

ART. LXVI.—*A Comparison of New Zealand Mortality during the Periods 1874–81 and 1881–91.*

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Plate LIX.

THE first systematic investigation into New Zealand mortality, involving the results of more than one census, was made by F. W. Frankland, F.I.A., in 1883. The results of his investigation, which are deduced from the three censuses of 1874, 1878, and 1881, are given in vol. xv. of the "Transactions of the New Zealand Institute," p. 500. The work was undertaken to furnish Alfred K. Newman, M.B., M.R.C.P., with statistics for his inquiry, "Is New Zealand a Healthy Country?"

The next investigation was for the period 1881–91, and was based on the three censuses of 1881, 1886, and 1891. The mortality during this period has been investigated by two independent observers—G. Leslie, Assistant Actuary, New Zealand Government Life Insurance Department, and the present writer. The paper of the former was published in the *New Zealand Journal of Insurance, Mining, and Finance* in September, 1895, while that of the latter appeared in the "Transactions of the New Zealand Institute," vol. xxix. It is worthy of note that although widely different methods were adopted the results agree in a remarkable manner. This is the more satisfactory as the results are so favourable to the colony that had they been obtained by one investigator only they might have been open to criticism.

The comparison submitted herewith is limited to the death-rate per hundred living for each year of age up to five years, then in intervals of five years, as this is the form in which Frankland's results are given. This comparison brings out many interesting features in colonial mortality. Among them may be mentioned,—

1. The improvement in infantile mortality: Both in males and females, from ages 0 to 5, the mortality has steadily decreased, the improvement being most marked in the females. This is shown in Plate LIX., where the dotted line representing the mortality from 1874–81 is higher than the continuous line representing the mortality from 1881–91.

2. This improvement continues during both the age-groups 5-10 and 10-15 in both males and females.

3. In the two following age-groups (15-20 and 20-25) the conditions are reversed, and the later period (1881-91) is worse than the former (1874-81), both for males and females.

4. From 25-30 the mortality has decreased.

5. It is now necessary to deal with the males and females separately, as up to this age-group (25-30) the changes in mortality have been similar in the two sexes; but from this group onwards the agreement is not so close. From 30-35 the mortality of males has increased.

6. For the following age-groups (35-40 to 55-60) the mortality has decreased.

7. From 60-65 to 75-80 the mortality has increased:

8. In females the mortality has decreased from 25-30 right up to 55-60.

9. From this group (55-60) to 70-75 it has increased.

10. From 75-80 it has decreased.

To sum up, the mortality in both sexes has decreased for ages from 0 to 15, and increased for ages 15-25. In males it has decreased for ages 25-30 and 35-60, and increased for ages 60-80; in females it has decreased for ages 25-55, increased for ages 55-75, and decreased for ages 75-80.

## DEATH-RATE PER HUNDRED LIVING.

Ages.	Males.		Females.	
	1874-81.	1881-91.	1874-81.	1881-91.
Under 1 year ..	10·779	10·212	9·096	8·594
1-2 years ..	2·781	2·106	2·729	1·898
2-3 " ..	0·881	0·751	0·876	0·703
3-4 " ..	0·665	0·537	0·715	0·498
4-5 " ..	0·552	0·459	0·509	0·399
5-10 " ..	0·411	0·340	0·367	0·286
10-15 " ..	0·261	0·222	0·254	0·217
15-20 " ..	0·363	0·373	0·343	0·365
20-25 " ..	0·496	0·535	0·475	0·484
25-30 " ..	0·569	0·536	0·640	0·575
30-35 " ..	0·600	0·630	0·715	0·675
35-40 " ..	0·871	0·736	0·878	0·811
40-45 " ..	1·059	0·922	0·844	0·827
45-50 " ..	1·487	1·220	1·092	0·916
50-55 " ..	1·649	1·540	1·368	1·225
55-60 " ..	2·444	2·205	1·598	1·653
60-65 " ..	2·833	3·045	2·031	2·279
65-70 " ..	4·180	4·978	3·643	3·675
70-75 " ..	5·736	6·180	5·166	5·340
75-80 " ..	8·557	9·581	9·607	8·437