

## II

## INFLUENZA IN CENTRAL BRADFORD, 1957

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This paper is an account of the influenza epidemic in a central Bradford practice in 1957. There are four partners in the practice with a combined list of approximately 10,000. During the epidemic there was a partner on holiday each week.

The epidemic developed in two waves; the first in July and August was confined to the local Pakistani community. The second in August, September and October included all classes of patients. Both waves appeared to be due to influenza, A (Far East, 1957). Cases in wave 1 were seen by all partners in the firm. Those in wave 2 by myself only. All partners were equally busy during these three months so that something in the region of 5,000 cases (50 per cent of the practice population) were attended by the firm.

**Wave 1***(6th July—26th August, 1957)*

The first case was seen on 5th July in a patient who had arrived in this country by air from Pakistan 24 hours previously. The outbreak reached its maximum between the 18th July and 3rd August, following the return to business of a local Moslem butcher 24 hours after he contracted the infection. This epidemic was confined to Pakistani men, women, and children. It did not affect the half-caste, the white wife, or the "white girl-friend." The spread of wave 1 was rapid because (i) of the custom of the Pakistani to visit the sick in large numbers; (ii) the houses were never ventilated, all the windows and doors being kept tightly closed; (iii) they liked to wear many clothes and use quantities of bedding; (iv) they lived in overcrowded conditions.

The *incubation period* was 24—36 hours. The symptoms and signs were those of sudden onset with severe headache, aching shoulders and legs, profuse sweating, slight cough and a sensation of feeling desperately ill and about to die. Temperatures were between 100°F and 104°F, with the pulse rate raised in proportion. The tongue was coated a brownish white. There was no upper respiratory catarrh, no neck rigidity, no sore throat, and the chest was normal.

The only complications were two cases of pneumonia which responded to the usual treatment.

Serological evidence of infection with influenza A was obtained in five cases. In the first case evidence of influenza A (Far East, 1957) was obtained (Table I).

TABLE I  
HAEMAGGLUTINATION INHIBITION TESTS

<i>Day of illness</i>	<i>A. 1953 Scandinavian</i>	<i>A. 1956 Dutch</i>	<i>A. 1957 Far East</i>
2	15	1/10	1/10
27	10	1/10	30

### Wave 2

(15th August—18th October, 1957)

The first twelve cases were in male and female adult West Indian textile workers. The epidemic reached its maximum between the 12th and 28th September during which time as many as 100 cases were seen daily. Males and female were equally affected and the infection was no respecter of nationality. Cases in children under 2 were rare throughout the epidemic and in the first two weeks there were none in persons over 40. As the epidemic proceeded there was an increasing number of cases in the older age groups. Elderly patients with chronic bronchitis and emphysema did much better than expected; fortunately, as a class they escaped the epidemic.

The *incubation period* was from 24—48 hours. In this wave also, the onset was sudden with severe headache, extending from the frontal region over the vertex and down the occiput. There was generalized aching, especially of the limbs and back, and, also, of the back of the neck and shoulders. Attacks of shivering were followed by profuse sweats. Dyspnoea, weakness, and vertigo were complained of. There was sore throat and midsternal aching and a cough which brought on a retrosternal rawness. Upper respiratory catarrh was present. In children, several cases started with vomiting or epistaxis. Several patients felt as though they were going to die. Most of the symptoms subsided with the fall of temperature.

All the patients looked very ill. Their temperatures were usually 102°F, sometimes—especially in children—as high as 105°F. The sweating was so profuse that some were literally streaming. In some—mostly adults—there were mild degrees of meningismus. The pharynx was injected, the tongue coated, and conjunctival infection was common. During the first two days the chest remained clear, but later there were often signs of bronchitis.

Relapses occurred in only four cases (3 adults and 1 child on the 8th—10th day). Other complications were pneumonia and otitis

media. Lassitude persisted to some extent for several weeks but post-influenzal depression occurred in only a few cases. There were few complications (Table II).

For treatment reliance was placed chiefly on fresh air, light clothing and a minimum of bedclothes, and bed bathing; this last had usually to be done several times. Penicillin was prescribed only six times on the first visit. Usually, four days in bed, three days in the house, and a further week off work was sufficient. All cases were visited at least twice. As the epidemic progressed patients took longer to get well.

