

## Trends in hospital admissions for asthma

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### Introduction

This factsheet updates LAIA factsheet 95/1 on hospital admissions for asthma which included data up to 1991.

The total number of hospital admissions in England and Wales with a discharge diagnosis of asthma rose considerably through the 1970s and 1980s (figure 1), increasing from just under 20,000 per year in the early 1960s to 80,000 per year by the mid 1980s. Data from the early 1990s show that numbers have stabilised at around 100,000 per year. Children account for about half of all asthma admissions.

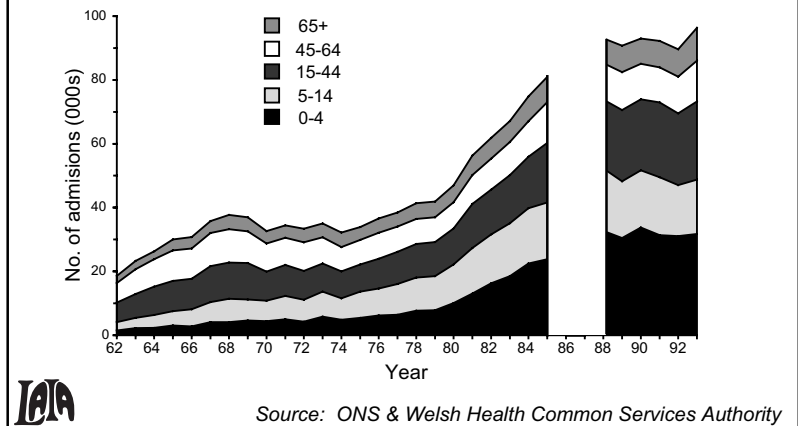
This increase in asthma admissions could have arisen for a variety of reasons, including changes in any or all of the following:

- Prevalence of asthma (LAIA factsheet 93/6);
- Disease severity or chronicity;
- Behaviour of patients (or their parents) during asthma attacks;
- Medical care, affecting the threshold of admission or the number of re-admissions;
- Information systems (see footnote);
- Diagnosis and coding of disease (LAIA factsheet 92/1).

### Children

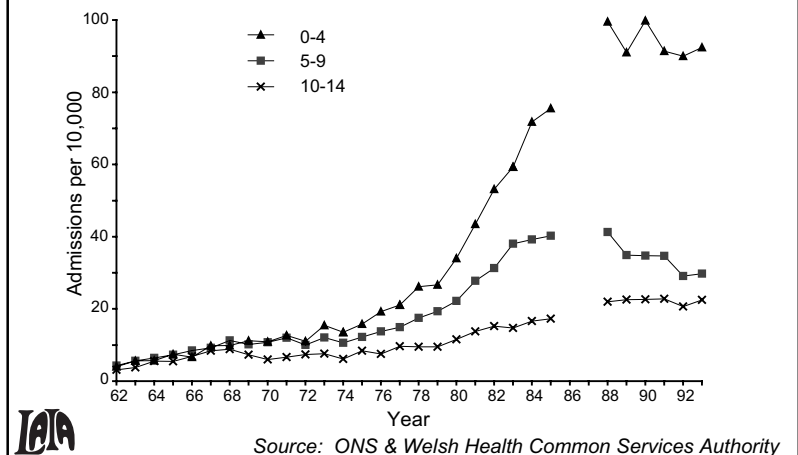
The largest increases in admission rates occurred in children, most notably in the youngest age-group (figures 2 and 3). In England and Wales among pre-school children, admissions went up from 4 per 10,000 in 1962 to almost 80 per 10,000 by 1985. Rates are currently level at about 90 per 10,000 per year in this age-group. A similar pattern is seen in children aged 5-9; rates increased six-fold to 40 per 10,000 in the mid-1980s, although they now appear to be decreasing, and are currently about 30 per 10,000 per year. Rates in the older children have increased more slowly and are now around 22 per 10,000 per year.

**Figure 1: Hospital admissions for asthma, both sexes, England & Wales 1962-1993.**



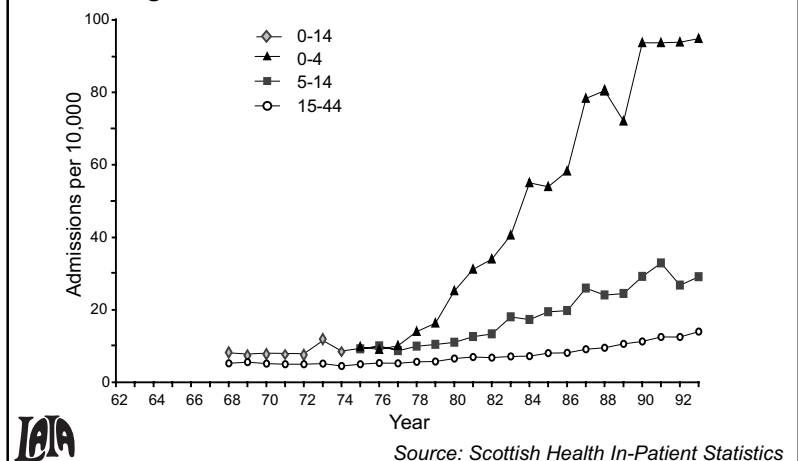
Source: ONS & Welsh Health Common Services Authority

**Figure 2: Age-specific hospital admission rates for asthma in children. Males & females combined, England & Wales 1962-93.**



Source: ONS & Welsh Health Common Services Authority

**Figure 3: Age-specific hospital admission rates for asthma, ages 0-44, males & females combined. Scotland 1968-93.**



Source: Scottish Health In-Patient Statistics

In Scotland, similar patterns are seen. The admission rates in pre-school children currently seem to be fairly stable at around 95 per 10,000 per year. In the 5-14 age-group the rates may still be increasing, and are currently about 30 per 10,000 per year.

