

**MEDICAL AND SANITARY  
REPORT OF THE NATIVE  
ARMY OF BENGAL**

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Medical and Sanitary Report of the Native Army of Bengal by Various

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**VARIOUS**

**MEDICAL AND SANITARY  
REPORT OF THE NATIVE  
ARMY OF BENGAL**



MEDICAL AND SANITARY REPORT  
OF THE  
NATIVE ARMY OF BENGAL

FOR THE YEAR

1875.

FRAMED ON THE WEEKLY AND ANNUAL RETURNS, ON THE REPORTS OF REGIMENTAL  
MEDICAL OFFICERS, AND ON THE INSPECTION REPORTS OF  
DEPUTY SURGEONS-GENERAL.

WITH STATISTICAL TABLES AND APPENDIX.

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Compiled in the Office of the Surgeon-General, Indian Medical Service.

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FROM  
THE SURGEON-GENERAL, INDIAN MEDICAL DEPARTMENT,  
To  
THE SECRETARY TO THE GOVERNMENT OF INDIA,  
MILITARY DEPARTMENT.

Fort William, the 21st November 1876.

SIR,

I HAVE the honor to forward, for submission to the Right Hon'ble the Governor-General in Council, the Medical and Sanitary Report of the native army of the Bengal Presidency for the year 1876, the compilation of which has been conducted, under my superintendence, by Surgeon-Major J. Browne, M.D., who officiates as my Secretary, during the absence on furlough of Surgeon K. McLeod, M.D.

2. While trying to avoid all useless repetitions, I have again found how difficult it is to condense or abbreviate the sanitary reports of medical officers, inasmuch as they contain a vast amount of information of a special kind, relating to the varying sanitary and climatic conditions under which the native army has been placed in this presidency; and I am, moreover, of opinion, that any attempt at a more complete abridgment, would only tend to lessen that wholesome spirit of emulation which helps to stimulate the interest taken by most medical officers in the preparation and compilation of these reports.

3. In statement No. I is shown the strength of the Native Army in the Bengal Presidency, including the Madras troops serving within it, as compiled from the weekly and annual returns of every regiment and battery composing it. In this statement, the strength of the army is shown as sub-divided into "present" and "absent;" the former gives the numbers which supplied the admissions into hospital, while the latter shows the numbers absent on furlough, sick leave, &c., and those small detachments from which no statistical returns were received, as they were not under the charge of any special medical officer, or subordinate. The strength of the Bengal native troops in this presidency during 1875 was in excess of that of 1874 by 304 men, while the Madras troops were less by 151. The ratio of absentees in the Bengal army was 14.6 per cent. of total strength, and of the Madras troops 5.6. Such

STATEMENT No. I.

	STRENGTH.		
	Present.	Absent.	Total.
Regular Army ...	39,411.4	5,435.9	44,847.3
Central India Force ...	4,367.3	1,415.6	5,782.9
Punjab Frontier Force ...	9,398.4	2,329.1	11,727.5
TOTAL ...	53,177.1	9,179.6	62,356.7
Madras Army ...	3,496.6	807.3	4,303.9
GRAND TOTAL ...	57,083.7	9,986.9	67,070.6

Strength of the army. Strength sub-divided into "present" and "absent."

a marked difference in the numbers absent is in a great measure owing, I presume, to the Madras sepoy's having their families with them, as well as to the distance of their present stations in Bengal from their homes in Madras.

4. Statement No. II shows the ratio of admissions and daily sick per cent.

Ratio of admissions and daily sick.

STATEMENT No. II.

	PER CENT. OF STRENGTH.		
	Admissions.	Daily sick.	Deaths.
Regular Army ...	159-08	2-99	1-38
Central India Force ...	81-98	2-98	·96
Punjab Frontier Force ...	167-24	4-63	2-17
Army of Bengal ...	128-75	4-03	1-63
Madras Troops ...	89-77	2-62	1-42

of the strength "present," or that from which the admissions into hospital were furnished; but the death-rate represents the percentage of total deaths on total strength.

