



Introduction

Influenza is an acute infectious disease and one of the most important viral infections of the respiratory tract. It affects all age groups and is characterised by the sudden onset of fever, chills, headache and muscle pain. For most people it is an unpleasant, but not serious disease. However, in those with underlying chronic disease, especially the elderly, complications such as acute bronchitis and pneumonia are common. These can lead to hospitalisation and, in some cases, death. There are three influenza viruses, A, B and C. The influenza A virus changes its surface antigens each year, thus regularly exposing the population to different strains. Approximately once every decade, there is a major antigen change, resulting in a world-wide epidemic. Influenza B is more stable than A and influenza C is the most stable.

Epidemiology

Influenza is common and outbreaks of influenza A occur most winters, with epidemics every five to fifteen years. Influenza B also causes epidemics, but less frequently. Influenza C does not appear to cause epidemics, and by the age of 15 most of the population have developed antibodies against it. Infection rates for influenza are highest among school age children and decrease with age. In contrast, influenza deaths and hospitalisations for severe or complicated influenza mostly occur in infants and the elderly.

Deaths certified as due to influenza have fallen since the 1960s. There are now about 250 deaths in non-epidemic years, 80-90% occurring in those aged over 65. Women have a higher mortality rate from influenza than men. The number of hospital admissions for influenza are fairly low, typically less than twenty a week, rising to 70-80 a week during the winter. These are also concentrated among the elderly.

Figure 1: Age-specific influenza mortality rates. Ages 65+, England & Wales, 1958-92.

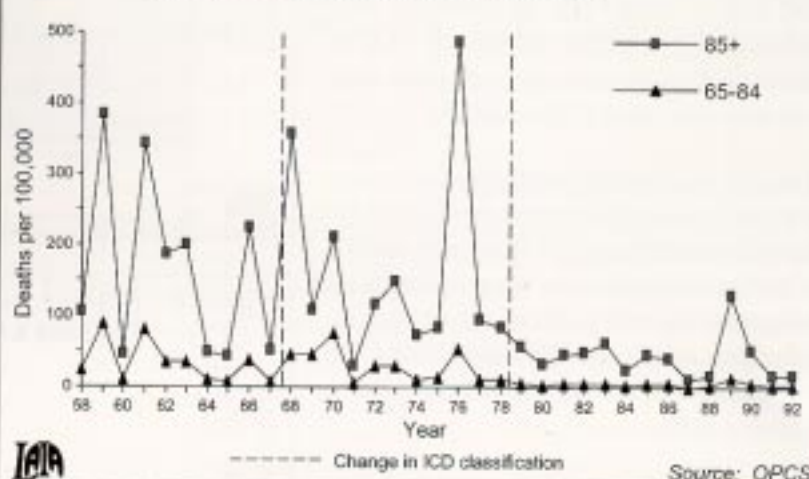
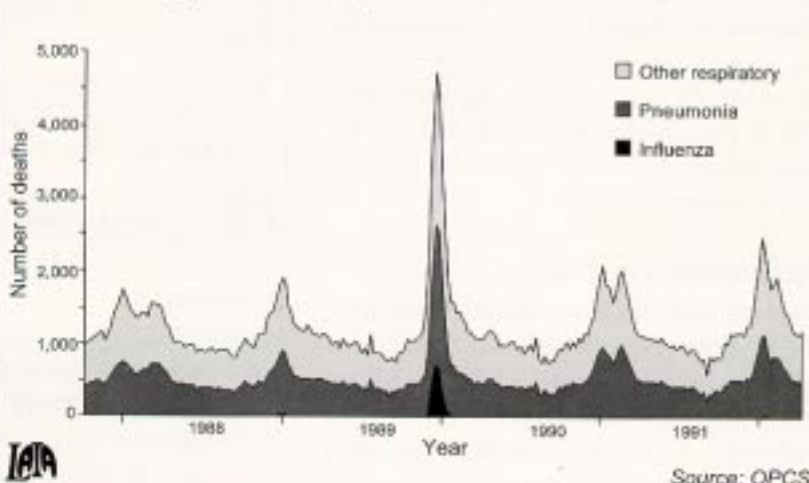


Figure 2: Weekly deaths from respiratory disease. England & Wales, October 1987- March 1992.



Influenza epidemics

Epidemics of influenza occur irregularly - the three most recent in Britain occurred in 1972/3, 1976 and 1989/90. Epidemics give rise to excess influenza mortality, which was most noticeable in 1976 (figure 1). Epidemics also cause considerable morbidity, such as increased hospital admissions, increased visits to General Practitioners, and loss of time from work and school. During epidemics, deaths and hospital admissions for other respiratory diseases and all causes also increase.

The 1989 influenza epidemic

The 1989 influenza epidemic started towards the end of November, the peak in infection rates and hospitalisations occurring during the first two weeks of December.

