

[produced]. I was afterwards appointed one of the examining and instructing Medical Officers for the Auxiliary Forces of London, and I had the distinguished honour of being the only Medical Officer outside the United Kingdom who had acted as Vice-President of the Volunteer Ambulance School of Instruction. On my return to New Zealand I was appointed Principal Medical Officer of the Otago Military District, where I acted for ten years.

4. How many camps had you charge of during the time you were Principal Medical Officer to the medical service in Otago?—Four or five—every camp that was held there. I had charge of the Fourth and Fifth Contingents that went to South Africa, and all Easter camps, which were practically every year.

5. I may take it you regard your qualifications as of such a character as to entitle you to give a responsible opinion upon the methods that ought to be pursued in regulating the hygiene of military encampments?—Yes.

6. What personal connection had you with the Trentham Camp?—I went there in January, 1915—about the second week—to visit one of my sons who was in camp.

7. Was he a soldier?—Yes, in training in the Auckland Mounted Rifles. I went there on a second occasion about a fortnight afterwards. I went there again in May to examine the sample hutment, and I went there this month, about three weeks ago—the Sunday before the camp broke up.

8. Have you taken a special interest, then, in the conditions of the Trentham Camp?—Yes, from the start. I may say that as soon as the war broke out I offered my services to the Minister of Defence in a letter dated the 3rd August.

9. First you had a son in camp, and secondly you had your special knowledge and connection with military encampments and military hygiene?—Yes; and I have had friends and relations connected with the military Forces since the very beginning.

10. Before dealing with the conditions of the Trentham Encampment, what is the general experience of sickness and mortality in standing encampments?—You mean in recent years, or formerly?

11. In recent years?—In recent years, since the experimental manœuvres in Scotland and Hampshire in 1907, the improvements have been most remarkable as regards health not only in camps, but in the garrisons and Army service generally.

12. You refer to the manœuvres in Scotland and Hampshire as marking the beginning of a new epoch in military hygiene?—Yes; it is on the experience of those camps set up by the War Office as experimental camps that all these recent works have been written.

13. Will you state what this Commission was, and give to this Commission some notion of the percentage of sickness and mortality which ought to be expected in a well-conducted encampment?—I can only show, for instance, how it has improved the health of the service. Taking Egypt in 1906, where the number of men constantly non-effective from sickness was 103·72, within twelve or eighteen months it fell to 16·54—that is per thousand of strength. The mortality in the same years fell from 25·10 to 4·21. I can give you the figures for Great Britain stations. Take Bermuda, which was a healthy station, as against Egypt, which was an unhealthy station: in the same time the constantly non-effective from sickness fell from 22·32 to 9·52 per thousand of strength, and the deaths from 4·65 to 0·82. The same thing applies to India and all other stations.

14. Can you give the Commission information as to the percentage of sickness and mortality which ought to be expected, having regard to recent improvements in hygiene, in modern encampments?—They are very difficult to get at, but there are returns which were published in the House of Commons in February of this year by Mr. Tennent which show that among the troops of the Expeditionary Forces fighting at the front there were no cases of dysentery and no deaths, and no cases of pneumonia and no deaths, for the first six months.

15. *Dr. Martin.*] None reported?—None reported. This return was in reply to questions, and Mr. Tennent circulated the return showing the number of deaths among the British Expeditionary Forces from the 1st August, 1914.

16. You say there were no pneumonia deaths reported—it does not say there are no deaths?—There were no deaths reported. He gives the returns of typhoid at the front, and also of scarlet fever and measles and smallpox, so that one would expect that the returns for others would be reported at the same time. I obtained the statement from the *Evening Post* of the 15th April of this year. He gave the number of officially reported deaths from typhoid at 625. It is the return of the Under-Secretary, and was presented by him to the House of Commons. The return shows 196 cases of scarlet fever and four deaths, and 175 cases of measles and two deaths. That is for the whole of the Forces at the front; and he gives those in training in the United Kingdom in the camps. There were no pneumonias and no dysenteries, either cases or deaths reported from the front. The return set out the following cases and deaths in the training-camps in the United Kingdom: Typhoid, 262 cases, 47 deaths; scarlet fever, 1,379 cases, 22 deaths; diphtheria, 783 cases, 6 deaths; measles, 1,045 cases, 65 deaths; dysentery, 215 cases, 1 death; pneumonia, 1,508 cases, 351 deaths; cerebro-spinal meningitis, 62 cases, 26 deaths.

17. *Mr. Gray.*] Over what period?—From the 1st August to the 15th February—practically six months.

18. *The Chairman.*] I understand Dr. Martin says there are later returns showing those are imperfect?—I should quite expect that.

19. *Dr. Martin.*] Because you do not know the number of troops in training?—The only information I have as to the number of troops is that contained in a paper read at the Royal Colonial Institute by Mr. Spencer Wilkinson, a leading authority on the subject, who said that at the time there were at least three if not four millions in training in the United Kingdom.

20. *The Chairman.*] The three millions were not in training from August?—No.