mille. The lowest rates, ·04 for dysentery and ·02 for diarrhœa, were returned from Rajshahi and Dinajpur. In 18 districts the death rates for dysentery were higher than those for diarrhœa, in 6 the reverse was the case, while in the remaining 3 the rates were the same for both the diseases :—

Dysentery and Diarrhœa Death-rates per Mille shown separately for each Disease.

Districts.	Dysentery.			Diarrhœa.		
	1926.	1927.	Increase + or decrease −.	1926.	1927.	Increase + or decrease −.
Calcutta ..	1·93	1·76	− ·17	1·78	1·81	+ ·03
Darjeeling ..	1·50	1·36	− ·14	·53	·58	+ ·05
Howrah ..	1·18	1·32	+ ·14	2·08	2·58	+ ·50
Hooghly ..	·71	·52	− ·19	·64	·73	+ ·09
Dacca	·60	·62	+ ·02	·21	·13	− ·08
Tippera ..	·48	·46	− ·02	·18	·19	+ ·01
Jalpaiguri ..	·45	·40	− ·05	·46	·45	− ·01
24-Parganas ..	·40	·47	+ ·07	·26	·33	+ ·07
Faridpur ..	·36	·57	+ ·21	·03	·21	+ ·18
Bankura ..	·33	·36	+ ·03	·37	·63	+ ·26
Midnapur ..	·29	·28	− ·01	·23	·23	± 0
Nadia	·27	·23	− ·04	·11	·16	+ ·05
Bakarganj ..	·27	·35	+ ·08	·07	·07	± 0
Burdwan ..	·25	·33	+ ·08	·19	·45	+ ·26
Mymensingh ..	·24	·37	+ ·13	·08	·13	+ ·05
Bogra	·17	·17	± 0	·07	·17	+ ·10
Chittagong ..	·15	·29	+ ·14	·10	·12	+ ·02
Khulna ..	·13	·24	+ ·11	·08	·16	+ ·08
Noakhali ..	·13	·27	+ ·14	·03	·10	+ ·07
Murshidabad ..	·10	·08	− ·02	·03	·04	+ ·01
Rajshahi ..	·09	·04	− ·05	·03	·02	− ·01
Pabna	·08	·06	− ·02	·02	·06	+ ·04
Jessore	·06	·09	+ ·03	·03	·07	+ ·04
Birbhum ..	·04	·04	± 0	·03	·04	+ ·01
Malda	·04	·06	+ ·02	·03	·04	+ ·01
Rangpur ..	·03	·08	+ ·05	·01	·03	+ ·02
Dinajpur ..	·02	·04	+ ·02	·02	·02	± 0

70. **Dysentery and Diarrhœa in Towns and Rural Areas.**—In urban areas the number of deaths was higher than the previous year by 7·0 per cent. and in rural areas by 23·2 per cent. In Calcutta, however, it was reduced by 3·9 per cent. The highest death rate (13·2 per mille) was returned from North Barrackpur; 89 others registered rates between 1 and 10 per mille, and the remaining 26 below 1 per mille, the lowest (·1) being recorded in Noakhali. The highest rate for dysentery (12·1) was returned from North Barrackpur and for diarrhœa (5·3) from Khirpai. Five towns did not report any death from dysentery and 15 similarly from diarrhœa :—

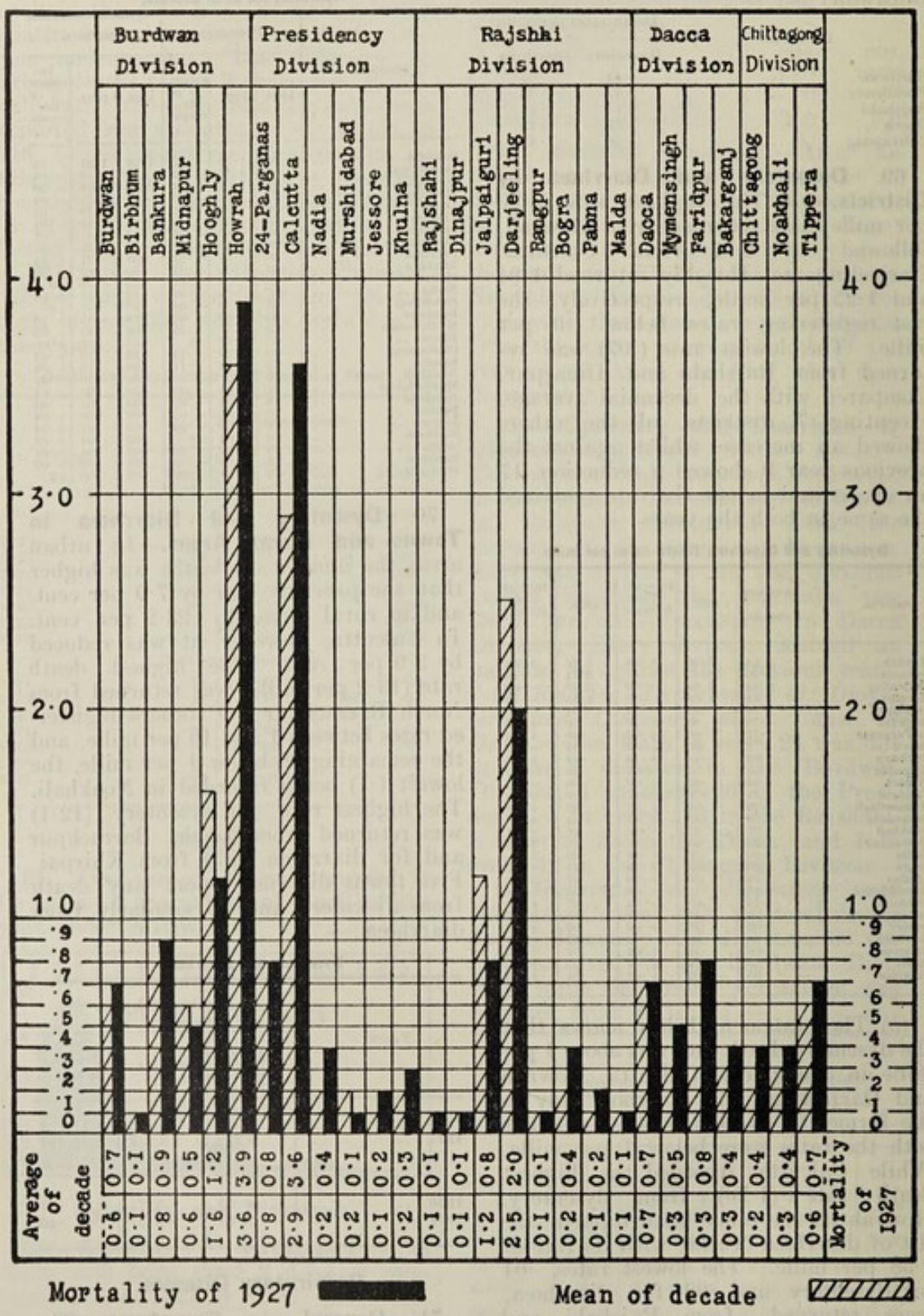
Dysentery and Diarrhœa.

Years.	Number of deaths.		
	All towns.	Calcutta.	Rural areas.
1926	8,755	4,002	16,223
1927	9,372	3,845	19,986
	Death-rates per mille.		
1926	2·82	3·71	·37
1927	3·02	3·57	·46

Respiratory Diseases.

71. **General Prevalence.**—The number of deaths from respiratory

Graph showing the Relative Intensity of Dysentery and Diarrhoea mortality in each district of Bengal Presidency during the year 1927 and the Average of decade 1917-26.



diseases increased by 7·6 and 33·2 per cent., respectively, as compared with the previous year and the decennial average. The deaths increased under all the sub-heads, markedly so from pneumonia and phthisis. Respiratory diseases in 1927 were responsible for 2·77 per cent. of the total mortality as against 2·66 in the previous year :—

Respiratory Diseases.

	1926.	1927.
Deaths	30,589	32,911
Death-rates	·66	·71
Percentage of deaths from respiratory diseases to total mortality	2·66	2·77

Diseases.	Number.		Percentage of increase + or decrease −.	Death-rates per mille.		Percentage of total deaths from respiratory diseases.	
	1926.	1927.		1926.	1927.	1926.	1927.
Influenza ..	1,817	1,836	+ 1·0	·03	·04	5·94	5·58
Pneumonia ..	12,294	13,718	+ 11·6	·26	·29	40·19	41·67
Phthisis ..	7,032	7,689	+ 9·3	·15	·16	22·99	23·36
Other respiratory diseases	9,446	9,668	+ 2·3	·20	·21	30·88	29·38

72. **Seasonal Incidence.**—The maximum number of deaths occurred in December, followed by November and March, and the minimum in June. Compared with the previous year, there was a rise in every month except January, May and September, the rise being highest in July. The death rate was higher in every month than the decennial mean :—

Seasonal Mortality from Respiratory Diseases.

Months.	Average, 1917-26.	1926.	1927.	Percentage of difference between 1926 and 1927.
January ..	2,554	2,982	2,923	− 2·0
February ..	2,355	2,642	2,736	+ 3·5
March	2,618	2,702	3,259	+20·6
April	2,077	2,321	2,532	+ 9·1
May	1,787	2,430	2,372	− 2·4
June	1,476	2,066	2,076	+ 0·5
July	1,598	1,727	2,250	+30·3
August ..	1,679	2,250	2,321	+ 3·1
September ..	1,657	2,504	2,263	− 9·6
October ..	1,988	2,674	2,761	+ 3·2
November ..	2,356	3,157	3,533	+11·9
December ..	2,565	3,134	3,885	+24·0

73. **Respiratory Diseases by Divisions.**—(*a*) The crude death rate was highest in the Presidency and lowest in the Chittagong Division. Compared with the decennial average, the rates were higher in 1927 in all the divisions, especially so in Burdwan. They showed an excess over those of the previous year in Burdwan and Dacca and a reduction in the Presidency, but remained the same in the other 2 divisions.

(*b*) One out of every 18 deaths in the Presidency and 1 in 23 deaths in Burdwan were due to respiratory diseases. This proportion in other divisions was practically insignificant.

(*c*) Of the total respiratory deaths, 47 per cent. occurred in the Presidency, 28 per cent. in Burdwan, and the remaining one-fourth in the other three divisions taken together :—

Divisions.	Deaths from respiratory diseases per mille.			Proportion of total deaths due to respiratory diseases.			Percentage of provincial mortality from respiratory diseases.		
	Ten years.	1926.	1927.	Ten years.	1926.	1927.	Ten years.	1926.	1927.
Burdwan ..	0·8	1·0	1·1	2·6	3·8	4·4	27·1	26·4	28·1
Presidency ..	1·4	1·7	1·6	4·5	5·8	5·7	52·7	52·1	47·7
Rajshahi ..	0·2	0·3	0·3	0·7	0·9	1·1	9·3	8·9	9·5
Dacca ..	0·1	0·2	0·3	0·6	0·9	1·2	7·9	7·8	10·4
Chittagong ..	0·1	0·2	0·2	0·6	1·3	1·1	3·1	4·8	4·3

74. **Respiratory Diseases by Districts.**—In 3 districts the death rates recorded due to respiratory diseases were 2·0 per mille and above, Calcutta heading the list; 6 others registered rates between 1 and 2 per mille; in the rest they were below 1·0 per mille. The lowest rates (·05 and ·04) were returned from Rangpur and Noakhali respectively. Compared with the decennial average, the death rates increased in all the districts but 6, in 2 of which they were reduced, while in 4 they remained unchanged. As against the previous year, the death rate was higher in 11, less in 4, and continued the same in the remaining 12 districts :—

Death-rates from Respiratory Diseases per Mille.

Districts.	Average of decade.	1927.	Increase + or decrease −.	1926.	Increase + or decrease −.
Calcutta ..	8·3	9·7	+1·4	10·3	− ·6
Howrah ..	2·6	3·5	+ ·9	3·9	− ·4
Darjeeling ..	1·9	2·0	+ ·1	1·5	+ ·5
Hooghly ..	1·0	1·1	+ ·1	1·0	+ ·1
24-Parganas ..	1·0	1·0	± 0	1·0	± 0
Jalpaiguri ..	·8	1·3	+ ·5	1·1	+ ·2
Bankura ..	·7	1·0	+ ·3	·6	+ ·4
Burdwan ..	·6	1·3	+ ·7	·7	+ ·6
Midnapur ..	·5	·6	+ ·1	·5	+ ·1
Nadia ..	·5	1·0	+ ·5	1·0	± 0
Bogra ..	·3	·4	+ ·1	·5	− ·1
Murshidabad ..	·3	·2	− ·1	·2	± 0
Jessore ..	·2	·3	+ ·1	·2	+ ·1
Dacca ..	·2	·3	+ ·1	·4	− ·1
Tippera ..	·2	·4	+ ·2	·4	± 0
Birbhum ..	·2	·1	− ·1	·1	± 0
Mymensingh ..	·1	·2	+ ·1	·2	± 0
Khulna ..	·1	·5	+ ·4	·2	+ ·3
Dinajpur ..	·1	·2	+ ·1	·2	± 0
Malda ..	·1	·1	± 0	·1	± 0
Bakarganj ..	·1	·1	± 0	·08	+ ·02
Chittagong ..	·1	·2	+ ·1	·2	± 0
Pabna ..	·09	·1	+ ·01	·07	+ ·03
Faridpur ..	·08	·5	+ ·42	·09	+ ·41
Rajshahi ..	·07	·1	+ ·03	·1	± 0
Rangpur ..	·05	·05	± 0	·05	± 0
Noakhali ..	·03	·04	+ ·01	·04	± 0

75. **Respiratory Diseases in Towns and Rural Areas.**—There was a decrease of 5·2 per cent. in the urban areas and 5·5 in Calcutta in the number of deaths due to respiratory diseases. The rural areas, on the other hand, showed an excess of 24·5 per cent. over the previous year. The urban rate was about 13 times higher than that in the rural areas. The highest rate (9·8 per mille) was returned from Khirpai and the lowest (·2) from Titagarh. Nine towns recorded rates from this cause of 5·0 per mille and above, 86 between 1 and 5 per mille, and the rest below 1 per mille :—

Deaths and Death-rates from Respiratory Diseases.

Years.	Number of deaths.		
	All towns.	Calcutta.	Rural areas.
1926	17,459	11,077	13,130
1927	16,555	10,465	16,356
	Death rates per mille.		
1926	5·6	10·3	·3
1927	5·3	9·7	·4

Influenza.

76. **General Prevalence.**—1,836 deaths occurred throughout the province, of which 624 (including 495 in Calcutta) were recorded in the urban and 1,212 in the rural areas, against 1,817, 654, 547 and 1,163, respectively, in 1926. There was thus an excess of 1·04 per cent. in the provincial and of 4·2 per cent. in the rural deaths. The urban and Calcutta deaths were reduced by 4·6 and 9·5 per cent., respectively. The urban death rate was 7 times as high as the rural rate. Compared with the influenza epidemic in 1918, the number of deaths showed a reduction by 91·2 per cent. Only 41 towns reported deaths from influenza. Old Malda returned the highest rate (·9 per mille), followed by Chakdaha (·6) and Maheshpur (·5); 29 others recorded rates between ·1 and ·5 per mille, and 9 below ·1. Influenza was responsible for 5·58 per cent. of the respiratory and ·15 per cent. of the total mortality :—

Deaths and Death-rates from Influenza.

Years.	Number of deaths.			
	Province.	All towns.	Calcutta.	Rural areas.
1918.. ..	20,901	..	..	..
1921.. ..	4,751	1,942	927	2,809
1922.. ..	2,408	965	688	1,443
1923.. ..	1,906	501	371	1,465
1924.. ..	1,676	517	425	1,159
1925.. ..	1,901	732	551	1,169
1926.. ..	1,817	654	547	1,163
1927.. ..	1,836	624	495	1,212
	Death-rates per mille.			
1918.. ..	..	..	..	..
1921.. ..	·10	·62	1·02	·06
1922.. ..	·05	·31	·76	·03
1923.. ..	·04	·16	·41	·03
1924.. ..	·03	·17	·39	·02
1925.. ..	·04	·24	·51	·03
1926.. ..	·03	·21	·51	·02
1927.. ..	·04	·20	·46	·03

77. **Influenza by Divisions.**—The crude death rates from influenza exceeded those of the previous year in Burdwan and Dacca, but remained unchanged in Rajshahi and Chittagong Divisions. The death rate in the Presidency Division was slightly reduced. Turning to the fourth and fifth columns of the table below, it appears that while 1 out of every 6 deaths due to respiratory diseases was caused by influenza in Rajshahi, 1 in 8 such deaths occurred in Chittagong, 1 in 22 in Presidency, 1 in 25 in Burdwan and 1 in 38 in Dacca. The last column shows that a little less than two-fifths of the total influenza deaths were registered in Presidency, a little more than one-fourth in Rajshahi, one-fifth in Burdwan and the remaining three-twentieths in Dacca and Chittagong Divisions taken together :—

Influenza by Divisions.

Divisions.	Influenza deaths per mille of population.		Proportion of total mortality from respiratory diseases due to influenza.		Percentage of provincial influenza mortality.	
	1926.	1927.	1926	1927.	1926.	1927
Burdwan .	·03	·04	3·5	4·0	15·4	20·0
Presidency ..	·08	·07	4·9	4·5	42·8	38·1
Rajshahi ..	·05	·05	18·0	15·9	27·0	27·1
Dacca ..	·006	·007	3·5	2·6	4·6	4·8
Chittagong ..	·03	·03	12·5	12·9	10·2	9·9

78. **Influenza by Districts.**—Calcutta returned the highest death rate from influenza (·46 per mille), followed by Jalpaiguri (·26), Bogra (·16), and Darjeeling (·14); 15 others recorded rates between ·1 and ·01 per mille, and the remaining 8 below ·01, the lowest (·001) being registered in Noakhali. Compared with the previous year, the mortality in 1927 was higher in 14 districts, lower in 9, and continued the same in the remaining 4 districts :—

Death-rates from Influenza per Mille.

Districts.	1926.	1927.	Increase + or decrease —.
Calcutta ..	·51	·46	—·05
Jalpaiguri ..	·22	·26	+·04
Bogra ..	·19	·16	—·03
Howrah ..	·12	·09	—·03
Darjeeling ..	·12	·14	+·02
Nadia ..	·10	·07	—·03
Tippera ..	·06	·05	—·01
Midnapur ..	·03	·03	±0
Hooghly ..	·03	·04	+·01
24-Parganas ..	·02	·02	±0
Burdwan ..	·01	·08	+·07
Bankura ..	·01	·03	+·02
Rangpur ..	·01	·005	—·005
Dacca ..	·01	·01	±0
Chittagong ..	·01	·01	±0
Mymensingh ..	·008	·003	—·005
Murshidabad ..	·005	·001	—·004
Jessore ..	·005	·01	+·005
Khulna ..	·005	·02	+·015
Malda ..	·004	·005	+·001
Rajshahi ..	·003	·01	+·007
Bakarganj ..	·003	·004	+·001
Birbhum ..	·002	·004	+·002
Dinajpur ..	·002	·01	+·008
Faridpur ..	·002	·008	+·006
Noakhali ..	·002	·001	—·001
Pabna ..	·001	·01	+·009

Pneumonia.

79. **General Prevalence.**—The number of deaths from pneumonia in the province showed an excess of 11·6 per cent. over the previous year. This increase was confined to the rural areas only, where it was 30·3 per cent.; in towns there was a reduction of 1·5 per cent., while in Calcutta it was 3·3 per cent. Pneumonia deaths in Calcutta were a little over half of those in all the towns in Bengal. Seven towns did not report any death from pneumonia. High death rates were reported from Khirpai (9·0), Chandrakona (6·2), Old Malda (5·7), and Kumarkhali (5·0). Fifty-seven towns reported rates between 1 and 5 per mille, and the remaining 55 below 1 per mille. Pneumonia accounted for 41·7 per cent. of respiratory and 1·1 per cent. of the total mortality :—

Pneumonia.

Years.	Number of deaths.			Rural areas.
	Province.	All towns.	Calcutta.	
1921 ..	11,567	5,806	3,183	5,761
1922 ..	10,615	5,255	2,722	5,360
1923 ..	10,767	5,470	2,863	5,297
1924 ..	11,490	6,538	3,896	4,952
1925 ..	11,259	6,611	3,830	4,648
1926 ..	12,294	7,246	4,304	5,048
1927 ..	13,718	7,139	4,161	6,579
	Death rates per mille.			
1921 ..	·25	1·87	3·50	·13
1922 ..	·23	1·70	3·00	·12
1923 ..	·23	1·76	3·15	·12
1924 ..	·25	2·11	3·61	·11
1925 ..	·24	2·13	3·55	·11
1926 ..	·26	2·33	3·99	·12
1927 ..	·29	2·30	3·86	·15

80. **Pneumonia by Divisions.**—The crude death rates from pneumonia increased in all the divisions except Chittagong. The chief brunt appears to have been borne by the Presidency and Burdwan Divisions. In Burdwan, practically half the deaths due to respiratory diseases were caused by pneumonia; in Presidency, this proportion was about nine-twentieth; in Rajshahi, seven-twentieth; in Dacca one-third; and in Chittagong one-fifth. Again, about half the total deaths due to pneumonia in the province occurred in the Presidency Division, one-third in Burdwan, and about one-sixth in the remaining three divisions taken together :—

Pneumonia.

Divisions.	Pneumonia deaths per mille of population.		Proportion of total mortality from respiratory diseases due to pneumonia.		Percentage of provincial pneumonia mortality.	
	1926.	1927.	1926.	1927.	1926.	1927.
Burdwan ..	·45	·56	44·9	48·9	29·5	33·0
Presidency ..	·70	·71	41·4	42·9	53·6	49·1
Rajshahi ..	·10	·11	38·1	36·5	8·4	8·3
Dacca ..	·05	·08	27·7	30·1	5·4	7·5
Chittagong ..	·06	·05	25·0	20·4	3·0	2·1

81. **Pneumonia by Districts.**—Calcutta recorded the highest death rate due to pneumonia—3·86 per mille—followed by 1·45 in Howrah. Twelve districts returned death rates between 1

and ·1 per mille, the rest below ·1 per mille, the lowest rate (·004) being registered in Noakhali. The rates were higher than those in 1926 in 12 districts, lower in 9, but were the same for both the years in the remaining 6 :—

Death-rates from Pneumonia per mille.

Districts.	1926.	1927.	Increase + or decrease −.
Calcutta ..	3·99	3·86	−·13
Howrah ..	1·44	1·45	+·01
Nadia ..	·51	·52	+·01
Hooghly ..	·49	·62	+·13
24-Parganas ..	·49	·48	−·01
Darjeeling ..	·46	·51	+·05
Jalpaiguri ..	·45	·62	+·17
Burdwan ..	·43	·76	+·33
Midnapur ..	·27	·31	+·04
Bankura ..	·26	·45	+·19
Chittagong ..	·16	·12	−·04
Dacca ..	·13	·11	−·02
Dinajpur ..	·11	·09	−·02
Rangpur ..	·11	·01	−·10
Bogra ..	·11	·09	−·02
Murshidabad ..	·09	·09	±0
Jessore ..	·07	·09	+·02
Khulna	·06	·23	+·07
Malda ..	·06	·04	−·02
Birbhum ..	·04	·04	±0
Rajshahi ..	·04	·04	±0
Mymensingh ..	·03	·03	±0
Faridpur ..	·03	·20	+·17
Tippera ..	·03	·03	±0
Bakarganj ..	·02	·02	±0
Pabna ..	·01	·02	+·01
Noakhali ..	·01	·004	−·006

Tuberculosis.

82. **General Prevalence.**—The number of deaths from this disease appears to be gradually increasing year after year, since the time such deaths are being separately registered. A more accurate registration explains the rise to a certain extent only. The mortality rate from this cause, according to the table below, showed an excess of 100·0 per cent. over that in 1921 and of 6·7 per cent. over the previous year. Similarly, the excess in all towns, Calcutta and rural areas was 38·4, 9·5 and 200·0 per cent. and ·8, 3·2 and 12·5 per cent. as compared with 1921 and 1926 respectively. The death rate in towns was 13 times as high as in rural areas. Seventeen towns did not report any death from phthisis. Kurseong reported the highest death rate, 3·6 per mille; Darjeeling, 3·3 per mille; and Calcutta, 2·5 per mille. Five towns recorded rates between 1 and 2 per mille, 88 others between 1 and ·1 per mille, and the remaining 3 below ·1 per mille. Tuberculosis accounted for 23·3 per cent. of deaths from respiratory diseases and ·65 per cent. of the total mortality:—

Tuberculosis.

Years.	Number of deaths.			
	Province.	All towns.	Calcutta.	Rural areas.
1921 ..	4,055	2,661	2,095	1,394
1922 ..	4,477	2,981	2,106	1,496
1923 ..	4,942	2,863	1,967	2,079
1924 ..	5,577	3,251	2,413	2,326
1925 ..	6,079	3,277	2,460	2,802
1926 ..	7,032	3,650	2,640	3,382
1927 ..	7,689	3,698	2,725	3,991
	Death rates per mille.			
1921 ..	·08	·86	2·31	·03
1922 ..	·09	·96	2·32	·03
1923 ..	·10	·92	2·17	·04
1924 ..	·12	1·05	2·24	·05
1925 ..	·13	1·06	2·28	·06
1926 ..	·15	1·18	2·45	·08
1927 ..	·16	1·19	2·53	·09

83. **Tuberculosis by Divisions.**—The crude death rates from phthisis were higher in the Presidency and Burdwan Divisions than in the other 3. The rates in 1927 exceeded those in 1926 in all the divisions except Chittagong. The proportion borne by tuberculosis deaths to deaths due to respiratory diseases was highest in Rajshahi and lowest in Burdwan. Compared with the previous year, it showed an increase in Burdwan, Presidency and Rajshahi Divisions and a reduction in Dacca and Chittagong. About half the total deaths in the province due to tuberculosis occurred in the Presidency Division, one-fourth in Burdwan and the remaining one-fourth in Rajshahi, Dacca and Chittagong Divisions taken together:—

Tuberculosis.

Divisions.	Phthisis deaths per mille of population.		Proportion of total mortality from respiratory diseases due to phthisis.		Percentage of provincial phthisis mortality.	
	1926.	1927.	1926.	1927.	1926.	1927.
Burdwan ..	·19	·23	19·5	20·1	22·3	24·1
Presidency ..	·39	·40	23·3	24·4	52·7	49·8
Rajshahi ..	·06	·08	22·5	25·5	8·7	10·4
Dacca ..	·06	·07	31·4	24·9	10·7	11·1
Chittagong .	·07	·06	26·5	24·6	5·6	4·5

84. **Tuberculosis by Districts.**—The highest death rate (2·53 per mille) was returned from Calcutta. Eleven districts recorded rates between 1 and ·1 per mille, and 15 others below ·1 per mille, the lowest (·003 per mille) being registered in Noakhali. Compared with the previous year, 15 districts (including

Calcutta) showed a higher and 8 a lower rate, while it continued unchanged in the remaining 4 districts:—

Death-rates from Tuberculosis per Mille.

Districts.	1926.	1927.	Increase + or decrease —.
Calcutta ..	2·45	2·53	+·08
Howrah ..	·80	·77	—·03
Darjeeling ..	·49	·66	+·17
Hooghly	·24	·24	±0
Jalpaiguri ..	·23	·31	+·08
24-Parganas ..	·22	·20	—·02
Nadia ..	·16	·16	±0
Tippera ..	·12	·11	—·01
Burdwan ..	·11	·21	+·10
Bankura ..	·11	·20	+·09
Dacca ..	·11	·09	—·02
Bogra ..	·09	·08	—·01
Midnapur ..	·08	·11	+·03
Jessore ..	·07	·08	+·01
Khulna ..	·07	·11	+·04
Mymensingh ..	·05	·06	+·01
Murshidabad ..	·04	·03	—·01
Rajshahi ..	·03	·03	±0
Pabna ..	·03	·03	±0
Faridpur ..	·03	·08	+·05
Bakarganj ..	·03	·04	+·01
Chittagong ..	·03	·02	—·01
Birbhum ..	·02	·04	+·02
Dinajpur ..	·02	·04	+·02
Malda ..	·01	·02	+·01
Rangpur ..	·008	·02	+·012
Noakhali ..	·005	·003	—·002

Injuries.

85. **General Prevalence.**—19,359 deaths (giving a death rate of ·42 per mille) occurred in 1927, compared with 19,970 deaths and a rate of ·43 per mille in 1926, showing a reduction by 3·1 per cent. in the number of deaths due to injuries. Deaths due to suicides, wounds or accidents, snake-bites and attacks of wild beasts decreased, but the number of those due to rabies was greater than that in the previous year. Injuries were responsible for 1·6 per cent. of the total mortality:—

	1926.	1927.
Deaths from injuries—		
Suicides	3,227	3,171
Wounds or accidents ..	11,535	11,310
Snake-bites and attacks of wild animals ..	4,859	4,502
Rabies	349	376
Total ..	19,970	19,359
Death rate per mille—		
Suicides	·07	·07
Wounds or accidents	·25	·24
Snake-bites and attacks of wild animals ..	·10	·10
Rabies	·007	·008
Total ..	·43	·42

86. **Deaths due to Injuries in Towns and Rural Areas.**—The following table shows the distribution of deaths under the various sub-heads of injuries in towns and rural areas; 1,633 deaths due to all forms of injuries (including 790 in Calcutta) occurred in towns and 17,726 in rural areas. The death rate in towns was higher than that in rural areas by 29·3 per cent. Deaths in Calcutta numbered about half those in all towns. The highest death rate, both in all towns including Calcutta and rural areas, was due to wounds and accidents. Deaths from snake-bites and attacks from wild animals were practically nil in Calcutta, while those from rabies returned the lowest rate in rural areas:—

Causes.	Deaths.			Death-rate per mille.		
	All towns.	Calcutta.	Rural areas.	All towns.	Calcutta.	Rural areas.
Suicides ..	179	51	2,992	·06	·05	·07
Wounds and accidents ..	1,315	715	9,995	·42	·66	·23
Snake-bites and attacks from wild animals ..	92	1	4,410	·03	·0009	·10
Rabies ..	47	23	329	·01	·02	·008
Total 1927 ..	1,633	790	17,726	·53	·73	·41
Total 1926 ..	1,781	863	18,180	·57	·80	·42

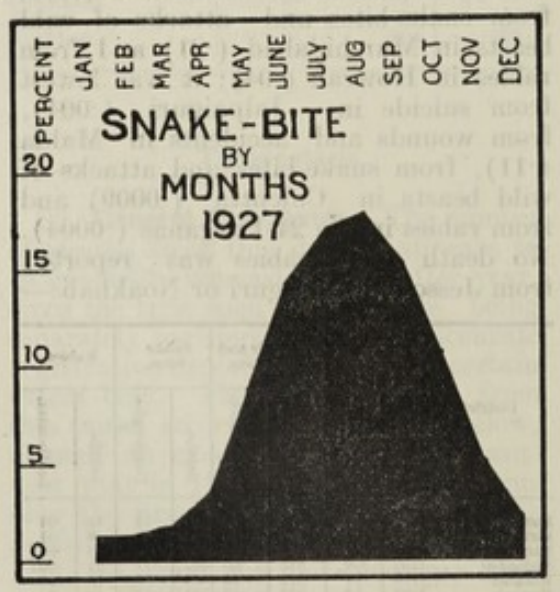
87. **Deaths due to Injuries by Districts.**—The death rate from suicide was highest in Jessore (·18), from wounds and accidents in Calcutta (·66), from snake-bites and attacks of wild beasts in Murshidabad (·21) and from rabies in Howrah (·04); it was lowest from suicide in Jalpaiguri (·004), from wounds and accidents in Malda (·11), from snake-bites and attacks of wild beasts in Calcutta (·0009) and from rabies in the 24-Parganas (·0004). No death from rabies was reported from Jessore, Jalpaiguri or Noakhali:—

Districts.	Suicides.		Wounds and accidents.		Snake bites.		Rabies.	
	Deaths.	Death-rates.	Deaths.	Death-rates.	Deaths.	Death-rates.	Deaths.	Death-rates.
Burdwan ..	77	·05	366	·25	187	·13	18	·01
Birbhum ..	56	·07	137	·16	69	·08	9	·01
Bankura ..	80	·08	152	·15	140	·14	2	·002
Midnapur ..	102	·04	813	·30	467	·17	21	·008
Hooghly ..	115	·11	315	·29	96	·09	13	·01
Howrah ..	123	·12	331	·33	141	·14	45	·04
24-Parganas ..	308	·12	746	·30	382	·15	1	·0004
Calcutta ..	51	·05	715	·66	1	·0009	23	·02
Nadia ..	242	·16	377	·25	239	·16	25	·02
Murshidabad	103	·08	213	·17	267	·21	14	·01
Jessore ..	315	·18	287	·17	261	·15	..	..
Khulna ..	213	·15	389	·27	287	·20	16	·01
Rajshahi ..	146	·10	234	·16	284	·19	20	·01
Dinajpur ..	72	·04	206	·12	300	·17	11	·006
Jalpaiguri ..	4	·004	213	·23	6	·006	..	..
Darjeeling ..	16	·05	55	·19	14	·05	1	·003
Rangpur ..	48	·02	439	·17	155	·06	25	·01
Bogra ..	60	·06	193	·18	114	·11	5	·005
Pabna ..	107	·07	293	·21	101	·07	15	·01
Malda ..	54	·05	108	·11	152	·15	6	·006
Dacca ..	208	·07	487	·16	156	·05	22	·007
Mymensingh	168	·03	796	·16	139	·03	47	·01
Faridpur ..	200	·09	539	·24	182	·08	19	·008
Bakarganj ..	193	·07	1,021	·39	183	·07	3	·001
Chittagong ..	27	·02	797	·49	72	·04	7	·004
Noakhali ..	30	·02	678	·46	46	·03	..	..
Tippera ..	53	·02	410	·15	61	·02	8	·003

(*a*) *Suicide.*—1,292 males and 1,879 females, including 105 and 74 respectively in towns and 1,187 and 1,805 respectively in rural areas, committed suicide in 1927, giving a proportion to every 100 males of 145 females in the province—70 in towns and 152 in rural areas. The death rate from suicide was practically the same as in 1926. It was responsible for 16·4 per cent. of deaths due to injuries and ·3 per cent. of the total mortality.

