

National Experience with Hong Kong Influenza in the United Kingdom, 1968-69

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Influenza not being a notifiable disease in the United Kingdom, assessment of its prevalence is based on such indices as hospital admissions for pneumonia, new sickness-benefit claims, mortality statistics and reports from about 50 practices throughout the country submitted regularly to the Royal College of General Practitioners—all these supplemented by virological identifications performed by the Public Health Laboratory Service.

From these sources it is shown that, compared with previous epidemic winters, the influenza prevalence in the winter of 1968-69 rose to only a moderate height in any one week, but extended over an unusually long period—from late December to early April. The total morbidity, as estimated from the excess new claims to sickness benefit, was similar to that of the winter of 1967-68, in which a sharp outbreak of influenza virus A2 infection occurred. The relatively leisurely progress of the 1968-69 epidemic was accompanied by no sudden or excessive demands either on general medical practitioners or on the hospital services. The mortality was substantially lower than in previous influenza winters.

There is no legal requirement in the United Kingdom to notify cases of influenza. Voluntary reporting of outbreaks by general medical practitioners and school physicians may provide health departments with the earliest information of the development of a local epidemic situation. Such information is supplemented by the results of laboratory investigations. Many practitioners regularly submit specimens from patients suffering from febrile respiratory illnesses to the Public Health Laboratory Service. In addition to its diagnostic activities, the Public Health Laboratory Service has during the past winter (1968-69) examined each week about 100 samples of blood serum in an investigation designed to monitor the presence of complement-fixing antibody to influenza virus A in a local population.

Several independent indices of the prevalence of influenza have been utilized for many years. These include hospital admissions for pneumonia, new sickness benefit claims and mortality statistics. During the past 3 years a fresh source of information has been developed by the records and statistics unit

of the Royal College of General Practitioners. About 50 practices in various parts of the country, with known practice populations totalling about 150 000 persons, report each week a wide range of communicable diseases, including influenza and influenza-like illnesses.

While none of these indices provides a precise estimate of influenza morbidity on a national scale, they give valuable information on trends, normally consistent with one another, and make it possible for rough comparisons to be made between different influenza seasons. Hospital data have the advantage that in some of the large cities, where Bed Bureau statistics for emergency admissions become available within 24 hours, early indication is given of mounting pressure on in-patient accommodation. New claims to sickness benefit, which are collated on a local, regional and national basis, provide a more comprehensive estimate of the impact of influenza epidemics on the working population (about 20 million persons in Great Britain). The effects on mortality can be studied either from total deaths, from deaths attributed to pneumonia or bronchitis or from deaths specifically assigned to influenza and influenzal pneumonia.

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NEW CLAIMS TO SICKNESS BENEFIT AND DEATHS
ASSIGNED TO INFLUENZA AND INFLUENZAL
PNEUMONIA, GREAT BRITAIN, 1957-69

Year and quarter	New claims (millions)	Influenza deaths	Viruses prevalent
1957 Jan.-March	2.2	386	—
1957 Sept.-Nov.	4.0	6 049	A2
1958 Jan.-March	2.7	1 970	A2
1959 " "	3.5	7 412	A2 and B
1960 " "	2.5	539	—
1961 " "	3.3	6 728	A2
1962 " "	3.2	2 951	B
1963 " "	3.4	2 837	A2
1964 " "	2.8	750	A2
1965 " "	3.0	414	A2 and B
1966 " "	3.8	3 643	A2 and B
1967 " "	2.8	171	—
1968 " "	3.7	4 663	A2 and B
1969 " "	3.9 ^a	1 086 ^a	A2

^a Provisional figures.