TABLE II  
COMPLICATIONS

Complaint	Days of onset	Number of cases		Notes
		Adults	Children	
Pneumonia .. ..	3rd to 8th	17	2	4 deaths in pneumonia starting on 4th day.
Apyrexial consolidation ..	6th to 8th	3	—	
Pneumonia with nephritis ..		1	—	recurrence in an old case.
Epistaxis .. ..	2nd to 4th	2	19	
Vomiting .. ..	1st or 2nd	10	48	in one case of pneumonia.
Epistaxis with vomiting ..	1st to 2nd	1	3	
Laryngitis .. ..	2nd	8	—	
Croup .. ..		—	3	ages 3, 3, 1½
Otitis media .. ..	3rd to 4th	2	4	
Diarrhoea .. ..		2	12	Faeces negative in all cases.
Abdominal pain .. ..		—	4	ages 2—6 years.
Confusional state .. ..		1	—	female aged 29, hysterectomy 3 years ago.

**The effect of influenza on chronic illness**

Eight adult asthmatics who developed influenza had no trouble but one child became pneumonic on the fourth day. Twenty-three

adult chronic bronchitics all over 40 were attacked, four died of pneumonia; one child had no untoward effects. The x-ray picture of three adults with pulmonary tuberculosis was unaffected.

### Special features

*Age distribution:* The total number of cases seen was 1,423. Children accounted for 451, and of these 43 were under two years of age (two of 8 weeks, one of 16 weeks, one of 24 weeks, and 21 under a year old). The majority of the remaining children were between 5 and 10 years of age. Of the adults eleven were between 40 and 50, nineteen between 50 and 60, and sixteen between 60 and 70. No cases over 80 were seen. The remainder—the great majority—were between the ages of 14 and 40.

*Mortality.* Four deaths were due to broncho-pneumonia in chronic bronchitics over 50 years of age. These were all so ill when first seen that home treatment was never entertained, and three died within 24 hours of entering hospital. I have never seen such severe cases of pneumonia with such a sudden onset.

### Laboratory Investigations

In two cases laboratory evidence in the form of an increased titre to influenza A (Far East, 1957) antibody was demonstrated; throat swabs were negative. Complement fixation tests on myself and my partner were negative to influenza A, B, and C, and to A.P.C. virus. This is rather surprising, as contact with influenza cases lasted over 12 weeks, and suggests that there must be some other factor giving protection besides the actual attack of influenza. During the epidemic we both ate as much as possible and had at least nine hours sleep every night. I feel that adequate rest might be an important factor.

### The difference between the Two Waves of Influenza

Some curious differences between the two waves were noticed in this epidemic.

<i>1st Wave</i>	<i>2nd Wave</i>
Pakistan only	All nationalities
sore throat; none	almost every case
few complications	more frequent
all ages	usually under 40 years
vomiting; none	mainly in children
rapid response to treatment	not so rapid response
neck pain and stiffness; none	very common
little residual weakness	weakness marked

Investigations suggest that both these waves were one type of influenza but I cannot explain why the first was confined to the Pakistan population only. It may be a question of virulence and lack of exposure to any previous type of influenza A. The first

wave conferred immunity against the second wave, a very fortunate factor indeed.

### Comment

Often the first case in a house was a child and nearly always all members of the household succumbed. The severity seemed to increase with the number of cases, yet the old people usually escaped. The first case in a person over the age of 50 occurred midway in the epidemic. Children formed a much smaller proportion of cases than expected. As the epidemic progressed, cases became more difficult and took a little longer to recover. Complications usually occurred on the 3rd—6th days. In this epidemic, chronic bronchitics did very well—much better than in the 1949 epidemic.

Overheating, especially central heating increased the incidence of complications and prolonged the illness. There were two very cold, dry days about the 19th September, during which time new cases were less frequent.

People were frightened, probably because of press comment. One comes to the conclusion that this influenza was no more severe than any previous influenza epidemic. Like other influenzas it should be treated with the utmost respect.

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### III

## INFLUENZA IN A RURAL PRACTICE, 1957

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*Hartington*

Between May 17th and 31st 1957 there occurred, in this rural practice, a small epidemic illness possessing fairly constant features.

The typical case started with upper abdominal pain and vomiting, with or without headache and cough. The temperature reached 100°F—102°F and persisted for three to seven days. Some patients had signs of upper respiratory tract infection.

Out of a total of seven cases visited, five occurred in one village, and the remaining two cases in a village five miles distant. One adult, aged 31, and six children, aged between 3 and 10 years, were affected.

Virus complement fixation tests were done on the serum of the adult and that of two of the children. Two of the three revealed recent infection by virus influenza "A".

Attention is drawn to the fact that only one adult was visited. The prominence of gastric symptoms appears unusual.

These families were again observed during the Asian influenza