(*b*) *Wounds and Accidents.*—Deaths from this cause accounted for 58·4 per cent. of deaths due to injuries and ·9 per cent. of the total mortality.

(*c*) *Snake-bites and Attacks by Wild Animals.*—The number of persons admitted from this cause in the various medical institutions in the province for treatment was as follows: Midnapur 5, Hooghly 81, Howrah 143, Nadia 6, Murshidabad 5, Jessore 3, Khulna 18, Rajshahi 11, Dinajpur 5, Jalpaiguri 7, Darjeeling 1, and Bogra 1. Of these, one was treated with anti-venene, 29 by permanganate treatment, 10 with lexin and one with kerosene oil compress. The following graph shows the number of deaths from snake-bites month by month in 1927:—



23·2 per cent. of deaths due to injuries and ·38 per cent. of the total mortality were caused by snake-bites and attacks of wild animals.

(*d*) *Rabies.*—It was responsible for 1·9 per cent. of deaths due to injuries and ·03 per cent. of the total mortality.

88. **Other Epidemic Diseases.**—According to the District Health Officer of Bankura, cases of filariasis are increasing throughout the district, and some of the villages in the sadar subdivision are full of lepers. The District Health Officer, Bogra, reports that 50 per cent. of the people in the Sariakandi and Dhunat police-stations have enlarged thyroid gland. Thirty-two cases of epidemic dropsy with one death were reported by the District Health Officer, Bakarganj, to have occurred in his district during 1927. The District Health Officer, Faridpur, also noticed a number of cases of epidemic dropsy in thanas Gosainhat, Janjira, and Bhanga.

Miscellaneous.

89. **Registration of Vital Statistics in the Chittagong Hill Tracts.**—The experiment started in 1926 by the Deputy Commissioner of having such statistics collected by the mauza headmen is still going on, and it is yet too early to comment on its success or otherwise.

90. **Registration of Births and Deaths in the Railway Limits.**—During the year under review only 14 districts reported the occurrence of 877 births and 827 deaths within the railway limits in their jurisdiction. Details of deaths reported were not furnished by Burdwan and Dacca. Of the 822 deaths of which details were given, 48 were due to cholera, 3 to small-pox, 102 to fever, 58 to dysentery, 1 to diarrhœa, 5 to respiratory diseases, 3 to injury, and 602 to all other causes. No births or deaths were reported to have occurred in Rajshahi, Malda, Mymensingh and Noakhali. The 24-Parganas, Jessore, Darjeeling, Rangpur and Pabna did not furnish any information, while no such information is reported to have been given by the railway authorities to the Health Officers of Murshidabad and Faridpur.

91. **Asansol Mines Board of Health.**—The following statement shows the vital occurrences in the area under the Mines Board of Health during the year 1927:—

Headings.	1926.	1927.	Percentage of differences.
Births	9,128	7,972	−12·7
Infant deaths ..	1,246	1,061	−14·9
Infant death-rate (per 1,000 of births) ..	136	133	− 2·2
Child death (1-5) ..	627	512	−18·4
Child death-rate (per mille) ..	69·0	64·0	
Total deaths ..	6,262	5,476	−12·6
Cholera	570	120	−79·0
Small-pox	196	72	−63·3
Fever	749	848	+13·2
Dysentery and diarrhœa	100	103	+ 3·0
Plague	..	..	..
Influenza	..	..	..
Respiratory diseases	1,099	985	−10·4
Snake-bite ..	14	19	+35·7
Other causes ..	3,534	3,329	− 5·8

Three births and 5 deaths (3 from fever and 2 from wounds and accidents) were reported within railway limits, against 4 and 11 respectively during the previous year.

The low infant mortality was reported to be due to the local satisfactory hygienic conditions, as well as to the activities of the staff of midwives maintained by the Board.

Two hundred and eighty-eight cases of cholera with 120 deaths occurred in 1927, against 991 cases and 570 deaths during the previous year. As in the previous years, routine measures of disinfection were adopted, and the wells in the collieries and the infected village tanks were sterilised with bleaching powder. No anti-cholera inoculation was done, but essential oils mixture was administered to all contacts which prevented the spread of the disease. The number of small-pox cases during the year was 542 with 72 deaths, against 1,737 cases and 196 deaths during the previous year. The area was reported to have been free from malaria as in the previous year. Tanks found to be infested with malaria-carrying mosquitoes were cleansed where possible of weeds.

92. **Sanitation in the Ports of Calcutta and Chittagong.**—(*a*) *Port of Calcutta.*—During the year under review, the town and the port of Calcutta were not officially declared to be infected with plague, and hence the routine disinfection of clothing and bedding of the Asiatic and the African members of the crew and of the third class deck passengers of vessels leaving for any port beyond British India was not enforced. Ninety-one cases of sickness were reported from the harbour, against 100 in the previous year. Two cases of cholera, 7 of diarrhœa, 40 of dysentery, 10 of enteric fever, 24 of malarial fever, 5 of influenza, 2 of small-pox and 575 suffering from other diseases, or a total of 665, were admitted among the European seamen to the various hospitals, of whom 6 died (2 from dysentery, 1 from enteric fever and 3 from other causes). The admission rate to hospitals for all causes, calculated on arrival figure, was 27·07 per mille, against 32·7 in 1926. The death rate was ·24 per mille, against ·18 of the previous year. Seventy-seven European seamen were admitted suffering from venereal diseases, the proportionate admission rate per mille (115·78) of the total number of admissions being less than the quinquennial average (119·33). Two deaths (one from dysentery and the other from drowning) among European seamen were registered at the Port Shipping Office, as compared with 6 in 1926, the death rate being ·08 per mille on arrivals, against ·27 of the previous year. Seventy-nine Asiatic seamen and boatmen were admitted to the various hospitals, 36 suffering from cholera, 1 from dysentery, 1 from malarial fever, 5 from small-pox and 36 from other causes. There were 11 deaths—9 from cholera, 1 from small-pox, and 1 from other diseases. The total number of deaths reported among the Asiatic floating population of the port was 115, or 6·23 per mille, against 171, or 9·27 per mille, in the previous year. Thirteen ships arrived in the port with infectious diseases on board. The S.S. *Ganges*, which alone had 29 cases of measles, was put in quarantine, and the Protector of Emigrants took charge of the cases. The patients of other ships were as usual sent to the hospital and necessary precautionary measures taken. No case of sleeping sickness was detected in any vessel coming from the East African ports, nor was any alien leper observed entering the country through the port of Calcutta. Fifteen sea-going vessels, 18 inland steamers, flats and launches and 46 lighter *bhars* and *dinghis* were disinfected, and 54 sea-going vessels were fumigated with the Clayton apparatus. Two thousand two hundred and sixty deck passengers of 71 ships proceeding to the Straits were vaccinated at the request of the shipping agents. About 1,000 free vaccinations among the floating population of the port were also carried out.

(*b*) *Port of Chittagong.*—There was no outbreak of cholera, small-pox or plague in any vessel lying in the port. A mild form of beri-beri broke out among the crew of the Chittagong Port Trust vessels during the year. The admission rate of European seamen to hospital for all causes, calculated on arrival figure, was 10·56 per mille, against 10·2 in the previous year. Two cases were admitted suffering from diarrhœa, 1 from malarial fever, 15 from simple fever and 11 from other causes. Only one death was reported among these. Forty-seven cases were admitted to the Chittagong Civil Hospital from among the Asiatic seamen, 1 suffering from cholera, 4 from diarrhœa, 5 from dysentery, 17 from

simple fever, 2 from small-pox, 1 from chicken-pox and 17 from other causes. Two deaths were reported from other causes. Two ships arrived in the port with infectious diseases. In both the cases the patients were sent to the hospital and necessary precautionary measures taken. One hundred and one crew were vaccinated during the year. Personal effects of 354 Asiatic crew of foreign-going vessels were disinfected and the hold of one ship fumigated. No alien leper entered the country through the port of Chittagong.

Public Health Laboratories.

93. **I.—Bengal Public Health Laboratory.**—(*a*) *Routine Examinations including Special Samples.*—The table below shows the number of chemical, bacteriological and food samples examined :—

Years.	Chemical.	Bacteriological.	Food.	Total.
1926	3,123	4,337	1,671	9,131
1927	3,768	4,151	1,933	9,762
Increase + or decrease − ..	+555	−186	+262	+631
Percentage of increase or decrease ..	+17·7	−4·4	+15·6	+6·9

The chemical examination consisted of 1,235 routine and 312 special water samples, of which 202 were from tube-wells, 1,227 routine and 785 septic tank effluents, 108 special mineral samples, 8 disinfectants and 3 quinine samples. The bacteriological samples were made up of 2,484 routine and water samples, 1,064 septic tank effluents, 233 samples of vaccine lymph, 191 rats (for plague bacilli), 26 of disinfectants for R. W. coefficient and 153 of blood, urine, sputum, fœces, etc. The Director of Public Health Laboratory reports that the decrease in the number of bacteriological samples examined in 1927 was due to the fact that during the first half of the year routine examination of samples of water direct from individual filters was omitted. In the food section, 650 out of 1,933 (or about one-third of the total samples) were found to be adulterated. The variations of adulteration for the various foodstuffs examined under the Bengal Food Adulteration Act are given below :—

Foodstuffs.	Samples examined.	Samples found adulterated.	Percentage of samples found adulterated.
1. Ghee ..	552	306	55·4
2. Mustard oil ..	417	144	34·5
3. Milk ..	708	103	14·5
4. Flour ..	83	12	14·5
5. Butter ..	17	11	64·7
6. Tea	35	..	..
7. Sweetmeat ..	109	64	58·7
8. Badam oil ..	4	3	75·0
9. Vegetable product	1	..	..
10. Vegetable oil ..	1	1	100·0
11. Ice cream ..	5	5	100·0
12. Tallow ..	1	1	100·0
Total ..	1,933	650	33·6

Besides the above, 63 special samples, including 30 samples of ghee, 1 of mustard oil, 23 of milk, 7 of vegetable products and 2 of salted fish were analysed for standardization against 157 in the previous year.

(*b*) *Research Work.*—(1) Constants of Milk : Fifteen samples of buffalo and 35 of cow-milk were examined to find out a constant within a narrow range as regards the specific gravity—fats and solids, not fat contained in milk—to prevent the extraction of fat from milk by the milkman and the subsequent adding of enough water to it, as he can safely do at present within the rather wide range of the standards fixed by law. No definite conclusion has been arrived at as yet and the work is still being continued.

(2) *Value of Constants for Pure Buffalo Ghee* : Twenty-eight samples of ghee prepared from buffalo milk in the laboratory were analysed. The values of the constants found were as follows :—

Constants.	Minimum.	Maximum.	Average.
Butyro-refractometer	39·0	43·7	41·1
Reichert Wollny Value	24·5	38·5	32·8
Saponification Value ..	219·3	239·6	228·9
Iodine Value ..	23·4	39·3	30·1

(3) *Analysis of Dals or Indian Lentils* : Research work was started to find out the nutritive value of dals, and different kinds of dals of the pea family were analysed to estimate their proximate principles—proteins, fats, carbohydrates and ash; a rough examination

was also made of one of them for amino acids. Work is still going on.

(4) Hydrogenated Fats or Vegetable Products imported from Holland and Germany and used as adulterant of pure ghee. Absence of a catalyst in ghee does not exclude the possibility of its adulteration with vegetable product. Hence, recourse was had to Bolton and Reeve's formula for calculating from the iodine value of the solid fatty acids of the glyceride the amount of iso-oleic acid, which is an intermediate product formed during the process of hydrogenation.

(5) Growth-producing Vitamin in Ghee: This experiment was undertaken on kittens to find out the thermostability of the fat soluble vitamins in ghee. Experiment is still being carried on.

(6) A paper on "Water-supplies of Bengal with special relation to tube-wells and their costs". This was submitted by Mr. N. K. Chattarji to the University of Calcutta.

(7) Electric conductivity of water from different sources, to find out the constant.

(8) Analysis of raw surface water or deep-seated water after treating them with coagulants and sterilizing reagents.

(9) Research work in connection with the protein value of sour milk, food value of Indian "Kaju Nut" or "Hijili Badam" and stabilization of bleaching powder by various chemicals.

II.—Dacca Branch Public Health Laboratory.—(*a*) *Chemical Analysis.*—Three hundred and thirty-two routine and 32 special samples of water, including 7 from jails, 3 from private bodies, 8 from the Dacca Water-works and 2 from Rangamati springs, or a total of 364 samples, were examined, against 344 in the previous year; 349 samples of sewage of Dacca Sewerage Works were also examined, against 253 in 1926.

(*b*) *Bacteriological Examination.*—Seven hundred and twelve samples of water, including 679 routine, 32 special samples and 1 sample of ærated water, were examined bacteriologically, against 762 in the previous year.

(*c*) *Foodstuffs.*—Seven hundred and eighty-one samples of foodstuffs were examined, as against 513 in the previous year. The results of analysis of 774 notified foodstuffs are noted below:—

Foodstuffs.	Number of samples examined.	Number found adulterated.	Percentage of samples found adulterated.
1. Mustard oil ..	408	182	44·4
2. Ghee ..	182	93	51·1
3. Milk ..	139	70	50·3
4. Tea	30	15	50·0
5. Flour ..	14	..	..
6. Butter ..	1	..	..

A large number of samples of mustard oil gave evidence of presence of linseed oil, but pakra oil was not found in any one of them.

In addition to above, 1 sample of sago, 2 samples of vegetable product, 2 of ground-nut oil and 2 of white oil were also examined.

(*d*) *Chemical Analysis of Alum and Bleaching Powder.*—Twenty-two samples of alum, 19 of which were received from the Dacca Municipality and 3 from the Executive Engineer, Dacca Sanitary Works Division, and 11 of bleaching powder from the Dacca Municipality were examined, as compared with 15 and 11 respectively, in the previous year.

III.—Bengal Excise Laboratory, Calcutta.—This laboratory has been started from the 1st of April 1927 and its work consisted mainly in the analysis of the samples of medicinal preparations (tinctures) received from the bonded laboratories; 5,573 samples were analysed, of which 4,793 were routine and 780 special samples. Of the routine samples, 80 were found to deviate from the normal spirit strengths. The special samples may be classified as follows:—

(1) Fifty-seven special samples, including gin, brandy, whisky, rum, sauternes, graves, cider, tari, pachwai, and country spirit, analysed for finding out their alcoholic strengths and detecting poisonous ingredients, if any.

(2) One hundred and twenty-four court case exhibits, including washes and spirit—70 per cent. of these were found to be of illicit origin.

(3) Thirty-five samples of water for testing suitability for reduction of spirit and drinking purposes.

(4) One hundred and forty-eight hydrometers (glass and brass) and thermometers for standardization.

(5) Four hundred and sixteen distillery samples including beer, rum, denaturants, spirit, preservatives, molasses, washes, etc.

IV.—Darjeeling Municipal Laboratory.—Two hundred and eighty-two samples of water, of which 72 were examined chemically and 210 bacteriologically, 22 of sewage and 387 of foodstuffs were analysed in 1927, in addition to 60 samples of tea. The following table shows the details of the analysis of foodstuffs :—

Foodstuffs.	Number of samples examined.	Number of samples found adulterated.	Percentage of samples found adulterated.
Milk	364	17	4·7
Butter	4	1	25
Ghee	17	8	47·1
Alcoholic liquids (sent by Sub-Inspector of Excise Department of Kalimpong)	2	..	
Total ..	387	26	

The improvement in the milk-supply of Darjeeling will be apparent from results tabulated below :—

Year.	Samples of milk examined.	Samples found adulterated.	Percentage of samples found adulterated.
1923 ..	104	19	18·3
1924 ..	228	26	11·4
1925 ..	238	9	3·8
1926 ..	314	13	4·1
1927 ..	354	15	4·2

Twenty-one prosecutions were made by the Darjeeling Municipality under the Food Adulteration Act in 1927.

One thousand and fifty-seven clinical samples were examined consisting of urine (172), blood (91), stool (199), sputa (75), throat swabs (485), nasal swabs (2), uterine swabs (10), hair (7), pus (9), urinary calculus (1) and auto-vaccine preparations (6).

The investigations carried out in the preceding years as regards the characteristics of the Darjeeling types of teas were continued in 1927. A short synopsis of the work done so far is given below :—

(1) Different classes of teas.

(2) Darjeeling teas are black teas. How are they manufactured?

(3) Chemistry of Darjeeling Teas: The constants for the official standard were analysed for in 43 different samples of various classes. Caffeine and tanin were estimated in tasters' infusions prepared from 116 teas of different qualities; a cupful (about 8 oz.) was found to contain 1½ grains of caffeine and 3 grains of tanin; both, and specially the latter, were lower in the teas of Darjeeling than in those of other places.

(4) Tasters' values of the teas are given and compared with those of Assam and the Dooars.

(5) Speciality of Darjeeling teas is given as developed—by the effect of elevation, by the effect of soil, and by the effect of shade.

94. **School Hygiene.**—The year under report surpasses all past records as to the amount of school hygiene work done by local bodies in the mufassal. The Santiniketan at Bolpur in the Birbhum district, the Karapara High English School in the Khulna district, the Shamgram High English School in the Tippera district, and the Burdwan Raj School at Kalna in the Burdwan district initiated the school hygiene work in their institutions through registered medical practitioners. The District Board of Hooghly and the Municipalities of Chittagong, Krishnagar, Serampur, Nabadwip and Hooghly-Chinsura also took up the work through their respective Health Officers.

Out of 196 schools examined, only 107 had sufficient accommodation, 62 were insufficiently lighted and 48 improperly ventilated; 103 were without latrines and urinals. Only 83 schools had playgrounds. During the year, 11,746 boys were examined, including 3,530 boys examined by the Sub-Assistant Surgeon in charge of schools under the Asansol Mines Board of Health, against 6,735 and 3,466, respectively, during the previous year; 23·2 per cent. of the schoolboys examined were below 10, 60·6 per cent. were between 10 and 15 and 16·2 per cent. were over 15 years of age.

With regard to the physical condition of the children, 18 per cent. of the boys examined were well nourished, 42·9 per cent. fairly nourished, 39·1 per cent. ill nourished; 30·4 per cent. wore shoes, 69·6 per cent. were without such a commodity; 15 per cent. were well

clad, 39·6 per cent. had fairly good clothing, 45·5 per cent. were very poorly clad. As regards height, this year the boys of Bengal compared more favourably with European standards than in the matter of weight, their height being on the average 3 inches less, while their weight on the average was 8 lbs. less than the standards laid down for European boys; 7 per cent. of the boys examined had skin disease and 20·5 per cent. were dirty and 16 per cent. had defective teeth, eye troubles accounted for 6·2 per cent. of the boys examined; only 2 per cent. had ear trouble; 5·1 per cent. of the boys had either nasal catarrh or some other nasal trouble; about 2·9 per cent. had adenoids and 11·6 per cent. showed enlarged tonsils and about 2·7 per cent. had cervical or sub-maxillary glands enlarged. Bony deformities and paralysis were present in 93 or 9 per cent. of the boys examined, 62 or 5 per cent. had defective speech (mostly stammering), 72 or ·6 per cent. showed organic diseases of the heart, and 947 or 8 per cent. showed enlarged spleen.

Only 1,021 or 9 per cent. of the boys examined were found unvaccinated. Altogether, 1,207 or 10·5 per cent. of the boys examined were found to be suffering from infectious diseases; of these, 708 were either suffering from malaria or kala-azar, 48 from whooping cough, 160 from dysentery, 2 from leprosy, 193 from measles, 9 from diphtheria, 57 from small-pox and 21 from tuberculosis. Altogether, 52 per cent. of the boys showed some kind of bodily defects.

Besides the inspection work, the Assistant Director of Public Health, School Hygiene, examined 131 plans for educational buildings and reviewed 2 books on hygiene. The Medical Inspector of Schools gave practical demonstration to 4 registered medical practitioners and 6 district and municipal health officers who undertook the work of school medical inspection and delivered a course of lectures on general hygiene and sanitation at the Dow Hill Training College for girls and another at the Young Men's Christian Association for social service workers. A batch of 9 medical officers, deputed by the Calcutta Corporation, was also given necessary training in school hygiene work by the Medical Inspector. The School Hygiene Branch also organized and inspected dai training classes and assisted at the annual Baby Week Exhibition held at Calcutta and took part in the annual examination of Sanitary Inspectors and Assistant Health Officers.

95. **Dai Training.**—During the year grants for dai training were made to the various local bodies for starting 100 classes of 10 dais each. Altogether, 1,170 dais received training in 104 classes started by 49 local bodies and one health society. The District Board of Rangpur failed to start the class allotted to them for want of pupil dais. The District Board of Bakarganj could complete only 2 out of the 4 allotted classes, as the District Health Officer was too busy with epidemic work. The district of Tippera could complete 3 out of the 4 classes allotted to them for want of pupil dais. The Khulna Municipality could not start the only class allotted to them for want of pupils, and the amount drawn was subsequently transferred to the Garulia Municipality who failed to draw it within the specified time. The Rangpur and the Jamalpur Municipalities could not complete the classes allotted to them within the year. Besides the above, the District Board of Burdwan completed 2 classes, the District Board of Howrah 4, and the Central Co-operative Anti-malarial Society 6 out of the funds allotted to them during the previous years.

96. **Educational Propaganda and Publicity.**—(1) The importance and utility of the publicity branch has been amply demonstrated by the gradual increasing and pressing demands for the officers and materials of this section by all classes of public bodies, irrespective of party denominations.

(2) The post of the Publicity Officer was held by Rai Sahib K. P. Ray, M.A., and that of the Assistant Publicity Officer by Babu Srish Chandra Goswami, B.A. During the year they were on tour for 151 and 112 days respectively. 340 lectures were delivered with and without the aid of magic lanterns by these officers, and 131 bioscopic shows given during the course of the year. In all, 186 places were visited outside the headquarters, including mostly interior-most villages.

(3) The effect of this educative campaign is conclusively proved by the numerous health exhibitions and the "Baby Week" shows that are being held in the province. Thirty-five health

exhibitions and 32 baby shows were organised during the year, compared with 10 exhibitions and 20 baby shows held during the previous year. Besides these, as usual the district boards, municipalities, ladies' associations, the Young Men's Christian Association and other institutions, educational and otherwise, requisitioned the services of these officers.

(4) The Eastern Bengal Railway demonstration train was a great success last year. It was organized as the result of a suggestion made by the Public Health Department in the columns of an English local newspaper. No less than 186,000 people visited the demonstration health car and profited by the posters, models and lectures which were arranged for them. It is hoped that this will become an annual function, and all those whom we intend to reach in the mufassal will be gradually benefited by the scheme. A new attempt is now being made to carry on health propaganda in the mufassal through the Indian Broadcasting Company, Limited, whereby every month a health lecture would be delivered at Calcutta for the wireless subscribers all over Bengal. A series of health lectures is being delivered to the prisoners in the Central and Presidency Jails at Calcutta.

The approximate total number of people who attended the various shows and lectures might at the most modest computation work up to 8 lakhs.

(5) Sixty-one sets of multi-coloured magic-lantern slides were designed and prepared by the publicity branch. The two films on maternity and child welfare produced locally by the Public Health Department were greatly appreciated by the public, and the demand for them is so great that one copy of the film "Debdut" had to be run 6 times in the course of a day in certain exhibitions, with the result that the film almost ran out its span of life almost within 5 months of its production. This was also shown at Calcutta during the Congress of the Far Eastern Association of Tropical Medicine at the request of the authorities, and was well appreciated, so that after its exhibition delegates from Korea, Java and Japan interviewed the Publicity Officer and expressed their willingness to have a copy prepared like the one the department possessed, with changes suiting their own local conditions.

In order to impress the laity, nothing appeals more than visual representations, and it is imperatively necessary that the production of new films embracing almost all the preventible diseases should forthwith be taken up and proceeded with. A move must be made in this direction if the educative aspect of the propaganda has to have a lasting effect on the public, and Government has been approached for a recurring and non-recurring grant on this head as well as for the general expansion of the publicity branch as a whole. Besides these, the publicity branch is at present equipped with 24 sets of films including 38 reels on various preventible diseases and maternity and child welfare.

(6) During the year under review, the following coloured posters were prepared by the Publicity Officer:—

(1) A Calcutta Baby Week Exhibition.

(2) Health outweighs medicine.

(3) Average longevity of various countries.

(4) Foods and vitamins.

Three hundred thousand leaflets and pamphlets on preventible diseases were prepared and printed at the Government Press. During the course of the year, the total number of leaflets and posters which were distributed came up to about 250,000.

The posters and leaflets designed and prepared by this section have proved very popular and so great is the demand that people are willing to buy them.

In fact, the Burma Public Health Department asked for permission to print some of the posters designed by the publicity branch for publishing in Burma. The National Baby Week, Bombay, and the Central Provinces Publicity Officer have also asked for permission to copy our posters.

(7) The propaganda work by the officers of this section was instrumental in getting about 3,000 to 3,500 pilgrims inoculated with anti-cholera vaccine at the Howrah station before their departure for the great Kumbh Mela and the Puri Rath-jatra festival; also the junior officers of this branch are to be mentioned for having been able to perform about 1,500 inoculations amongst a refractory mass of Muhammadans in the Diamond Harbour subdivision, when other parties had failed in this objective.

(8) As in other years, local newspapers have been utilized as a channel for publicity on public health matters. Informative articles have, from time to time, been sent to the Press by this branch which attracted public attention.

(9) The Calcutta Baby Week Committee has expressed in no unequivocal language the help rendered by the publicity section during the health weeks organized under their auspices.

(10) The following officers visited the publicity section during the year and studied the methods of its working:—

(1) Major G. J. Jolly, I.M.S., Officiating Director of Public Health, Burma.
(2) Captain N. R. Ubhaya, Assistant Director of Public Health, Madras.
(3) Captain Mukharji, I.M.S., Bihar.
(4) Dr. Sousa, D.P.H., United Provinces.

The Murshidabad District Health Committee requisitioned the services of the Publicity Officer to organize their health propaganda and publicity branch, and all his suggestions were given effect to and the work was effectively carried out for a year with a propaganda officer selected by the Publicity Officer himself.

Enquiries are now and again being received by this section from various official and non-official agencies for the supply of suitable speakers to carry on propaganda work, and this in itself is a recognition of the useful work already done by this section.

97. **Fairs and Melas.**—Cases of cholera occurred in the following melas:—

Ganga Sagar Mela.—In spite of the most virulent and widespread epidemic of cholera in the province, there were only 3 cases of cholera in the mela ground with only one death.

In Burdwan district no cholera case occurred in the actual mela place, but those returning from the Balai Chand Mahatsab Mela carried the disease to two villages in the district where 14 attacks and 3 deaths occurred.

In Rangpur district, cholera broke out at Fulchari Mela in Gaibandha subdivision. Temporary sheds were erected for patients, and drinking water was supplied from metal reservoirs after proper disinfection with bleaching powder. Seventeen deaths occurred in the mela. The whole of the Gaibandha subdivision as well as some other parts of the district were subsequently affected. Infection was introduced in the mela by a member of the travelling circus party from Serajganj. The mela had to be closed early in consequence of the outbreak.

98. **Septic Tank Latrines.**—During the year, 10 new installations were completed in 6 factories; 1,770 samples of effluents were sent to the Bengal Public Health Laboratory for analysis. Of these, 508 samples were examined bacteriologically and 1,262 chemically. On all occasions when the effluent was not found up to the required standard either chemically or bacteriologically, the cause was investigated and the remedy pointed out to the mill managers concerned. The Tittaghar Sewage Scheme came into operation during the year, dealing with the effluents from Tittaghar No. I, Tittaghar No. II, Khardah, Standard, Kinnison, Kelvin, and Empire Jute Mills and the Tittagarh Paper Mills. An experimental activated sludge plant was constructed at the Hooghly Jute Mill and a marked improvement was noticeable within two days. A separate plant was constructed to deal with the raw sewage, and it has been found that up to 200 gallons per hour the result has been satisfactory. A separate chamber is under construction to provide a period of rest for the sludge and for reactivation which, it is hoped, will make the plant capable of dealing with 1,000 gallons per hour equal to a septic tank for 3,000 users.

SECTION VII.

99. **History of Vaccination.**—This subject is dealt with in a separate report.

SECTION VIII.

100. **Sanitary Works (Military).**—This is now excluded from provincial public health reports.

SECTION IX.

Sanitary Works (Civil).

101. **General Remarks.**—The next three paragraphs dealing with the

financial aspect of public health administration in the urban and rural areas refer to the financial year 1926-27.

102. **Municipalities: Their Income and Expenditure.**—Excluding Calcutta, there were 115 municipalities in Bengal in 1926-27 with a total population of 2,016,867. The average population for each municipality thus comes to 17,537. The total income, excluding the opening balance and extraordinary and bad debts, was Rs. 84,74,110 as compared with Rs. 75,81,262 of the previous year. The average income of each municipality was Rs. 73,687-14-7, while the average income per head of population was Rs. 4-3-2. The total receipts from all sources including the opening balance was Rs. 1,12,17,720, against Rs. 1,06,64,253 in the previous year. There was thus an increase of Rs. 8,92,848 or 11·7 per cent. in the total income and Rs. 5,53,467 or 5·1 per cent. over the total receipts. The opening balance was Rs. 17,88,177 or about 14 annas per head of population, while extraordinary and bad debts amounted to Rs. 9,55,433 or about 7½ annas per head.

The total expenditure during the year was Rs. 80,72,764 against Rs. 72,88,849 in the previous year, showing an increase of Rs. 7,83,915 or ·1 per cent. The proportion of the total income spent in 1925-26 on certain main heads of expenditure is shown below:—

Heads.	Percentage.	
	1925-26.	1926-27.
Sanitary works ..	36·8	39·4
Public safety ..	5·5	5·6
Roads	7·6	7·9
All other requirements.	32·1	35·8

103. **Municipal Expenditure on Sanitation.**—The average expenditure per head of municipal population on certain sanitary works is shown below:—

Heads.	1925-26.				1926-27.			
	Rs.	Rs.	A.	P.	Rs.	Rs.	A.	P.
Conservancy ..	1·026	1	0	5	1·091	1	1	5¼
Water Supply ..	·418	0	6	8¼	·522	0	8	4 1/16
Drainage	·239	0	3	10	·295	0	4	8 7/16
Disposal of dead ..	·020	0	0	3 7/16	·022	0	0	4¼
Market and slaughter houses.. ..	·019	0	0	3¼	·023	0	0	4¼
Medical relief ..	·149	0	2	4¾	·151	0	2	5
Vaccination ..	·015	0	0	2¼	·015	0	0	2¼
Other sanitary works ..	·096	0	1	6¾	·108	0	1	8¼
Total ..	1·982	1	15	8 11/16	2·230	2	3	8¼

Compared with the previous year, there was increase under all heads, viz., 6·5 per cent. under "Conservancy," 25·3 per cent. under "Water-supply," 24·1 per cent. under "Drainage," 8·1 per cent. under "Disposal of dead," 25·1 per cent. under "Markets and slaughter-houses" and 1·4 per cent. under "Vaccination." The average expenditure on sanitation per head of population was Rs. 2-3-8 4/5, against Rs. 1-15-8 2/10 in the preceding year, showing an increase of 68·6 per cent.