Since the introduction of influenza virus A2 into Britain in the early summer of 1957, outbreaks due to this virus have occurred, with varying degrees of magnitude, in 9 of the subsequent 12 winters. The accompanying table shows the numbers of new claims to sickness benefit and of deaths assigned to influenza and influenzal pneumonia in England, Wales and Scotland for the first 3 months of each year from 1957 to 1969. Corresponding figures are shown for the period September to November 1957, which covered the main wave of the Asian influenza epidemic. New claims to sickness benefit in the first quarter of 1969 exceeded those in the first quarter of the preceding year, when extensive outbreaks of influenza occurred, and were substantially greater than in the first quarter of 1967, when there was little evidence of influenza virus infection.

Deaths assigned to influenza and influenzal pneumonia in the first quarter of 1969 were markedly fewer than might have been expected from the total of new claims to sickness benefit. The provisional figure of 1086 deaths was well below that of all the previous winters when influenza was epidemic with the exception of the first quarters of 1964

and 1965, when only relatively small outbreaks occurred. Deaths from all causes in the first quarter of 1969, and deaths assigned to pneumonia other than influenzal reached figures intermediate between those of the first quarter of 1967 and 1968 respectively. Although it can be assumed that a considerable proportion of deaths to which influenza virus infection contributes are assigned to other causes, the mortality figures for the first quarter of 1969 do not suggest that any unusual variation in certification or assignment could account for the apparently low influenza mortality.

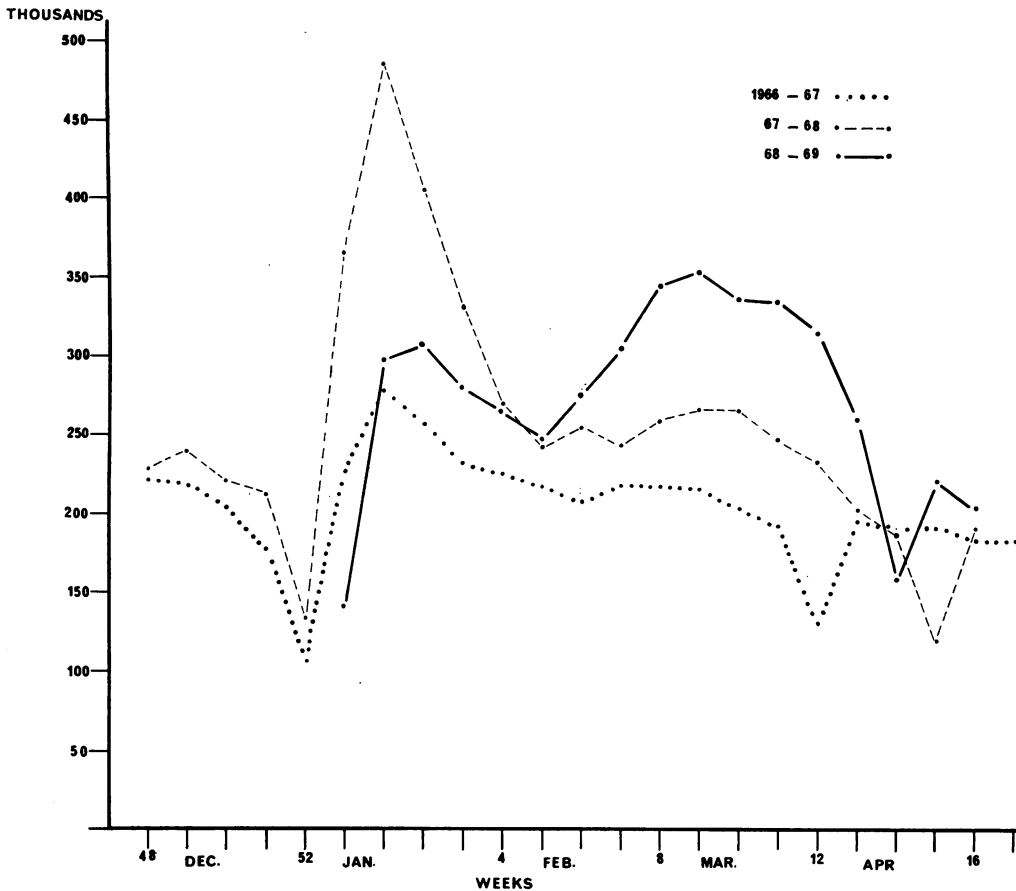
The age distribution of the influenza deaths followed the usual pattern. An analysis of 1058 deaths in England and Wales in the first 14 weeks of 1969 showed that 855 were among persons aged 55 years or over and of these 429 were among persons aged 75 years or more.

