deaths in a population of under 400,000, and in 1881–82 one which caused 257 deaths in a population of 500,000. The disease thereafter remained comparatively quiescent until 1902, when it killed 170 persons in that and the following year. In 1908 there was a smaller epidemic with 60 deaths. During 1915–17 there were 9,334 cases with 113 deaths, and in 1928–29, 10,975 cases with 82 deaths.

This disease, and also diphtheria, which is discussed below, are chiefly diseases of early life, the great majority of cases, and of deaths, occurring in those under fifteen years of age. It is of interest, therefore, to calculate the death-rate on the basis of the population under that age. In the accompanying table the results are shown per 10,000 of such population for quinquennial periods from 1874–78 onwards, and also the average death-rate per 10,000 of mean population.

Table showing Average Annual Death-rates for Scarlet Fever and Diphtheria by Quinquennial Periods 1874–1938.

Quinquennial Period.	Scarlet Fever.		Diphtheria.	
	Death-rate per 10,000 of Mean Population.	Death-rate per 10,000 on Basis of Population under 15 Years of Age.	Death-rate per 10,000 of Mean Population.	Death-rate per 10,000 on Basis of Population under 15 Years of Age.
1874–78	2·19	5·12	4·40	10·32
1879–83	1·23	2·87	3·06	7·17
1884–88	0·25	0·62	3·07	7·41
1889–93	0·25	0·63	3·01	7·56
1894–98	0·05	0·15	1·58*	4·34*
1899–1903	0·76	2·29	0·94	2·83
1904–08	0·28	0·89	0·58	1·83
1909–13	0·13	0·42	0·72	2·30
1914–18	0·32	0·98	1·46	4·42
1919–23	0·14	0·45	0·81	2·59
1924–28	0·15	0·49	0·49	1·63
1929–33	0·09	0·32	0·38	1·37
1934–38	0·04	0·17	0·17	0·71

* Anti-diphtheria serum introduced into New Zealand, March, 1895.

(*b*) *Diphtheria.*

Year.	Number of Notifications.	Deaths.		
		Number.	Rates per 10,000 of Mean Population.	Case-fatality Rate per Cent.
1933	963	27	0·18	2·80
1934	436	26	0·18	5·96
1935	747	33	0·22	4·42
1936	513	20	0·13	3·90
1937	599	24	0·16	4·01
1938	786	31	0·20	3·94

The incidence of diphtheria remains low, the notifications during each of the past seven years having remained under 1,000.

The remarkably low incidence of diphtheria in the South Island was commented upon in last annual report. During 1938 only 30 cases were notified, compared with 756 in the North Island. During the past seven years 4,846 cases of diphtheria have been notified in New Zealand, of which only 395, or 8 per cent. of the total, were in the South Island.

In a table under the heading "Scarlet Fever" are given tables showing the death-rate by quinquennial periods from 1874 onwards, and also the death-rate calculated on the basis of the population under fifteen years of age.

In the table given below the incidence of diphtheria is shown from another angle. Topley's experiments have shown that the spread of an endemic infection is determined by the introduction of non-immune contacts into an infected community. As New Zealand receives comparatively few non-immunes by immigration, the spread of infection is almost wholly determined by the number of births.