104. **Sanitary Works in Towns and Rural Areas.**—The expenditure on sanitary works by Government, municipalities and district boards during the year 1926-27 amounted in the aggregate to Rs. 34,86,953, against Rs. 32,32,331 during the previous year, showing an increase of 7·8 per cent. as compared with the previous year. The most important items, each costing Rs. 5,000 or more, are shown below:—

	Rs.
Titagarh Sewerage scheme ..	10,12,870
Dacca Sewerage scheme ..	2,56,055
Extension of the Naihati Water-works.	1,58,000
Comilla Water-works ..	52,823
Bankura Water-works Improvement.	49,596
Sanitary Works at Sagore ..	23,051
Raniganj Water-works ..	17,500
Construction of the Chittagong Sluice at Budge-Budge.	14,000
Dacca Water-works ..	13,640
Excavation of the Damodar Khal in Pirojpur.	6,803
Excavation of a tank in the Baranagar Matkol Trenching ground.	6,034

105. **Municipal Sanitary Administration.**—As in the previous year, excluding Calcutta, 18 Health Officers and 90 Sanitary Inspectors were employed in 115 municipalities of the province. The total number of the sanctioned appointments for Health Officers and Sanitary Inspectors was 21 and 97 respectively as in the previous year. Health Officers are still wanting in Midnapur, Serampur, Hooghly-Chinsura and Barisal Municipalities and Sanitary Inspectors in Rajshahi, Sherpur (Bogra), Chittagong (2), Basirhat, Titagarh and Bhatpara Municipalities.

106. **Sanitary Administration in Rural Areas.**—The total income of the

District Boards excluding the opening balance and debts amounted to Rs. 1,26,48,901 against Rs. 1,25,64,267 during the preceding year, the average income per head of population being 4 annas and 8 pies against 4 annas and 9 pies in the previous year. The average incidence of taxation was 2 annas and 11 pies per head. Nearly half the income was spent on public works including 29·6 per cent. on communications, 6·8 per cent. on water-supply and 5·2 per cent. on buildings, against 28·6 per cent., 7·2 per cent. and 4·4 per cent. during the previous year; 26·7 per cent. of the income was spent on education, against 24·2 per cent. in 1925-26, while 17·06 per cent. or 9·2 pies per head was spent on medical relief, sanitation and vaccination against 16·1 per cent. or 9 pies per head during the previous year, vaccination receiving 1·5 per cent. of the total income or ·8 pies per head of population and sanitation 3·8 per cent. or 2·2 pies per head.

All the district boards except Darjeeling were under non-official Chairmen and are provided with qualified Health Officers.

107. **Village Self-Government.**—The total number of union boards which worked during the year was 2,260 against 2,217 during the previous year. In some districts union boards were formed but could not commence work before the close of the year, while in some others they were sanctioned by Government but could not be formed during the year. The union boards raised by way of rents of chaukidari chakran lands a total sum of Rs. 32·4 lakhs, of which Rs. 27 lakhs were spent on establishment and collection charges, leaving a balance of Rs. 5 lakhs as in the previous year for communications, medical aid, education, water-supply and sanitation. Many union boards undertook the improvement of drains and khals and the sinking of tube wells.

108. **Rural Public Health Organisation.**—The scheme of rural public health organisation came into operation during the month of August 1927, and 138 rural health circles, each corresponding to a police thana area, were started. Each circle is placed in charge of a staff consisting of a rural Sanitary Inspector with a Health Assistant and a carrier directly under the control and supervision of the District Health Officers. With the increase in the number of available qualified Sanitary Inspectors, the number of health circles rose up to 258 during the year. The total number of health circles admissible under the scheme for the whole province is nearly 600. Vaccination inspection work being a part of the duties of rural Assistant Health Officers or Sanitary Inspectors, the existing staff of Inspectors, and Sub-Inspectors of Vaccination is being gradually absorbed in the rural public health establishment, and when the scheme will come into full operation, it will no longer be necessary to provide separately for vaccination inspection work alone.

Statement showing the number of health circles admissible under the rural public health organisation and the number of circles working during the year 1927-28.

Districts.	Number of health circles admissible.	Number of health circles working during the year 1927-28.
Burdwan ..	16	7
Birbhum ..	14	3
Bankura ..	19	4
Midnapur ..	33	19
Hooghly ..	14	5
Howrah ..	9	7
24-Parganas ..	39	17
Nadia	25	12
Murshidabad ..	20	7
Jessore	24	19
Khulna	22	17
Rajshahi ..	24	6
Dinajpur ..	30	5
Jalpaiguri ..	17	1
Rangpur ..	30	12
Bogra	12	5
Pabna	17	8
Malda	15	4
Dacca	32	21
Mymensingh ..	51	17
Faridpur ..	25	13
Bakarganj ..	32	16
Chittagong ..	21	8
Tippera.. ..	20	11
Noakhali ..	14	14

SECTION X.

109. **Personal Proceedings.**—I was in charge of the department throughout the year. Dr. Khambata occupied the post of Director of the Public Health Laboratory while Drs. Sufi, Brahmachari, Sur, Ray, Batra, Mitra and Mukharji held the posts of Assistant Directors of Public Health. Dr. Chakravarti continued in his post of Superintendent of the Bengal Vaccine Depot, Mr. Iyengar in that of the Entomologist, Rai Sahib S. N. De as the Assistant Chemical Examiner for Excise and Rai Sahib K. P. Ray as the Publicity Officer. Rai Bahadur Govind Raju was appointed to be the Superintendent of the new Bengal Vaccine Laboratory. All of them have earned my thanks in assisting me in the smooth working of the department. Mr. Elias continued to help one and all with his usual energy and disinterestedness.

C. A. BENTLEY,

Director of Public Health,
Bengal.

CALCUTTA:

The 6th March 1929.

Part II

Annual Report of the Sanitary Board, Bengal, 1927.

110. The Board was reconstituted during the year by increasing the number of non-official members from six to eight. The following are the non-official members who were holding office at the end of the year :—

(1) The Chief Medical Officer, Eastern Bengal Railway.

(2) Dr. K. Ahmed.

(3) Rai Gopal Chandra Chatterjee Bahadur.

(4) Rai Chuni Lal Basu Bahadur.

(5) Dr. Tarak Nath Sur, M.B.

(6) Dr. A. K. H. Pollock, M.R.C.S. (Eng.), L.R.C.P., D.P.H. (Lond.).

(7) Rai Upendra Nath Brahmachari Bahadur.

(8) Hadji Captain Dabiruddin Ahmad.

Mr. J. G. Drummond, I.C.S., *ex-officio* President, went on leave from 25th March to 2nd July, and Mr. A. J. Dash, I.C.S., officiated for him. Major-General G. Tate, I.M.S., and Mr. F. C. Griffin, M.INST.C.E., were *ex-officio* Vice-President and Joint Secretary, from 23rd March and 4th January, respectively, till the end of the year.

The Board held seven meetings during the year, all in Calcutta.

The following schemes were approved by the Board and forwarded to Government :—

Sketch Projects.

	Estimated cost. Rs.
(*i*) Howrah water supply improvement scheme (revised for the erection of a fourth Reservoir at Sibpur ..	3,06,399
(*ii*) Scheme for extension of sewage system of Darjeeling Municipality to the lower Beechwood Estate ..	20,000
(*iii*) Bansberia water-supply	96,700
(*iv*) Barisal water-works improvement ..	76,100
(*v*) Rajshahi water-supply	4,78,000

Detailed Projects.

	Estimated cost. Rs.
(*i*) Faridpur water-supply	1,53,500
(*ii*) Suri drainage	34,100
(*iii*) Bhatpara improvement scheme ..	21,10,365
(*iv*) English Bazar water-supply ..	1,30,300
(*v*) Dacca water-works improvement III ..	4,80,000
(*vi*) Suri water-supply (complete scheme) ..	71,300

A tube-well scheme prepared by the Howrah Municipality for road-watering, drain-flushing and fire-extinguishing purposes was considered by the Board. It was returned to the local authority with instructions to provide for renewal of the tube-wells every ten years.

The Board also considered a project for Rural water filtration, outlined by Messrs. Hygienic Household Filter Co. for filtration of household water supply by Das' Hygienic Household Filter. They held that the scheme was a useful one when applied to small installations, and if properly used, it should be quite satisfactory in operation.

111. **Inspection Reports of Municipalities.**—These were circulated to the members of the Board and discussed, and whenever action appeared advisable such action was duly taken as recommended by the Board.

112. **Water Analysis Reports.**—The Board examined analysis reports on water-supplies of the various towns in the province and took action when necessary.

J. G. DRUMMOND,
President.

C. A. BENTLEY,
F. C. GRIFFIN,
Joint Secretaries.

CALCUTTA :
The 16th March 1928.

Part III

Fifteenth Annual Report of the Chief Engineer, Public Health Department, Bengal, 1927.

113. **Establishment.**—On January 4th, I took over charge of the department from Mr. G. B. Williams who went on leave from that date preparatory to retirement. Mr. W. J. Berry, Executive Engineer, Western Division, was transferred to Dacca Sanitary Works Division on the 5th January, and Babu B. N. Mazumdar, Assistant Engineer, who was appointed to act in his place from that date, held charge of the division throughout the remainder of the year.

Mr. W. J. Berry, Executive Engineer, Dacca Sanitary Works Division, was on leave from the 21st April to 18th December. During this period Rai Saheb S. N. Roy, Assistant Engineer, Dacca City Subdivision, officiated for him.

Mr. S. N. Ghose, Executive Engineer, Central Division, was on leave from the 12th October to 2nd November. No officiating arrangement was made for this short period, the work of his division being carried on by myself.

Rai Saheb K. C. Banerjee, Executive Engineer, held charge of the Presidency Division throughout the year.

At the end of the year the Upper Subordinate establishment of the department consisted of 4 permanent and 2 temporary Assistant Engineers and 1 permanent and 6 temporary Supervisors.

114. **Schemes prepared.**—The following projects were drawn up during the year :—

(a) SKETCH PROJECTS	Estimated cost. Rs.
(i) Rajshahi water-supply (revised)—source of supply—a storage tank to be filled with water from the river Padma	4,78,000
(ii) Budge-Budge water-supply (revised)—source of supply changed from tube-wells to a storage tank to be filled with water from the Hooghly river	4,05,600
(iii) Nawabganj water-supply—source of supply—a storage tank to be filled with the water fron the river Mahananda. Three alternative projects were drawn up— ..	
Scheme No. 1—with an elevated reservoir, house connections and street standposts	66,000
Scheme No. 2—supply through street tanks only	48,500
Scheme No. 3—same as scheme No. 1, but on a reduced scale ..	53,000
(a) SKETCH PROJECTS—*contd.*	Estimated cost. Rs.
(iv) Tamluk water-supply—The experimental tube-well having proved successful, the original sketch project was revised, and two more alternative schemes were drawn up—	
Scheme No. 1—supply from tube-well through street tanks (original project revised)	19,500
Scheme No. 2—scheme No. 1 with a partial distribution system ..	25,700
Scheme No. 3—scheme No. 1 with complete distribution system ..	39,300
(v) Kushtia water-supply (revised)—supply from tube-well— ..	
Scheme No. 1—for supply through street tanks only	44,000
Scheme No. 2—providing an elevated reservoir and a few house connections in addition to street tanks	51,500
Scheme No. 3—with provision for a larger size tube-well, house connections and street standposts ..	60,000
(vi) Barisal water-works improvement (revised)	76,100
(vii) Dainhat water-supply—supply from a tube-well to be distributed through street tanks	14,000
(viii) Burdwan water-works improvement—	
Scheme No. 1—consisting of tube-wells, elevated reservoir, pumping plant and engine house ..	1,45,700
Scheme No. 2—extension of distribution system only ..	1,56,100
(ix) Bankura water-supply improvement—supply from the river Dwarkeswari—A joint scheme for augmenting the municipal water-supply as well as for water-supply and sanitation of the local Jail, Police Lines, the College and the Agricultural Farm	77,400
(x) Chittagong main drainage—two alternative schemes were prepared—	
Scheme No. 1—the intitial scheme including pumping station outfall, new surface drains, main sewers, depôts and public latrines ..	7,12,000
Scheme No. 2—a complete scheme providing for a sewerage system for the whole of the populated municipal area	9,32,000
Two other separate schemes, subsidiary to the main drainage scheme, were prepared :—	
(1) Sewerage of Chauk Bazar with a separate pumping station ..	51,000
(2) Extension of the water-supply required when the complete scheme will be in operation	1,39,000
(xi) Sewerage scheme for the Dacca Peelkhana Military Police Lines ..	1,10,500
(xii) Sewerage scheme for Kalimpong Bazar	64,000
(xiii) Baranagore drainage—Drainage of southern portion of Ward No I of the Municipality	22,300

(a) SKETCH PROJECTS—*concld.*	Estimated cost. Rs.
(*xiv*) Vishnupur drainage—a scheme for the improvement of the outfall drain in Raghunathshire Mahalla of the Municipality	6,660
(*xv*) Azimganj drainage—flood-flush scheme for the Nehalia Ward ..	13,400
(*xvi*) Kotrung drainage	13,100
(*xvii*) Budge-Budge drainage—partial scheme	2,550
(b) DETAILED PROJECTS.	
(*i*) Dacca water-works improvement scheme III	4,80,000
(*ii*) Asansol water-supply. (In connection this, a number of borings were made in the bed of the Damoodar river, to obtain particulars for the design of the intake)	4,50,000
(*iii*) Chandpur water-supply—for supply from the river Meghna; the old scheme of 1915 revised at current rates	1,85,000
(*iv*) Suri water-supply (extension scheme)"	71,600
(*v*) Tamluk water-supply—scheme with supply tanks and a complete distribution system	39,300
(*vi*) Suri drainage	34,100
(*vii*) Sanitary fittings and sewer connection to the Intermediate College and Hostel, Dacca	23,800

115. **Works under construction.**—The following is a brief account of the progress made with schemes in course of construction during the year under the supervision and control of the department:—

(*i*) *Dacca main drainage extension scheme.*—The construction of the 2′ 6″ brick sewer was commenced and a length of 1,659 feet completed.

The following lengths of pipe sewer were laid during the year:—

		feet.
18″ diam	...	1,821
15″ "	...	2,450
12″ "	...	1,759

Twelve hand dumping depôts were constructed and handed over to the Municipality during the year, and two were nearing completion. In the outfall works the construction of an upward flow tank was commenced. Sinking was completed and the plugging of the bottom was in progress at the end of the year.

The excavation of the boundary channel was completed and the excavation of a large tank (No. 10), together with the raising of a considerable area of land at the northern end of the farm, was in progress. Two thousand seven hundred and forty-two feet of 9-inch carrier, a bullock shed, a silo, chowkidar's quarters and store godowns were completed during the year. A second chowkidar's quarters and a bridge over the Grant Khal were nearing completion at the end of the year.

(*ii*) *Dacca unfiltered water-supply scheme.*—The pumping station building and the laying of the 12-inch steel main were completed. Erection of the pumping machinery commenced at the end of the year.

(*iii*) *Chandpur water-supply (southern section).*—A small scheme was prepared for increasing the distribution system, the pipes and specials were ordered, and a contract let.

(*iv*) *Chandpur water-supply (northern section).*—Two tube-wells were sunk successively for the scheme, but both proved a failure, the water obtained being saline. The tube-well scheme was accordingly abandoned.

(*v*) *Brahmanbaria water-supply.*—A tube-well was sunk to a depth of 400 feet at a cost of Rs. 7,875. No further progress could be made with the scheme owing to the inability of the municipal commissioners to raise their contribution towards the cost of the scheme.

(*vi*) *Narayangunge water-supply scheme.*—A contract was let for the sinking of a 5-inch tube-well at a cost of Rs. 10,000 and work was commenced at the end of the year.

(*vii*) The following schemes were carried out for the installation of modern water-flushed latrines in Government schools during the year:—

		Cost Rs.
(*a*) Moslem High School, Dacca	...	6,100
(*b*) Dacca Collegiate School	...	6,300
(*c*) Normal School, Dacca	...	5,700

A similar scheme for the Jagannath Intermediate College, Dacca, estimated to cost Rs. 18,700 was commenced in the month of November.

(*viii*) *Burdwan water-works improvement.*—The cooling water tank, bye-pass connection to the clear water reservoir, repairs to the filters, and other improvement works were in progress.

(*ix*) *Sanitation scheme for Reserved Police Lines at Burdwan.*—The tender for a jetty and other minor improvement works for the water-supply was accepted and work was taken in hand.

(*x*) *Midnapore water-supply.*—Extensions of pipe lines along Mirbazar Road, Cantonment Road and a portion of Burrabazar Road were completed and leaks and other defects in the elevated reservoir made good. After trial borings and other investigations made for determining the best method of augmenting the yield of well No. I, it was thought effective and economical to put in a number of horizontal strainers radiating from the steining of the well, and to that end an experimental strainer was fixed. This proved quite successful. The Municipality then advanced Rs. 1,500 for the requisite number of strainers and the work was taken in hand.

(*xi*) *Raneegunge water-supply.*—Repairs to the gravity pipe in the river-bed were taken up and completed, and the full water-supply to the town restored. The construction of the service reservoir and some pipe-line extensions along the station road and across the railway bridge were completed.

(*xii*) *Suri water-supply.*—The construction of the pumping station buildings, the filtration gallery, the road along the rising main, the laying of the main, and all other works were completed. The pumping machinery was erected, and water-supply to the town started.

(*xiii*) *Tamluk water-supply.*—A tube-well was successfully sunk to a depth of about 350 feet. The yield, and quality of the water proved to be quite satisfactory. A small local supply was established by pumping with a hand pump into a small storage tank provided with taps.

(*xiv*) *Howrah water-supply improvement.*—This work was being carried out under the supervision of the Municipal Engineer. The alteration to the engine house and the foundations of the new pumping engines were taken in hand.

(*xv*) *Naihati water-supply extension.*—This work was being carried out under the supervision of Mr. Patterson of the Gouripur Jute Mills. The works were nearly completed, with the exception of a few connecting water mains.

(*xvi*) *Budge-Budge drainage—improvement of Chittraganj sluice.*—This work was started at the beginning of the year and completed before the rains. The value of the whole work is about Rs. 12,300.

(*xvii*) *Tittaghur sewerage.*—This work was completed during the year and brought into operation. But owing to unsuitability of the land for absorbing the sewage, there was a certain amount of offensive smell from the outfall works. This necessitated the temporary stoppage of dumping of night-soil into the depôts. Investigation was taken up as to the means to be adopted to overcome the difficulty.

(*xviii*) *Jessore water-supply improvement.*—The scheme was completed and handed over to the Municipality.

(*xix*) *Kalimpong water-supply.*—The extension of the distribution system in Development Area II and building of two service reservoirs, one in Durpindara and the other at Rinkingpong, were completed. The part of the work of lining the Deola Reservoir which was taken in hand was completed, and it was found that the leakage was reduced to nearly half of what it was before the work was taken up.

(*xx*) *Khulna water-supply improvement.*—The extension of the distribution system was completed, and a new engine and pump at the river side installed. The Municipality obtained Government sanction for a further extension of the distribution mains at a cost of Rs. 8,100. A part of this work was taken in hand.

(*xxi*) *Patuakhali water-supply.*—Arrangements were made to start the work at the end of the year.

(*xxii*) *Faridpur water-supply.*—The tube-well intended to supply the town with water was sunk. The water from this well was found, on analysis, to contain iron. Specifications for letting out the contracts for engines and pumps, pipes and specials, and for the elevated reservoir, were drawn up and tenders called for.

116. **Tube-wells.**—Experimental tube-wells of 1½-inch diameter were sunk by the department at the following places with the results shown against each:—

(*a*) Bogra Sericultural Nursery—2 tube-wells sunk—Both successful.

(*b*) Faridpur District Board's office compound—Successful.

(*c*) Chowmukha in Faridpur District—Failure, water being saline.

(*d*) Rayenda in Bagerhat subdivision of the Khulna district—Failure, water being saline.

117. **Expenditure on new works.**—The total capital expenditure on water-works and sewerage works during the year were Rs. 6,23,333 and Rs. 6,06,823 respectively, *vide* Appendices I and II.

118. **Maintenance of sewerage and water-works.**—(*a*) *Dacca Sewerage.*—The management of the outfall works and the operation of the Narinda Pumping Station were under the control of the department throughout the year; 676,160,000 gallons of sewage were pumped from the Narinda Pumping Station to the outfall works during the year at a total cost of Rs. 15,907 including repairs, replacements and supervision charges. Produce from the farm was sold to the value of Rs. 7,858-6-6, an increase of Rs. 4,445-2 on last year.

The success of this sewage farm is now definitely established. In the dry season the whole of the septic tank effluent is disposed of on the irrigation area. The small quantity of water passing from the surface tanks into the khal is of a standard of purity equal to that of river water. An interesting feature of the irrigation work is that owners of land adjoining the acquired area are now asking for effluent to be diverted on to their land. The available area for irrigation and disposal of effluent is thus being extended without extra expense. The dried sludge is also being utilised as manure.

(*b*) *Kalimpong water-works.*—The maintenance of both the Kalimpong water-supply and Kalimpong Bazar water-supply was carried on by the department. A steady supply was maintained throughout the year. All the house-connections in the Development Area are metered except one, and in the Bazar Area there are still four connections to be metered.

Considerable damage was done to the conduit line between Thockchu and Sanser by exceptionally heavy rains during the monsoon. Repairs were carried out at a cost of Rs. 13,500. The quality of water supplied throughout the year was excellent.

(*c*) *Berhampore water-works.*—Berhampore water-works remained under the control and management of this department throughout the year. There has been considerable improvement in the works. About 3,000 feet of piping has been added to the distribution system and some more house-connections allowed.

The water-works budget has shown a considerable improvement also. At the time when the works were taken over by the department, the balance was on the debit side on each year's working. For the last two years there has been a credit balance in spite of the expenditure on improvements.

The total number of water-works in operation during the year remained the same as in the previous year. The total number of persons served was 9,83,116 and the total quantity of filtered water supplied was 1,17,76,061 gallons per day on an average.

The diagram in Appendix III shows the comparative figures for consumption of coal and fuel oil at the various water-works and sewage pumping stations in the Presidency during the year.

The monthly returns of the various water-works and sewerage works were checked. Cases of irregularities were brought to the notice of the local bodies concerned and necessary instructions given.

The periodical inspections of pumping machinery and filters of the various water-works were carried out by Messrs. Worthington-Simpson, Limited. Their reports were scrutinised and forwarded to the local bodies concerned for necessary action.

The Mechanical Assistant Engineer of this department also inspected several water-works.

Reports on analysis of water issued by the Director of Bengal Public Health Laboratory and the Medical Officer of Health, Darjeeling, were regularly scrutinised and instructions for chlorination or other suitable measures for improving the water were issued in respect of unsatisfactory reports.

119. **Miscellaneous.**—(*i*) A detailed project, in two sections, for the improvement of the sanitation of the Government House, Dacca, and for the staff quarters, was prepared, the estimate amounting to Rs. 38,825.

(*ii*) A detailed scheme for the installation of modern water-flushed latrines and urinals for the Collectorate building,

Dacca, was prepared and estimated to cost Rs. 4,160.

(*iii*) A similar scheme for the Hajat at Dacca was also prepared, the estimated cost being Rs. 6,245.

(*iv*) A similar scheme was prepared for the Dacca Post Office and for the Postmaster's quarters, the cost being estimated at Rs. 4,900, and sanction was received before the end of the year.

(*v*) At the request of the Executive Engineer, Public Works Department, Dacca Division, plans and estimates amounting Rs. 5,162 for a septic tank and latrines for the Narayanganj Dockyards were prepared and supplied to him.

(*vi*) Further investigations as to a suitable source of water-supply to the proposed Leper Asylum at Salboni in the district of Midnapore resulted in the discovery of a permanent surface flow of water in the Kubai Nudi below its junction with the Kumari river. This led to the conclusion that the yield of water from a filtration gallery in the bed of the river would be sufficient for the requirements of the Asylum. A sketch project, estimated to cost Rs. 85,000, was accordingly drawn up and forwarded to the Surgeon-General with the Government of Bengal and the Secretary to the Government of Bengal, Local Self-Government Department.

(*vii*) A canalisation scheme for Narayanganj prepared by the municipal authority was examined on the ground. The scheme was approved with such modifications as are necessary to make it a flood-flush scheme.

(*viii*) At the request of the Superintendent, Governor's Estates, a revised estimate for improvement of sanitation of Rivers Hill and Richmond Hill Government House, Darjeeling, was prepared and sent to him.

(*ix*) At the request of the Inspector-General of Prisons, a scheme for water-supply in the Midnapore Jail was prepared and sent to him.

(*x*) An inspection was made of Krishnagar Municipality in connection with a proposal for the installation of a septic tank for treatment of night-soil of the town, which, under the existing arrangement, is a source of serious nuisance in the locality where it is trenched. The proposal was disapproved on grounds of economy, and the municipal commissioners were advised that the sullage water should be disposed of on the char land.

(*xi*) As in the previous years, temporary water-works were installed at Sagor Island, and chlorinated water was supplied to the pilgrims during the mêla days. There was no outbreak of any water-borne disease, except in a few isolated cases. It is remarkable that since the inauguration of this system of water-supply, there has been almost a complete disappearance of cholera from amongst the large number of persons who assemble at this mêla.

(*xii*) The three students of the Bengal Engineering College and two students of the Ahsanulla School of Engineering, Dacca, who were taken in in the previous year for practical training, finished their course, and six new students were admitted in the year under review.

(*xiii*) Training in elementary sanitary engineering was given to the Sanitary Inspectors' classes of the 20th and 21st sessions during the year and examinations held.

(*xiv*) A pamphlet dealing with the chlorination of water was prepared and sent to all the municipalities in Bengal possessing water-works.

F. C. GRIFFIN, M. INST. C.E.,
M.I.E. (Ind.),
Chief Engineer,
Public Health Department,
Bengal.

CALCUTTA:
The 16th April 1928.

Appendices

APPENDIX I.

Statistics with regard to Municipal Water-works in Bengal, 1927.

No.	Name of Municipality.	Year of completion.	Area served.	Approximate population served.	Average daily supply in gallons.	Average daily supply per head of population in gallons.	Total capital expenditure up to 1927.	Total capital expenditure during 1927.	Annual cost of maintenance.	Cost of delivery of 1,000 gallons (working charges only).	Source of supply.	Type of filters employed.	Type of engines and pumps.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			Sq. M.				Rs.	Rs.	Rs.	Annas.			
1	Barisal ..	1912	3·5	26,744	85,427	3·20	2,14,521	....	13,062	6·7	River Barisal ..	Slow sand filters ..	Tandum compound surface-condensing engines and double acting pumps.
2	Berhampore ..	1899	6·00	26,670	241,230	9·04	3,72,155	801	25,091	4·56	River Bhagirathi ..	Do. ..	One compound Duplex direct acting Worthington vertical engine with pump and a centrifugal pump on a barge two compound Duplex horizontal condensing engines and direct acting pumps.
3	Burdwan ..	1884	3·30	35,000	435,726	12·45	5,40,708	21,554	20,380	2·08	River Banka ..	Do. ..	Two horizontal single cylinder Rotary engines with direct acting pump and two horizontal compound Worthington condensing engines with direct acting pumps (new machinery being installed).
4	Dacca ..	1910	7·00	117,900	1,622,608	13·76	12,29,978	60,336	55,024	1·48	River Buriganga ..	Jewell gravity filters	Worthington triple expansion engines with double acting high and low lift pumps.
5	Howrah ..	1896	10·10	195,301	3,321,531	17·05	37,21,827	2,20,166	1,46,820	1·93	River Hooghly ..	Slow sand filters ..	Duplex compound condensing engines with vertical single acting plunger pumps for low lift and Worthington double acting pumps for high lift.
6	Mymensingh ..	1893	2·50	25,183	403,694	15·91	4,43,966	2,203	28,005	3·05	River Brahmaputra	Do. ..	Three condensing Worthington engines of which one is triple expansion and double acting high and low lift pumps.
7	Narayanganj ..	1908	3·00	30,602	304,000	9·92	2,53,312	....	25,833	3·72	River Sitalakhya ..	Jewell gravity filters	Worthington horizontal triple expansion surface condensing engines with double acting high and low lift pumps.
8	Darjeeling ..	1912	4·85	20,935	520,000	24·84	6,30,058	....	7,930	0·66	30 Springs on Senchal spur.	....	
9	Kurseong ..	1913	2·00	5,000	150,000	30·000	1,10,241	1,277	9,713	2·83	Spring in the Forest of Sepoydhara.	Jewell pressure filters.	
10	Khulna ..	1914	2·00	10,000	39,816	3·98	85,231	33,596	7,413	8·16	Reserved Tank ..	Slow sand filters ..	One Pulsometer and one Tangye's special Duplex pump.
11	Chandpur ..	1912	·093	6,000	10,746	1·79	27,583	....	3,368	13·74	River Meghna ..	Jewell pressure filters.	Horizontal Worthington Duplex pump.
12	Munshigunge ..	1911	1·00	4,000	11,835	2·95	40,984	....	3,711	13·74	River Dhaleswari ..	Do. ..	Ditto.
13	Faridpur ..	1908	2·00	7,000	21,000	3·00	12,000	....	969	2·02	Reserved Tank ..	Slow sand filters ..	Kite motion hand pumps.
14	Perojpur ..	1913	0·50	2,283	1,400	0·62	20,468	....	615	19·06	Do. ..	Do. ..	Ditto.
15	Patuakhali ..	1898	2·00	5,000	7,740	1·55	34,739	3,411	741	4·19	Do. ..	Do. ..	Quadruple acting wing pumps.
16	Jessore ..	1914	4·00	8,000	36,843	4·60	1,96,183	6,207	7,008	8·33	Do. ..	Paterson's gravity filters.	Tangye's special oil engines and centrifugal pumps.