The ratio of admissions and daily sick of both the Bengal and Madras troops was less than in 1874, but that of mortality has been

slightly higher; and this excess was mainly dependent on the death-rate of the men of the Punjab Frontier Force, which was 81 per cent. higher than in 1874. The ratios of the Madras troops, while again contrasting favorably with those of the Bengal army as a whole, do not vary much from those of the Central India Force, a fact tending to prove that an equable climate, in which the range of temperature is not excessive, is conducive to the preservation of health. The Punjab Frontier Force still continues to be the least healthy portion of the Bengal army; but yet its ratio of sickness and mortality has not been at all excessive, not higher than might have been expected to result from service in a climate in which extreme ranges of temperature prevail, as well as from duties which occasionally were of a very arduous nature, and entailed no small amount of exposure on those employed on them. The regular army ranked next as regards sickness and mortality. The Central India Force, while slightly in excess of the Madras troops as regards sickness, was also somewhat under them in the death-rate. But on the whole, and perhaps for the reasons already mentioned, the statistics of the latter are the most favorable. The number of men constantly in hospital, whose services were therefore lost to the Government, was 2,166, or equal to 3·02 battalions of 715 men against 3·27 in 1874. Each case spent an average of 11·02 days in hospital, and each sepoy of the entire army 13·03, against 11·2 and 13 in 1874. In addition also, 1,267 men, or 2·02 per cent. of strength, proceeded on sick leave against 1·6, 2·08, 2·4, 2·10, and 1·91 in the preceding five years. The number of days spent by these men on sick leave was 164,862, which gives an average of 451·6 men constantly absent on this account, or equal to 63 of a battalion. It is thus brought out that there were 2,617·6 men continually ineffective from sickness, or 4·88 per cent. of strength (present)—a number equal to a loss of 3·6 battalions of 715 men. In 1874, the ratio of men constantly ineffective was 4·86 per cent.

Number in-effective from sickness.

Sick leave.

Mortality.

5. The total number of deaths was 1,026 against 819 in 1874; of these, 674 against 536 occurred in hospital; 33 against 25 in the lines; and 819 against 258 amongst men away from the regiments, or those who constituted the strength "absent" in Statement No. I. The deaths occurring with regiments, calculated on the strength "present," amounted to 1·32 per cent. against 1·06 in 1874, and 1·35, 1·03, 1·76, 1·45, and 1·45 in the five previous years. The percentage of deaths in hospital to the number of sick treated was 94 against 74, 83, 92, 1·05, and 88 in the preceding five years. The Punjab Frontier Force, as already observed, had the highest death-rate; the regular army came next, then the Central India Force, and the Madras troops had the lowest.

Strength and health of European officers.

6. The average strength of the European officers of the native army was 578; from this strength there were 273 admissions and 3 deaths; the former at the rate of 47·23 and the latter 51 per cent. of average strength. The principal causes of admission were fevers, injuries, bowel complaints, gout, and liver affections; those causing deaths were gout, sun-stroke, and hepatitis.



7. Statement No. III shows the proportion of men in the native army whose ages were under 25 years, between 25 and 40, and above 40, with the death-rate of each. It will be observed, as was the case in 1874, that the cavalry contains a larger proportion of aged men, the artillery of adults, and the infantry of adolescents; according to the ages of the men, the regular army stands first in efficiency; next comes the Punjab Frontier Force; and then the

STATEMENT No. III

1	2		3		4		5		6		7	
	UNDER 25. ADOLESCENTS.		25-40. ADULTS.		ABOVE 40. AGED MEN.							
	Number.	Death-rate.	Number.	Death-rate.	Number.	Death-rate.						
Artillery ...	2450	·87	6998	1·10	1556	4·25						
Cavalry ...	2757	·60	6285	·96	1987	1·97						
Infantry ...	3258	1·37	6831	1·81	911	2·29						
Regular Army ...	3198	1·41	6768	1·69	1043	1·86						
Central India Force	2704	·62	6764	1·08	1632	1·61						
Punjab Frontier Force.	3207	1·63	5594	2·15	1199	3·74						
TOTAL ...	3154	1·39	6727	1·65	1146	2·08						

Central India Force. The death-rate has, as already observed, increased steadily with age and was at a higher rate for all ages in the Punjab Frontier Force than in either the regular army or Central India Force.

8. Statement No. IV exhibits the vital statistics of the several branches of the native army; this table merely reproduces in detail Statements Nos. I and II. It will be observed that the artillery has been much more sickly than either of the other branches, but that the infantry has had a higher death-rate; and

STATEMENT No. IV.

