

percentage of illegitimate births being 4.4, and the illegitimate death-rate from these diseases being 20.5. In the whole 34 cases there were only 2 infants being fed at the breast at the time of illness, and one of these was being brought up under exceptionally insanitary conditions; whereas, excluding those over nine months old, there were 29 infants which should have been fed at the breast at the time. There were, in fact, 22 infants under five months old, 20 of which were not being suckled. Only 11 of the total 34 had been fed at the breast at any period. Of those which were being bottle-fed, 12 were using the modern bottle and 14 were using the bottle with the long tube, the sale of which in some countries has been forbidden by law. Ten of the children were delicate from birth and 3 were prematurely born.

Unfortunately diarrhoea and such diseases are not diseases that can be prevented from spreading by any campaign being directed against them at the time of their occurrence; they are the penalty that a town has to pay for neglecting such hygienic precautions as an adequate water-supply, underground drainage, removal of refuse, &c. But, apart from this negligence, the most grave responsibility rests on the mothers who, from carelessness, ignorance, or selfishness, do not feed their children at the breast, or, on the rare occasions when this is impossible, do not use the best substitutes in the best way. It is to be hoped that the institution of the St. Helens maternity hospitals, and the effect of the proper training of the mothers who are confined there, and the nurses who are trained there, will in time have a beneficial effect. In the manufacturing districts in England, where women are largely employed in factories, the neglect of mothers to suckle their infants may be understood, though it may not be justified; but in New Zealand where few mothers are wage-earners the neglect is less excusable.

With regard to the chief cause of these deaths it is usual to blame the milk-supply, and, no doubt, if all these infants had been supplied with "good" milk the death-rate would have been less. Having regard to the special conditions of Christchurch, I think that the dust and the absence of a general water-supply must share some of the blame. In support of this I may add that I have been informed by several medical men that during the latter part of the hot weather there was a considerable number of cases of diarrhoea in adults, and these would not be attributable to impure milk.

NEW ZEALAND INTERNATIONAL EXHIBITION.

HEALTH DEPARTMENT'S EXHIBIT.

As the result of arrangements made by Dr. Valintine, when he was in England last year, with likely exhibitors, a fairly satisfactory and representative exhibit of sanitary appliances was shown. The chief exhibits comprised a steam disinfectant manufactured by Messrs. Manlove and Alliott, of Nottingham, which had been purchased by Dr. Valintine for the Canterbury Sanatorium for Consumptives; brougham ambulance, manufactured by Messrs Wilson and Stockall, of Bury; some excellent models of hospital sinks and sanitary conveniences by Messrs. Doulton and Co.; a model destructor; and various sanitary models.

SANITATION.

This Department was made responsible for the general sanitary conditions of the Exhibition a day or so before it was opened. The drainage of the main buildings of the Exhibition was connected with the Christchurch sewerage system, and was put in under the supervision of Mr. Cuthbert, Engineer to the Christchurch Drainage Board. This part of the sanitary arrangements of the Exhibition worked satisfactorily throughout the whole period. Unfortunately, the fall of the ground did not permit of the sewers being extended to any great distance beyond the main buildings of the Exhibition, and it would certainly have been preferable to have made arrangements by any well-recognised engineering method of leading all the drainage from the buildings in the Exhibition grounds into the drainage system. It was chiefly in connection with the makeshift appliances that had to be erected outside the area that was drained by the sewers that frequent inspection by an officer of this Department was necessary. Some structural alterations in connection with the drainage from refreshment-rooms and certain stalls in the Exhibition were required at the commencement, and were promptly carried out. Throughout the period the Exhibition was open, any nuisances that were found existing were promptly attended to on the attention of those responsible being drawn to the matter by this Department. The General Manager also assisted the Department in every way by seeing that any requirements of the Department affecting matters under his control were given effect to.

SEPTIC TANKS.

Numerous samples of effluents from septic tanks and from filter-beds have been taken and analysed during the past year. In no case was the final effluent up to any standard that has been accepted in England; but it may be pointed out that the Local Government Board have refused to specify a standard for purity of sewage effluents on the ground that all the circumstances of each case should be taken into consideration. As in England, so in New Zealand, the special circumstances must be taken into account. The effluents that may be quite good enough to flow into a fast-running stream with a large volume of water, which is not used for any domestic purposes and does not flow through or near any closely settled district, may be quite unsuitable for admission into such a stream as the Avon, which, although not used for drinking purposes, flows through the City of Christchurch. A large number of private septic tanks have already been installed with either discharge direct into the Avon or into some tributary thereof. The large majority of these septic tanks are faulty in construction and design, and the effluent is certainly not suitable for discharge into such a river as the Avon. The matter was brought before the Drainage Board, without whose permission the effluent from no septic tank can be discharged into the Avon or any streams under