17	Hooghly-Chinsura	1914	5·00	29,938	432,041	14·43	6,20,459	385	27,047	2·70	River Hooghly ..	Slow sand filters ..	Triple expansion Worthington condensing engines with high lift Duplex pump and vertical high lift engines with medium lift centrifugal pumps.
18	Serampur ..	1914	1·62	33,197	293,405	8·83	2,98,534	6,276	38,331	5·72	Do. ..	....	Compound Duplex condensing engines with direct acting pump.
19	Bankura ..	1916	2·15	16,400	89,530	5·46	1,14,009	4,610	7,426	3·63	Filtration gallery in the bed of River Gandeswari.	....	Semi-Diesel oil engines with horizontal Duplex pumps.
20	Chittagong ..	1916	4·25	36,000	442,119	12·28	3,66,154	....	44,624	4·62	Bore holes ..	Paterson's iron eliminating plant and filters.	Two horizontal triple expansions condensing fly wheel engines, double acting plunger pumps for high lift, air compressor for low lift.
21	Naihati ..	1911	1·60	23,306	94,536	4·05	1,50,471	85,557	....	....	Supplied from local mills.		
22	Bhatpara ..	1906	1·50	46,000	92,000	2·00	32,283	397	....	....			
23	Tittaghur ..	1905	1·50	52,454	1,557,000	29·60	17,929	....	....	....			
24	Garulia ..	1904	1·00	12,000	122,300	10·20	8,590	....	....	....			
25	Bhadreswar ..	....	1·35	20,000	213,000	10·00	....	....	....	....			
26	Champdany ..	....	2·80	26,500	321,866	12·14	....	....	....	....			
27	Baranagar ..	1918	0·82	8,000	24,334	3·04	15,173	....	....	....			
28	Tollygunge ..	1909	5·50	21,000	52,404	2·50	61,328	6,338	....	....	Supplied from Calcutta Waterworks.		
29	South Suburban ..	1904	2·50	16,200	30,768	1·90	65,645	....	....	....			
30	Uttarpara ..	1918	0·75	8,660	94,398	10·90	1,91,541	....	11,601	4·86	River Hooghly ..	Mechanical gravity filters.	Two sets of centrifugal pumps consisting of three in each set, driven by two Tangye's Patent semi-diesel crude oil engines.
31	Nator ..	1919	1·60	7,000	19,446	2·77	1,00,541	2,500	6,404	14·43	Reserved Tank ..	Jewell pressure filter.	Ingeco oil engines and Worthington double acting pump, type A.
32	Satkhira ..	1919	1·75	7,500	12,700	1·68	78,585	2,519	2,151	7·42	Do. ..	Mather Platt's and mechanical pressure filter.	Messrs. Mather and Platt's one centrifugal pump and Campbell Gas Engine Co.'s high compression type two oil engines.
33	Rajbari ..	1919	0·75	3,000	16,438	5·49	60,067	2,920	3,327	8·87	Do. ..	Jewell pressure filter.	Two 1·5 horse power Tangye's oil engine and two Worthington horizontal double acting single cylinder power pumps.
34	Noakhali ..	1920	....	2,500	4,550	1·82	37,172	....	1,837	17·69	Do. ..	Chlorinating apparatus.	One vertical boiler and one Worthington Duplex non-condensing pump.
35	Kalimpong ..	1922	1·50	7,216	102,440	14·20	7,72,706	46,111	13,141	5·62	River Rilli ..	....	Gravity supply.
36	Krishnagar ..	1922	7·00	19,013	127,386	6·69	4,07,514	683	17,891	6·16	River Jalangi ..	Jewell mechanical gravity filter.	Two 1·5 horse power crude oil engine and 4 centrifugal pumps with two common suction and two delivery pipes.
37	Midnapore ..	1926	3·00	21,700	200,888	9·25	5,40,190	10,467	8,802	1·92	Well on the bank of River Cossye.	....	Forty horse power Campbell crude oil engine driving vertical treble Ram pumps.
38	Comilla ..	1925	2·58	25,914	135,495	5·23	3,82,291	4,153	10,447	3·39	River Goomti ..	Paterson's pressure filter.	Three Campbell Gas Engine Co.'s high compression type oil engines and centrifugal pumps, two for high lift and one for low lift.
39	Raneegunge ..	1927	1·75	14,000	83,426	5·95	3,01,640	40,762	5,575	3·61	Well in the river Damoodar.	....	Twenty-three horse power Campbell crude oil engines driving vertical treble Ram pumps.
40	Suri ..	In progress.	....	....	....	....	1,37,974	60,104	....	....	....	....	
				983,116	11,776,061		1,26,95,250	6,23,333					

APPENDIX II.

Total expenditure on Drainage and Sewerage Works in the Municipalities in Bengal up to 31st December 1927.

No.	Name of municipality.	Area served.	Approximate population served.	Total capital cost up to 31st December 1927.	Total capital expenditure during 1927.	Annual cost of maintenance.
1	2	3	4	5	6	7
				Rs.	Rs.	Rs.
1	Darjeeling ..	4·85	20,935	1,55,782	3,431	2,153
2	Howrah ..	2·66	87,842	12,76,794	29,757	45,573
3	Burdwan ..	4·00	28,000	1,79,367	1,656	4,581
4	Kurseong ..	2·00	4,000	2,53,329	326	3,874
5	Khulna ..	1·00	8,000	13,262	351	....
6	Bhatpara ..	3·00	50,000	2,07,055	4,480	4,956
7	Tittaghur ..	1·50	52,454	10,42,896	4,06,041	8,399
8	Garulia ..	1·13	12,000	52,566	....	185
9	Budge-Budge ..	2·00	5,612	79,595	21,991	1,294
10	Basirhat ..	8·50	19,268	9,576	....	475
11	Baraset ..	3·50	5,500	24,809	....	641
12	Baruipur (2) ..	1·20	4,508	17,209	....	....
13	Baranagar ..	0·82	17,750	67,918	84	3,063
14	Krishnagar ..	....	16,000	28,000	....	....
15	Berhampore ..	6·00	26,670	52,179	....	2,704
16	English Bazar ..	2·00	11,000	29,714	1,378	1,291
17	Ranaghat ..	1·50	8,000	42,992	475	538
18	Kustia ..	0·55	5,000	35,364	1,350	1,022
19	Uttarpara ..	0·38	2,300	19,434	1,570	57
20	Chandpur ..	·059	2,450	1,723	....	861
21	Bankura ..	·04	4,000	10,002	....	....
22	Katwa ..	1.00	6,822	55,001	1,518	1,026
23	Bhadreswar ..	0·16	10,000	26,391	....	....
24	Tangail ..	2·19	3,000	22,052	....	350
25	Champdany ..	3·75	22,500	1,06,141	....	....
26	Serampore ..	0·07	200	18,249	179	112
27	Dacca ..	2·10	65,000	22,60,894	1,32,236	24,900
28	Rangpur (1) (2) ..	....	....	91,591	....	....
29	Jangipur ..	3·00	11,000	47,254	....	....
30	Narayanganj ..	0·02	2,500	3,029	....	....
				62,30,168	6,06,823	

(1) Reconstruction of Goghat Bridge.
(2) Figure for 1927 not being available those for 1926 have been retained.

WATER WORKS AND SEWERAGE PUMPING STATIONS IN BENGAL

DIAGRAM SHEWING CONSUMPTION OF COAL PER PUMP HORSE POWER HOUR IN PUMPING STATIONS

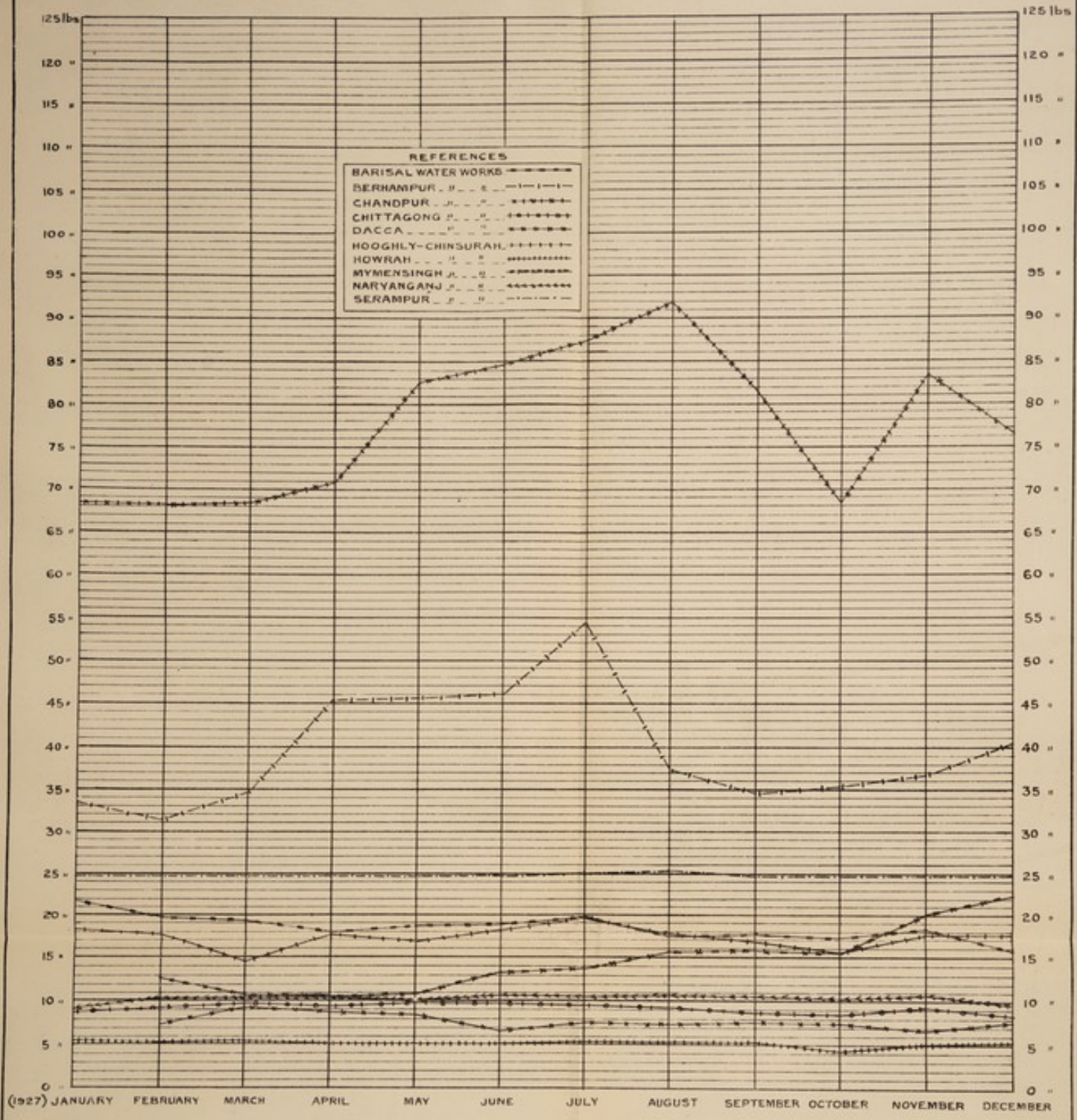
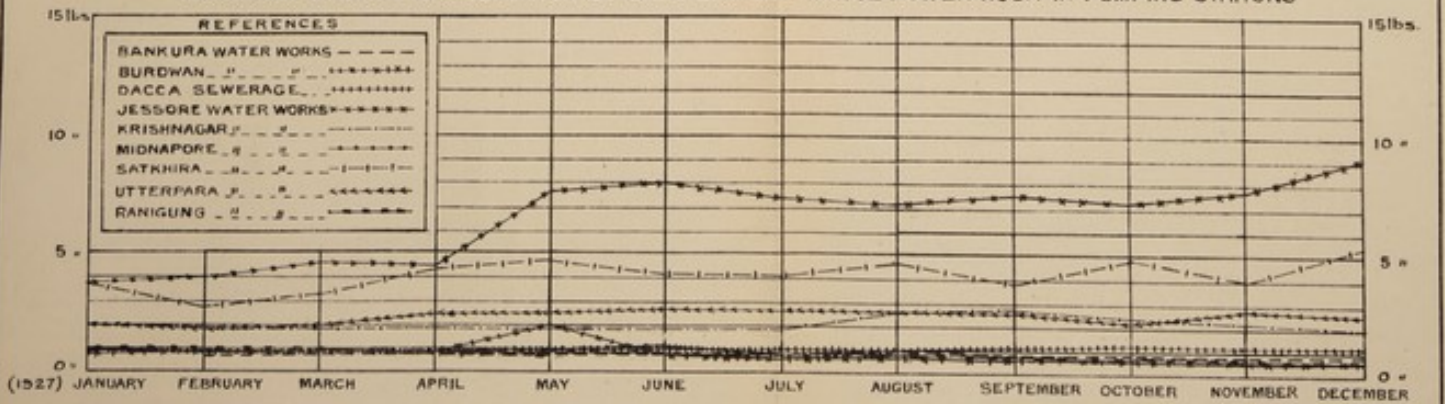


DIAGRAM SHEWING CONSUMPTION OF OIL PER PUMP HORSE POWER HOUR IN PUMPING STATIONS



Part IV

Appendices

Appendix I

Vital Statistics of the Districts of Bengal

For the year 1927

Annual Form No. I.—BIRTHS registered in the

1	2	3			4		
Number.	Districts.	Population according to Census of 1921.			Number of births registered (exclusive of still-births).		
		Male.	Female.	Total.	Male.	Female.	Total.
	Burdwan Division.						
1	Burdwan ..	732,369	706,557	1,438,926	22,101	20,787	42,888
2	Birbhum ..	422,986	424,584	847,570	15,980	15,056	31,036
3	Bankura ..	509,334	510,607	1,019,941	16,595	15,840	32,435
4	Midnapur ..	1,339,652	1,327,008	2,666,660	35,967	33,969	69,936
5	Hooghly ..	561,268	518,874	1,080,142	12,754	11,537	24,291
6	Howrah ..	535,151	462,252	997,403	12,721	11,624	24,345
	Presidency Division.						
7	24-Parganas ..	1,324,060	1,134,732	2,458,792	28,431	25,309	53,740
8	Calcutta ..	724,248	353,016	1,077,264	8,869	7,871	16,740
9	Nadia ..	761,345	726,227	1,487,572	23,832	22,260	46,092
10	Murshidabad ..	628,742	633,772	1,262,514	25,870	24,726	50,596
11	Jessore ..	893,592	828,627	1,722,219	21,396	19,448	40,844
12	Khulna ..	757,524	695,510	1,453,034	20,166	18,665	38,831
	Rajshahi Division.						
13	Rajshahi ..	767,370	722,305	1,489,675	25,853	24,718	50,571
14	Dinajpur ..	896,400	808,953	1,705,353	33,585	31,472	65,057
15	Jalpaiguri ..	503,397	432,872	936,269	16,327	15,521	31,848
16	Darjeeling ..	149,094	133,654	282,748	4,732	4,420	9,152
17	Rangpur ..	1,316,840	1,191,014	2,507,854	39,376	36,358	75,734
18	Bogra ..	538,727	509,879	1,048,606	13,155	12,001	25,156
19	Pabna ..	706,702	682,792	1,389,494	19,186	17,105	36,291
20	Malda ..	492,822	492,843	985,665	17,436	16,268	33,704
	Dacca Division.						
21	Dacca ..	1,572,220	1,553,747	3,125,967	43,480	40,115	83,595
22	Mymensingh ..	2,510,450	2,327,280	4,837,730	61,998	56,764	118,762
23	Faridpur ..	1,147,742	1,102,116	2,249,858	37,301	33,425	70,726
24	Bakarganj ..	1,343,163	1,280,593	2,623,756	35,130	31,682	66,812
	Chittagong Division.						
25	Chittagong ..	777,882	833,540	1,611,422	23,552	20,369	43,921
26	Noakhali ..	738,722	734,064	1,472,786	24,365	22,240	46,605
27	Tippera ..	1,406,134	1,336,939	2,743,073	30,093	27,062	57,155
	Total for the Bengal Presidency.	24,057,936	22,464,357	46,522,293	670,251	616,612	1,286,863

districts of the Bengal Presidency during the year 1927.

5 Ratio of births per 1,000 of population.			6 Number of males born to every 100 females born.	7 Excess of births over deaths per 1,000 of population.	8 Excess of deaths over births per 1,000 of population.	9 Mean ratio of births per 1,000 during previous five years.		
Male.	Female.	Total.				Male.	Female.	Total.
15·4	14·4	29·8	106	3·5	..	15·8	14·6	30·3
18·8	17·8	36·6	106	7·5	..	19·9	19·1	39·0
16·3	15·5	31·8	104	6·5	..	18·4	17·4	35·8
13·5	12·7	26·2	105	2·1	..	14·9	14·2	29·1
11·8	10·7	22·5	110	..	1·8	13·7	12·6	26·3
12·7	11·6	24·4	109	..	4·7	14·5	13·2	27·8
11·6	10·3	21·8	112	..	2·3	10·5	9·5	20·1
8·2	7·3	15·5	112	..	18·7	9·2	8·2	17·4
16·0	15·0	31·0	107	2·9	..	17·9	16·7	34·6
20·5	19·6	40·1	104	6·3	..	21·4	20·1	41·5
12·4	11·3	23·7	110	..	6·0	14·4	13·3	27·6
13·9	12·8	26·7	108	..	1·4	15·0	13·9	29·0
17·3	16·6	33·9	104	2·3	..	16·6	15·7	32·4
19·7	18·4	38·1	106	4·1	..	17·4	16·4	33·7
17·4	16·6	34·0	105	6·7	..	16·0	15·2	31·2
16·7	15·6	32·3	107	4·3	..	16·9	16·1	33·0
15·7	14·5	30·2	108	4·5	..	14·8	13·7	28·6
12·5	11·4	23·9	109	3·4	..	12·5	11·6	24·2
13·8	12·3	26·1	111	0·7	..	13·7	12·3	26·0
17·7	16·5	34·2	107	5·2	..	17·1	15·9	33·0
13·9	12·8	26·7	108	7·1	..	14·2	13·1	27·3
12·8	11·7	24·5	109	3·4	..	13·4	12·2	25·6
16·6	14·8	31·4	111	3·9	..	14·9	13·7	28·6
13·4	12·1	25·5	110	..	1·2	15·9	14·6	30·6
14·6	12·6	27·2	115	2·0	..	16·0	14·4	30·4
16·5	15·1	31·6	109	5·5	..	16·7	15·0	31·7
10·9	9·9	20·8	111	4·0	..	11·4	10·4	21·7
14·4	13·2	27·7	108	2·1	..	15·0	13·8	28·8

Annual Form No. II.—BIRTHS and DEATHS registered in the

1	2	3	4	5			6				
				Population (Census 1921).			Births.				
Number.	Districts.	Area in square miles.	Average population per square mile.	Male.	Female.	Total.	Male.	Female.	Total.	Birth-rate per 1,000 of population.	Male.
	Burdwan Division.										
1	Burdwan.. ..	2,703	532	732,369	706,557	1,438,926	22,101	20,787	42,888	29·8	19,189
2	Birbhum ..	1,753	483	422,986	424,584	8,47,570	15,980	15,056	31,036	36·6	12,467
3	Bankura ..	2,625	388	509,334	510,607	1,019,941	16,595	15,840	32,435	31·8	12,990
4	Midnapur ..	5,055	528	1,339,652	1,327,008	2,666,660	35,967	33,969	69,936	26·2	32,488
5	Hooghly ..	1,188	909	561,268	518,874	1,080,142	12,754	11,537	24,291	22·5	13,467
6	Howrah	530	1,882	535,151	462,252	997,403	12,721	11,624	24,345	24·4	14,899
	Presidency Division.										
7	24-Parganas ..	4,845	507	1,324,060	1,134,732	2,458,792	28,431	25,309	53,740	21·8	31,085
8	Calcutta	30	35,174	724,248	353,016	1,077,264	8,869	7,871	16,740	15·5	19,976
9	Nadia	2,778	535	761,345	726,227	1,487,572	23,832	22,260	46,092	31·0	21,605
10	Murshidabad ..	2,121	595	628,742	633,772	1,262,514	25,870	24,726	50,596	40·1	21,732
11	Jessore	2,904	583	893,592	828,627	1,722,219	21,396	19,448	40,844	23·7	26,496
12	Khulna	4,730	307	757,524	695,510	1,453,034	20,166	18,665	38,831	26·7	21,540
	Rajshahi Division.										
13	Rajshahi ..	2,620	569	767,370	722,305	1,489,675	25,853	24,718	50,571	33·9	24,308
14	Dinajpur ..	3,946	432	896,400	808,953	1,705,353	33,585	31,472	65,057	38·1	30,170
15	Jalpaiguri ..	2,931	319	503,397	432,872	9,36,269	16,327	15,521	31,848	34·0	13,457
16	Darjeeling ..	1,164	243	149,094	133,654	282,748	4,732	4,420	9,152	32·3	4,128
17	Rangpur ..	3,496	717	1,316,840	1,191,014	2,507,854	39,376	36,358	75,734	30·2	33,899
18	Bogra	1,379	760	538,727	509,879	1,048,606	13,155	12,001	25,156	23·9	11,127
19	Pabna	1,678	828	706,702	682,792	1,389,494	19,186	17,105	36,291	26·1	18,129
20	Malda	1,833	538	492,822	492,843	985,665	17,436	16,268	33,704	34·2	15,162
	Dacca Division.										
21	Dacca	2,723	1,148	1,572,220	1,553,747	3,125,967	43,480	40,115	83,595	26·7	31,887
22	Mymensingh ..	6,238	77	2,510,450	2,327,280	4,837,730	61,998	56,764	118,762	24·5	52,400
23	Faridpur ..	2,371	949	1,147,742	1,102,116	2,249,858	37,301	33,425	70,726	31·4	31,744
24	Bakarganj ..	3,490	752	1,343,163	1,280,593	2,623,756	35,130	31,682	66,812	25·5	36,608
	Chittagong Division.										
25	Chittagong ..	2,497	645	777,882	833,540	1,611,422	23,552	20,369	43,921	27·2	20,722
26	Noakhali ..	1,515	972	738,722	734,064	1,472,786	24,365	22,240	46,605	31·6	19,118
27	Tippera	2,560	1,072	1,406,134	1,336,939	2,743,073	30,093	27,062	57,155	20·8	23,892
	Total for the Bengal Presidency.	71,703	648	24,057,936	22,464,357	46,522,293	670,251	616,612	1,286,863	27·7	614,685

districts of the Bengal Presidency during the year 1927.

7		8	9											10			11
Deaths.		Number of male deaths to every 100 female deaths.	Deaths per 1,000 of population from—											Mean ratio of deaths per 1,000 during previous five years.			
Female.	Total.		Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhœa.	Respiratory diseases.	Injury.	All other causes.	All causes. Male.	All causes. Female.	All causes. Total.	Male.	Female.	Total.	Number.
18,732	37,921	102	1·1	·8	..	18·4	·7	1·3	·4	3·5	26·2	26·5	26·3	26·4	24·9	25·7	1
12,196	24,663	102	·8	1·7	..	21·8	·1	·1	·3	4·3	29·5	28·7	29·1	28·1	26·1	27·2	2
12,808	25,798	101	·5	·3	..	16·7	·9	1·0	·4	5·5	25·5	25·1	25·3	26·7	24·4	25·6	3
31,741	64,229	102	1·3	1·8	..	15·7	·5	·6	·5	3·7	24·2	23·9	24·1	24·4	23·6	24·0	4
12,762	26,229	105	1·2	·9	..	15·8	1·2	1·1	·5	3·4	24·0	24·6	24·3	25·8	25·5	25·6	5
14,111	29,010	105	3·7	2·1	..	10·4	3·9	3·5	·6	4·7	27·8	30·5	29·1	25·3	25·8	25·5	6
28,141	59,226	110	4·1	1·2	..	13·1	·8	1·0	·6	3·3	23·5	24·8	24·1	26·1	23·4	23·2	7
16,844	36,820	118	2·0	2·6	·001	4·5	3·6	9·7	·7	11·0	27·6	47·7	34·2	24·2	39·1	29·1	8
20,257	41,862	106	2·3	·3	..	20·4	·4	1·0	·6	3·2	28·4	27·9	28·1	31·4	29·9	30·6	9
20,937	42,669	103	3·0	2·7	..	22·5	·1	·2	·5	4·7	34·6	33·0	33·8	30·9	28·2	29·7	10
24,743	51,239	107	3·0	·2	..	23·3	·2	·3	·5	2·2	29·6	29·9	29·7	29·1	27·4	28·3	11
19,300	40,840	111	4·8	·1	..	16·4	·4	·5	·6	5·2	28·4	27·7	28·1	24·6	23·5	24·1	12
22,757	47,065	106	2·8	·2	..	24·3	·1	·1	·5	3·6	31·7	31·5	31·6	35·7	34·0	34·9	13
27,815	57,985	108	1·1	·8	..	29·8	·1	·2	·3	1·6	33·6	34·4	34·0	32·7	31·4	32·1	14
12,110	25,567	111	·1	·05	..	23·2	·8	1·3	·2	1·5	26·7	28·0	27·3	28·3	28·3	28·3	15
3,800	7,928	108	·01	·1	..	18·6	2·0	2·0	·3	5·1	27·7	28·4	28·0	34·1	33·5	33·8	16
30,587	64,486	110	1·1	1·0	..	22·6	·1	·05	·3	·5	25·7	25·7	25·7	29·6	28·1	28·9	17
10,415	21,542	106	1·3	2·5	..	14·1	·4	·4	·3	1·5	20·6	20·4	20·5	25·7	23·7	24·6	18
17,182	35,311	105	2·6	3·4	..	17·1	·2	·1	·4	1·6	25·6	25·2	25·4	27·2	24·4	25·7	19
13,472	28,634	112	5·2	·7	..	20·1	·1	·1	·3	2·5	30·8	27·3	29·0	27·4	23·9	25·6	20
29,283	61,170	108	2·6	·7	..	11·2	·7	·3	·3	3·7	20·3	18·8	19·6	22·6	20·3	21·4	21
49,704	102,104	105	3·4	·6	..	13·0	·5	·2	·2	3·1	20·9	21·4	21·1	22·4	21·2	21·8	22
30,113	61,857	105	3·9	·4	..	17·8	·8	·5	·4	3·7	27·6	27·3	27·5	24·3	21·9	23·1	23
33,538	70,146	109	3·0	·1	..	17·0	·4	·1	·5	5·6	27·2	26·2	26·7	26·3	23·7	25·1	24
19,895	40,617	104	1·6	·4	..	20·7	·4	·2	·6	1·3	26·6	23·9	25·2	25·7	22·2	23·9	25
19,362	38,480	98	4·2	·6	..	16·7	·4	·04	·5	3·7	25·9	26·4	26·1	25·1	23·2	24·1	26
22,080	45,972	108	2·4	·4	..	10·0	·7	·4	·2	2·6	17·0	16·5	16·8	18·1	16·3	17·2	27
574,685	1,189,370	106	2·5	·9	·00002	16·9	·6	·7	·4	3·4	25·5	25·6	25·6	26·0	24·5	25·2	

Annual Form No. III.—DEATHS registered in the districts of the Bengal Presidency during each month of the year 1927.

1	2	3												4
Number.	Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year 1927.
	Burdwan Division.													
1	Burdwan ..	3,600	2,743	3,463	2,868	3,540	2,545	2,324	2,721	2,699	3,156	3,887	4,375	37,921
2	Birbhum ..	2,257	1,776	2,132	2,046	2,305	1,723	1,689	2,170	1,601	1,820	2,486	2,658	24,666
3	Bankura ..	2,308	1,972	2,191	2,314	2,528	2,104	1,823	2,236	1,961	2,194	1,850	2,317	25,798
4	Midnapur ..	6,389	5,873	6,836	5,744	6,002	4,365	3,926	4,752	4,836	4,637	5,500	5,369	64,229
5	Hooghly ..	3,063	2,337	1,945	2,016	2,793	1,105	2,009	1,758	1,901	1,902	2,625	2,775	26,229
6	Howrah ..	3,435	3,010	2,842	2,695	2,085	1,661	1,626	1,700	1,888	2,421	2,898	2,749	29,010
	Presidency Division.													
7	24-Parganas ..	7,025	6,103	6,026	4,888	3,596	3,148	3,006	3,789	3,939	4,356	5,302	8,048	59,226
8	Calcutta ..	3,943	3,530	4,040	3,544	2,567	2,206	2,336	2,316	2,446	2,865	3,400	3,627	36,820
9	Nadia	4,926	3,055	3,145	3,905	2,872	2,147	2,282	2,107	2,636	3,669	5,100	6,018	41,862
10	Murshidabad ..	3,508	2,625	3,652	3,539	3,988	2,729	2,398	3,464	3,284	4,557	4,846	4,079	42,669
11	Jessore ..	5,612	3,088	3,463	3,143	2,697	2,128	1,957	2,633	3,048	4,813	8,088	10,569	51,239
12	Khulna ..	4,880	3,009	2,624	2,288	2,425	1,880	1,695	2,841	2,901	3,988	6,432	5,877	40,840
	Rajshahi Division.													
13	Rajshahi ..	4,866	3,377	3,673	3,202	3,496	2,415	2,090	2,986	3,159	4,859	6,156	6,786	47,065
14	Dinajpur ..	4,943	4,287	4,944	3,808	4,841	3,465	3,189	4,694	4,089	4,909	7,428	7,388	57,985
15	Jalpaiguri ..	2,203	1,723	2,125	1,461	2,450	1,900	1,951	2,283	2,119	2,350	2,635	2,367	25,567
16	Darjeeling ..	723	558	603	549	857	679	740	672	699	662	583	603	7,928
17	Rangpur ..	6,843	3,698	5,426	4,740	5,854	4,022	4,406	5,435	4,305	5,339	7,623	6,804	64,486
18	Bogra	1,752	1,756	1,797	2,175	1,786	2,156	1,218	1,539	1,418	1,787	2,493	1,665	21,542
19	Pabna ..	2,995	2,314	3,265	3,389	4,077	2,188	1,670	1,785	2,083	3,893	3,682	3,970	35,311
20	Malda	2,040	1,453	1,884	2,019	2,229	1,795	2,134	2,249	1,898	2,401	4,565	3,967	28,634
	Dacca Division.													
21	Dacca	8,102	4,826	4,896	4,543	4,870	3,177	2,591	3,403	3,243	5,841	7,808	7,870	61,170
22	Mymensingh	10,880	7,489	7,821	6,155	8,396	5,422	5,177	5,759	5,692	11,451	15,094	12,768	102,104
23	Faridpur ..	5,841	3,765	4,028	3,261	3,717	2,747	2,312	2,484	4,264	8,630	9,982	10,826	61,857
24	Bakarganj ..	8,936	6,091	7,254	5,242	5,464	4,504	3,647	4,286	3,599	4,518	7,324	9,281	70,146
	Chittagong Division.													
25	Chittagong ..	4,879	3,617	3,417	2,302	3,920	3,562	3,483	3,620	2,486	2,830	2,903	3,598	40,617
26	Noakhali ..	3,902	2,630	3,326	2,479	3,293	2,620	2,598	2,598	2,171	3,705	4,562	4,596	38,480
27	Tippera ..	5,082	4,643	4,538	3,995	3,684	2,818	2,235	2,859	2,764	3,790	4,502	5,062	45,972
	Total for the Bengal Presidency ..	124,933	91,348	101,356	88,310	96,332	71,211	66,512	79,139	77,129	107,334	139,754	146,012	1,189,370
	Ratio of deaths per 1,000 of population ..	2·7	2·0	2·2	1·9	2·1	1·5	1·4	1·7	1·6	2·3	3·0	3·1	25·6

Annual Form No. IV

Annual Form No. IV.—Deaths registered according to AGE in the

1	2	3												4	
		Under one year.												1 year and under 5 years.	
Number.	Districts.	Under one month.			Between 1 and 6 months.			Between 6 and 12 months.			Total.				
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.
	Burdwan Division.														
1	Burdwan ..	3,177	2,734	5,911	974	867	1,841	542	562	1,104	4,693	4,163	8,856	2,005	2,127
2	Birbhum ..	2,163	1,759	3,922	656	542	1,198	581	592	1,173	3,400	2,893	6,293	1,829	1,887
3	Bankura ..	2,057	1,775	3,832	660	620	1,280	542	541	1,083	3,259	2,936	6,195	1,341	1,468
4	Midnapur ..	3,428	2,979	6,407	1,648	1,616	3,264	1,047	1,142	2,189	6,123	5,737	11,860	3,465	3,651
5	Hooghly ..	1,441	1,186	2,627	402	415	817	335	353	688	2,178	1,954	4,132	1,221	1,208
6	Howrah ..	1,548	1,263	2,811	613	594	1,207	435	392	827	2,596	2,249	4,845	2,071	2,066
	Presidency Division.														
7	24-Parganas ..	2,336	1,922	4,258	1,256	1,109	2,365	851	805	1,656	4,443	3,836	8,279	3,945	3,730
8	Calcutta ..	1,640	1,341	2,981	798	745	1,543	575	588	1,163	3,013	2,674	5,687	1,834	2,060
9	Nadia	3,052	2,546	5,598	1,136	1,100	2,236	798	757	1,555	4,986	4,403	9,389	2,416	2,451
10	Murshidabad ..	2,662	2,252	4,914	1,204	1,135	2,339	847	755	1,602	4,713	4,142	8,855	4,019	4,334
11	Jessore ..	1,642	1,401	3,043	1,221	1,110	2,331	638	757	1,395	3,501	3,268	6,769	3,533	3,623
12	Khulna ..	2,369	2,004	4,373	1,239	922	2,161	868	802	1,670	4,476	3,728	8,204	2,475	2,286
	Rajshahi Division.														
13	Rajshahi ..	2,886	2,489	5,375	1,378	1,226	2,604	1,060	972	2,032	5,324	4,687	10,011	2,773	2,639
14	Dinajpur ..	3,895	3,469	7,364	1,853	1,680	3,533	904	861	1,765	6,652	6,010	12,662	4,256	3,987
15	Jalpaiguri ..	1,263	1,123	2,386	1,086	1,002	2,088	546	497	1,043	2,895	2,622	5,517	1,465	1,301
16	Darjeeling ..	178	167	345	210	197	407	257	235	492	645	599	1,244	539	498
17	Rangpur ..	3,746	3,026	6,772	2,245	1,912	4,157	1,879	1,640	3,519	7,870	6,578	14,448	3,770	3,743
18	Bogra	1,529	1,267	2,796	711	632	1,343	338	356	694	2,578	2,255	4,833	1,628	1,496
19	Pabna ..	1,497	1,314	2,811	877	867	1,744	945	1,015	1,960	3,319	3,196	6,515	3,093	3,102
20	Malda	1,232	1,119	2,351	546	489	1,035	465	493	958	2,243	2,101	4,344	2,307	2,223
	Dacca Division.														
21	Dacca	3,851	2,973	6,824	1,626	1,416	3,042	1,213	1,149	2,362	6,690	5,538	12,228	5,711	5,281
22	Mymensingh ..	6,515	5,425	11,940	2,444	2,165	4,609	2,210	1,998	4,208	11,169	9,588	20,757	6,959	6,489
23	Faridpur ..	3,043	2,652	5,695	1,818	1,575	3,393	1,568	1,400	2,968	6,429	5,627	12,056	6,310	6,018
24	Bakarganj ..	4,128	3,485	7,613	2,328	1,880	4,208	1,221	1,190	2,411	7,677	6,555	14,232	5,355	4,707
	Chittagong Division.														
25	Chittagong ..	1,342	1,131	2,473	1,083	991	2,074	947	886	1,833	3,372	3,008	6,380	3,598	3,698
26	Noakhali ..	1,653	1,465	3,118	876	916	1,792	898	852	1,750	3,427	3,233	6,660	3,478	3,600
27	Tippera ..	2,496	2,042	4,538	1,116	900	2,016	680	593	1,273	4,292	3,535	7,827	3,817	3,506
	Total for the Bengal Presidency ..	66,769	56,309	123,078	32,004	28,623	60,627	23,190	22,183	45,373	121,963	107,115	229,078	85,213	83,179
	Population (Census of 1921) ..	..	..	..	..	..	..	..	..	..	681,295	688,771	1,370,066	2,223,523	2,382,938
	Ratio per 1,000 of population ..	..	..	..	..	..	..	..	..	..	182·0*	173·7*	178·0*	38·3	34·9

*Ratio per

districts of the Bengal Presidency during the year 1927.