The evolution of last winter's epidemic in the United Kingdom was unexpectedly slow. The first patient from whom the Hong Kong variant of influenza virus A2 was isolated was a child, aged 1 year 11 months, resident in London, who developed a respiratory illness, at first thought to be whooping-cough, early in August 1968. The child's mother developed a mild illness soon afterwards. Both parents were medical practitioners and the child attended a day nursery but, as far as could be ascertained, none of the family had been in contact with any person recently arrived from the Far East. Soon afterwards several sporadic cases were confirmed by virological investigation, mainly among travellers who had recently entered the country from areas where influenza was known to be occurring or among persons who had been in contact with them.

The first outbreak was reported from a residential school in the south of England. The school reassembled on 15 September. Cases of influenza were reported on 24 September and continued until mid-October. The attack rate was low (38/436=9%) and this school experienced a second outbreak due to the Hong Kong variant in the following term, when the attack rate was slightly higher (46/436=11%). Until the end of 1968 only a few scattered outbreaks in residential communities were reported, but these became more frequent in January and February 1969. Laboratory investigations confirmed outbreaks due to the Hong Kong variant in about 20 residential schools, the clinical attack rates ranging from less than 2% in one school, where a controlled trial of influenza vaccine was in progress, to more than 80%.

FIG. 1

WEEKLY NEW CLAIMS TO SICKNESS BENEFIT IN GREAT BRITAIN, IN THE WINTERS OF 1966-67, 1967-68 AND 1968-69 ^a



^a Insured population, approximately 20 million.

In about half of these schools the clinical attack rate exceeded 40%.

There was no evidence of spread of influenza in the general community until the last week of December 1968, when there was a steep rise in new claims to sickness benefit, particularly in the West Midland region where a maximum for the winter was reached in the week ending 7 January 1969. During mid-January in this region the number of new claims fell but rose again in February to a second peak, lower than the January maximum. In all other regions new claims to sickness benefit also fell in mid-January but began to rise again, in the Northern

region during the last week of January, elsewhere during the first half of February to reach figures higher than in January. Fig. 1 shows the weekly new claims in Great Britain as a whole during the winters of 1966-67, 1967-68 and 1968-69. The biphasic and prolonged elevation of the 1969 figures contrasts with the steep rise and fall during the typical influenza epidemic of the previous year. The peak figure was reached in 1968 in the week ending 9 January, but in 1969 not until the week ending 4 March. Although the maximum weekly figure of 352 000 in 1969 was well below the maximum of 485 000 in 1968, the totals for the whole of the