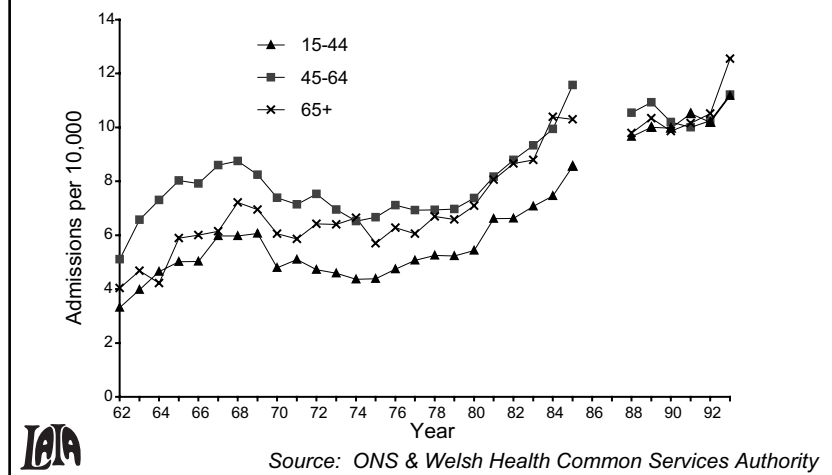
Special studies have established that these increases cannot be completely explained by an increase in re-admissions, diagnostic transfer from related categories such as acute bronchitis, bronchiolitis and pneumonia, or changes in the threshold of admission. A variety of medical care factors have been suggested, including more self-referral to accident and emergency departments during acute attacks, and an increase in referral by general practitioners of acute asthma to hospital. These would tend to increase the likelihood of children with acute asthma being admitted to hospital, regardless of any change in the occurrence of these acute attacks.

There have been changes in the reported prevalence of asthma and asthma-markers such as severe wheezing. Serial prevalence studies suggest a 50% increase in the prevalence of asthma in children over this time. Less is known about trends in the incidence of severe attacks not resulting in hospital admission.

## Adults

Admission rates in adults in England & Wales increased slightly through the 1960s, but then declined during the 1970s before beginning to rise again from 1980 (figure 4). Rates increased in 1993 in all three groups after a period of relative stability from 1988 to 1992.

**Figure 4: Age-specific hospital admission rates for asthma among adults. Males and females combined, England and Wales 1962 - 93.**



In Scotland, rates still appear to be increasing among the younger adults (figure 3).

## Pattern of admissions by age and sex

33% of admissions occur among children aged 0-4, and a further 18% among 5-14 year olds. Boys are twice as commonly admitted as girls. After the age of 15, this pattern reverses and women have a higher admission rate than men.

## Summary

- **The rate of hospital admissions coded as due to asthma rose considerably through the 1970s and 1980s, but has levelled off since 1990.**
- **The increase was most noticeable among children.**
- **In England and Wales, rates among children now appear to have stabilised but among adults they increased from 1992 to 1993.**
- **In Scotland, there has been a continuing rise in admission rates among young adults but rates among children have levelled off.**

## Footnote

**Data sources** Until 1982, data on hospital admissions for England and Wales were available in the form of a random 10% sample of all discharges and deaths (Hospital In-Patient Enquiry - HIPE). These were collected under the Hospital Activity Analysis system (HAA). In 1982, Wales started collecting their data separately with a 100% sample. The 10% sampling continued in England until 1985. In April 1987, changes were implemented in the NHS information systems in England following recommendations made by the Körner committee and the English data are now collected under the Hospital Episode Statistics system (HES). The published data are based on a 25% sample, aggregated by financial years. Wales continued collecting data under the HAA system until 1991, when they too changed to the HES system in April 1991. Under the HES system, discharges and deaths are identified as “finished consultant episodes”. A consultant episode is a period of care spent under one consultant, and patients may experience more than one episode of care in an admission. The HES figures for England presented in this factsheet are based on a re-analysis by calendar year of unpublished 100% HES data, using first consultant episodes only, which represent the admitting diagnosis. As diagnostic coverage was incomplete in the earlier years, the numbers of admissions have been adjusted using the published multiplying factors. The HES data for Wales was obtained from the Welsh Health Common Services Authority.

Scottish data on admissions is more complete. The numbers have been based on a 100% sample since 1968, and there has been no break or change in the data collection system. The data is also published in calendar years, rather than financial years.

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