

Of the preventive measures sketched above I think the free use of the steam-spray treatment must be given the chief credit for the stoppage of epidemics, for the segregation of recruits was not fully in play till the Tauherenikau Camp was opened in June. Yet the epidemics of measles and influenza which in 1916 were marked in the early months of the year were conspicuously absent from February onward in 1917.

Although the spray treatment must be given priority as an effective measure, the value of the segregation camp has been demonstrated repeatedly. The Principal Medical Officer, Trentham, quotes one case in which a possible epidemic of measles was checked, and many others could be given. It must be obvious that if a man be in a state to transmit infection he is less likely to do harm where but five tent-mates are in contact with him than if he were in a hutment with thirty others.

The absence from these segregation camps of large rooms where men can crowd together must also be given due credit. In last year's report it was shown that meningococcal infections were spread by men in social contact rather than by the conditions of military routine. Particular attention, therefore, was paid to the institutes at Tauherenikau Camp, which were constructed on the principle of the open-air structures used in consumptive sanatoria. It is to be feared that in cold, stormy weather they could not be held up as examples of comfort, yet they were habitable even under the worst conditions, and, though they could not be classed as "snug," often a room so described would be more truthfully called "stuffy." At any rate, the statistical records for Tauherenikau Camp show that no ill effect followed the absence of "snug" retreats, for the sickness-rate was, if anything, lower than at other camps, despite the fact that new recruits were involved.

How far the immunity of the camps to infection from measles and influenza can be attributed to a general cyclical fall in prevalence it is difficult to judge. I am not inclined to lay much weight on such an explanation, since we were dealing with the same class of youth as in previous years, unprotected by exposure to previous infection, and brought together under artificial conditions. Cyclical rise and fall in spread of infection is found in stable populations, but the conditions giving rise to such fluctuations do not obtain in moving populations such as are formed by men passing through training-camps. And again, though measles and influenza, not being notifiable diseases, do not yield actual statistics, there is no reason to believe that these diseases were less prevalent among the civil population than in 1916.

One disease which was extremely prevalent in the civil population in 1917—namely, diphtheria—scarcely touched the camps. It is certain in this connection that our efforts against pharyngeal infections in general succeeded in preventing outbreaks of diphtheria.

GENERAL SANITARY MEASURES IN THE CAMPS.

The sanitary work in the camps is set out in detail in the special reports attached. The various improvements made represent sanitary progress, but with three exceptions we cannot attribute to the accomplishment of these measures the very greatly improved health of the camps in 1917. The three exceptions are—(1) The provision of the inhalation-chambers; (2) the establishment of the segregation camps at Heretaunga and Tauherenikau; (3) the increased accommodation in the hospitals at Featherston and Trentham.

I have already commented on the probable influence which the free use of the inhalation treatment as a prophylactic has had.

The segregation camps enabled us to separate out the carriers of disease before they had a chance to infect other units, and the open-air conditions in the camps prevented the spread of disease among the recruits. The Heretaunga Camp has been greatly improved by the tent-sites and roads being made up and graded, and with a few additional accessories this camp may be regarded as a healthy and convenient one. The somewhat limited area and the proximity to the main camp, however, made it advisable to utilize the Tauherenikau Camp during the winter months, when the danger was greatest. Tauherenikau is an ideal camp-site, the only drawback being the damage done to the tents by high winds. The water-supply was obtained from a race which was roughly purified in a filtration-bed of somewhat novel design, but which on the whole gave satisfaction. The water even before treatment could not be regarded as other than pure, and the filtration was necessary chiefly on account of silt and so forth when the river was in flood. The ample space available in this camp makes it very easy to avoid crowding, and to this, and the absence of dining-rooms and halls where large numbers can be in close contact, we can attribute much of the good health enjoyed by the troops in their first month of training—the period during which in previous years the highest sick-rate obtained. The canteen and such institutions as were provided were all constructed on open-air principles and crowding prohibited. The value of the increased hospital accommodation as a preventive measure was not so apparent this year, since the other measures so reduced the epidemics that at no time were the hospital wards filled. Doubtless, however, the absence of serious results from the brief epidemic of influenza which occurred in September was in part due to the fact that, close contact between patients being avoided, an infectious organism had little chance to increase in virulence by rapid transference from case to case.

In the establishment of these hospitals special word is due regarding the type of construction. The design chosen by Lieut.-Colonel Frengley was of the simplest type of pavilion, subdivided into three sections so that each can be administered separately and so allow of classification of cases. The execution of the design at the hands of the Director of Works Department has established something of a record in the matter of cost. That a hospital comprising a complete unit should be constructed at the rate of £100 per bed was regarded as utopian even before the war; but that it should be accomplished now, when cost of material and labour is so