5		6		7		8		9		10		11		12	
5 years and under 10 years.		10 years and under 15 years.		15 years and under 20 years.		20 years and under 30 years.		30 years and under 40 years.		40 years and under 50 years.		50 years and under 60 years.		60 years and upwards.	
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1,107	1,075	676	612	745	1,119	1,893	2,342	2,087	1,764	1,890	1,300	1,578	1,461	2,515	2,769
891	915	514	425	459	640	897	1,159	1,075	984	948	780	939	851	1,524	1,662
655	698	462	403	578	684	1,258	1,450	1,237	1,134	1,178	931	1,257	1,093	1,765	2,011
1,993	1,851	1,482	1,133	1,636	1,949	3,583	4,372	3,768	3,335	3,213	2,584	2,825	2,638	4,400	4,491
874	735	625	524	770	887	1,410	1,707	1,578	1,380	1,351	1,008	1,296	1,113	2,164	2,246
1,148	1,070	740	560	762	877	1,455	1,643	1,511	1,291	1,365	955	1,165	1,039	2,086	2,361
2,781	2,413	1,670	1,244	1,740	2,289	3,743	4,338	3,485	2,714	2,831	1,887	2,299	1,901	4,148	3,789
974	1,011	868	718	1,057	903	2,948	2,048	2,528	1,766	2,254	1,551	1,496	1,167	3,004	2,946
1,825	1,575	1,223	1,042	1,178	1,348	1,866	2,429	2,118	1,874	2,097	1,455	1,744	1,516	2,152	2,164
1,981	1,845	1,015	767	823	1,079	1,935	2,332	2,001	1,654	1,734	1,193	1,327	1,230	2,184	2,361
2,594	2,223	1,344	1,082	1,460	1,874	2,927	3,751	3,126	2,713	2,781	2,053	2,118	1,568	3,112	2,588
1,724	1,471	1,022	798	1,116	1,682	2,262	3,190	2,202	1,815	1,829	1,156	1,613	1,231	2,821	1,943
1,965	1,668	1,286	940	1,319	1,856	2,959	4,021	3,080	2,631	2,077	1,547	1,590	1,327	1,935	1,441
2,703	1,951	1,505	1,130	1,393	1,943	3,369	4,665	3,235	3,181	2,616	1,988	1,983	1,393	2,458	1,567
756	585	641	535	721	1,015	1,548	2,181	1,654	1,589	1,353	889	999	616	1,425	777
316	284	185	209	243	257	601	604	495	456	352	253	272	224	480	416
2,718	2,009	1,415	1,163	1,576	2,494	3,745	5,145	4,017	3,383	2,884	2,198	2,428	1,758	3,476	2,116
1,054	941	532	515	516	882	1,079	1,437	1,101	941	986	657	703	562	950	729
1,966	1,510	1,075	876	986	1,332	1,766	2,397	1,829	1,551	1,388	1,004	1,066	816	1,650	1,398
1,531	1,280	914	596	864	902	1,966	2,034	1,839	1,407	1,300	928	869	734	1,329	1,267
2,662	2,086	1,379	1,090	1,145	1,862	2,557	4,035	2,631	2,645	2,356	1,603	2,083	1,521	4,673	3,622
4,308	3,517	2,462	1,967	2,419	4,100	5,455	8,450	5,276	5,048	4,240	2,995	3,573	2,664	6,539	4,886
3,082	2,561	1,445	1,205	1,418	2,204	2,657	3,956	2,738	2,478	2,269	1,615	1,922	1,436	3,474	3,013
3,207	2,683	1,746	1,270	1,584	2,456	3,443	5,056	3,422	3,089	2,731	2,043	2,445	1,993	4,998	3,686
1,864	1,528	1,033	800	1,040	1,159	1,927	2,870	1,871	1,782	1,632	1,252	1,719	1,314	2,666	2,484
1,666	1,597	864	757	955	1,333	1,783	2,750	1,689	1,778	1,445	1,116	1,339	1,173	2,472	2,025
1,946	1,731	1,191	948	1,155	1,614	2,263	3,467	2,229	2,213	1,890	1,411	1,895	1,269	3,214	2,386
50,291	42,813	29,314	23,309	29,658	40,740	63,295	83,829	63,813	56,596	52,990	38,352	44,534	35,608	73,614	63,144
3,714,610	3,603,543	3,005,655	2,316,573	2,156,731	2,327,598	4,182,739	4,354,228	3,571,497	2,882,285	2,311,237	1,825,377	1,240,878	1,114,873	969,771	968,171
13·5	11·9	9·7	10·1	13·7	17·5	15·1	19·2	17·9	19·6	22·9	21·0	35·9	31·9	75·9	65·2

1,000 of births.

Annual Form No. V.—Deaths registered according to CLASS in the

1	2	3											
		Population according											
Number.	Districts.	Christians.			Hindus.			Muhammadans.			Buddhists.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
	Burdwan Division.												
1	Burdwan ..	2,292	1,894	4,186	569,896	552,335	1,122,231	136,518	129,763	266,281	24	..	24
2	Birbhum ..	239	229	468	287,578	289,172	576,750	105,881	106,579	212,460	..	..	..
3	Bankura ..	748	673	1,421	439,368	441,071	880,439	24,064	22,537	46,601	..	..	..
4	Midnapur ..	3,172	2,666	5,838	1,183,637	1,168,233	2,351,870	89,698	90,974	180,672	17	18	35
5	Hooghly ..	579	287	866	460,159	424,650	884,809	89,890	83,743	173,633	41	1	42
6	Howrah ..	1,888	1,310	3,198	426,546	364,195	790,741	105,976	96,499	202,475	59	2	61
	Presidency Division.												
7	24-Parganas ..	9,537	7,679	17,216	855,950	724,864	1,580,814	451,896	397,107	849,003	89	11	100
8	Calcutta ..	22,306	18,070	40,376	498,899	250,933	749,832	191,116	78,733	269,849	2,792	676	3,468
9	Nadia ..	4,438	4,095	8,533	296,023	285,740	581,763	459,827	435,363	895,190	5	5	10
10	Murshidabad ..	254	271	525	284,585	284,205	568,790	335,289	340,968	676,257	10	1	11
11	Jessore ..	1,140	1,111	2,251	335,486	320,857	656,343	556,917	506,638	1,063,555	34	16	50
12	Khulna ..	1,203	1,014	2,217	378,514	348,347	726,861	377,237	345,650	722,887	28	1	29
	Rajshahi Division.												
13	Rajshahi ..	506	494	1,000	166,885	151,500	318,385	584,523	555,733	1,140,256	11	1	12
14	Dinajpur ..	2,612	2,397	5,009	401,213	350,648	751,861	435,901	400,902	836,803	2	..	2
15	Jalpaiguri ..	4,476	4,250	8,726	280,367	234,735	515,102	125,091	106,592	231,683	3,281	2,817	6,098
16	Darjeeling ..	4,121	3,977	8,098	106,716	94,600	201,316	5,139	3,377	8,516	26,456	25,513	51,969
17	Rangpur ..	580	534	1,114	425,463	365,680	791,143	885,136	821,041	1,706,177	18	..	18
18	Bogra ..	222	179	401	93,909	80,557	174,466	439,994	425,004	864,998	1	..	1
19	Pabna ..	215	240	455	168,347	165,985	334,332	537,435	516,136	1,053,571	4	..	4
20	Malda ..	292	256	548	202,051	198,469	400,520	251,652	256,033	507,685	..	..	..
	Dacca Division.												
21	Dacca ..	6,269	7,108	13,377	531,908	537,034	1,068,942	1,033,824	1,009,422	2,043,246	31	1	32
22	Mymensingh ..	2,142	1,981	4,123	620,057	553,958	1,174,015	1,869,890	1,753,829	3,623,719	4	..	4
23	Faridpur ..	3,287	3,012	6,299	409,206	406,428	815,634	735,200	692,639	1,427,839	3	..	3
24	Bakarganj ..	3,754	3,820	7,574	385,789	368,671	754,460	948,132	903,107	1,851,239	5,425	4,938	10,363
	Chittagong Division.												
25	Chittagong ..	701	660	1,361	180,162	183,733	363,895	563,162	610,043	1,173,205	33,527	38,875	72,402
26	Noakhali ..	400	383	783	168,528	160,609	329,137	569,576	572,892	1,142,468	218	180	398
27	Tippera ..	261	196	457	361,550	345,987	707,537	1,043,397	989,845	2,033,242	855	851	1,706
	Total for the Bengal Presidency.	77,634	68,786	146,420	10,518,792	9,653,196	20,171,988	12,952,361	12,251,149	25,203,510	72,935	73,907	146,842

districts of the Bengal Presidency during the year 1927.

3						4									
to census of 1921.						Number of deaths registered among—									
Other classes.			Total.			Christians.			Hindus.			Muhammadans.			Number.
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	
23,639	22,565	46,204	732,369	706,557	1,438,926	4	5	9	14,411	14,118	28,529	3,724	3,616	7,340	1
29,288	28,604	57,892	422,986	424,584	847,570	..	..	..	8,529	8,475	17,004	3,184	3,085	6,269	2
45,154	46,326	91,480	509,334	510,607	1,019,941	14	15	29	11,287	11,150	22,437	590	589	1,179	3
63,128	65,117	128,245	1,339,652	1,327,008	2,666,660	65	81	146	28,218	27,751	55,969	2,343	2,143	4,486	4
10,599	10,193	20,792	561,268	518,874	1,080,142	2	2	4	10,970	10,417	21,387	2,318	2,225	4,543	5
682	246	928	535,151	462,252	997,403	1	..	1	11,263	10,814	22,077	3,623	3,290	6,913	6
6,588	5,071	11,659	1,324,060	1,134,732	2,458,792	135	136	271	19,531	17,700	37,231	11,373	10,270	21,643	7
9,135	4,604	13,739	724,248	353,016	1,077,264	537	469	1,006	14,427	11,763	26,190	4,983	4,559	9,542	8
1,052	1,024	2,076	761,345	726,227	1,487,572	157	116	273	8,186	7,772	15,958	13,250	12,346	25,596	9
8,604	8,327	16,931	628,742	633,772	1,262,514	7	2	9	9,737	9,499	19,236	11,685	11,166	22,851	10
15	5	20	893,592	828,627	1,722,219	15	6	21	9,620	9,519	19,139	16,861	15,218	32,079	11
542	498	1,040	757,524	695,510	1,453,034	17	17	34	10,352	9,464	19,816	11,158	9,797	20,955	12
15,445	14,577	30,022	767,370	722,305	1,489,675	5	8	13	3,889	3,483	7,372	19,755	18,785	38,540	13
56,672	55,006	111,678	896,400	808,953	1,705,353	38	28	66	13,238	12,090	25,328	14,188	13,488	27,676	14
90,182	84,478	174,660	503,397	432,872	936,269	78	61	139	6,110	5,440	11,550	3,542	3,350	6,892	15
6,662	6,187	12,849	149,094	133,654	282,748	41	44	85	3,275	3,017	6,292	111	111	222	16
5,643	3,759	9,402	1,316,840	1,191,014	2,507,854	9	5	14	10,547	9,253	19,800	23,095	21,175	44,270	17
4,601	4,139	8,740	538,727	509,879	1,048,606	4	2	6	1,777	1,571	3,348	9,161	8,692	17,853	18
701	431	1,132	706,702	682,792	1,389,494	2	..	2	3,905	3,904	7,809	14,214	13,270	27,484	19
38,827	38,085	76,912	492,822	492,843	985,665	3	3	6	6,282	5,863	12,145	7,458	6,516	13,974	20
188	182	370	1,572,220	1,553,747	3,125,967	119	133	252	11,142	10,430	21,572	20,626	18,720	39,346	21
18,357	17,512	35,869	2,510,450	2,327,280	4,837,730	..	7	7	14,664	13,971	28,635	37,289	35,364	72,653	22
46	37	83	1,147,742	1,102,116	2,249,858	85	80	165	10,709	10,334	21,043	20,950	19,699	40,649	23
63	57	120	1,343,163	1,280,593	2,623,756	58	51	109	9,218	8,839	18,057	27,317	24,640	51,957	24
330	229	559	777,882	833,540	1,611,422	6	14	20	4,858	4,988	9,846	15,091	14,289	29,380	25
..	..	..	738,722	734,064	1,472,786	9	11	20	4,290	4,236	8,526	14,815	15,113	29,928	26
71	60	131	1,406,134	1,336,939	2,743,073	1	1	2	6,851	6,733	13,584	17,036	15,344	32,380	27
436,214	417,319	853,533	24,057,936	22,464,357	46,522,293	1,412	1,297	2,709	267,286	252,594	519,880	329,740	306,860	636,600	

Annual Form No. V.—Deaths registered according to CLASS in the

1	2	3									4		
		Number of deaths registered among—									Ratio of deaths		
Number.	Districts.	Buddhists.			Other classes.			Total.			Christians.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
	Burdwan Division.												
1	Burdwan ..	..	..	..	1,050	993	2,043	19,189	18,732	37,921	1·7	2·6	2·1
2	Birbhum ..	..	..	..	754	636	1,390	12,467	12,196	24,663	..	..	..
3	Bankura ..	..	..	..	1,099	1,054	2,153	12,990	12,808	25,798	18·7	22·3	20·4
4	Midnapur ..	..	..	..	1,862	1,766	3,628	32,488	31,741	64,229	20·5	30·4	25·0
5	Hooghly ..	..	..	..	177	118	295	13,467	12,762	26,229	3·4	7·0	4·6
6	Howrah ..	..	..	..	12	7	19	14,899	14,111	29,010	0·5	..	0·3
	Presidency Division.												
7	24-Parganas ..	..	..	..	46	35	81	31,085	28,141	59,226	13·2	16·4	14·6
8	Calcutta ..	6	14	20	23	39	62	19,976	16,844	36,820	24·1	25·9	24·9
9	Nadia ..	..	..	..	12	23	35	21,605	20,257	41,862	35·4	28·3	32·0
10	Murshidabad ..	..	..	..	303	270	573	21,732	20,937	42,669	27·6	7·4	17·1
11	Jessore ..	..	..	..	..	..	..	26,496	24,743	51,239	13·2	5·4	9·3
12	Khulna ..	..	..	..	13	22	35	21,540	19,300	40,840	14·1	16·8	15·3
	Rajshahi Division.												
13	Rajshahi ..	..	..	..	659	481	1,140	24,308	22,757	47,065	9·9	16·2	13·0
14	Dinajpur ..	..	..	..	2,706	2,209	4,915	30,170	27,815	57,985	14·5	11·7	13·2
15	Jalpaiguri ..	1	8	9	3,726	3,251	6,977	13,457	12,110	25,567	17·4	14·3	15·9
16	Darjeeling ..	701	628	1,329	..	..	..	4,128	3,800	7,928	9·9	11·1	10·5
17	Rangpur ..	..	..	..	248	154	402	33,899	30,587	64,486	15·5	9·4	12·6
18	Bogra ..	..	..	..	185	150	335	11,127	10,415	21,542	18·0	11·2	15·0
19	Pabna ..	..	..	..	8	8	16	18,129	17,182	35,311	9·3	..	4·4
20	Malda ..	..	..	..	1,419	1,090	2,509	15,162	13,472	28,634	10·3	11·7	23·4
	Dacca Division.												
21	Dacca ..	..	..	..	..	..	..	31,887	29,283	61,170	19·0	18·7	18·8
22	Mymensingh ..	..	..	..	447	362	809	52,400	49,704	102,104	..	3·5	1·7
23	Faridpur ..	..	..	..	..	..	..	31,744	30,113	61,857	25·9	26·6	26·2
24	Bakarganj ..	15	8	23	..	..	..	36,608	33,538	70,146	15·4	13·3	14·4
	Chittagong Division.												
25	Chittagong ..	767	604	1,371	..	..	..	20,722	19,895	40,617	8·6	21·2	14·7
26	Noakhali ..	4	2	6	..	..	..	19,118	19,362	38,480	22·5	28·7	25·5
27	Tippera ..	4	2	6	..	..	..	23,892	22,080	45,972	3·8	5·1	4·4
	Total for the Bengal Presidency.	1,498	1,266	2,764	14,749	12,668	27,417	614,685	574,685	1,189,370	18·2	18·8	18·5

districts of the Bengal Presidency during the year 1927.

per 1,000 of population.

5															6
Hindus.			Muhammadans.			Buddhists.			Other classes.			Total.			Number.
Male.	Female.	Total.	Male.	Female.	Total	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	
25·3	25·5	25·4	27·3	28·6	27·6	..	..	..	44·4	44·0	44·2	26·2	26·5	26·3	1
29·7	29·3	29·5	30·1	28·9	29·5	..	..	..	25·7	22·2	24·0	29·5	28·7	29·1	2
25·7	25·3	25·5	24·5	26·1	25·3	..	..	..	24·3	22·7	23·5	25·5	25·1	25·3	3
23·8	23·7	23·8	26·1	23·5	24·8	..	..	..	29·5	27·1	28·3	24·2	23·9	24·1	4
23·8	24·5	24·1	25·8	26·6	26·2	..	..	..	16·7	11·6	14·2	24·0	24·6	24·3	5
26·4	29·7	27·9	34·2	34·1	34·1	..	..	..	17·6	28·4	20·5	27·8	30·5	29·1	6
21·1	23·2	22·1	23·3	24·4	23·8	..	..	..	6·6	6·7	6·7	23·5	24·8	24·1	7
28·9	46·9	34·9	26·1	57·9	35·3	2·1	20·7	5·8	2·5	8·5	4·5	27·6	47·7	34·2	8
27·6	27·2	27·4	28·8	28·3	28·6	..	..	..	11·4	22·5	16·9	28·4	27·9	28·1	9
34·2	33·4	33·8	34·8	32·7	33·8	..	..	..	35·2	32·4	33·8	34·6	33·0	33·8	10
28·7	29·7	29·1	30·3	30·0	30·2	..	..	..	..	..	..	29·6	29·9	29·7	11
27·3	27·2	27·3	29·6	28·3	29·0	..	..	..	24·0	44·2	33·6	28·4	27·7	28·1	12
23·3	23·0	23·1	33·8	33·8	33·8	..	..	..	42·7	33·0	38·0	31·7	31·5	31·6	13
33·0	34·5	33·7	32·5	33·6	33·1	..	..	..	47·7	40·2	44·0	33·6	34·4	34·0	14
21·7	23·2	22·4	28·3	31·4	29·7	0·3	2·8	1·5	41·3	38·5	39·9	26·7	28·0	27·3	15
30·7	31·9	31·2	21·6	32·9	26·1	26·5	24·6	25·6	..	..	..	27·7	28·4	28·0	16
24·8	25·3	25·0	26·1	25·8	25·9	..	..	..	43·9	41·0	42·7	25·7	25·7	25·7	17
18·9	19·5	19·2	20·8	20·4	20·6	..	..	..	40·2	36·2	38·3	20·6	20·4	20·5	18
23·2	23·5	23·4	26·4	25·7	26·1	..	..	..	11·4	18·6	14·1	25·6	25·2	25·4	19
31·1	29·5	30·3	29·6	25·4	27·5	..	..	..	36·5	28·6	32·6	30·8	27·3	29·0	20
20·9	19·4	20·2	19·9	18·5	19·2	..	..	..	..	..	..	20·3	18·8	19·6	21
23·6	25·2	24·4	19·9	20·2	20·0	..	..	..	24·3	20·7	22·5	20·9	21·4	21·1	22
26·1	25·4	25·8	28·5	28·4	28·5	..	..	..	..	..	..	27·6	27·3	27·5	23
23·9	24·0	23·9	28·8	27·3	28·1	2·8	1·6	2·2	..	..	..	27·2	26·2	26·7	24
27·0	27·1	27·1	27·1	23·4	25·0	22·9	15·5	18·9	..	..	..	26·6	23·9	25·2	25
25·4	26·4	26·9	26·0	26·4	26·2	18·3	11·1	15·1	..	..	..	25·9	26·4	26·1	26
18·9	19·5	19·2	16·3	15·5	15·9	4·7	2·3	3·5	..	..	..	17·0	16·5	16·8	27
25·4	26·1	25·7	25·4	25·0	25·3	20·6	17·1	18·8	34·6	31·1	32·9	25·5	25·6	25·6	

Annual Form No. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7	8	9	10			
									In			
									Suicide.			
Number.	Districts and Towns.	Population according to Census of 1921.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhœa.	Respiratory diseases.	Male.	Female.	Wounds or accidents.	Snake-bite or killed by wild beasts.
	DISTRICTS (EXCLUDING TOWNS).											
	Burdwan Division.											
1	Burdwan ..	1,343,185	1,436	1,191	..	25,998	938	1,559	22	46	313	179
2	Birbhum ..	838,655	672	1,459	..	18,435	67	98	23	33	137	69
3	Bankura ..	964,487	464	252	..	16,853	893	865	39	38	139	137
4	Midnapur ..	2,595,071	3,337	4,745	..	41,520	1,187	1,252	42	58	800	461
5	Hooghly ..	900,802	1,038	918	..	15,906	658	747	44	54	264	87
6	Howrah ..	778,893	3,089	1,687	..	9,023	2,565	1,628	49	58	247	136
	Presidency Division.											
7	24-Parganas ..	1,998,318	8,802	2,794	..	29,246	698	1,404	101	177	656	357
8	Nadia ..	1,390,704	3,104	371	..	29,447	368	1,212	94	129	355	233
9	Murshidabad ..	1,182,983	3,594	3,341	..	27,526	51	59	40	60	191	262
10	Jessore ..	1,700,924	5,106	408	..	39,878	225	470	122	192	282	258
11	Khulna ..	1,421,116	6,762	168	..	23,630	502	613	73	139	373	286
	Rajshahi Division.											
12	Rajshahi ..	1,457,037	4,086	282	..	36,047	79	104	63	83	229	282
13	Dinajpur ..	1,687,328	1,953	1,324	..	50,809	91	270	34	37	206	300
14	Jalpaiguri ..	921,749	122	46	..	21,671	772	1,175	2	2	206	6
15	Darjeeling ..	254,045	3	20	..	5,072	522	404	9	5	52	13
16	Rangpur ..	2,482,722	2,798	2,612	..	56,561	221	105	23	21	438	155
17	Bogra ..	1,032,300	1,352	2,616	..	14,715	349	422	20	40	190	114
18	Pabna ..	1,344,633	3,383	4,736	..	23,537	140	101	29	73	263	100
19	Malda ..	955,830	4,936	651	..	19,553	56	53	27	25	101	150
	Dacca Division.											
20	Dacca ..	2,975,915	7,784	1,852	..	34,115	1,944	459	69	132	391	153
21	Mymensingh ..	4,710,669	16,142	2,776	..	62,390	2,127	727	69	97	769	136
22	Faridpur ..	2,202,783	8,589	807	..	39,716	1,711	1,064	52	148	532	177
23	Bakarganj ..	2,563,849	7,613	238	..	44,059	991	264	89	103	997	181
	Chittagong Division.											
24	Chittagong ..	1,570,760	2,573	577	..	33,167	594	251	18	7	782	71
25	Noakhali ..	1,465,071	6,104	905	..	24,592	554	52	14	16	676	46
26	Tippera ..	2,678,627	6,323	1,219	..	27,373	1,683	998	20	32	406	61
	Total of Districts	43,418,456	111,165	37,995	..	770,839	19,986	16,356	1,187	1,805	9,995	4,410
	TOWNS.											
	Burdwan District.											
1	Burdwan ..	34,616	22	3	..	145	131	169	5	..	21	3
2	Kalna ..	8,424	12	1	..	177	26	30	1	2	3	2
3	Katwa ..	6,823	31	12	..	37	5	13	..	..	1	..
4	Dainhat ..	4,843	20	..	..	45	2	7	1	..	1	2
5	Raniganj ..	14,536	5	2	..	69	6	52	..	..	8	..
6	Asansol ..	26,499	11	4	..	17	11	33	..	..	19	1
	Birbhum District.											
7	Suri ..	8,915	4	17	..	18	3	8	..	..	..	..
	Bankura District.											
8	Bankura ..	25,412	11	31	..	58	35	44	2	..	6	1
9	Vishnupur ..	19,398	1	..	..	129	52	44	1	..	5	1
10	Sonamukhi ..	10,644	1	5	..	50	24	42	..	..	2	1

districts and towns of the Bengal Presidency during the year 1927.

jury.		11	12	13										14
				Ratio of deaths per 1,000 of population.										
												From all causes.		
Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhœa.	Respiratory diseases	Injury.	All other causes.	For the year.	Mean of previous five years.	Number.
17	577	4,552	36,251	1·1	·9	..	19·3	·7	1·2	·4	3·4	27·0	26·3	1
9	271	3,604	24,606	·9	2·0	..	24·9	·1	·1	·4	4·9	33·3	27·5	2
2	355	5,253	24,935	·5	·3	..	17·5	·9	·9	·4	5·4	25·8	26·1	3
20	1,381	9,479	62,901	1·3	1·8	..	16·0	·5	·5	·5	3·6	24·2	24·1	4
9	458	2,647	22,372	1·1	1·0	..	17·6	·7	·8	·5	2·9	24·8	27·3	5
43	533	2,672	21,197	4·0	2·2	..	11·6	3·2	2·1	·7	3·4	27·2	24·2	6
1	1,292	6,327	50,563	4·4	1·4	..	14·6	·3	·7	·6	3·2	25·3	24·8	7
22	833	4,267	39,602	2·2	·3	..	21·2	·3	·9	·6	3·1	28·5	31·5	8
10	563	5,693	40,827	3·0	2·8	..	23·3	·04	·05	·5	4·8	34·5	30·3	9
..	854	3,687	50,628	3·0	·2	..	23·4	·1	·3	·5	2·2	29·8	28·4	10
16	887	7,491	40,053	4·8	·1	..	16·6	·3	·4	·6	5·3	28·2	24·3	11
20	677	5,178	46,453	2·8	·2	..	24·7	·05	·1	·5	3·5	31·9	35·3	12
11	588	2,727	57,762	1·1	·8	..	30·1	·05	·2	·3	1·6	34·2	32·3	13
..	216	1,357	25,359	·1	·05	..	23·5	·8	1·3	·2	1·5	27·5	28·5	14
1	80	1,137	7,238	·01	·1	..	20·0	2·1	1·6	·3	4·5	28·5	35·0	15
24	661	1,182	64,140	1·1	1·0	..	22·8	·1	·04	·3	·5	25·8	29·1	16
5	369	1,514	21,337	1·3	2·5	..	14·2	·4	·4	·3	1·5	20·7	24·7	17
15	480	2,124	34,501	2·5	3·5	..	17·5	·1	·1	·3	1·6	25·7	26·0	18
5	308	2,402	27,959	5·2	·7	..	20·4	·1	·05	·3	2·5	29·2	25·9	19
19	764	10,077	56,995	2·6	·6	..	11·5	·6	·1	·2	3·4	19·1	21·1	20
44	1,115	14,551	99,828	3·4	·6	..	13·2	·4	·1	·2	3·1	21·2	21·9	21
18	927	8,195	61,009	3·9	·4	..	18·0	·8	·5	·4	3·7	27·7	23·3	22
3	1,373	14,682	69,220	3·0	·1	..	17·2	·4	·1	·5	5·7	27·0	25·4	23
7	885	1,707	39,754	1·6	·4	..	21·1	·4	·2	·6	1·1	25·3	24·1	24
..	752	5,453	38,412	4·2	·6	..	16·8	·4	·03	·5	3·7	26·2	24·3	25
8	527	7,037	45,160	2·4	·4	..	10·2	·6	·4	·2	2·6	16·9	17·3	26
329	17,726	134,995	1,109,062	2·6	·9	..	17·7	·5	·4	·4	3·1	25·5	25·4	
1	30	168	668	·6	·1	..	4·2	3·8	4·9	·9	4·8	19·3	18·7	1
..	8	58	312	1·4	·1	..	21·0	3·1	3·6	·9	6·9	37·0	34·4	2
..	1	9	108	4·5	1·8	..	5·4	·7	1·9	·1	1·3	15·8	9·4	3
..	4	8	86	4·1	..	..	9·3	·4	1·4	·8	1·6	17·7	22·9	4
..	8	102	244	·3	·1	..	4·7	·4	3·6	·5	7·0	16·8	17·3	5
..	20	156	252	·4	·1	..	·6	·4	1·2	·7	5·9	9·5	10·3	6
..	..	7	57	·4	1·9	..	2·0	·3	·9	..	·8	6·4	5·4	7
..	9	70	258	·4	1·2	..	2·3	1·3	1·7	·3	2·7	10·1	11·4	8
..	7	141	374	·05	..	..	6·6	2·6	2·3	·4	7·3	19·3	17·1	9
..	3	106	231	·1	·5	..	4·7	2·2	3·9	·3	10·0	21·7	21·0	10

