Table X.—Leading Symptoms in Positive and Suspect Illnesses

	Positive Cases.		Contact Illnesses.		Test Area Illnesses.	
		Per Cent.		Per Cent.		Per Cent.
In 30 per cent. of cases or more	*Fever* ..	78	*Fever* ..	43	*Fever* ..	34
	Headache ..	44	Headache ..	30	Headache ..	30
	Pain in the neck	44	Sore throat ..	30	Sore throat ..	30
	Vomiting ..	38				
In 20–29 per cent. of cases	Sore throat ..	24	Drowsiness ..	22	Vomiting ..	26
	Drowsiness ..	24			*Diarrhoea* ..	25
In 10–19 per cent. of cases	Abdominal pain	12	Vomiting ..	19	Abdominal pain	16
			Diarrhoea ..	18	*Pain in neck* ..	12
			Pain in neck ..	15		

An interesting feature was the infrequency of diarrhœa in positive cases (8 per cent.) compared with suspect illnesses, and the small percentage of suspect cases in which nuchal pain or fever was noted as compared with positive cases. In other words, meningeal symptoms were commoner in positive cases, and intestinal symptoms in suspect illnesses. Drowsiness was only noted in 7 per cent. of the test area cases, or less than one-third as frequently as in the affected families.

VIII. DISCUSSION, AND A SUGGESTED LINE OF INQUIRY

We have seen that what really took place in Auckland in 1947–48 was a very widespread epidemic of a comparatively trivial illness, totalling perhaps some 40,000 cases in the first nine months. In the course of this otherwise unimportant outbreak, positive cases of poliomyelitis came to light as dramatic but infrequent episodes. It is further apparent that during the four months when positive cases were occurring in epidemic numbers, only comparatively small percentages of the total population at risk were affected. The most heavily attacked age group only suffered a little more than 20 per cent. of casualties, and even in families in which positive cases had occurred we found no indication that *all* children in close contact had been affected. Some female school-children, in particular, seemed to escape completely.

It has long been recognized that poliomyelitis tends predominantly to affect males. In 1932 an analysis of published data relating to 36,000 cases gave a male : female ratio of 1·3 : 1. Rhodes* comments, however, that "while this ratio holds for younger children, it has been stated that at ages over 20 years there are more cases in females than in males."

In our series the male : female ratio was 2·1 : 1 under the age of 15, and 1·2 : 1 above. With "suspect" illnesses the ratios were 1·3 : 1 and 1 : 1·5 respectively.

Scrutiny of Figs. XI and XII will show that, in whatever form the epidemic is considered, male children were more heavily attacked than female children. The schoolgirl aged 10 to 15 years is in a peculiar position; this group produced fewer suspect illnesses than the corresponding male group, but more positive cases. In other words, her resistance (immunity ?) is lower, but she is less frequently attacked.

It is clear, therefore, that poliomyelitis has a peculiar age and sex incidence which is not dependent on local or temporary conditions. In this investigation we have shown that the male school-child is especially liable to bring the infection into the household, and that once it is introduced it tends to pass from one member to another, not affecting all at the same time, but in turn, and that eventually a very high proportion of family

* Rhodes, A. J. (1947): *Bull. of Hyg., 22,* 353.