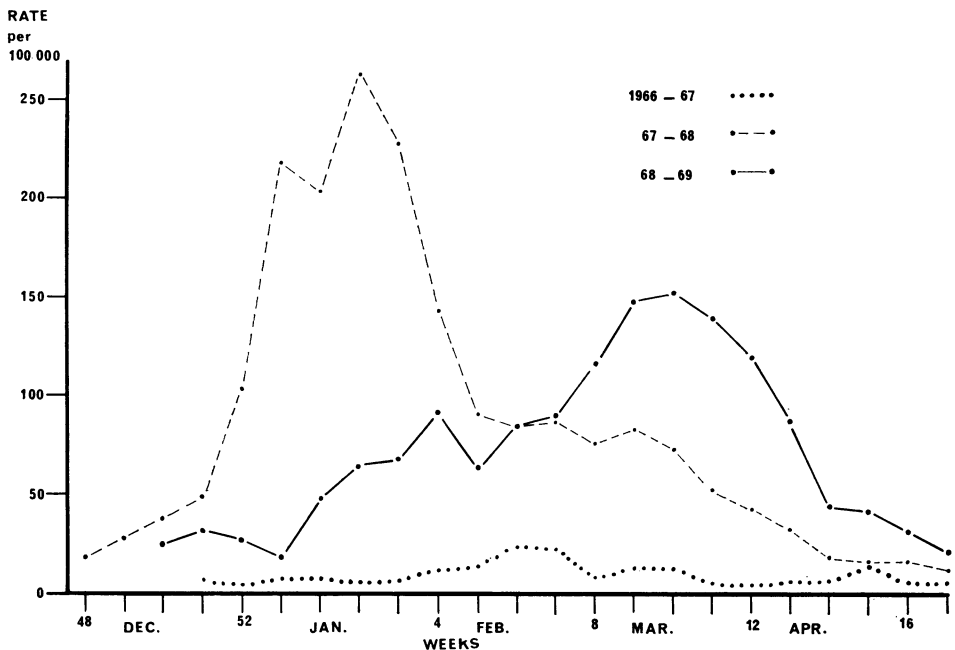
winter were about the same and far in excess of the winter of 1966-67. In 1969 new claims remained substantially above their usual levels until the first half of April.

Fig. 2 shows the weekly incidence per 100 000 population of clinical influenza in practices reporting to the Royal College of General Practitioners during the past 3 winters. The graphs show a general similarity to those of the new claims to sickness benefit. The peak incidence of 152 per 100 000 in the week ending 12 March 1969 was markedly lower than that of the preceding year, when a rate of 265 per 100 000 was reached in the week ending 18 January 1968. The mean weekly incidence from the beginning of December to the end of the third week of April was 75 per 100 000 in 1968-69, 96 per 100 000 in 1967-68 and 10 per 100 000 in 1966-67. Incidence rates for febrile common cold and influenza-like illnesses showed similar differences between the 3 successive winters and weekly distributions similar to those of clinical influenza. It seemed unlikely, there-

fore, that the observed differences were related to variations in clinical judgement and recording of cases.