	STRENGTH.			PER CENT. OF STRENGTH.		
	Present.	Absent.	Total.	Admissions.	Deaths.	Daily sick.
Artillery ...	4094	112	6064	231·95	1·48	6·59
Cavalry ...	9341·6	2331·5	12,103	119·18	1·38	3·81
Infantry ...	43,232·1	6,714	46,996·1	123·78	1·78	4·15
TOTAL ...	58,517·7	8,177·5	62,794·5	123·75	1·68	4·08

these results are quite in accordance with former observations. The cavalry regiments have again exhibited the smallest sick rate; but this is what might be expected to result from the nature of their duties, and from the fact of their being recruited from a better class, while they also, on account of their caste, are generally more comfortably circumstanced as regards their dietary and clothing, and on this account are consequently better able to resist the effects of climate.

9. Statement No. V exhibits the composition of the native army according to caste. It will be observed that the proportions of Hindoos, Mussulmans, and Christians were 68·90, 29·60, and 48 per cent. of strength, respectively. The Hindoos, as is generally the rule, have had the highest death-rate, while the Mussulmans have had the lowest; the difference in favor of the Mussulmans is not a very considerable one, only 38 per cent., or 3·80 per mille, and is, I believe, in some measure, due to the more varied and generous dietary used by them; meat generally forms a portion of it.

STATEMENT No. V.

	Strength.	Death-rate.
Hindoos ...	43,241	1·75
Mussulmans ...	18,566	1·37
Christians ...	906	1·63

generally the rule, have had the highest death-rate, while the Mussulmans have had the lowest; the difference in favor of the Mussulmans is not a very considerable one, only 38 per cent., or 3·80 per mille, and is, I believe, in some measure, due to the more varied and generous dietary used by them; meat generally forms a portion of it.

10. The strength of the native army (excluding Madras troops) underwent but little change during the year. The additions by recruiting amounted to 6,065, or 9·61 per cent. of average strength, and the permanent loss to 6,120 or 9·75 per cent. The corresponding figures for 1874 were 11,02 and 10·35. Of the 6,120 men who left the service from various causes, 2,069 or 33·81 per cent. were invalided, 1,527 or 24·75 per cent. were discharged by commanding officers at their own request, 1,026 or 16·76 per cent. died, 767 or 12·53 per cent. were removed for physical disability, and 731 or 11·94 per cent. for misconduct, &c.

The percentages which these events bore to the average strength of the army are shown in the table in the margin, and for sake of comparison, those of 1874 are also given. It will be remarked that the percentage of men invalided, discharged at their own request, and for misconduct, was higher than in 1874, while the percentage of those who were discharged for physical disability, as well as the number of those who died, was lower.

	1874.	1875.
Invalided ... ..	870	930
Discharged by Commanding Officer at their own request ... ..	278	269
" for physical disability ... ..	108	122
" for misconduct, &c. ... ..	168	116
" died ... ..	191	168

own request, and for misconduct, was higher than in 1874, while the percentage of those who were discharged for physical disability, as well as the number of those who died, was lower.

11. In Statement No. VI, the statistics of the native army (excluding the Madras troops) for 1875 are compared with those of the ten preceding years. The statistics for the year 1865 refer to the regular army only, but the remainder include those of the entire native army. The comparison is very favorable to the statistics of 1875, inasmuch as the rates of sickness and mortality were below the average of the preceding decennial period. The year 1875 was, however, not remarkable for any unusual sickness; but the

STATEMENT No. VI.

1875 compared with ten preceding years.

Years.	PER CENT. OF STRENGTH.		
	Admissions.	Deaths.	Daily average sick.
1865* ... ..	147.5	2.07	4.46
1866 ... ..	130.5	1.75	4.88
1867 ... ..	181.2	1.75	4.40
1868 ... ..	111.9	1.65	3.72
1869 ... ..	162.6	2.59	4.94
1870 ... ..	159.8	1.88	4.73
1871 ... ..	138.1	1.38	4.25
1872 ... ..	152.8	2.01	4.54
1873 ... ..	132.8	1.74	4.17
1874 ... ..	132.9	1.91	4.23
Average ... ..	139.46	1.86	4.38
1875 ... ..	128.75	1.68	4.03

\* For the regular army only.

native army has seldom suffered from disease in a severe epidemic form.

