

APPENDIX C.

PRELIMINARY REPORT ON A DIPHTHERIA IMMUNIZATION CAMPAIGN, SOUTH AUCKLAND HEALTH DISTRICT.

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PLAN OF CAMPAIGN.

Early in 1937 it was decided to offer immunization against diphtheria to all children between ages one and sixteen years within the South Auckland Health District, the cost to be defrayed by the Health Department. The school population of the district is over 20,000 children, the adult population over 120,000. It was hoped to immunize as many pre-school children as possible.

Parents of children at schools, public or private, receive a cyclostyled letter explaining the procedure, asking for written consent to the immunization of their children, and inviting them to bring along pre-school children also. This consent allows preliminary Schick and Moloney tests, three injections of anatoxin, followed six months later by a further Schick test to give assurance or otherwise of diphtheria protection achieved. At first only two doses of anatoxin were given, as the literature available suggested 90 per cent. or more immunity was achieved. As it became apparent most parents would prefer the third dose and the possibility of 100 per cent. protection, the full course has been given, and is now standard routine. Newspaper publicity was used, through a series of articles and through advertisements, in an endeavour to reach the pre-school population without older brothers or sisters at schools. The publicity is only effective in towns served by their own local newspapers, and it has proved difficult to get much response from pre-school children in rural areas for a variety of reasons.

This preliminary report is given to show the widespread need for diphtheria protection in both towns and country and to pass on experience gained to date in this mass immunization campaign.

SENSITIVITY TO ANATOXIN.

The Moloney Test.—The definition for Moloney reactors given by the Commonwealth Laboratories is, we consider, unsatisfactory; therefore Underwood's classification was used by us—viz., +++ *Moloney*: A large area of erythema up to 40 mm. in diameter with a definite palpable area of induration in the centre; ++ *Moloney*: An area of erythema of more than 10 mm. diameter with an area of slight induration in the centre; + *Moloney*: Area of erythema up to 10 mm. diameter with no induration.

The +++ Reactors were rejected.

The ++ Reactors were given reduced doses of anatoxin..

The + Reactors were given full doses of anatoxin.

At the commencement of the experiment we cut the doses given to the ++ reactors considerably, but when we found that many of these went on to larger doses without showing any reaction we adopted the policy of giving the ++ reactors an initial dose of 0.25 c.c., and those ++ reactors who had more than a slight degree of induration we rejected as we found them liable to have reactions after receiving very small doses of anatoxin. The small doses were moreover not sufficient to produce immunity.

A summary of 1,576 Moloney tests (made by one of us—H.D.) will now be considered.

+++ *Moloney Reactors.*—Five per cent. of the children tested showed +++ Moloney reactions and had to be rejected. Seventy-five per cent. of these reactors were over the age of ten years; nevertheless, one child of five and another of six years showed the marked reaction, hence the necessity for Moloney testing all school-children prior to injecting them.

Many of the +++ Moloney reactors were Schick positive. This finding was naturally more common amongst the younger children.

Reactions to Anatoxin Injections.—As mentioned previously the ++ Moloney reactors were given reduced doses of anatoxin. Many of these showed no reaction whatsoever and were eventually given the full dose. Thirty-eight per cent. of those children showing reactions were, however, ++ Moloney reactors.

In some cases sensitivity developed during the course of the injections. Twenty-one per cent. of those showing reactions showed this phenomenon.