Annual Form No. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7	8	9	10 In			
									Suicide.			
Number.	Districts and Towns.	Population according to Census of 1921.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhœa.	Respiratory diseases.	Male.	Female.	Wounds or accidents.	Snake-bite or killed by wild beasts.
	TOWNS—*contd.*											
	Midnapur District.											
11	Midnapur ..	28,965	3	20	..	111	29	79	..	1	4	1
12	Ghatal ..	10,770	4	3	..	77	34	33	..	..	4	1
13	Kharar ..	6,580	14	25	..	34	18	26	..	..	..	1
14	Chandrakona ..	6,470	9	..	..	71	30	62	..	..	1	1
15	Ramjibanpur ..	6,700	..	28	..	29	34	56	1	..	1	1
16	Khirpai ..	3,756	3	2	..	19	20	37	..	..	1	..
17	Tamluk ..	8,348	15	51	..	23	15	8	..	..	2	1
	Hooghly District.											
18	Hooghly-Chinsura	29,938	29	20	..	363	153	118	2	3	12	3
19	Bansberia ..	6,382	17	..	..	144	26	29	..	..	2	..
20	Arambagh ..	7,857	8	1	..	47	11	26	..	..	3	..
21	Serampur ..	33,197	43	11	..	142	159	92	1	3	18	2
22	Rishra-Konnagar	23,259	52	6	..	66	76	39	1	..	2	2
23	Uttarpara ..	8,657	12	8	..	33	44	28	1	..	3	..
24	Kotrung ..	6,846	19	3	..	29	17	19	..	..	1	1
25	Baidyabati ..	16,471	32	14	..	148	116	31	..	..	4	..
26	Bhadreswar ..	22,081	31	2	..	126	48	40	3	1	3	1
27	Champdani ..	24,652	48	39	..	80	34	34	..	2	3	..
	Howrah District.											
28	Howrah ..	195,301	574	444	..	1,247	1,269	1,841	7	9	81	4
29	Bally ..	23,209	25	15	..	139	62	55	..	..	3	1
	24-Parganas District.											
30	South Suburban	33,345	120	23	..	229	105	113	..	1	7	3
31	Tallyganj ..	21,637	36	35	..	145	55	44	1	..	..	..
32	Budge-Budge ..	25,723	135	10	..	156	146	33	2	4	8	2
33	Baranagar ..	32,084	146	15	..	132	231	98	1	..	8	4
34	Kamarhati ..	23,018	46	13	..	128	130	74	1	1	3	..
35	Rajpur ..	11,412	16	25	..	80	29	39	..	..	2	..
36	Baruipur ..	5,114	15	2	..	46	1	22	..	..	..	1
37	Jaynagar ..	8,408	41	27	..	80	26	16	1	1	3	..
38	North Dum Dum	8,224	21	3	..	26	49	27	1	..	4	2
39	South Dum Dum	14,030	64	5	..	54	46	37	..	..	4	..
40	Khardah ..	5,486	10	..	..	29	20	9	..	..	2	..
41	Barrackpur ..	22,460	22	4	..	51	25	28	1	1	2	..
42	Panihati ..	10,161	21	5	..	47	43	40	..	..	2	1
43	North Barrackpur	15,433	42	16	..	68	49	45	..	..	3	..
44	Titagarh ..	52,451	55	23	..	672	39	12	1	1	4	2
45	Garulia ..	13,096	17	..	..	85	17	9	2	..	1	..
46	Naihati ..	23,286	39	3	..	55	31	46	1	1	2	1
47	Halisahar ..	7,318	14	..	..	38	17	14	..	..	3	4
48	Kanchrapara ..	10,332	20	2	..	77	24	25	..	..	2	..
49	Bhatpara ..	65,609	165	11	..	533	115	128	3	1	9	2
50	Barasat ..	8,211	23	14	..	49	4	8	..	1	3	1
51	Gobardanga ..	5,112	9	..	..	31	5	11	1	1	1	..
52	Basirhat ..	19,267	51	8	..	99	44	66	..	..	9	1
53	Baduria ..	14,057	34	1	..	96	9	7	..	..	..	1
54	Taki ..	5,200	31	5	..	76	16	10	1	..	8	..
	City of Calcutta.											
55	Calcutta ..	1,077,264	2,171	2,860	1	4,883	3,845	10,465	36	15	715	1
	Nadia District.											
56	Krishnagar ..	22,309	20	11	..	153	22	33	4	2	6	2
57	Nabadwip ..	15,584	115	10	..	122	39	22	1	1	4	..
58	Ranaghat ..	9,652	30	2	..	64	21	20	..	1	3	..
59	Birnagar ..	2,305	11	..	..	14	4	3	..	..	1	..
60	Santipur ..	24,792	35	11	..	433	78	87	3	4	2	1

districts and towns of the Bengal Presidency during the year 1927.

jury.		11	12	13									14
				Ratio of deaths per 1,000 of population.									
												From all causes.	
Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhœa.	Respiratory diseases.	Injury.	All other causes.	For the year.	Mean of previous five years.	Number.
..	6	102	350	·1	·7	..	3·8	·9	2·7	·2	3·5	12·1	14·8	11
..	5	47	203	·4	·3	..	7·1	3·2	3·1	·5	4·4	18·8	19·7	12
1	2	26	145	2·1	3·8	..	5·2	2·7	3·9	·3	3·9	22·0	22·5	13
..	2	43	217	1·4	..	..	11·0	4·6	9·6	·3	6·6	33·5	34·3	14
..	3	16	166	..	4·2	..	4·3	5·1	8·4	·4	2·4	24·8	24·5	15
..	1	3	85	·8	·5	..	5·1	5·3	9·8	·3	·8	22·6	29·0	16
..	3	47	162	1·8	6·1	..	2·7	1·8	1·0	·4	5·6	19·4	14·4	17
..	20	355	1,058	1·0	·7	..	12·1	5·1	3·9	·7	11·9	35·3	23·5	18
..	2	24	242	2·7	..	..	22·6	4·0	4·5	·3	3·8	37·9	18·3	19
..	3	44	140	1·0	·1	..	6·0	1·4	3·3	·4	5·6	17·8	20·7	20
3	27	149	623	1·3	·3	..	4·3	4·8	2·8	·8	4·5	18·8	17·9	21
1	6	111	356	2·2	·3	..	2·8	3·2	1·7	·3	4·8	15·3	14·0	22
..	4	43	172	1·4	·9	..	3·8	5·1	3·2	·5	5·0	19·9	17·5	23
..	2	26	115	2·8	·4	..	4·2	2·4	2·8	·3	3·8	16·8	15·6	24
..	4	112	457	1·9	·8	..	9·0	7·0	1·9	·2	6·8	27·7	19·8	25
..	8	108	363	1·4	·1	..	5·7	2·1	1·8	·4	4·9	16·4	15·6	26
..	5	91	331	1·9	1·6	..	3·2	1·4	1·4	·2	3·7	13·4	9·9	27
2	103	1,990	7,468	2·9	2·3	..	6·4	6·5	9·4	·5	10·2	38·2	31·9	28
..	4	45	345	1·1	·6	..	6·0	2·6	2·4	·2	1·9	14·9	14·9	29
..	11	190	791	3·6	·7	..	6·9	3·1	3·4	·3	5·7	23·7	18·2	30
..	1	95	411	1·7	1·6	..	6·7	2·5	2·0	·04	4·4	19·0	12·1	31
..	16	41	537	5·2	·4	..	6·1	5·6	1·3	·6	1·6	20·9	16·7	32
..	13	244	879	4·5	·5	..	4·1	7·2	3·0	·4	7·6	27·4	24·7	33
..	5	81	477	2·0	·6	..	5·6	5·7	3·2	·2	3·5	20·7	10·5	34
..	2	59	250	1·4	2·2	..	7·0	2·5	3·4	·2	5·2	21·9	19·2	35
..	1	4	91	2·9	·4	..	9·0	·2	4·3	·2	·8	17·8	19·5	36
..	5	..	195	4·9	3·2	..	9·5	3·0	1·9	·6	..	23·2	19·5	37
..	7	27	160	2·5	·4	..	3·2	5·9	3·3	·8	3·3	19·4	18·5	38
..	4	83	293	4·6	·3	..	3·8	3·3	2·6	·3	5·9	20·9	18·2	39
..	2	20	90	1·8	..	..	5·3	3·6	1·6	·4	3·6	16·4	14·6	40
..	4	27	161	1·0	·2	..	2·3	1·1	1·2	·2	1·2	7·2	7·5	41
..	3	114	273	2·1	·5	..	4·6	4·2	3·9	·3	11·2	26·9	23·3	42
..	3	54	277	2·7	1·0	..	4·4	13·2	2·9	·2	3·5	17·9	17·2	43
..	8	150	959	1·0	·4	..	12·8	·7	·2	·1	2·9	18·3	16·6	44
..	3	11	142	1·3	..	..	6·5	1·3	·7	·2	·8	10·8	8·5	45
..	5	140	319	1·7	·1	..	2·4	1·3	2·0	·2	6·0	13·7	11·0	46
..	7	32	122	1·9	..	..	5·2	2·3	1·9	·9	4·4	16·7	15·9	47
..	2	1	151	1·9	·2	..	7·4	2·3	2·4	·2	·1	14·6	10·2	48
..	15	236	1,203	2·5	·2	..	8·1	1·7	1·9	·2	3·6	18·3	14·0	49
..	5	8	111	2·8	1·7	..	6·0	·5	1·0	·6	1·0	13·5	12·3	50
..	3	3	62	1·8	..	..	6·1	1·0	2·1	·6	·6	12·1	16·8	51
..	10	104	382	2·6	·4	..	5·1	2·3	3·4	·5	5·4	19·8	25·0	52
..	1	2	150	2·4	·1	..	6·8	·7	·5	·1	·1	10·7	15·8	53
..	9	30	177	6·0	1·0	..	14·6	3·1	1·9	1·7	5·8	34·0	26·1	54
23	790	11,805	36,820	2·0	2·6	·001	4·5	3·6	9·7	·7	11·0	34·2	29·1	55
..	14	66	319	·9	·5	..	6·6	1·0	1·4	·6	2·8	13·7	11·6	56
..	6	92	406	7·4	·6	..	7·8	2·5	1·4	·4	5·9	26·0	18·5	57
..	4	31	172	3·1	·2	..	6·6	2·2	2·1	·4	3·2	17·8	16·8	58
..	1	38	71	4·8	..	..	6·1	1·7	1·3	·4	16·5	30·8	24·7	59
1	11	194	849	1·4	·4	..	17·5	3·1	3·5	·4	7·8	34·2	24·4	60

Annual Form No. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7	8	9	10			
									In			
									Suicide.			
Number.	Districts and Towns.	Population according to Census of 1921.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhœa.	Respiratory diseases.	Male.	Female.	Wounds or accidents.	Snake-bite or killed by wild beasts.
	TOWNS—*contd.*											
	Nadia District—concld.											
61	Chakdaha ..	5,216	43	..	..	74	5	12	..	1	..	1
62	Kushtia ..	7,849	13	13	..	37	15	15	..	..	3	1
63	Kumarkhali ..	3,763	2	1	..	52	11	22	1	1	..	..
64	Meherpur ..	5,398	3	..	..	39	11	18	..	..	3	1
	Murshidabad District.											
65	Berhampur ..	26,670	73	36	..	262	40	89	..	3	8	1
66	Murshidabad ..	10,669	25	5	..	173	16	20	..	..	1	..
67	Jiaganj-Azimganj	11,231	19	21	..	108	20	17	..	..	1	1
68	Kandi ..	11,787	8	7	..	137	15	19	..	..	4	2
69	Jangipur ..	10,739	32	22	..	109	9	4	..	..	..	..
70	Dhulian ..	8,435	93	10	..	100	7	11	..	..	8	1
	Jessore District.											
71	Jessore ..	10,139	33	4	..	145	26	18	..	..	2	1
72	Kotchandpur ..	7,545	44	..	..	126	30	5	..	..	2	1
73	Maheshpur ..	3,611	25	2	..	54	6	11	..	1	1	1
	Khulna District.											
74	Khulna ..	16,049	143	2	..	158	43	34	..	..	7	..
75	Satkhira ..	10,299	86	1	..	102	20	45	..	..	8	..
76	Debhatta ..	5,570	17	1	..	21	6	7	..	1	1	1
	Rajshahi District.											
77	Rajshahi ..	24,598	93	8	..	161	25	41	..	..	4	..
78	Nator ..	8,040	1	6	..	68	2	19	..	..	1	2
	Dinajpur District.											
79	Dinajpur ..	18,025	19	4	..	80	23	43	1	..	..	..
	Jalpaiguri District.											
80	Jalpaiguri ..	14,520	2	..	..	68	27	66	..	..	7	..
	Darjeeling District.											
81	Darjeeling ..	22,258	..	1	..	70	18	122	..	..	1	1
82	Kurseong ..	6,445	..	..	..	115	10	46	2	..	2	..
	Rangpur District.											
83	Rangpur ..	19,076	5	10	..	88	37	26	1	2	..	..
84	Gaibandha ..	6,056	21	22	..	12	9	5	1	..	1	..
	Bogra District.											
85	Bogra ..	12,322	9	5	..	49	3	12	..	..	2	..
86	Sherpur ..	3,984	17	3	..	26	12	10	..	..	1	..

districts and towns of the Bengal Presidency during the year 1927.

jury.		11	12	13										14
				Ratio of deaths per 1,000 of population.										
												From all causes.		
Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhœa.	Respiratory diseases	Injury.	All other causes.	For the year.	Mean of previous five years.	Number.
1	3	..	137	8·2	..	..	14·2	1·0	2·3	·6	..	26·3	23·8	61
1	5	15	113	1·6	1·6	..	4·7	1·9	1·9	·6	1·9	14·4	13·2	62
..	2	6	96	·5	·3	..	13·8	3·0	5·8	·5	1·6	25·5	27·6	63
..	4	22	97	·5	..	..	7·2	2·0	3·3	·7	4·1	18·0	14·6	64
2	14	137	651	2·7	1·3	..	9·8	1·5	3·3	·5	5·1	24·4	20·4	65
..	1	5	245	2·3	·5	..	16·2	1·5	1·9	·1	·5	23·0	26·0	66
..	2	62	249	1·7	1·9	..	9·6	1·8	1·5	·2	5·5	22·2	24·7	67
1	7	79	272	·7	·6	..	11·6	1·2	1·6	·6	6·7	23·1	19·0	68
..	..	7	183	3·0	2·0	..	10·1	·8	·4	..	·6	17·0	13·2	69
1	10	11	242	11·0	1·2	..	11·8	·8	1·3	1·2	1·3	28·7	19·8	70
..	3	45	274	3·2	·4	..	14·3	2·6	1·8	·3	4·4	27·0	17·3	71
..	3	18	226	5·8	..	..	16·7	4·0	·7	·4	2·4	29·9	17·4	72
..	3	10	111	6·9	·5	..	14·9	1·7	3·0	·8	2·8	30·7	18·5	73
..	7	34	421	8·9	·1	..	9·8	2·6	2·1	·4	2·1	26·2	12·9	74
..	8	45	307	8·3	·1	..	9·9	1·9	4·4	·7	4·4	29·8	15·1	75
..	3	4	59	3·0	·2	..	3·8	1·1	1·2	·5	·7	10·6	18·7	76
..	4	145	477	3·8	·3	..	6·5	1·0	1·7	·2	5·9	19·4	17·5	77
..	3	36	135	·1	·7	..	8·5	·2	2·4	·4	4·5	16·8	20·9	78
..	1	53	223	1·0	·2	..	4·4	1·2	2·4	·05	2·9	12·4	10·8	79
..	7	38	208	·1	..	..	4·7	1·9	4·5	·5	2·6	14·3	15·0	80
..	2	213	426	..	·04	..	3·1	·8	5·5	·1	9·6	19·1	18·7	81
..	4	89	264	..	..	..	17·8	1·5	7·1	·6	13·8	41·0	39·9	82
..	3	92	261	·3	·5	..	4·6	1·9	1·4	·2	4·8	13·7	14·8	83
1	3	13	85	3·5	3·6	..	2·0	1·5	·8	·5	2·1	14·0	4·3	84
..	2	42	122	·7	·4	..	4·0	·2	1·0	·2	3·4	9·9	19·4	85
..	1	14	83	4·3	·7	..	6·5	3·0	2·5	·2	3·5	20·8	24·1	86

Annual Form No. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7	8	9	10			
									In			
									Suicide.			
Number.	Districts and Towns.	Population according to Census of 1921.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhœa.	Respiratory diseases.	Male.	Female.	Wounds or accidents.	Snake-bite or killed by wild beasts.
	TOWNS—*concld.*											
	Pabna District.											
87	Pabna ..	19,343	60	6	..	111	19	26	..	..	3	1
88	Sirajganj ..	25,518	134	54	..	171	17	16	3	2	27	..
	Malda District.											
89	English Bazar ..	14,057	124	..	..	69	16	26	..	2	2	..
90	Old Malda ..	3,145	10	..	..	49	5	25	..	..	1	..
91	Nawabganj ..	12,633	66	..	..	124	29	13	..	..	4	2
	Dacca District.											
92	Dacca ..	119,450	177	230	..	601	340	602	5	1	80	3
93	Narayanganj ..	30,602	116	14	..	252	72	53	1	..	16	..
	Mymensingh District.											
94	Mymensingh ..	25,287	31	32	..	216	59	18	1	..	9	..
95	Muktagacha ..	6,770	7	1	..	25	3	5	..	..	2	..
96	Netrakona ..	8,687	37	2	..	76	35	6	..	..	6	..
97	Jamalpur ..	23,113	70	1	..	139	33	41	..	..	3	1
98	Sherpur ..	17,813	157	1	..	91	61	18	..	..	2	1
99	Kishorganj ..	19,518	47	6	..	65	89	33	..	1	3	1
100	Bajitpur ..	11,568	36	17	..	34	23	7	..	..	1	..
101	Tangail ..	14,305	31	4	..	73	10	29	..	..	1	..
	Faridpur District.											
102	Faridpur	14,503	13	5	..	129	21	27	..	..	3	3
103	Madaripur ..	25,297	115	5	..	155	28	16	..	..	4	1
104	Rajbari ..	7,275	1	1	..	93	12	18	..	..	..	1
	Bakarganj District.											
105	Barisal ..	26,744	87	12	..	219	84	17	..	..	14	1
106	Jhalakati ..	5,955	41	2	..	17	13	10	..	..	2	..
107	Nalchiti ..	1,858	..	..	..	7	10	3	..	..	..	1
108	Pirojpur ..	13,841	26	2	..	65	6	6	..	1	5	..
109	Patuakhali ..	6,984	25	..	..	26	3	3	..	..	3	..
110	Bhola ..	4,525	15	..	..	6	3	3	..	..	..	..
	Chittagong District.											
111	Chittagong ..	36,030	83	7	..	217	66	40	1	1	13	1
112	Cox's Bazar ..	4,632	1	3	..	49	2	6	..	..	2	..
	Noakhali District.											
113	Noakhali ..	7,715	38	8	..	15	1	2	..	..	2	..
	Tippera District.											
114	Comilla ..	25,914	74	3	..	34	20	9	..	..	1	..
115	Brahmanbaria ..	23,414	59	7	..	143	58	50	1	..	3	..
116	Chandpur ..	15,118	74	1	..	38	13	4	..	..	..	..
	Total of Towns ..	3,103,837	7,212	4,519	1	18,167	9,372	16,555	105	74	1,315	92
	Total for the Bengal Presidency	46,522,293	118,377	42,514	1	789,006	29,358	32,911	1,292	1,879	11,310	4,502

districts and towns of the Bengal Presidency during the year 1927—*concluded.*

jury.		11	12	13										14
				Ratio of deaths per 1,000 of population.										
												From all causes.		
Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhœa.	Respiratory diseases	Injury.	All other causes.	For the year.	Mean of previous five years.	Number.
..	4	67	293	3·0	·3	..	5·7	·9	1·3	·2	3·5	15·1	13·6	87
..	32	93	517	5·2	2·1	..	6·7	·6	·6	1·2	3·6	20·3	22·5	88
..	4	55	294	8·8	..	..	4·9	1·1	1·8	·3	3·9	20·9	16·4	89
..	1	17	107	3·2	..	..	15·6	1·6	7·9	·3	5·4	34·0	26·4	90
1	7	35	274	5·2	..	..	9·8	2·3	1·0	·5	2·8	21·7	16·4	91
3	92	1,242	3,284	1·5	1·9	..	5·0	2·9	5·0	·8	10·4	27·5	28·1	92
..	17	367	891	3·8	·5	..	8·2	2·3	1·7	·5	12·0	29·1	26·2	93
2	12	117	485	1·2	1·3	..	8·5	2·3	·7	·5	4·6	19·2	17·1	94
..	2	38	81	1·0	·1	..	3·7	·4	·7	·3	5·6	12·0	13·6	95
..	6	58	220	4·3	·2	..	8·7	4·0	·7	·7	6·7	25·3	19·2	96
1	5	89	378	3·0	·04	..	6·0	1·4	1·8	·2	3·8	16·3	21·8	97
..	3	137	468	8·8	·05	..	5·1	3·4	1·0	·2	7·7	26·3	19·2	98
..	5	49	294	2·4	·3	..	3·3	4·6	1·7	·2	2·5	15·1	11·9	99
..	1	28	146	3·1	1·5	..	2·9	1·9	·6	·1	2·4	12·6	13·7	100
..	1	56	204	2·2	·3	..	5·1	·7	2·0	·1	3·9	14·3	15·6	101
..	6	44	245	·9	·3	..	8·9	1·4	1·9	·4	3·0	16·9	17·9	102
1	6	119	444	4·5	·2	..	6·1	1·1	·6	·2	4·7	17·5	13·6	103
..	1	33	159	·1	·1	..	12·8	1·7	2·5	·1	4·5	21·8	9·6	104
..	15	77	511	3·2	·4	..	8·2	3·1	·6	·6	2·9	19·1	10·9	105
..	2	17	102	6·9	·3	..	2·8	2·2	1·7	·3	2·8	17·1	11·4	106
..	1	1	22	..	..	..	3·8	5·4	1·6	·5	·5	11·8	12·4	107
..	6	64	175	1·9	·1	..	4·7	·4	·4	·4	4·6	12·6	10·3	108
..	3	27	87	3·6	..	..	3·7	·4	·4	·4	3·9	12·5	19·9	109
..	..	2	29	3·3	..	..	1·3	·6	·7	..	·4	6·4	5·7	110
..	16	344	773	2·3	·2	..	6·0	1·8	1·1	·4	9·5	21·4	15·1	111
..	2	27	90	·2	·6	..	10·6	·4	1·3	·4	5·8	19·4	14·7	112
..	2	2	68	4·9	1·0	..	1·9	·1	·3	·3	·3	8·8	10·6	113
..	1	46	187	2·8	·1	..	1·3	·8	·3	·04	1·8	7·2	7·1	114
..	4	138	459	2·5	·3	..	6·1	2·4	2·1	·2	5·9	19·6	21·1	115
..	..	36	166	4·9	·1	..	2·5	·8	·3	..	2·4	11·0	9·6	116
47	1,633	22,849	80,308	2·3	1·4	·0003	5·8	3·0	5·3	·5	7·4	25·9	22·9	
376	19,359	157,844	1,189,370	2·5	·9	·00002	17·0	·6	·7	·4	3·4	25·6	25·2	

Supplementary Annual Form No. VI (A.)—Deaths registered from DIFFERENT

1	2	3		4		5		6		7		8	
		Malaria.		Enteric fever.		Measles.		Relapsing Fever.		Kala-azar.		Other Fevers.	
Number.	Districts and towns.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
	DISTRICTS (EXCLUDING TOWNS).												
	BURDWAN DIVISION.												
1	Burdwan	14,977	10·5	108	·1	52	·03	49	·03	180	·1	10,632	7·4
2	Birbhum	2,973	3·5	3	·003	3	·003	1	·001	..	..	15,455	18·4
3	Bankura	3,395	3·5	125	·1	86	·1	92	·1	34	·03	13,121	13·6
4	Midnapur	19,835	7·6	247	·1	32	·01	80	·03	79	·03	21,247	8·2
5	Hooghly	13,280	14·7	98	·1	57	·1	7	·01	148	·2	2,316	2·6
6	Howrah	4,053	5·2	329	·4	54	·1	50	·1	257	·3	4,280	5·5
	PRESIDENCY DIVISION.												
7	24-Parganas	9,613	4·8	145	·1	36	·02	28	·01	1,947	1·0	17,477	8·7
8	Nadia	24,478	17·6	129	·1	40	·03	143	·1	306	·2	4,351	3·1
9	Murshidabad	25,183	21·3	33	·03	73	·1	25	·02	26	·02	2,186	1·8
10	Jessore	36,137	21·2	166	·1	13	·01	17	·01	167	·1	3,378	2·0
11	Khulna	16,902	11·9	344	·2	83	·1	105	·1	710	·5	5,486	3·9
	RAJSHAHI DIVISION.												
12	Rajshahi	35,139	24·1	33	·02	24	·01	6	·004	132	·1	713	·5
13	Dinajpur	41,201	24·4	25	·01	13	·01	14	·01	109	·1	9,447	5·6
14	Jalpaiguri	21,285	23·1	4	·004	1	·001	8	·01	11	·01	362	·4
15	Darjeeling	2,069	8·1	19	·1	4	·01	3	·01	68	·3	2,909	11·4
16	Rangpur	51,708	20·8	..	..	4	·002	24	·01	251	·1	4,574	1·8
17	Bogra	9,139	8·8	157	·1	53	·05	154	·1	464	·4	4,748	4·6
18	Pabna	21,294	15·8	34	·02	53	·04	10	·01	17	·01	2,129	1·6
19	Malda	18,155	19·0	2	·002	1	·001	3	·003	4	·004	1,388	1·4
	DACCA DIVISION.												
20	Dacca	3,151	1·1	581	·2	113	·04	103	·03	741	·2	29,426	9·9
21	Mymensingh	4,818	1·0	33	·01	26	·005	7	·001	595	·1	56,911	12·1
22	Faridpur	33,604	15·2	354	·2	123	·05	120	·05	630	·3	4,885	2·2
23	Bakarganj	1,841	·7	26	·01	12	·004	294	·1	406	·2	41,480	16·2
	CHITTAGONG DIVISION.												
24	Chittagong	2,140	1·4	219	·1	180	·1	1,071	·7	542	·3	29,015	18·6
25	Noakhali	1,993	1·4	..	..	16	·01	7	·004	341	·2	22,235	15·2
26	Tippera	5,267	2·0	570	·2	54	·02	367	·1	2,305	·9	18,810	7·0
	Total of Districts ..	423,630	9·7	3,784	·1	1,206	·03	2,788	·1	10,470	·2	328,961	7·6
	TOWNS.												
	BURDWAN DISTRICT.												
1	Burdwan	82	2·4	15	·4	2	·1	3	·1	37	1·1	6	·2
2	Kalna	46	5·5	3	·3	1	·1	..	..	5	·6	122	14·5
3	Katwa	27	4·0	3	·4	..	..	1	·1	1	·1	5	·7
4	Dainhat	44	9·1	..	..	..	..	..	..	..	..	1	·2
5	Raniganj	1	·1	..	..	2	·1	..	..	..	..	66	4·5
6	Asansol	1	·04	1	·04	..	..	..	..	..	..	15	·6
	BIRBHUM DISTRICT.												
7	Suri	2	·2	2	·2	..	..	..	..	..	..	14	1·6
	BANKURA DISTRICT.												
8	Bankura	6	·2	2	·1	3	·1	..	..	3	·1	44	1·7
9	Vishnupur ..	47	2·4	..	..	9	·5	..	..	..	..	73	3·8
10	Sonamukhi	8	·7	1	·1	4	·4	..	..	2	·2	35	3·3
	MIDNAPUR DISTRICT.												
11	Midnapur	2	·1	..	..	..	..	1	·03	..	..	108	3·7
12	Ghatal	35	3·2	..	..	..	..	..	..	..	..	42	3·9
13	Kharar	17	2·6	..	..	1	·1	..	..	..	..	16	2·4
14	Chandrakona	..	..	..	..	..	..	1	·1	20	3·1	50	7·7
15	Ramjibanpur	17	2·5	4	·6	..	..	..	..	..	..	8	1·2
16	Khirpai	12	3·2	..	..	1	·3	..	..	..	..	6	1·6
17	Tamluk	1	·1	..	..	..	..	..	..	..	..	22	2·6
	HOOGHLY DISTRICT.												
18	Hooghly-Chinsura ..	102	3·4	7	·2	..	..	1	·03	15	·5	238	7·9
19	Bansberia	39	6·1	1	·1	..	..	..	..	5	·8	99	15·5
20	Arambagh	45	5·7	..	..	..	..	..	..	1	·1	1	·1
21	Serampur	25	·7	12	·4	3	·1	3	·1	7	·2	92	2·8
22	Rishra-Konnagar ..	9	·4	3	·1	2	·1	..	..	3	·1	49	2·1
23	Uttarpara	4	·5	1	·1	..	..	1	·1	3	·3	24	2·8
24	Kotrung	4	·6	1	·1	..	..	..	..	..	..	24	3·5
25	Baidyabati	36	2·2	..	..	..	..	..	..	1	·1	111	6·7
26	Bhadreswar	24	1·1	1	·04	1	·04	7	·3	2	·1	92	4·2
27	Champdani	19	·8	3	·1	2	·08	..	..	..	..	55	2·2

* Deaths during or within

CAUSES in the districts and towns of the Bengal Presidency during the year 1927.

9 Dysentery.		10 Diarrhœa.		11 Influenza.		12 Pneumonia.		13 Phthisis.		14 Other respiratory diseases.		15 Deaths from child-birth.*	16 Deaths under one year.			17 Infant mortality rate.	18 Number.
Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.	Total.		
370	·3	568	·4	107	·1	955	·7	243	·2	254	·2	185	4,612	4,067	8,679	208·1	1
37	·05	30	·04	4	·004	30	·03	31	·04	33	·04	48	3,399	2,889	6,288	202·8	2
322	·3	571	·6	31	·03	407	·4	183	·2	244	·2	92	3,166	2,868	6,034	192·1	3
725	·3	462	·2	74	·03	646	·2	272	·1	260	·1	169	6,038	5,652	11,690	170·6	4
279	·3	379	·4	28	·03	430	·5	170	·2	119	·1	21	1,854	1,675	3,529	167·0	5
498	·6	2,067	2·6	89	·1	523	·7	562	·7	454	·6	77	1,855	1,630	3,485	172·2	6
411	·2	287	·1	23	·01	682	·3	359	·2	340	·2	195	3,800	3,258	7,058	151·9	7
223	·2	145	·1	102	·1	622	·4	234	·2	254	·2	205	4,825	4,265	9,090	204·3	8
28	·02	23	·02	1	·001	28	·02	11	·01	19	·02	100	4,579	4,034	8,613	176·4	9
129	·1	96	·05	11	·01	138	·1	128	·1	193	·1	88	3,484	3,256	6,740	166·1	10
299	·2	203	·1	24	·01	272	·2	151	·1	166	·1	286	4,443	3,696	8,139	211·4	11
46	·03	33	·02	8	·005	23	·01	30	·02	43	·03	159	5,260	4,647	9,907	198·6	12
52	·03	39	·02	6	·003	137	·1	63	·04	64	·04	142	6,643	5,998	12,641	194·8	13
351	·4	421	·4	243	·3	563	·6	281	·3	88	·1	95	2,889	2,614	5,503	173·8	14
373	1·5	149	·6	36	·1	96	·4	89	·3	183	·7	28	600	554	1,154	138·7	15
160	·1	61	·02	11	·004	10	·004	34	·01	50	·02	213	7,856	6,567	14,423	191·1	16
170	·2	179	·2	168	·2	81	·1	78	·1	95	·1	197	2,569	2,243	4,812	192·4	17
65	·04	75	·05	6	·01	21	·01	40	·03	34	·02	71	3,254	3,151	6,405	179·7	18
37	·04	19	·02	1	·001	7	·01	14	·01	31	·03	49	2,183	2,064	4,247	129·1	19
1,640	·5	304	·1	20	·01	74	·02	170	·05	195	·1	159	6,142	5,103	11,245	142·1	20
1,653	·3	474	·1	14	·003	117	·02	259	·05	337	·1	306	10,978	9,419	20,397	175·4	21
1,250	·6	461	·2	15	·01	425	·2	177	·1	447	·2	375	6,343	5,564	11,907	170·6	22
821	·3	170	·1	10	·004	45	·01	87	·03	122	·04	91	7,586	6,476	14,062	212·7	23
409	·3	185	·1	25	·01	162	·1	25	·01	39	·02	68	3,282	2,917	6,199	144·0	24
404	·3	150	·1	1	·001	7	·004	4	·003	40	·03	173	3,425	3,230	6,655	142·9	25
1,197	·4	486	·2	154	·1	78	·03	296	·1	470	·2	358	4,217	3,473	7,690	136·9	26
11,949	·3	8,037	·2	1,212	·03	6,579	·1	3,991	·1	4,574	·1	3,950	115,282	101,310	216,592	175·5	
61	1·8	70	2·0	9	·3	73	2·1	43	1·2	44	1·3	7	4	7	11	51·8	1
20	2·4	6	·7	2	·2	21	2·5	3	·3	4	·5	..	27	31	58	255·5	2
2	·3	3	·4	..	..	4	·6	5	·7	4	·6	1	5	5	10	172·4	3
2	·4	..	..	..	..	5	1·0	1	·2	1	·2	..	4	5	9	214·2	4
6	·4	..	..	..	..	19	1·3	7	·5	26	1·8	3	16	27	43	135·2	5
10	·4	1	·04	2	·1	12	·4	8	·3	11	·4	4	25	21	46	138·5	6
1	·1	2	·2	..	..	2	·2	3	·3	3	·3	..	1	4	5	119·0	7
14	·5	21	·8	2	·1	17	·7	5	·2	20	·8	10	25	17	42	114·7	8
18	·9	34	1·7	..	..	17	·9	7	·4	20	1·0	6	38	28	66	178·8	9
10	·9	14	1·3	..	..	20	1·9	5	·5	17	1·6	1	30	23	53	179·0	10
16	·5	13	·4	..	..	49	1·7	9	·3	21	·7	..	18	20	38	77·7	11
1	·1	33	3·1	..	..	23	2·1	1	·1	9	·8	..	15	19	34	167·6	12
..	..	18	2·7	..	..	8	1·2	5	·8	13	2·0	..	7	7	14	158·6	13
4	·6	26	4·0	..	..	40	6·2	3	·5	19	2·9	4	16	13	29	193·3	14
6	·9	28	4·2	2	·3	31	4·6	1	·1	22	3·3	3	10	15	25	160·2	15
..	..	20	5·3	..	..	34	9·0	..	..	3	·8	..	7	..	7	93·3	16
10	1·2	5	·6	..	..	3	·4	3	·4	2	·2	1	12	11	23	146·5	17
55	1·8	98	3·3	2	·1	91	3·0	15	·5	10	·3	26	113	78	191	267·1	18
11	1·7	15	2·3	..	..	24	3·8	4	·6	1	·1	1	8	21	29	298·9	19
3	·4	8	1·0	..	..	21	2·7	3	·4	2	·2	4	15	12	27	201·5	20
86	2·6	73	2·2	..	..	37	1·1	24	·7	31	·9	6	44	25	69	113·3	21
26	1·1	50	2·1	1	·04	9	·4	6	·2	23	1·0	6	37	26	63	235·0	22
31	3·6	13	1·5	1	·1	15	1·7	4	·5	8	·9	..	6	8	14	89·7	23
5	·7	12	1·7	..	..	6	·9	3	·4	10	1·5	2	9	15	24	216·2	24
30	1·8	86	5·2	..	..	8	·5	21	1·3	2	·1	..	42	38	80	211·6	25
21	·9	27	1·2	2	·1	9	·4	1	·04	28	1·3	..	24	39	63	186·4	26
15	·6	19	·8	10	·4	9	·4	3	·1	12	·5	4	26	17	43	122·8	27

* 14 days of labour.