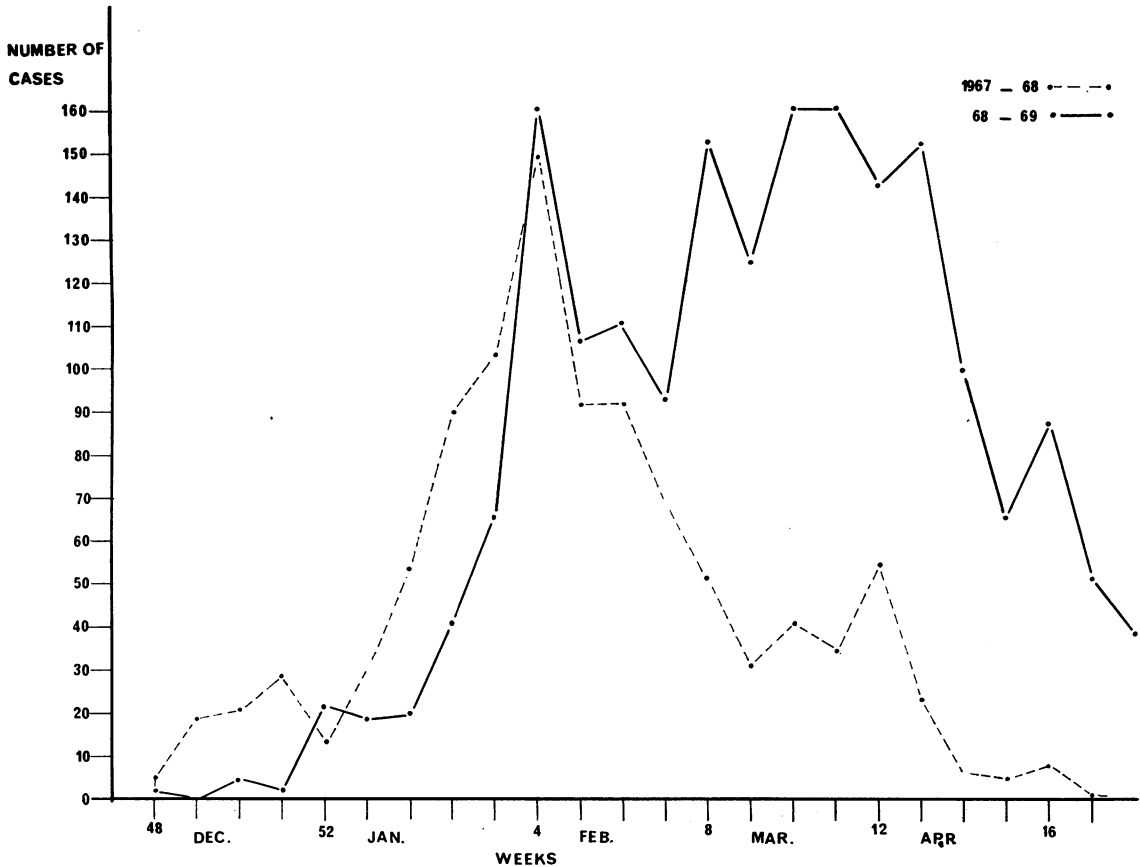
Fig. 3 shows weekly reports of laboratory evidence of influenza virus A infection confirmed by virus isolation or serological investigation. The numbers of cases reported began to increase in the last week of December 1968 and rose rapidly to a peak of 161 cases in the week ending 31 January 1969, a figure slightly higher than in the previous winter. After a fall in the first half of February the number of cases, in contrast with the experience of the previous winter, again rose and was maintained for 6 successive weeks, from late February to early April, within a range of 125 to 161 per week. The numbers then fell steeply, though isolations of influenza virus A continued to be reported from specimens received as late as May. All strains of influenza virus A investigated in 1969 were similar to A2/Hong Kong/68. In the previous winter of 1967-68, the influenza virus A strains examined were mostly similar to strains of influenza virus A2

FIG. 2
WEEKLY INCIDENCE OF CLINICAL INFLUENZA PER 100 000 POPULATION IN PRACTICES REPORTING TO THE ROYAL COLLEGE OF GENERAL PRACTITIONERS IN THE WINTERS OF 1966-67, 1967-68 AND 1968-69^a



^a Population covered, approximately 130 000-150 000.

FIG. 3
WEEKLY NUMBER OF INFLUENZA VIRUS A INFECTIONS CONFIRMED BY ISOLATION OF SEROLOGICAL EVIDENCE IN THE WINTERS OF 1966-67, 1967-68 AND 1968-69^a



^a Reported by the Public Health Laboratory Service.

