

it was disconcerting to return to the office after discovering an ingenious link between "cases," only to find that in the meantime one of them had been declared negative ; and this happened more than once. It was soon obvious that in the neighbourhood of every positive case one could discover numerous instances of minor illness of a suspicious nature, and several quite definite abortive cases came to light at an early stage. This was merely what previous knowledge of the disease had led one to expect. It was not difficult in some instances to link one case with another through a network of suspicious illnesses in contacts, and it seemed not impossible that diligent inquiry might have extended the network to include most of the cases in the city. Even if this could be done, however, it would still be open to question whether the whole structure could not be accounted for by chance. There was a good deal of minor sickness about of a nature possibly related to poliomyelitis, but it varied enormously in severity, and occasionally an important link in the chain appeared to consist of somebody who had not been ill at all. It was easy to construct schemata, but difficult to defend them in detail.

An example may be of interest.

II. NETWORK LINKING FOUR POSITIVE CASES

One of the earliest notified cases could be connected rather neatly with another in the same area, and two more living five miles away on the other side of the city. Sixteen suspicious illnesses, including at least one definite abortive case, were also involved.

Figure II (page 65) shows the relationship between these cases, the horizontal lines connecting members of the same family, and the broken lines indicating possible transference by contact. Fictitious names have been employed. Except for Mary, sister of case A, only persons who had a suspicious illness are shown, the dates giving the times of onset.

Case A was a boy whose parents first realized he was ill on 13th November, but for a week before that his elder sister, Mary, had given him a pick-a-back home from school because of pain and weakness in his right leg. This girl had no history of any recent illness. The boy's classmate, Bill, was ill during the week before he took to bed, and a playmate of Mary's, Marjorie, had a suspicious illness shortly afterwards.

Next door to case A lived a child aged two called Jerry Brown. There was said to be little contact between the two families, but both houses were notably fly-infested owing to the activities of a senile neighbour who was fond of throwing night-soil on her garden. Jerry stayed with the family of case B from 25th August to 10th September, and on returning home had an illness lasting for a week with vomiting, diarrhoea, and lassitude.

Betty, six-year-old sister of case B, had "influenza" about August, but remained well thereafter. She was a classmate and friend of case C and often visited his home. The aunt of this case, who lived with him, was in bed for about a week in the middle of November with vomiting, diarrhoea, and a high temperature.

There was a double link between the families of cases A and D. Roy, who was in the same class as Mary, sister of case A, generally walked home from school with her, and was ill at about the same time as case A, with a sore throat, high temperature, and marked drowsiness. Within the succeeding ten days, five other members of the family went down with similar symptoms ; only one girl, aged 14, escaped at this time, but early in December, after a very heavy day's gardening, she was admitted to the hospital as a positive case with severe paralysis (case D). The other link was the fact that, for six days from 12th November, just before case A took ill, the father of case A was working on repairs in the house of case D.