Supplementary Annual Form No. VI (A.) Deaths registered from DIFFERENT

1	2	3		4		5		6		7		8	
		Malaria.		Enteric fever.		Measles.		Relapsing Fever.		Kala-azar.		Other Fevers.	
Number.	Districts and towns.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
	TOWNS—*continued.*												
	HOWRAH DISTRICT.												
28	Howrah	300	1·5	132	·7	..	..	..	..	82	·4	733	3·7
29	Bally	14	·6	3	·1	1	·04	..	..	5	·2	116	5·0
	24-PARGANAS DISTRICT.												
30	South Suburban ..	53	1·6	7	·2	..	..	..	..	14	·4	155	4·6
31	Tollyganj	13	·5	..	..	1	·04	..	..	..	..	133	6·1
32	Budge-Budge	17	·5	17	·5	2	·1	..	..	2	·1	139	5·4
33	Baranagar	16	·7	..	..	2	·1	..	..	21	·6	75	2·3
34	Kamarhati	15	1·3	2	·2	..	..	..	..	9	·4	103	4·5
35	Rajpur	30	5·9	..	..	2	·2	1	·1	11	1·0	49	4·3
36	Barasipur	12	1·4	4	·5	..	..	..	..	3	·6	13	2·5
37	Jaynagar	3	·4	..	..	..	..	1	·1	13	1·5	50	5·9
38	North Dum-Dum ..	28	2·0	3	·2	..	..	..	..	1	·1	22	2·7
39	South Dum-Dum. ..	..	..	..	..	..	..	..	..	1	·1	22	1·6
40	Khardah	25	1·1	2	·1	..	..	..	..	..	..	29	5·3
41	Barrackpur	14	1·4	1	·1	..	..	1	·1	1	·04	23	1·0
42	Panihati	23	1·5	3	·2	..	..	..	..	8	·8	23	2·3
43	North Barrackpur ..	..	..	..	..	..	..	..	..	11	·7	31	2·0
44	Titagarh ..	85	6·5	..	..	..	..	..	..	..	..	672	12·8
45	Garulia	5	·2	..	..	..	..	..	..	..	..	..	..
46	Naihati	28	3·8	2	·3	..	..	..	..	2	·1	48	2·1
47	Halisahar ..	48	4·6	2	·2	..	..	1	·1	1	·1	6	·8
48	Kanchrapara	65	1·0	34	·5	4	·1	12	1·2	1	·1	14	1·3
49	Bhatpara	36	4·4	..	..	..	..	..	..	4	·1	426	6·5
50	Barasat	23	4·5	..	..	..	..	..	..	..	..	13	1·6
51	Gobardanga	12	·6	10	·5	1	·05	..	..	2	·4	6	1·2
52	Basirhat	54	3·8	..	..	..	..	..	.	21	1·1	55	2·8
53	Baduria	22	4·2	..	..	..	.	..	..	4	·3	38	2·7
54	Taki									2	·4	52	10·0
	CITY OF CALCUTTA												
55	Calcutta	1,460	1·3	857	·8	136	·1	..	..	582	·5	1,848	1·7
	NADIA DISTRICT.												
56	Krishnagar	94	4·2	4	·2	..	..	..	..	6	·3	49	2·2
57	Nabadwip	55	3·5	..	..	..	..	1	·1	..	..	66	4·2
58	Ranaghat	64	6·6	..	..	..	..	..	..	..	..	..	..
59	Birnagar	13	5·6	..	..	..	..	..	..	1	·4	..	..
60	Santipur	331	13·3	17	·7	1	·04	..	..	4	·2	80	3·2
61	Chakdaha	74	14·2	..	..	..	..	..	..	..	..	..	..
62	Kushtia	5	·6	..	..	..	..	1	·1	3	·4	28	3·6
63	Kumarkhali ..	50	13·3	..	..	..	..	..	..	..	..	2	·5
64	Meherpur	20	3·7	1	·2	..	..	..	..	2	·4	16	3·0
	MURSHIDABAD DISTRICT.												
65	Berhampur	86	3·2	15	·6	1	·04	..	..	16	·6	144	5·4
66	Murshidabad	1	·1	..	..	..	..	..	..	2	·2	170	15·9
67	Jiaganj-Azimganj ..	106	9·4	..	..	..	..	..	..	2	·2	..	..
68	Kandi	6	·5	..	..	..	..	..	..	1	·1	130	11·0
69	Jangipur	1	·1	..	..	..	..	..	..	..	..	108	10·0
70	Dhulian	100	11·8	..	..	..	..	..	..	..	..	..	..
	JESSORE DISTRICT.												
71	Jessore	133	13·1	..	..	..	..	..	..	12	1·2	..	..
72	Kotchandpur	126	16·7	..	..	..	..	..	..	..	..	..	..
73	Maheshpur	47	13·0	..	..	..	..	..	..	1	·3	6	1·7
	KHULNA DISTRICT.												
74	Khulna	110	6·8	2	·1	..	..	..	..	7	·4	39	2·4
75	Satkhira	70	6·8	..	..	..	..	..	..	15	1·4	17	1·6
76	Debhatta	14	2·5	..	..	..	..	..	..	4	·7	3	·5
	RAJSHAHI DISTRICT.												
77	Rajshahi	43	1·7	5	·2	3	·1	6	·2	26	1·1	78	3·2
78	Nator	47	5·8	..	..	..	..	..	..	2	·2	19	2·4
	DINAJPUR DISTRICT.												
79	Dinajpur	2	·1	..	..	1	·05	..	..	6	·3	71	3·9
	JALPAIGURI DISTRICT.												
80	Jalpaiguri	64	4·4	..	..	..	..	..	..	4	·3	..	..

* Deaths during or within

CAUSES in the districts and towns of the Bengal Presidency during the year 1927.

9 Dysentery.		10 Diarrhœa.		11 Influenza.		12 Pneumonia.		13 Phthisis.		14 Other respiratory diseases.		15 Deaths from child-birth.*	16 Deaths under one year.			17 Infant mortality rate.	18 Number.
Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.	Total.		
796	4·1	473	2·4	..	..	892	4·6	193	1·0	756	3·9	46	708	598	1,306	343·8	28
29	1·2	33	1·4	2	·1	31	1·3	9	·4	13	·6	..	33	21	54	170·9	29
40	1·2	65	1·9	2	·1	54	1·6	16	·5	41	1·2	4	74	72	146	202·5	30
42	1·9	13	·6	..	..	29	1·3	3	·1	12	·5	..	35	38	73	226·7	31
135	5·2	11	·4	..	..	12	·5	5	·2	16	·6	..	10	5	15	73·2	32
93	2·9	138	4·3	7	·2	44	1·4	23	·7	24	·7	10	67	69	136	227·0	33
82	3·6	48	2·1	9	·4	27	1·2	15	·6	23	1·0	..	23	28	51	141·7	34
22	1·9	7	·6	2	·2	27	2·4	3	·3	7	·6	5	22	17	39	175·7	35
..	..	1	·2	..	..	18	3·5	3	·6	1	·2	..	4	3	7	92·1	36
23	2·7	3	·3	..	..	4	·5	3	·3	9	1·1	..	5	8	13	203·1	37
20	2·4	29	3·5	..	..	17	2·1	3	·4	7	·8	..	15	10	25	265·9	38
42	3·0	4	·3	..	..	19	1·3	3	·2	15	1·1	..	20	24	44	172·5	39
20	3·6	..	..	..	..	..	..	..	..	9	1·6	..	2	3	5	63·3	40
14	·6	11	·5	1	·04	11	·5	3	·1	13	·6	4	15	3	18	138·4	41
17	1·7	26	2·5	..	..	23	3·2	7	·7	..	..	..	26	26	52	201·5	42
32	12·1	17	1·1	..	..	22	1·4	11	·7	12	·8	5	23	30	53	176·6	43
5	·1	34	·6	..	..	5	·1	1	·02	6	·1	..	74	64	138	191·4	44
17	1·3	..	..		..	..	..	..	..	9	·7	..	15	8	23	128·5	45
22	·9	9	·4	..	..	28	1·2	7	·3	11	·5	..	33	24	57	174·3	46
7	·9	10	1·4	1	·1	10	1·4	2	·3	1	·1	..	16	13	29	256·6	47
18	1·7	6	·6	3	·3	10	1·0	7	·7	5	·5	1	3	5	8	45·4	48
46	·7	69	1·0	9	·1	69	1·0	11	·2	39	·6	17	81	68	149	123·0	49
4	·5	..	..	..	..	3	·4	..	..	5	·6	1	9	6	15	147·0	50
5	1·0	..	..	..	..	11	2·1	..	..	..	..	1	2	..	2	76·9	51
27	1·4	17	·9	..	..	51	2·6	12	·6	3	·1	2	44	35	79	171·7	52
8	·6	1	·1	..	..	6	·4	..	..	1	·1	..	7	8	15	111·1	53
16	3·1	..	..	..	..	2	·4	1	·2	7	1·3	..	18	11	29	201·4	54
1,896	1·8	1,949	1·8	495	·4	4,161	3·9	2,725	2·5	3,084	2·9	104	3,013	2,674	5,687	339·7	55
11	·5	11	·5	1	·04	25	1·1	5	·2	2	·1	1	20	18	38	137·7	56
31	2·0	8	·5	1	·1	3	·2	4	·2	14	·9	..	34	21	55	214·8	57
18	1·9	3	·3	..	..	15	1·5	5	·5	..	..	1	17	10	27	150·0	58
4	1·7	..	..	..	..	3	1·3	..	..	..	..	3	12	8	20	298·5	59
32	1·3	46	1·8	..	..	52	2·1	13	·5	22	·9	10	56	52	108	212·6	60
..	..	5	1·0	3	·6	9	1·7	..	..	..	..	..	3	8	11	137·5	61
11	1·4	4	·5	..	..	11	1·4	..	..	4	·5	..	6	7	13	128·7	62
4	1·1	7	1·9	1	·3	19	5·0	1	·3	1	·3	..	6	6	12	226·4	63
4	·7	7	1·3	..	..	13	2·4	1	·2	4	·7	..	7	8	15	180·7	64
31	1·2	9	·3	1	·04	53	2·0	26	1·0	9	·3	7	53	29	82	170·5	65
13	1·2	3	·3	..	..	13	1·2	7	·6	..	..	..	13	24	37	160·9	66
12	1·1	8	·7	..	..	10	·9	4	·3	3	·3	9	23	13	36	153·8	67
11	·9	4	·3	..	..	5	·4	1	·1	13	1·1	1	23	19	42	159·1	68
8	·7	1	·1	..	..	4	·4	..	..	..	..	4	11	7	18	59·4	69
6	·7	1	·1	..	..	6	·7	5	·6	..	..	..	11	16	27	105·9	70
29	2·0	6	·6	..	..	12	1·2	3	·3	3	·3	..	4	2	6	48·0	71
18	2·4	12	1·6	1	·1	..	..	1	·1	3	·4	..	7	8	15	176·4	72
1	·3	5	1·4	2	·5	6	1·7	..	..	3	·8	..	6	2	8	163·2	73
23	1·4	20	1·2	..	..	22	1·4	6	·4	6	·4	..	9	6	15	113·6	74
16	1·5	4	·4	..	..	35	3·4	4	·4	6	·6	4	22	25	47	271·6	75
6	1·1	..	..	..	..	4	·7	..	..	3	·5	1	2	1	3	93·7	76
19	·8	6	·2	1	·04	23	·9	14	·6	3	·1	6	45	34	79	138·6	77
2	·2	..	..	..	..	8	1·0	7	·9	4	·5	..	19	6	25	198·4	78
19	1·0	4	·2	6	·3	26	1·4	6	·3	5	·3	..	9	12	21	119·3	79
23	1·6	4	·3	..	..	21	1·4	14	1·0	31	2·1	..	6	8	14	76·5	80

14 days of labour.

Supplementary Annual Form No. VI(A).—Deaths registered from DIFFERENT

1	2	3		4		5		6		7		8	
		Malaria.		Enteric fever.		Measles.		Relapsing Fever.		Kala-azar.		Other Fevers.	
Number.	Districts and towns.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
	TOWNS—*concld.*												
	DARJEELING DISTRICT.												
81	Darjeeling	7	·3	..	..	..	..	..	..	4	·2	59	2·6
82	Kurseong	6	·9	1	·1	..	..	..	..	5	·8	103	16·0
	RANGPUR DISTRICT.												
83	Rangpur	23	1·2	..	..	..	..	1	·05	13	·7	51	2·7
84	Gaibandha	5	·8	..	..		..	..	..	1	·2	6	1·0
	BOGRA DISTRICT.												
85	Bogra	9	·7	2	·2	..	..	1	·1	4	·3	33	2·7
86	Sherpur	19	4·8	..	..	..	..	..	..	3	·7	4	1·0
	PABNA DISTRICT.												
87	Pabna	100	5·2	5	·3	..	..	..	..	6	·3	..	..
88	Sirajganj	166	6·5	..	..	..	..	..	..	5	·2	..	..
	MALDA DISTRICT.												
89	English Bazar	28	2·0	..	..	1	·1	..	..	3	·2	37	2·6
90	Old Malda	49	15·6	..	..	..	..	..	..	..	..	..	..
91	Nawabganj	68	5·4	..	..	..	..	1	·1	2	·2	53	4·2
	DACCA DISTRICT.												
92	Dacca	14	·1	50	·4	10	·1	..	..	151	1·3	376	3·1
93	Narayanganj	1	·03	2	·1	3	·1	..	..	4	·1	242	7·9
	MYMENSINGH DISTRICT.												
94	Mymensingh	..	..	..	..	..	..	..	..	2	·1	214	8·5
95	Muktagacha	1	·1	..	..	..	..	..	..	..	..	24	3·5
96	Netrakona	62	7·1	..	..	..	..	1	·1	..	..	13	1·5
97	Jamalpur	7	·3	14	·6	..	..	1	·04	61	2·6	56	2·4
98	Sherpur	4	·2	2	·1	4	·2	..	..	5	·3	76	4·3
99	Kishorganj	..	..	1	·05	1	·05	..	..	9	·5	54	2·8
100	Bajitpur	..	..	..	..	..	..	..	..	1	·1	33	2·8
101	Tangail	4	·3	..	..	..	..	..	..	9	·6	60	4·2
	FARIDPUR DISTRICT.												
102	Faridpur	78	5·4	2	·1	1	·1	..	..	8	·5	40	2·8
103	Madaripur	72	2·8	4	·2	2	·1	..	..	22	·9	55	2·2
104	Rajbari	48	6·6	..	..	1	·1	..	..	3	·4	41	5·6
	BAKARGANJ DISTRICT.												
105	Barisal	2	·1	..	..	..	..	..	..	6	·2	211	7·9
106	Jhalakati	..	..	..	..	..	..	..	..	2	·3	15	2·5
107	Nalchiti	1	·5	..	..	..	..	..	..	1	·5	5	2·7
108	Pirojpur	..	..	..	..	2	·1	..	..	2	·1	61	4·4
109	Patuakhali	..	..	..	..	..	..	..	..	2	·3	24	3·4
110	Bhola	..	..	..	..	..	..	..	..	..	..	6	1·3
	CHITTAGONG DISTRICT.												
111	Chittagong	3	·1	19	·5	5	·1	59	1·6	3	·1	128	3·5
112	Cox's Bazar	..	..	..	..	..	..	..	..	..	..	49	10·6
	NOAKHALI DISTRICT.												
113	Noakhali	6	·8	..	..	..	..	..	..	..	..	9	1·2
	TIPPERA DISTRICT.												
114	Comilla	4	·4	..	..	3	·1	..	..	6	·2	21	·8
115	Brahmanbaria	..	..	..	..	..	..	..	..	14	·6	129	5·5
116	Chandpur	5	·3	..	..	..	..	..	..	8	·5	25	1·6
	Total of Towns ..	5,513	1·8	1,293	·4	219	·1	106	·03	1,385	·4	9,651	3·1
	Total for the Bengal Presidency ..	429,143	9·2	5,077	·1	1,425	·03	2,894	·1	11,855	·2	338,612	7·3

* Deaths during or within

CAUSES in the districts and towns of the Bengal Presidency during the year 1927.

9 Dysentery.		10 Diarrhœa.		11 Influenza.		12 Pneumonia.		13 Phthisis.		14 Other respiratory diseases.		15 Deaths from child-birth.*	16 Deaths under one year.			17 Infant mortality rate.	18 Number.
Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.	Total.		
5	·2	13	·6	5	·2	27	1·2	74	3·3	16	·7	..	26	25	51	89·0	81
8	1·2	2	·3	..	..	22	3·4	23	3·6	1	·1	..	19	20	39	14·9	82
35	1·8	2	·1	2	·1	16	·8	6	·3	2	·1	3	13	11	24	107·1	83
6	1·0	3	·5	..	..	1	·2	3	·5	1	·2	1	1	..	1	16·9	84
3	·2	..	..	..	..	7	·6	3	·2	2	·2	1	3	7	10	121·9	85
5	1·2	7	1·8	..	..	7	1·7	1	·2	2	·5	1	6	5	11	159·4	86
18	·9	1	·05	..	..	5	·3	6	·3	15	·8	..	23	12	35	132·6	87
8	·3	9	·3	1	·04	4	·2	2	·1	9	·3	..	42	33	75	195·3	88
11	·8	5	·3	1	·1	15	1·1	7	·5	3	·2	..	20	10	30	99·7	89
5	1·6	..	..	3	·9	18	5·7	..	..	4	1·3	..	9	10	19	263·9	90
8	·6	21	1·7	..	..	4	·3	2	·2	7	·5	2	31	17	48	112·1	91
261	2·2	79	·7	23	·2	254	2·1	86	·7	239	2·0	49	419	352	771	220·8	92
46	1·5	26	·8	1	·03	19	·6	23	·7	10	·3	9	129	83	212	208·0	93
39	1·2	29	1·1	..	..	12	·5	2	·1	4	·2	3	46	31	77	210·4	94
3	·4	..	..	..	..	1	·1	1	·1	3	·4	9	5	11	16	150·9	95
21	2·4	14	1·6	1	·1	1	·1	3	·3	1	·1	3	30	20	50	271·7	96
19	·8	14	·6	..	..	18	·8	6	·3	17	·7	12	36	27	63	104·1	97
31	1·7	30	1·7	..	..	5	·3	6	·3	7	·4	..	25	32	57	115·4	98
33	1·7	56	2·9	..	..	..	..	1	·05	32	1·6	..	27	28	55	198·5	99
12	1·0	11	·9	..	..	..	..	7	·6	..	..	2	5	4	9	72·0	100
8	·6	2	·1	1	·1	12	·8	6	·4	10	·7	..	17	16	33	93·7	101
15	1·0	6	·4	..	..	22	1·5	2	·1	3	·2	5	17	10	27	137·7	102
22	·9	6	·2	..	..	6	·2	5	·2	5	·2	..	49	40	89	162·1	103
5	·7	7	1·0	3	·4	8	1·1	5	·7	2	·3	7	20	13	33	178·3	104
80	3·0	4	·1	..	..	..	..	5	·2	12	·4	..	47	50	97	319·1	105
12	2·0	1	·2	..	..	4	·7	2	·3	4	·7	..	6	3	9	257·1	106
8	4·3	2	1·1	..	..	2	1·1	..	..	1	·5	..	1	3	4	173·9	107
4	·3	2	·1	..	..	5	·4	1	·1	..	..	1	29	16	45	184·4	108
3	·4	..	..	..	..	1	·1	..	..	2	·3	1	8	6	14	177·1	109
2	·4	1	·2	..	..	1	·2	1	·2	1	·2	..	..	1	1	50·0	110
61	1·7	5	·1	1	·03	24	·7	9	·2	6	·2	2	86	85	171	210·8	111
2	·4	..	..	..	..	3	·6	3	·6	..	..	..	4	6	10	151·5	112
..	..	1	·1	..	..	..	..	..	..	2	·3	..	2	3	5	108·7	113
15	·6	5	·2	1	·04	3	·1	2	·1	3	·1	..	7	8	15	78·1	114
34	1·4	24	1·0	..	..	9	·4	9	·4	32	1·4	..	60	37	97	157·2	115
8	·5	5	·3	..	..	2	·1	..	..	2	·1	..	8	17	25	147·9	116
5,132	1·6	4,240	1·4	624	·2	7,139	2·3	3,698	1·2	5,094	1·6	447	6,681	5,805	12,486	234·2	
17,081	·4	12,277	·3	1,836	·04	13,718	·3	7,689	·2	9,668	·2	4,397	121,963	107,115	229,078	178·0	

14 days of labour.

Annual Form No. VII.—Deaths registered from CHOLERA in the

1	2	3		4		5					
		Circles of Registration.		Villages.							
Number.	Districts.	Number in each district.	Number from which deaths from cholera were reported.	Number in each district.	Number from which deaths from cholera were reported.	January.	February	March.	April.	May.	June.
	Burdwan Division.										
1	Burdwan	29	29	2,817	543	149	99	174	293	227	71
2	Birbhum	10	10	2,302	76	9	5	13	17	10	55
3	Bankura	22	22	4,003	144	16	33	78	85	82	18
4	Midnapur	33	32	10,351	888	373	550	736	350	333	239
5	Hooghly	26	26	2,197	285	118	98	61	105	169	44
6	Howrah	13	13	863	259	589	547	373	409	229	118
	Presidency Division.										
7	24-Parganas ..	62	61	3,427	1,397	1,785	1,393	1,469	936	456	250
8	Calcutta	1	1	1	1	224	138	226	481	267	129
9	Nadia	30	30	2,353	517	356	173	303	333	199	54
10	Murshidabad ..	26	26	1,974	490	66	27	64	104	47	88
11	Jessore	27	27	3,613	809	869	175	116	115	160	68
12	Khulna	25	25	2,011	912	622	202	129	173	236	131
	Rajshahi Division.										
13	Rajshahi	26	25	4,487	836	408	170	82	57	62	19
14	Dinajpur	31	26	6,612	413	36	30	39	30	25	35
15	Jalpaiguri	18	12	722	40	..	1	..	8	6	6
16	Darjeeling	6	1	304	1	..	..	..	1	1	..
17	Rangpur	32	30	4,102	396	361	90	41	51	126	83
18	Bogra	14	14	2,780	400	184	119	20	19	11	4
19	Pabna	19	19	2,539	597	136	63	73	327	413	48
20	Malda	18	18	2,239	337	12	..	50	210	182	228
	Dacca Division.										
21	Dacca	14	14	4,737	1,142	1,603	587	530	771	511	97
22	Mymensingh ..	59	59	7,354	2,215	1,334	960	577	544	893	145
23	Faridpur	17	17	3,363	2,406	785	411	293	289	194	72
24	Bakarganj	22	21	2,990	1,242	1,159	477	1,283	523	397	169
	Chittagong Division.										
25	Chittagong ..	22	20	870	261	340	237	205	108	273	348
26	Noakhali	14	14	1,719	698	652	160	271	257	299	219
27	Tippera	15	15	4,018	1,416	1,217	845	904	686	461	140
	Total for the Bengal Presidency ..	631	607	84,748	18,721	13,403	7,590	8,110	7,282	6,269	2,878

districts of the Bengal Presidency during each month of the year 1927.

July.	August.	September.	October.	November.	December.	6 Total. Male.	Female.	Total.	7 Ratio of deaths per 1,000 of population. Male.	Female.	Total.	8 Mean ratio per 1,000 during previous five years.	9 Number.
54	37	41	25	90	277	768	769	1,537	1·0	1·1	1·1	·6	1
81	288	20	18	33	127	349	327	676	·8	·8	·8	·5	2
14	70	38	3	15	25	221	256	477	·4	·5	·5	·4	3
152	174	118	106	73	181	1,733	1,652	3,385	1·3	1·2	1·3	1·0	4
74	45	48	105	183	279	682	647	1,329	1·2	1·2	1·2	·6	5
70	81	143	289	412	428	1,832	1,856	3,688	3·4	4·0	3·7	1·5	6
108	124	139	201	760	2,374	5,278	4,717	9,995	4·0	4·1	4·1	1·8	7
57	47	47	77	258	220	1,488	683	2,171	2·0	1·9	2·0	1·1	8
24	28	19	254	679	954	1,759	1,617	3,376	2·3	2·2	2·3	·7	9
68	425	368	1,179	914	494	1,991	1,853	3,844	3·2	2·9	3·0	·7	10
42	19	33	240	1,394	1,977	2,723	2,485	5,208	3·0	3·0	3·0	1·7	11
70	244	242	700	2,332	1,927	3,928	3,080	7,008	5·2	4·4	4·8	1·1	12
8	17	63	427	1,158	1,709	2,106	2,074	4,180	2·7	2·9	2·8	1·1	13
135	94	95	166	609	678	1,053	919	1,972	1·2	1·1	1·1	·3	14
34	27	22	4	2	14	77	47	124	·1	·1	·1	·7	15
..	..	1	..	..	..	2	1	3	·01	·01	·01	·00002	16
45	80	32	70	927	918	1,405	1,419	2,824	1·1	1·2	1·1	·8	17
6	58	29	205	441	282	738	640	1,378	1·4	1·2	1·3	·6	18
4	15	337	1,192	666	303	1,773	1,804	3,577	2·5	2·6	2·6	·9	19
457	341	187	387	1,842	1,240	2,712	2,424	5,136	5·5	4·9	5·2	·7	20
35	39	156	1,097	1,233	1,418	4,218	3,859	8,077	2·7	2·5	2·6	1·4	21
88	53	533	3,223	4,841	3,367	8,280	8,278	16,558	3·3	3·5	3·4	1·1	22
44	46	208	1,638	2,303	2,435	4,376	4,342	8,718	3·8	3·9	3·9	1·1	23
70	124	152	143	912	2,398	4,437	3,370	7,807	3·3	2·6	3·0	1·0	24
365	273	101	65	100	242	1,248	1,409	2,657	1·6	1·7	1·6	·4	25
387	282	171	927	1,238	1,279	3,035	3,107	6,142	4·1	4·2	4·2	1·1	26
28	63	110	412	805	859	3,516	3,014	6,530	2·5	2·2	2·4	1·4	27
2,520	3,094	3,453	13,153	24,220	26,405	61,728	56,649	1,18,377	2·6	2·5	2·5	1·0	

Annual Form No. VIII.—Deaths registered from SMALL-POX in the

1	2	3		4		5						
Number.	Districts.	Circles of Registration.		Villages.								
		Number in each district.	Number from which deaths from small-pox were reported.	Number in each district.	Number from which deaths from small-pox were reported.	January.	February	March.	April.	May.	June.	July.
	Burdwan Division.											
1	Burdwan ..	29	28	2,817	464	147	113	145	197	219	112	71
2	Birbhum ..	10	10	2,302	476	119	160	248	263	302	186	121
3	Bankura ..	22	18	4,003	120	33	20	41	34	46	62	21
4	Midnapur ..	33	32	10,351	1,474	281	406	836	975	914	480	326
5	Hooghly ..	26	24	2,197	208	84	86	73	177	232	57	157
6	Howrah ..	13	13	863	104	175	216	374	535	333	216	120
	Presidency Division.											
7	24-Parganas ..	62	55	3,427	479	282	356	613	603	335	240	151
8	Calcutta ..	1	1	1	1	379	464	1,008	600	189	105	42
9	Nadia ..	30	27	2,353	278	15	26	51	62	53	66	42
10	Murshidabad ..	26	26	1,974	563	278	236	487	714	844	437	192
11	Jessore ..	27	21	3,613	159	28	30	40	128	82	29	13
12	Khulna ..	25	25	2,011	57	29	21	25	54	19	9	3
	Rajshahi Division.											
13	Rajshahi ..	26	23	4,487	199	18	5	20	39	89	56	39
14	Dinajpur ..	31	31	6,612	354	32	57	85	123	257	241	145
15	Jalpaiguri ..	18	11	722	29	..	..	4	4	14	6	8
16	Darjeeling ..	6	3	304	11	2	1	3	4	6	..	1
17	Rangpur ..	32	32	4,102	411	108	105	223	314	697	379	277
18	Bogra ..	14	14	2,780	449	49	133	276	435	461	689	231
19	Pabna ..	19	19	2,539	619	264	418	886	1,091	1,069	499	217
20	Malda ..	18	15	2,239	98	31	18	39	81	93	71	56
	Dacca Division.											
21	Dacca ..	14	14	4,737	484	49	99	151	311	402	346	215
22	Mymensingh ..	59	57	7,354	764	224	205	301	337	452	331	232
23	Faridpur ..	17	17	3,363	266	33	121	90	152	126	83	46
24	Bakarganj ..	22	19	2,990	110	18	23	36	43	17	13	32
	Chittagong Division.											
25	Chittagong ..	22	20	870	171	64	88	59	41	71	47	24
26	Noakhali ..	14	14	1,719	221	57	55	130	221	135	129	81
27	Tippera ..	15	15	4,018	195	64	261	154	174	217	77	61
	Total for the Bengal Presidency ..	631	584	84,748	8,764	2,863	3,723	6,398	7,712	7,674	4,966	2,924

districts of the Bengal Presidency during each month of the year 1927.