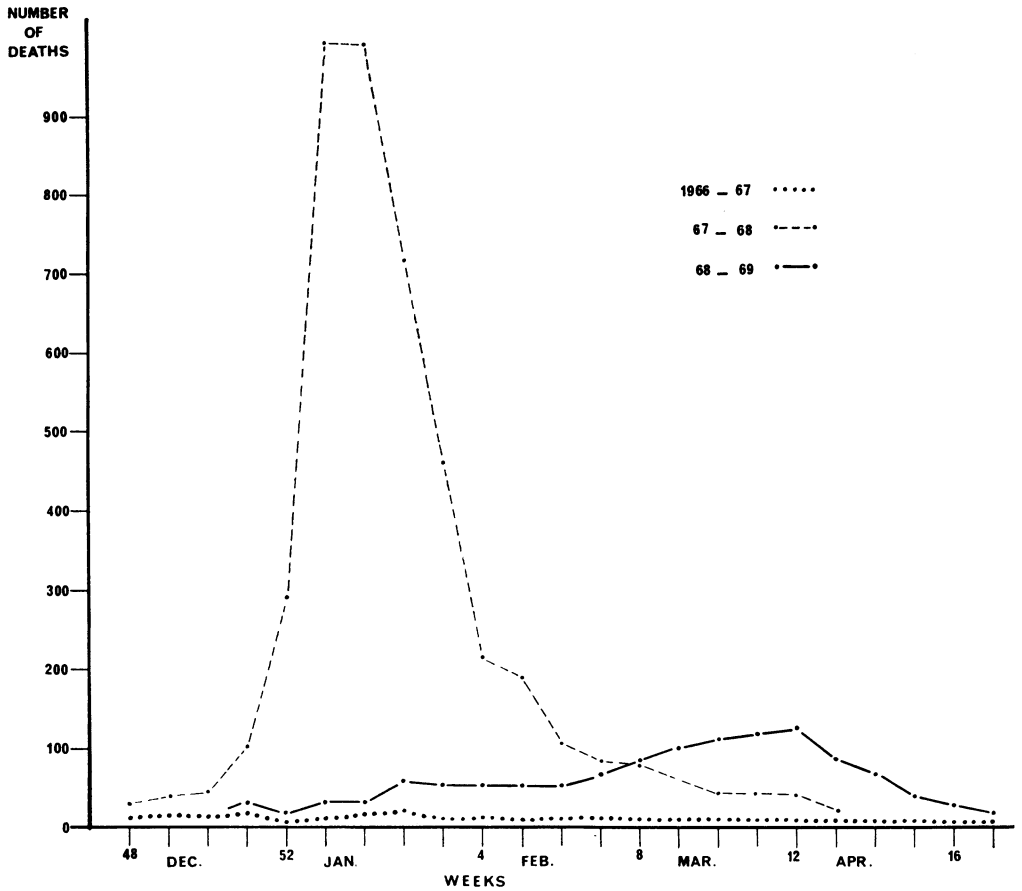
previously encountered in the United Kingdom with a relatively smaller proportion of strains resembling A2/Tokyo/67. A small number of influenza virus B infections were also reported in the winter of 1967-68 but there was little evidence of influenza virus B infection in the winter of 1968-69.

Fig. 4 shows the weekly deaths in England and Wales assigned to influenza and influenzal pneumonia in the winters of 1966-67, 1967-68 and 1968-69. In the epidemic of 1967-68 the number rose sharply to a peak of 993 in the week ending 5 January. In 1969 the rise was very slow and a maximum of 125 was reached in the week ending 28 March.

The total for the first 3 months of 1969 was less than one-quarter of the total in the corresponding period of the previous year.

Compared with 1967-68 and previous epidemic winters, the prevalence of influenza in Great Britain in the winter of 1968-69 rose to only a moderate height in any one week but extended over an unusually long period, from late December to early April. It was associated with no sudden or excessive demands either on general medical practitioners or on the hospital services. The total morbidity in Great Britain, as estimated by excess new claims to sickness benefit, was similar to that of

FIG. 4
WEEKLY DEATHS ASSIGNED TO INFLUENZA AND INFLUENZAL PNEUMONIA IN ENGLAND AND WALES
IN THE WINTERS OF 1966-67, 1967-68 AND 1968-69 ^a



^a Population approximately 48 million.

the previous winter, in which a sharp outbreak of influenza virus A2 infection occurred. The mortality was substantially lower. It is noteworthy that in Northern Ireland there was no major outbreak of influenza in 1967-68, the most recent previous epi-

demic winter there being that of 1965-66. A moderate outbreak of Hong Kong influenza occurred in February and March 1969, but both morbidity and mortality were considerably lower than in the winter of 1965-66.