

I. INTRODUCTION

The Auckland poliomyelitis epidemic of 1947-49 commenced in November, 1947. By the end of April, 1949, it was approaching what is usually regarded as the saturation point for any extensive outbreak, 345 cases having occurred in a population (whole district) of just over 350,000, or almost 1 case per 1,000.

This paper is a sequel* prepared about a year ago dealing with an investigation of the background of the early stages of the epidemic. It is a study of the further course of the epidemic in the light of the findings of that investigation.

II. RESULTS OF PREVIOUS INQUIRY

These may be briefly summarized:—

- (a) The epidemic had been preceded, and was accompanied, by large numbers of cases of minor illness, characterized by fever, headache, sore throat, vomiting, and diarrhoea, and sometimes pains in the abdomen and neck. Evidence was produced to show that these were in reality minor forms of the more serious disease.
- (b) The ratio of these "suspect illnesses" to positive cases appeared to be higher than has generally been estimated elsewhere. The overall ratio was about 300:1, but there was considerable variation between one age/sex group and another.
- (c) The disease had already established itself widely, in the form of these "suspect illnesses," before the appearance of positive cases revealed its presence. The facts would have been consistent with an increase in the virulence of the causative organism during the months of October and November, 1947.
- (d) One result of the investigation was to focus attention on the schoolboy aged 10 to 15 years, and to a lesser extent on the girl aged 5 to 10 years. The older schoolboy appeared to be the person most frequently responsible for introducing the infection into households in which positive cases later occurred. Before, or concurrent with, the onset of the positive case in any family, 50 per cent. of the two age groups mentioned above had a "suspect" illness, which appeared to afford them personal protection later.
- (e) Study of the intervals occurring between successive illnesses (suspect or positive) in the same household pointed to a comparatively poor capacity of the organism to pass from person to person in the home. This, and other evidence, suggested that faecal organisms, rather than droplet infection, played the major part in propagating the disease. The suggestion was made that dust-borne infection might be an important means of spread, as is believed to be the case with threadworms.

III. COURSE OF THE EPIDEMIC

The Central Auckland Health District comprises an area of almost 1,900 square miles and a population of about 350,000. In the centre of the district the City of Auckland has a compact population approaching 275,000. The Waitemata Harbour cuts off a portion known locally as the North Shore, and

* "A Contribution to the Epidemiology of Poliomyelitis in New Zealand." (Annual report of the Department of Health, 1948.)