					6 Total.			7 Number of those deaths among children.		8 Ratio of deaths per 1,000 of population.			9	10
August.	September.	October.	November.	December.	Male.	Female.	Total.	Under one year.	One year and under ten years.	Male.	Female	Total.	Mean ratio per 1,000 during previous five years.	Number.
68	39	24	24	54	630	583	1,213	97	194	·9	·8	·8	·5	1
39	11	7	5	15	717	759	1,476	116	371	1·7	1·8	1·7	·3	2
16	4	5	3	3	145	143	288	29	72	·3	·3	·3	·2	3
213	152	68	90	133	2,535	2,339	4,874	346	982	1·9	1·8	1·8	·4	4
75	30	21	3	27	540	482	1,022	..	..	1·0	·9	·9	·4	5
69	40	17	31	20	1,082	1,064	2,146	102	372	2·0	2·3	2·1	·5	6
151	86	58	67	102	1,598	1,446	3,044	272	875	1·2	1·3	1·2	·5	7
25	14	2	6	26	1,514	1,346	2,860	379	970	2·1	3·8	2·6	1·1	8
10	22	4	6	62	215	204	419	..	..	·3	·3	·3	·1	9
95	20	19	28	92	1,646	1,796	3,442	380	786	2·6	2·8	2·7	·5	10
21	16	12	6	9	225	189	414	..	..	·2	·2	·2	·1	11
2	3	..	1	6	111	61	172	2	15	·1	·1	·1	·03	12
15	9	3	2	1	145	151	296	..	..	·2	·2	·2	·04	13
141	61	50	68	68	691	637	1,328	..	11	·8	·8	·8	·1	14
1	1	3	..	5	26	20	46	..	..	·05	·04	·05	·5	15
2	2	..	..	..	15	6	21	..	..	·1	·04	·1	·00002	16
227	111	61	85	57	1,383	1,261	2,644	249	665	1·0	1·1	1·0	·2	17
159	93	47	25	26	1,330	1,294	2,624	74	315	2·5	2·5	2·5	·4	18
138	105	64	21	24	2,501	2,295	4,796	650	1,775	3·5	3·4	3·4	·5	19
65	31	21	36	109	343	308	651	42	99	·7	·6	·7	·2	20
181	93	66	99	84	1,150	946	2,096	..	..	·7	·6	·7	·2	21
202	103	145	148	160	1,493	1,347	2,840	70	201	·6	·6	·6	·2	22
13	36	26	23	69	447	371	818	..	..	·4	·3	·4	·04	23
16	11	12	16	17	139	115	254	..	..	·1	·1	·1	·02	24
89	7	16	29	52	291	296	587	66	142	·4	·3	·4	·4	25
37	12	7	4	45	455	458	913	48	127	·6	·6	·6	·1	26
58	45	27	35	57	646	584	1,230	10	48	·5	·4	·4	·1	27
2,128	1,157	785	861	1,323	22,013	20,501	42,514	2,932	8,020	·9	·9	·9	·3	

Annual Form No. IX.—Deaths registered from FEVERS in the

1	2	3		4		5					
Number.	Districts.	Circles of Registration.		Villages.							
		Number in each district.	Number from which deaths from fevers were reported.	Number in each district.	Number which deaths from fevers were reported.	January.	February.	March.	April.	May.	June.
	Burdwan Division.										
1	Burdwan	29	29	2,817	2,800	2,527	1,942	2,409	1,752	2,266	1,699
2	Birbhum	10	10	2,302	2,000	1,733	1,298	1,497	1,343	1,601	1,195
3	Bankura	22	22	4,003	4,000	1,576	1,278	1,371	1,512	1,645	1,267
4	Midnapur	33	33	10,351	10,350	4,156	3,635	3,891	3,458	3,682	2,754
5	Hooghly	26	26	2,197	2,190	2,156	1,595	1,278	1,268	1,793	653
6	Howrah	13	13	863	237	1,243	1,043	983	825	738	574
	Presidency Division.										
7	24-Parganas ..	62	62	3,427	3,127	3,593	3,145	2,794	2,407	2,022	1,820
8	Calcutta	1	1	1	1	460	406	394	434	365	325
9	Nadia	30	30	2,353	2,050	3,813	2,404	2,249	2,758	2,070	1,530
10	Murshidabad ..	26	26	1,974	1,870	2,555	1,903	2,447	2,160	2,465	1,677
11	Jessore	27	27	3,613	3,402	4,147	2,529	2,901	2,540	2,110	1,741
12	Khulna	25	25	2,011	2,007	3,080	1,994	1,825	1,461	1,531	1,211
	Rajshahi Division.										
13	Rajshahi	26	26	4,487	4,480	3,761	2,700	2,977	2,619	2,808	2,001
14	Dinajpur	31	31	6,612	6,502	4,535	3,825	4,394	3,259	4,167	2,937
15	Jalpaiguri	18	18	722	620	1,921	1,484	1,818	1,122	2,129	1,648
16	Darjeeling	6	6	304	203	459	387	406	349	575	420
17	Rangpur	32	32	4,102	4,036	6,114	3,373	4,964	4,274	4,768	3,387
18	Bogra	14	14	2,780	2,370	1,325	1,215	1,253	1,443	1,157	1,211
19	Pabna	19	19	2,539	2,430	2,365	1,654	2,025	1,789	2,320	1,429
20	Malda	18	18	2,239	1,440	1,701	1,185	1,498	1,489	1,723	1,277
	Dacca Division.										
21	Dacca	14	14	4,737	4,207	4,506	2,799	2,907	2,366	2,744	1,873
22	Mymensingh ..	59	59	7,354	7,214	7,243	4,893	5,447	4,067	5,528	3,899
23	Faridpur	17	17	3,363	3,363	3,990	2,521	2,761	2,207	2,771	1,951
24	Bakarganj	22	22	2,990	2,929	5,235	3,814	4,221	3,352	3,618	3,099
	Chittagong Division.										
25	Chittagong ..	22	22	870	830	4,106	2,964	2,486	1,936	3,253	2803
26	Noakhali	14	14	1,719	1,637	2,345	1,760	2,192	1,473	2,366	1,830
27	Tippera	15	15	4,018	3,403	2,645	2,495	2,490	2,286	2,189	1,740
	Total for the Bengal Presidency ..	631	631	84,748	79,698	83,290	60,241	65,878	55,949	64,404	47,951

districts of the Bengal Presidency during each month of the year 1927.

July.	August.	September.	October.	November.	December.	6 Total. Male.	Female.	Total.	7 Ratio of deaths per 1,000 of population. Male.	Female.	Total.	8 Mean ratio per 1,000 during previous five years.	9 Number.
1,557	1,916	1,883	2,401	2,939	3,197	12,981	13,507	26,488	17·7	19·1	18·4	18·9	1
1,158	1,533	1,319	1,504	2,123	2,149	9,164	9,289	18,453	21·7	21·9	21·8	21·3	2
1,125	1,387	1,276	1,600	1,360	1,693	8,318	8,772	17,090	16·3	17·2	16·7	16·3	3
2,502	3,188	3,396	3,393	4,087	3,742	20,811	21,073	41,884	15·5	15·9	15·7	16·8	4
1,313	1,092	1,262	1,224	1,726	1,724	8,620	8,464	17,084	15·3	16·3	15·8	17·5	5
658	678	694	944	1,100	929	5,325	5,084	10,409	9·9	11·0	10·4	11·4	6
1,884	2,401	2,574	2,817	3,008	3,863	16,757	15,571	32,328	12·6	13·7	13·1	15·9	7
319	376	384	440	492	488	2,577	2,306	4,883	3·5	6·5	4·5	4·3	8
1,723	1,567	1,980	2,682	3,450	4,209	15,519	14,916	30,435	20·4	20·5	20·4	24·0	9
1,614	2,302	2,317	2,761	3,270	2,944	14,405	14,010	28,415	22·9	22·1	22·5	22·4	10
1,609	2,316	2,653	4,039	5,950	7,668	20,730	19,473	40,203	23·2	23·5	23·3	22·9	11
1,138	1,863	1,825	2,337	2,886	2,760	12,259	11,652	23,911	16·2	16·7	16·4	16·5	12
1,703	2,533	2,628	3,854	4,273	4,419	18,798	17,478	36,276	24·5	24·2	24·3	29·9	13
2,640	4,179	3,696	4,471	6,464	6,322	26,509	24,380	50,889	29·6	30·1	29·8	29·7	14
1,622	1,968	1,738	1,928	2,307	2,054	11,380	10,359	21,739	22·6	23·9	23·2	23·4	15
462	456	478	431	395	439	2,744	2,513	5,257	18·4	18·8	18·6	23·1	16
3,893	4,899	3,978	4,981	6,396	5,634	29,938	26,723	56,661	22·7	22·4	22·6	25·1	17
813	1,106	1,119	1,255	1,741	1,152	7,644	7,146	14,790	14·2	14·0	14·1	21·0	18
1,203	1,414	1,395	2,263	2,667	3,295	12,229	11,590	23,819	17·3	17·0	17·1	22·3	19
1,400	1,544	1,454	1,707	2,424	2,393	10,518	9,277	19,795	21·3	18·8	20·1	21·5	20
1,571	2,171	2,037	3,213	4,375	4,406	18,050	16,918	34,968	11·5	10·9	11·2	14·7	21
3,804	4,294	3,936	5,956	7,307	6,735	32,633	30,476	63,109	13·0	13·1	13·0	16·7	22
1,634	1,824	3,031	5,162	5,790	6,451	20,586	19,507	40,093	17·9	17·7	17·8	18·0	23
2,598	3,043	2,578	3,173	4,741	4,927	22,925	21,474	44,399	17·1	16·8	17·0	16·8	24
2,802	2,893	2,121	2,477	2,551	3,041	17,176	16,257	33,433	22·1	19·5	20·7	21·2	25
1,697	1,847	1,611	2,214	2,661	2,611	12,145	12,462	24,607	16·4	17·0	16·7	19·8	26
1,664	1,871	2,006	2,565	2,617	3,020	14,374	13,214	27,588	10·2	9·9	10·0	12·1	27
46,106	56,661	55,369	71,792	89,100	92,265	405,115	383,891	789,006	16·8	17·1	17·0	18·9	

Annual Form No. X.—Deaths registered from DYSENTERY and DIARRHŒA in the

1	2	3		4		5					
Number.	Districts.	Circles of Registration.		Villages.							
		Number in each district.	Number from which deaths from dysentery and diarrhœa were reported.	Number in each district.	Number from which deaths from dysentery and diarrhœa were reported.	January.	February.	March.	April.	May.	June.
	Burdwan Division.										
1	Burdwan	29	29	2,817	702	54	57	59	50	66	65
2	Birbhum	10	10	2,302	70	5	5	13	11	11	2
3	Bankura	22	22	4,003	705	82	57	64	67	64	75
4	Midnapur	33	33	10,351	601	151	125	166	96	104	68
5	Hooghly	26	25	2,197	408	149	99	69	52	98	73
6	Howrah	13	13	863	248	474	396	324	279	189	199
	Presidency Division.										
7	24-Parganas ..	62	60	3,427	460	239	148	139	111	81	91
8	Calcutta	1	1	1	1	442	320	271	303	225	198
9	Nadia	30	29	2,353	538	54	22	36	45	32	29
10	Murshidabad ..	26	22	1,974	61	13	8	7	8	7	8
11	Jessore	27	26	3,613	71	10	15	13	16	19	11
12	Khulna	25	25	2,011	106	49	24	35	31	27	17
	Rajshahi Division.										
13	Rajshahi	26	23	4,487	35	12	5	5	4	3	..
14	Dinajpur	31	22	6,612	75	2	3	14	11	6	11
15	Jalpaiguri	18	15	722	297	31	32	52	66	82	58
16	Darjeeling	6	6	304	226	75	42	24	34	50	50
17	Rangpur	32	23	4,102	180	27	8	8	21	41	28
18	Bogra	14	14	2,780	121	36	45	14	32	23	38
19	Pabna	19	19	2,539	99	10	9	8	9	19	12
20	Malda	18	14	2,239	15	10	2	1	2	11	31
	Dacca Division.										
21	Dacca	14	14	4,737	881	318	147	138	118	162	95
22	Mymensingh ..	59	59	7,354	1,080	254	133	119	139	155	98
23	Faridpur	17	17	3,363	692	116	63	75	57	86	75
24	Bakarganj	22	22	2,990	314	263	79	113	86	68	60
	Chittagong Division.										
25	Chittagong ..	22	20	870	425	74	77	42	24	60	77
26	Noakhali	14	12	1,719	173	56	27	24	24	38	47
27	Tippera	15	15	4,018	626	234	139	187	126	114	140
	Total for the Bengal Presidency ..	631	590	84,748	9,210	3,240	2,087	2,020	1,822	1,841	1,656

districts of the Bengal Presidency during each month of the year 1927.

						6 Total.			7 Ratio of deaths per 1,000 of population.			8	9
July.	August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.	Mean ratio per 1,000 during previous five years.	Number.
134	115	118	124	130	147	611	508	1,119	·9	·7	·7	·5	1
4	3	3	4	3	6	40	30	70	·1	·1	·1	·1	2
72	118	107	117	66	115	562	442	1,004	1·1	·8	·9	·9	3
84	118	122	119	100	114	726	641	1,367	·5	·4	·5	·5	4
91	124	131	138	149	169	675	667	1,342	1·2	1·3	1·2	1·3	5
204	249	327	394	441	420	1,832	2,064	3,896	3·5	[illegible]·5	3·9	2·1	6
109	147	196	204	249	260	1,007	967	1,974	·8	·9	·8	·7	7
280	286	330	380	379	431	1,925	1,920	3,845	2·7	5·4	3·6	3·0	8
46	57	47	59	90	57	333	241	574	·5	·3	·4	·2	9
7	27	19	16	20	18	77	81	158	·1	·1	·1	·1	10
9	11	11	36	67	69	167	120	287	·3	·1	·2	·1	11
12	43	53	49	111	120	322	249	571	·5	·3	·3	·1	12
3	7	4	29	18	16	67	39	106	·1	·1	·1	·01	13
5	5	11	4	14	28	65	49	114	·1	·1	·1	·1	14
80	80	85	108	74	51	454	345	799	·9	·8	·8	1·0	15
82	51	41	42	38	21	288	262	550	1·9	1·9	2·0	2·2	16
14	15	10	27	30	38	166	101	267	·1	·1	·1	·1	17
33	24	21	34	41	23	208	156	364	·4	·3	·4	·2	18
6	2	10	40	32	19	98	78	176	·2	·1	·2	·1	19
12	9	2	14	6	6	54	52	106	·1	·1	·1	·1	20
94	145	136	297	394	312	1,303	1,053	2,356	·8	·6	·7	·7	21
92	94	93	361	504	398	1,299	1,141	2,440	·5	·4	·5	·3	22
54	66	141	350	352	337	952	820	1,772	·8	·7	·8	·3	23
52	64	44	52	110	119	600	510	1,110	·5	·4	·4	·3	24
67	85	31	41	36	48	366	296	662	·4	·3	·4	·2	25
74	41	20	32	80	92	319	236	555	·4	·3	·4	·2	26
86	141	92	125	219	171	886	888	1,774	·7	·6	·7	·5	27
1,806	2,127	2,205	3,196	3,753	3,605	15,402	13,956	29,358	·6	·6	·6	·5	

Annual Form No. XI.—Deaths registered from RESPIRATORY DISEASES in the

1	2	3		4		5					
Number.	Districts.	Circles of Registration.		Villages.							
		Number in each district.	Number from which deaths from respiratory diseases were reported.	Number in each district.	Number from which deaths from respiratory diseases were reported.	January.	February.	March.	April.	May.	June.
	Burdwan Division.										
1	Burdwan	29	29	2,817	621	93	67	126	108	106	78
2	Birbhum	10	10	2,302	53	11	9	5	11	11	8
3	Bankura	22	22	4,003	331	56	76	94	84	98	62
4	Midnapur	33	33	10,351	348	144	118	222	134	105	101
5	Hooghly	26	26	2,197	303	105	107	97	119	123	81
6	Howrah	13	13	863	176	334	352	397	270	248	229
	Presidency Division.										
7	24-Parganas ..	62	59	3,427	532	265	221	265	179	142	141
8	Calcutta	1	1	1	1	1,057	1,062	1,125	810	719	677
9	Nadia	30	30	2,353	381	147	89	143	138	159	96
10	Murshidabad ..	26	23	1,974	67	24	11	25	22	27	9
11	Jessore	27	27	3,613	295	28	30	22	27	32	18
12	Khulna	25	24	2,011	47	32	32	39	31	30	27
	Rajshahi Division.										
13	Rajshahi	26	23	4,487	84	15	13	27	12	13	10
14	Dinajpur	31	29	6,612	83	41	31	34	27	25	10
15	Jalpaiguri	18	14	722	75	113	109	130	137	115	73
16	Darjeeling	6	6	304	208	39	46	67	34	40	37
17	Rangpur	32	27	4,102	93	11	7	17	13	12	6
18	Bogra	14	14	2,780	136	20	40	45	69	30	46
19	Pabna	19	18	2,539	48	11	10	16	5	7	13
20	Malda	18	11	2,239	24	6	9	6	25	9	6
	Dacca Division.										
21	Dacca	14	14	4,737	763	84	100	113	80	84	73
22	Mymensingh ..	59	56	7,354	413	78	57	78	55	72	55
23	Faridpur	17	17	3,363	707	37	14	26	22	30	10
24	Bakarganj ..	22	22	2,990	85	34	14	26	31	32	7
	Chittagong Division.										
25	Chittagong ..	22	16	870	19	27	21	29	22	32	41
26	Noakhali	14	13	1,719	32	6	10	2	1	6	1
27	Tippera	15	15	4,018	346	105	81	83	66	65	161
	Total for the Bengal Presidency ..	631	592	84,748	6,271	2,923	2,736	3,259	2,532	2,372	2,076

districts of the Bengal Presidency during each month of the year 1927.

July.	August.	September.	October.	November.	December.	6 Total. Male.	Female.	Total.	7 Ratio of deaths per 1,000 of population. Male.	Female.	Total.	8 Mean ratio per 1,000 during previous five years.	9 Number.
168	186	185	219	248	279	1,216	647	1,863	1·7	·9	1·3	·6	1
10	6	5	13	11	6	70	36	106	·2	·1	·1	·1	2
73	51	45	104	116	136	670	325	995	1·3	·6	1·0	·9	3
101	91	85	105	153	194	990	563	1,553	·7	·4	·6	·6	4
119	82	77	74	107	112	761	442	1,203	1·3	·8	1·1	1·1	5
247	264	229	249	342	363	2,150	1,374	3,524	4·0	3·0	3·5	2·8	6
143	152	147	179	252	279	1,601	764	2,365	1·2	·7	1·0	1·0	7
758	664	668	787	973	1,165	5,961	4,504	10,465	8·2	12·8	9·7	8·9	8
96	84	77	90	183	142	963	481	1,444	1·3	·7	1·0	·6	9
12	27	13	14	15	20	147	72	219	·2	·1	·2	·2	10
40	34	74	109	53	37	338	166	504	·4	·2	·3	·2	11
23	84	103	90	115	93	468	231	699	·6	·3	·5	·2	12
7	15	9	7	18	18	119	45	164	·1	·1	·1	·1	13
19	16	16	22	25	47	197	116	313	·2	·1	·2	·1	14
63	62	92	137	106	104	755	486	1,241	1·5	1·1	1·3	1·0	15
79	37	58	53	31	51	310	262	572	2·1	2·0	2·0	2·0	16
13	11	8	10	18	10	94	42	136	·1	·03	·05	·04	17
22	31	24	32	41	44	299	145	444	·5	·3	·4	·4	18
11	14	8	19	18	11	102	41	143	·1	·1	·1	·1	19
2	13	5	10	14	12	80	37	117	·2	·1	·1	·01	20
72	103	78	78	102	147	664	450	1,114	·4	·3	·3	·3	21
57	58	53	74	145	102	617	267	884	·2	·1	·2	·2	22
22	37	111	182	279	355	716	409	1,125	·6	·4	·5	·1	23
18	14	13	9	50	58	192	114	306	·1	·1	·1	·1	24
25	36	19	11	15	19	182	115	297	·2	·1	·2	·2	25
1	..	5	3	16	3	31	23	54	·04	·03	·04	·04	26
49	149	56	81	87	78	619	442	1,061	·4	·3	·4	·3	27
2,250	2,321	2,263	2,761	3,533	3,885	20,312	12,599	32,911	·8	·6	·7	·6	

Annual Form No. XII.—Deaths registered from PLAGUE in the

1	2	3		4		5					
Number.	Districts.	Circles of Registration.		Villages.							
		Number in each district.	Number from which deaths from plague were reported.	Number in each district.	Number from which deaths from plague were reported.	January.	February.	March.	April.	May.	June.
	Burdwan Division.										
1	Burdwan	29	..	2,817	..	..	..	..	..	..	..
2	Birbhum	10	..	2,302	..	..	..	..	..	..	..
3	Bankura	22	..	4,003	..	..	..	..	..	..	..
4	Midnapore ..	33	..	10,351	..	..	..	..	..	..	..
5	Hooghly	26	..	2,197	..	..	..	..	..	..	..
6	Howrah	13	..	863	..	..	..	..	..	..	..
	Presidency Division.										
7	24-Parganas ..	62	..	3,427	..	..	..	..	..	..	..
8	Calcutta	1	1	1	1	..	..	..	1	..	..
9	Nadia	30	..	2,353	..	..	..	..	..	..	..
10	Murshidabad ..	26	..	1,974	..	..	..	..	..	..	..
11	Jessore	27	..	3,613	..	..	..	..	..	..	..
12	Khulna	25	..	2,011	..	..	..	..	..	..	..
	Rajshahi Division.										
13	Rajshahi	26	..	4,487	..	..	..	..	..	..	..
14	Dinajpur	31	..	6,612	..	..	..	..	..	..	..
15	Jalpaiguri	18	..	722	..	..	..	..	..	..	..
16	Darjeeling ..	6	..	304	..	..	..	..	..	..	..
17	Rangpur	32	..	4,102	..	..	..	..	..	..	..
18	Bogra	14	..	2,780	..	..	..	..	..	..	..
19	Pabna	19	..	2,539	..	..	..	..	..	..	..
20	Malda	18	..	2,239	..	..	..	..	..	..	..
	Dacca Division.										
21	Dacca	14	..	4,737	..	..	..	..	..	..	..
22	Mymensingh ..	59	..	7,354	..	..	..	..	..	..	..
23	Faridpur	17	..	3,363	..	..	..	..	..	..	..
24	Bakarganj ..	22	..	2,990	..	..	..	..	..	..	..
	Chittagong Division.										
25	Chittagong ..	22	..	870	..	..	..	..	..	..	..
26	Noakhali	14	..	1,719	..	..	..	..	..	..	..
27	Tippera	15	..	4,018	..	..	..	..	..	..	..
	Total for the Bengal Presidency ..	631	1	84,748	1	..	..	..	1	..	..

districts of the Bengal Presidency during each month of the year 1927.

July.	August.	September.	October.	November.	December.	6 Total. Male.	Female.	Total.	7 Ratio of deaths per 1,000 of population. Male.	Female.	Total.	8 Mean ratio per 1,000 during previous five years.	9 Number.
..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	2
..	..	..	..	..	..	..	..	..	..	..	..	..	3
..	..	..	..	..	..	..	..	..	..	..	..	·0003	4
..	..	..	..	..	..	..	..	..	..	..	..	..	5
..	..	..	..	..	..	..	..	..	..	..	..	·001	6
..	..	..	..	..	..	..	..	..	..	..	..	..	7
..	..	..	..	..	..	1	..	1	·001	..	·001	·04	8
..	..	..	..	..	..	..	..	..	..	..	..	..	9
..	..	..	..	..	..	..	..	..	..	..	..	..	10
..	..	..	..	..	..	..	..	..	..	..	..	..	11
..	..	..	..	..	..	..	..	..	..	..	..	..	12
..	..	..	..	..	..	..	..	..	..	..	..	..	13
..	..	..	..	..	..	..	..	..	..	..	..	..	14
..	..	..	..	..	..	..	..	..	..	..	..	..	15
..	..	..	..	..	..	..	..	..	..	..	..	..	16
..	..	..	..	..	..	..	..	..	..	..	..	..	17
..	..	..	..	..	..	..	..	..	..	..	..	..	18
..	..	..	..	..	..	..	..	..	..	..	..	..	19
..	..	..	..	..	..	..	..	..	..	..	..	..	20
..	..	..	..	..	..	..	..	..	..	..	..	·001	21
..	..	..	..	..	..	..	..	..	..	..	..	..	22
..	..	..	..	..	..	..	..	..	..	..	..	..	23
..	..	..	..	..	..	..	..	..	..	..	..	..	24
..	..	..	..	..	..	..	..	..	..	..	..	..	25
..	..	..	..	..	..	..	..	..	..	..	..		26
..	..	..	..	..	..	..	..	..	..	..	..		27
..	..	..	..	..	..	1	..	1	·00004	..	·00002	·001	

B. G. Press—1929-30—887D—487.

GOVERNMENT OF BENGAL.

Local Self-Government Department.

Public Health.

DARJEELING, THE 27TH MAY 1929.

RESOLUTION——NO. 87 T.—P. H.

READ—

The report of the Director of Public Health, the Sanitary Board and the Chief Engineer, Public Health Department, for the year 1927.

READ ALSO—

The anuual report on Vaccination in Bengal with the Statistical returns for the year 1927-28.

1. **Public Health.**—(Statistical, Epidemiological and General Public Health Administration).

Population.—For the purpose of this review the total population of Bengal, excluding the Chittagong Hill Tracts, is taken as 46,522,293 (1921 Census).

2. **Birth-rate and death-rate.**—The central feature in the report on public health for the year 1927 is that, notwithstanding higher mortality than usual from cholera and small-pox, the population of Bengal continued to increase, though naturally not quite to the same extent as in the previous year. The total number of births recorded rose from 1,276,380 in the preceding year to 1,286,863 and that of deaths from 1,151,197 to 1,189,370. The provincial birth-rate in 1927 was 27·7 per thousand as against 27·4 per thousand in 1926, showing an increase of 1·1 per cent. over that of the previous year and a decrease of 3·8 per cent. on the quinquennial average of 28·8 per thousand. The provincial death-rate in 1927 was 25·6 per thousand against 24·7 per thousand in 1926 with an increase of 3·6 per cent. over that year and of 1·6 per cent. over the average for the quinquennium. These figures and percentages must of course in the still somewhat primitive state of vital statistics in rural areas be taken rather as a relative index than a complete and accurate record. The Director of Public Health remarks—

> "Allowing for a probable omission of 27 per cent. in the registration of births and deaths, the actual birth and death rates of the province may be assumed to be 35·17 and 32·51 respectively."

A beginning was made during the year 1927 with the transfer of the responsibility for collecting vital statistics to Union Boards, a function for which provision is made in the Village Self-Government Act, but which they have been on the whole somewhat reluctant to assume. The effect of the new system on the accuracy of the returns will need careful observation by the public health authorities.

Infant mortality.—In 1927, 229,078 infants died under the age of one year, as compared with 251,184 during the previous year, the decrease in the reported rate of infantile mortality being 9·6 per cent.

Extremely interesting results have been obtained in Calcutta and Dacca by special attention to midwifery and the care of infant life. In Calcutta there were five units at work staffed by 5 Lady Health Visitors and 18 midwives. In 4,748 cases attended by them the death-rate during the first ten days of infancy was only 35;5 per thousand as against the average for the city of 104·8 per thousand, while only 13 cases proved fatal to the parent. Two maternity centres working in the town of Dacca, and dealing with slightly over a thousand cases reported mortality during the first ten days of infancy of only 22 per thousand as against recorded mortality of 96 per thousand in the rest of the town. These figures go to show what can be accomplished by the proper care of mothers and infants.

During the year under review grants-in-aid were made to various local bodies for starting 100 classes of 10 *dais* each. In all 1,170 *dais* received training in 104 classes started by 49 local bodies and one health society. Public interest in maternity work and infant welfare was maintained and 67 health exhibitions and Baby Week functions were held during the year.

Cholera.—The mortality from cholera was 118,377 in 1927 as compared with 59,106 in 1926, showing an increase of 92·3 per cent. above that year and also above the decennial average. The measures taken to cope with epidemics included inoculation, disinfection of water-supplies, disinfection of infected houses and of the patients' clothes and supply of bleaching powder. Twenty medical officers and a temporary epidemic staff of 20 Sub-Assistant Surgeons and 100 Sanitary Inspectors were deputed to help local bodies in suppressing outbreaks. The publicity work carried on by the Publicity Branch of the Public Health Department by means of lectures and magic lantern demonstrations and free distribution of posters and leaflets on the prevention of cholera has gone far to show the public how far cholera may be regarded as a preventable disease. Local bodies concerned kept special watch over pilgrims for the Puri Rathjatra and the Ganga Sagar Mela with a view to detecting suspected cases.

The cholera epidemic of the year 1927 gave the first impetus to the mass vaccination for cholera which made such remarkable strides. In 1927 1,299,630 cubic centimetres of cholera vaccine were issued as against 256,000 in 1926, while the number of inoculations reported jumped to 781,872 from 57,395 in the previous year.

Small-pox.—The mortality from small-pox was also distinctly above the average, 42,514 deaths being reported as against 25,548 in the previous year. The epidemic was attended with an increase of over 20 per cent. in activity in vaccination and nearly four million adults and children were vaccinated during the year. More than half of the precise total of 3,975,837 were revaccinations, but the number of primary vaccinations 1,928,674 was well above the total number of births reported. Protection is obviously increasing so long as more persons are vaccinated for the first time than are born in the year, but the actual percentage of successful vaccinations among the infants of 1927 was only 26·1 and slightly less than that of 1926.

Fever.—The high proportion of deaths attributed every year to the non-descript head of " Fever " is a natural consequence of the unscientific agencies on which the province relies at present for the greater part of its vital statistics. The actual figures reported under this head were 789,006, approximately two-thirds of the total mortality of the year, as against 822,774 in 1926.

Kala-azar.—The kala-azar statistics show curious results. With the exception of a peak in 1925 the number of cases treated at dispensaries and centres has risen continuously from 139,085 in 1924 to 180,074 in 1927, whereas the deaths reported in the latter year were only 11,855 as against 14,275 in 1926. There certainly seem grounds for hope that the increase in treatments along with the decrease in mortality may imply that the scientific and organised counter measures of recent years are making headway against the scourge. Certainly, if over-confidence would be premature, expenditure under this head has not been wasted.

Rural public health organisation.—The year 1927 witnessed the beginning on a small scale of a movement which may have far-reaching effects in remodelling public health organisation in the districts in future years. This is the system of founding public health circles corresponding in area to a thana, to each of which is attached an officer specially trained in public health work. Towards the cost of such centres Government contribute the actual expenses up to Rs. 2,000 for each unit per annum. With the assistance of Public Health Committees for the thanas it is not difficult to foresee how such centres may on the one hand facilitate the decentralisation of public health work from District Board headquarters and on the other hand link up the efforts of individual Union Boards for the improvement of public health in the thana as a whole. Among other advantages they should ultimately afford a medium for the better control and inspection of vaccination. These new public health circles were first brought into existence in August 1927 and 258 had been established by the end of March 1928.

Public Health Department, Engineering Branch.—In time of financial stringency lump grants for expenditure in the province as a whole are more easily justified than specific provision for works of sanitary engineering for the benefit of one town or another, and for this reason the public health engineer feels the pinch more acutely than the medical and scientific branch of the public health establishment. There were actually in progress, however, in 1927 under the Chief Engineer ten schemes of water-supply and drainage in various stages, while eight other schemes were completed during the year; and the work of preparing further schemes for provision in later years went on so far as there was any practical possibility of their realisation.

Dr. C. A. Bentley who had recently returned from leave to resume his old post was Director of Public Health, and Mr. F. C. Griffin took charge early in the year as Chief Engineer of the Public Health Department. Government appreciate in the former officer the enthusiasm and experience which have so long marked his tenure of office and in the latter the technical enterprise and departmental efficiency which he brings to his new charge.

By order of the Governor in Council,

C. W. GURNER,

Secretary to the Government of Bengal (offg.).

Nos. 1606-1616 P. H.

Copy of the resolution [with copies of the reports] forwarded to (1) all Commissioners of Divisions for information and communication to all District Officers, and all Chairmen of District Boards in their respective divisions, (2) the Surgeon-General with the Government of Bengal, the Inspector-General of Prisons and the Inspector-General of Police, Bengal, for information, (3) the Director of Public Health, Bengal, the Chief Engineer, Public Health Department and the Secretary to the Sanitary Board, Bengal, for information.

[ ] For (1) and (2) only.

By order of the Governor in Council,

A. Z. KHAN,

Assistant Secretary to the Government of Bengal.

B. G. Press—1929-30—1959D—1,000.

GOVERNMENT OF BENGAL.

Local Self-Government Department.

Public Health.

No. 1617 P.H.

FROM C. W. GURNER, ESQ., I.C.S.,
Secretary to the Government of Bengal,

TO THE SECRETARY TO THE GOVERNMENT OF INDIA,
DEPARTMENT OF EDUCATION, HEALTH AND LANDS.

Calcutta, the 29th May, 1929.

Annual Public Health Report for 1927.

SIR,

I am directed to submit for the information of the Government of India copies of the reports noted below, together with a copy of the resolution recorded thereon :—

(1) Report of the Public Health Department for 1927.

(2) Annual Report on Vaccination in Bengal for 1927-28.

I have the honour to be,

SIR,

Your most obedient servant,

C. W. GURNER,
Secretary to the Government of Bengal.

B. G. Press—1929-30—1959D—950.