

meningitis occurred in the Cadet Camp at Palmerston North in August, preceded by an epidemic of influenza.

The Second Wave.—The second wave manifested itself first among the Native troops in Narrow Neck Camp about the 28th October, and almost simultaneously at Awapuni. At Featherston the first case appeared on the 29th October, but the wave did not begin to show a marked increase till the 6th November. At Trentham, while there had been a suspicious case as early as the 16th October, there is some evidence that the earliest cases of the second wave were men who arrived from Awapuni on the 2nd November, and had to go straight to hospital. The wave increase began on the 4th November. In all the camps it was of the briefest duration, being over in about fourteen to sixteen days, by which time doubtless the majority of those susceptible had been infected. The cerebro-spinal cases developed among convalescents who had been some days normal.

Course of Spread of Second Wave.—Since the spread of the secondary wave among the civil population appears to have come from Auckland, it is of interest to examine in detail the history of the appearance of the disease in the different military camps, as these furnish the only reliable evidence we possess in the absence of general notification.

Narrow Neck Camp.—This appears to have been the first of our military institutions to show the secondary wave in full virulence. This camp was specially for the training of Native troops who came from Rarotonga, Gilbert Islands, and New Zealand Natives. These people are specially susceptible to catarrhal and pneumonic infections. It is somewhat surprising, therefore, to note that up to October they were free from influenza. On the 7th October, however, there was a sudden sharp outburst of the disease with 130 cases, and in two days 226 cases had been infected. Of these 13 were severe, and several showed slight pneumonic symptoms. On the 9th October the Director-General of Medical Services ordered the camp to be broken up and the men scattered to various canvas camps. By the 11th October the epidemic was over, as on that day only 1 case was reported. Among such virgin soil for the growth of the organism as these susceptible Natives from outlying parts the rapid spread is not surprising. But there were no deaths. For the next fortnight there were practically no new cases reported, but about the 24th October cases began to arise again, and on the 28th October the second wave of infection became evident with 9 admissions. This wave rapidly reached its crest on the 31st October, when 42 cases were admitted to hospital, all of a more severe type than in the previous wave. In all 130 cases received hospital treatment. Pneumonic cases were reported early in the outburst, and 14 cases died from this cause before the epidemic ended, which it did about the 18th November, when the camp was again broken up.

It seems certain that many who had recovered from the first epidemic must have been infected in the second outburst, suggesting that among such susceptible persons the degree of immunity conferred was low. The death-rate was 5·3 per cent., which is high, as one would expect when dealing with Native troops. The sudden explosive character of both these outbursts is remarkable, as also the close proximity between the first and second waves of infection and the total cessation of cases in this interim period.

North Head Fort Garrison.—It is of interest to compare the epidemic as it affected the neighbouring garrison troops at Devonport. Here also the two waves appeared in October. The record is as follows:—

October—	Cases.	Severe Cases.	Deaths.
First week	...	...	...
Second week	...	...	...
Third week	...	...	...
		(2 Natives)	
Fourth week	...	...	...
Last three days of month	...	...	...
November—			
First week	...	...	...
		(11 Natives)	(4 Natives)
Second week	...	...	...
		(2 Natives)	
Third week	...	...	...
Remainder of month	...	...	...

The reference to Natives in this table indicates those who were in detention in the fort. The two Natives who got ill in the third week in October (16th) were pneumonic in type, but recovered.

The crest of the primary wave was on the 7th October, and then came a period of comparative freedom for two weeks, exactly as in Narrow Neck Camp.

The second wave began also on the 29th October, and reached its crest of intensity on the 7th November with 7 cases, 4 of whom died later.

It is noticeable that in these two camps there was no gradual increase of the epidemic in the third and fourth weeks. The second wave began on the 28th October, and the crest was reached in nine days, and was over in eighteen days from the start.

Awapuni.—The first wave appeared in August, and was not severe in type. In September and the first three and a half weeks of October the incidence was low. But there was a tendency to rise in the last three or four days of October, and on the 30th the first typical pneumonic case went into hospital. That this man should just have come into camp from Auckland two days before is significant. Others coming from Auckland on the 18th and 26th October did not develop influenza.

The cases increased rapidly in the first few days of November, and the crest of the wave was reached on the 6th November, and subsided rapidly, ending on the 14th November. It is practically coincident with the second wave in the Auckland camps. There were 154 cases out of a total camp strength of 317 at Awapuni—about 50 per cent. of the population—and 5 deaths occurred, all from pneumonic complications, giving a case mortality of about 3·2 per cent.