12. Statement No. VII exhibits the sickness and mortality of the native army during 1875 in each of the divisional and district commands in the presidency :—

STATEMENT No. VII.

MILITARY COMMANDS.	Serial number.	Daily sick per cent. of strength.	Serial number.	Admissions per cent. of strength.	Serial number.	Deaths per cent. of strength.
Presidency District ... ..	1	6.99	5	148.08	1	2.91
Eastern Frontier District ... ..	2	4.98	4	156.37	3	2.33
Punjab Frontier Force ... ..	3	4.08	2	167.24	4	2.15
Peshawar District ... ..	4	4.69	1	180.55	2	2.34
Lahore Division ... ..	5	4.54	3	160.09	5	2.19
Sikhind Division ... ..	6	4.04	8	130.68	8	1.07
Rajpootana ... ..	7	3.99	10	101.86	9	1.05
Oriss Division ... ..	8	3.83	9	114.86	11	.87
Gwalior District ... ..	9	3.77	6	115.51	7	1.45
Saugor District ... ..	10	3.42	7	119.75	15	.28
Meerut Division ... ..	11	3.21	11	97.77	6	1.56
Allahabad Division ... ..	12	2.22	14	71.04	14	.69
Rawal Pindi Division ... ..	13	3.65	12	89.59	13	.79
Central India ... ..	14	2.70	13	87.89	10	1.02
Rohtas District ... ..	15	2.62	15	69.61	12	.81

In my report for last year I reviewed the sickness and mortality in each of the several commands of this presidency, but on the present occasion shall take only a passing notice of them. I shall, however, further on, comment more fully on the various hygienic conditions which, conjoined with climate, may have injuriously affected the health of the troops.

13. It will most probably be acknowledged by all who have had experience of the various stations and climates in the Bengal Presidency, that service in the following portions of it will prove to be inimical to a high standard of health of

Statistics compared with those of ten previous years.

Sickness and mortality in each command of the army.

Certain stations unhealthy for native troops.

Hindoostani sepoy, —*viz.*, in Bengal Proper, in the Eastern Frontier District, in the Lahore Division, and in the Peshawar District. Such has been the case during 1875, as indeed it has been, as a rule, since the commencement of the publication of the vital statistics of the native army.

14. It will be observed that the ratio of sickness was highest in the Presidency and Eastern Frontier District, the North-Western Frontier, and in the Peshawar and Lahore Commands; and in each of them was above the rate of 4.03 per cent., which, in statement No. VI, is shown to have been the figure for the entire native army.

15. The mortality, too, was highest in the same commands, although they do not stand in the same order as they did for sickness; and it will be observed that the death-rate of the troops serving in them was higher than the average—1.63 per cent. of strength for the entire army during 1875. The commands stand thus in order of mortality, *viz.*, Presidency District, Peshawar District, Eastern Frontier District, North-Western Frontier, and Lahore Division.

16. As to the causes of sickness, it may be briefly stated that malarious fevers and bowel complaints have caused a large proportion of the sickness in the Presidency and Eastern Frontier Districts, and in the Lahore and Peshawar commands; and the same diseases have also caused a great deal of the mortality. In addition to the prevalence of malarious fevers and bowel complaints, a condition has been frequently met with amongst the sepoy serving in the Presidency District which has been described by some medical officers as being true scurvy, while others consider it to be only malarious cachexia, or else an extreme deterioration of health, induced by malarious poisoning, conjoined with an insufficient or faulty dietary. The latter was the opinion of the Deputy Surgeon-General of the Presidency Circle, and of the Regimental Surgeon, with regard to some men of the 28th Regiment, Bengal Infantry, at Alipore, who were in this state. In all the other commands the rates of sickness and mortality were moderate, and do not call for any special remarks.

17. Statements Nos. VIII and IX exhibit the sickness and mortality of each regiment in the native army. The rate of admissions per cent. of strength of the entire army was 128.75, but it will be seen in Statement No. VIII that no less than 47 regiments or batteries had an admission-rate in excess of this average, and that 41 of them were stationed in the commands alluded to in paragraph 14.

18. Looking at Statement No. IX it will be observed that the mortality of 43 regiments and batteries has exceeded 1.63 per cent. of strength, which was the death-rate for the entire army during the year 1875; and that 35 of them was stationed in the commands which I have already pointed out as being notably unhealthy for Hindoostani sepoy.