During the epidemic, deaths from influenza, pneumonia, and other respiratory causes increased markedly (figure 2). All-cause mortality also increased and there was an estimated 30,000 excess deaths. Of these, only 10% were attributed to influenza, 20% being attributed to pneumonia and a further 19% to other respiratory causes. Deaths occurred mostly in those aged 75 and over. Although this excess was followed by a deficit of nearly 11,000 deaths in the following three months, this was only one third of the excess.

Hospital admissions for influenza and other respiratory diseases also increased (figure 3). As with mortality, only a small percentage of the excess admissions were attributed to influenza. At the peak of the epidemic, influenza accounted for only 4% of all respiratory admissions and pneumonia for a further 20%.

New episodes of influenza and influenza-like illness seen by General Practitioners increased sharply through December, peaking at 272 and 311 per 100,000 respectively (figure 4). Consultations for all respiratory diseases also increased. In the last six weeks of 1989, approximately 8% of the population visited their GP for respiratory diseases - twice the number normally expected.

Influenza vaccine

The influenza vaccine is effective in reducing the severity of the disease, and the chances of developing complications such as pneumonia. It protects primarily against influenza A, and as this virus regularly changes its surface antigens, new vaccine is produced each year. Thus, protection only lasts for one season, and re-immunisation each year is needed. It is particularly recommended for the elderly, those with chronic underlying disease such as asthma, chronic heart disease or diabetes mellitus, and people living in long-stay or residential homes. In Great Britain, uptake of the vaccine is low, even among those for whom it is recommended - special studies have found vaccination coverage among the elderly ranging from 20% to 50%. This low uptake may be explained in part by patients not being offered the vaccine.

Figure 3: Weekly hospital admissions for respiratory diseases, England, October 1987 - March 1992.

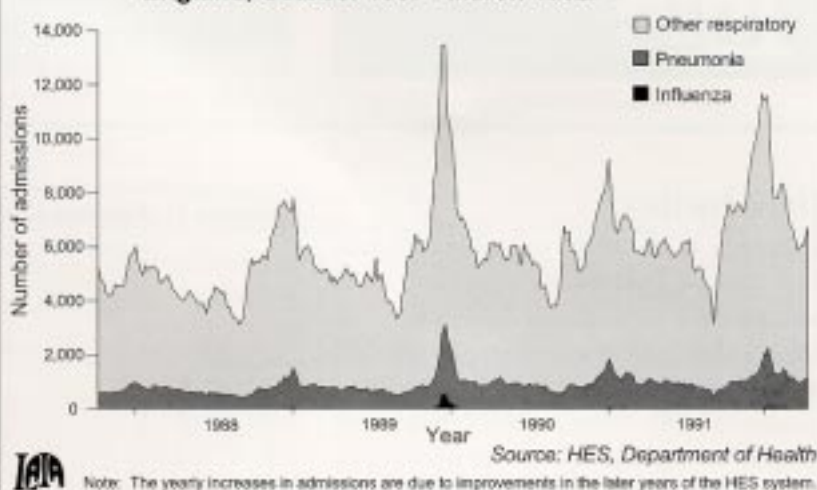
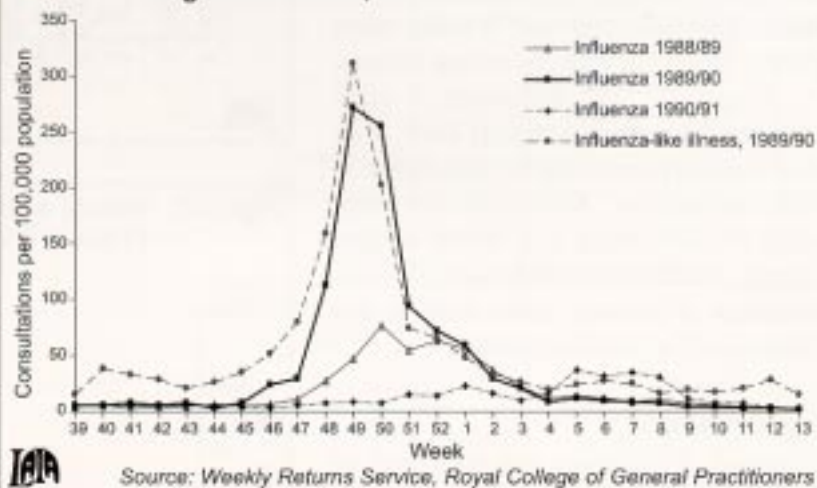


Figure 4: New episodes of influenza seen by GPs, England & Wales, October-March 1988-91.



Summary

- **Influenza is one of the most important viral infections of the respiratory tract. It is usually not a serious disease, but in some people can lead to complications such as pneumonia.**
- **Epidemics of influenza occur irregularly. They lead to an increase in visits to general practitioners, hospitalisations for influenza, pneumonia, and other respiratory diseases and all cause mortality. Few of the excess deaths are certified as due to influenza; many are attributed to non-respiratory causes**
- **Infection rates are highest amongst children, but hospitalisations and mortality are higher among the elderly.**
- **The influenza vaccine is effective and recommended especially for the elderly or those with chronic underlying disease.**

Footnote

An epidemic is defined as the occurrence of a disease in excess of what would be expected.