

Trends in hospital admissions and deaths from asthma.

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Introduction

This factsheet extends to 1999 the LAIA factsheets 96/2 on admissions for asthma and 97/3 on asthma mortality. It describes trends in asthma admission rates and death rates from 1979. This is the year in which the International Classification of Diseases, 9th revision (ICD 9) was introduced; ICD 10 was initiated in 1995 for admissions and in 2001 for deaths.

Hospital admission rates

Table 1 shows the percentage changes in hospital admissions in England and Wales over the 20 year period from 1979-1999. There was more than a doubling in admission rates among the 0-4 age group. The other age groups also showed an increase but to a lesser extent and with no trend with increasing age.

The overall changes in admission rates conceal two opposing trends (Figures 1 and 2). Until 1985, admissions were increasing in all age groups but from 1988, the trends were all downward, most obviously in children. The gap in 1986 and 1987 corresponds to the change from the HAA to the HES system (see factsheet 96/2), but there was no change in coding practice. In Scotland, where there has been no change in the information system, rates were comparable and showed a similar increase in all ages in the earlier period (Figure 3). There has been a downturn only in children, which occurred in the early 1990s, later than in England and Wales.

Mortality

Trends in mortality show a different pattern. Overall, there has been a decrease of about 40% in all age groups up to 65 years (Table 1). The trends are shown in Figures 4 and 5. These show an increase in all adult age groups followed by a gradual decline which occurred a few years later in the 65+ age group. The irregular pattern for children is explained by random variability due to the small numbers who die of asthma in this age group, but there has also been an overall decline. Neither the introduction of a revised

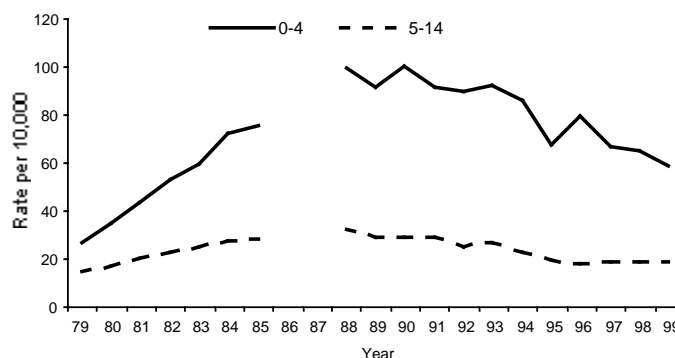
Table 1: Percentage change from 1979 to 1999 in admission rates and mortality rates for asthma, England & Wales

Age band	Hospital admissions		Mortality	
	1999 rate per 10,000	% change 1979-99	1999 rate per million	% change 1979-99
0-4	58.3	+ 118	1.8	- 40
5-14	18.2	+ 29	2.4	- 37
15-44	9.0	+ 73	6.2	- 43
45-64	8.9	+ 27	23.6	- 38
65+	9.8	+ 49	110.2	+ 3



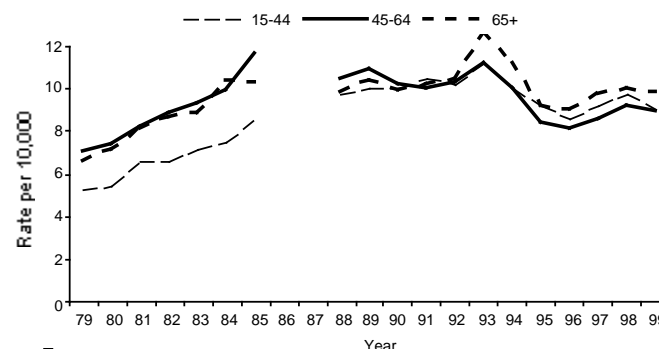
Source: DH, ONS

Figure 1: Trends in hospital admission rates for asthma in children, England & Wales, 1979-99

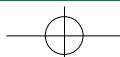


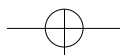
Source: DH

Figure 2: Trends in hospital admission rates for asthma in adults, England & Wales, 1979-99



Source: DH





interpretation of Rule 3 in 1984 (a rule advising how to select the cause of death, see factsheet 97/3) nor its withdrawal in 1993 were associated with substantial step changes across any age groups. This is indicative of a lack of any coding effect.

Interpretation

Changes in coding and information systems are unlikely to explain these trends. Hospital admissions can vary due to changes in medical practice or patient behaviour. Other studies have shown that the rising trend in admissions was not due to an increase in re-admission rates or diagnostic transfer from related conditions. Admission rates could also reflect changes in underlying morbidity. This can relate to the prevalence of asthma itself or the prevalence or severity of asthma exacerbations. There is evidence from general practice of fewer asthma attacks (factsheet 2000/1) and also evidence that suggests patients are being prescribed more medication, both of which would correspond to this explanation (factsheet 99/1). The underlying prevalence of asthma may have also increased, but little is known about trends in UK prevalence through the 1990s.

Mortality is related to incidence (cases and exacerbations), severity and case fatality. Thus, the mortality trends could represent changes in either the epidemiology or medical care of asthma. It is tempting to speculate that the downturn in admissions and mortality is due to improved management of asthma, but an underlying change in epidemiology due to trends in unknown factors is also possible.

Summary

- There was a large increase in admission rates for asthma during the 1980s.
- Rates of admission have been falling since 1988 in all age groups in England and Wales, but especially so in children.
- Rates of admission have been falling in children in Scotland since the early 1990s.
- From 1979 to 1999, mortality rates from asthma have fallen in England and Wales in all age groups up to 65 years.

Figure 3: Trends in hospital admission rates for asthma, Scotland, 1981-1999

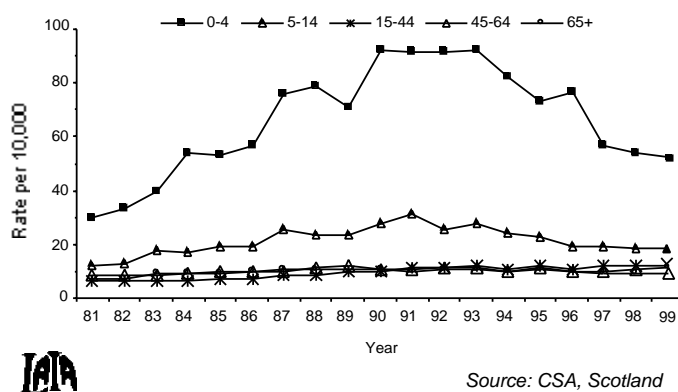


Figure 4: Trends in asthma mortality rates in ages 0-45 years, England & Wales, 1979-1999

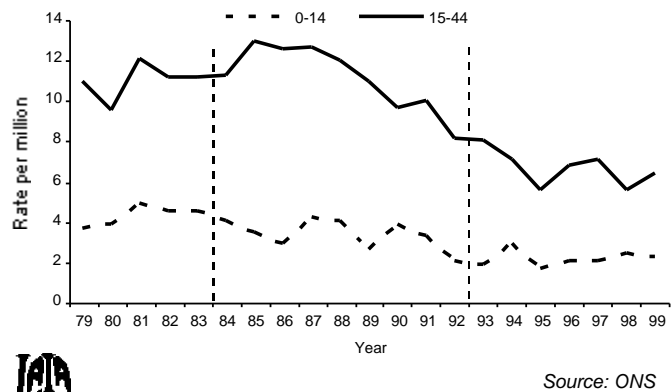
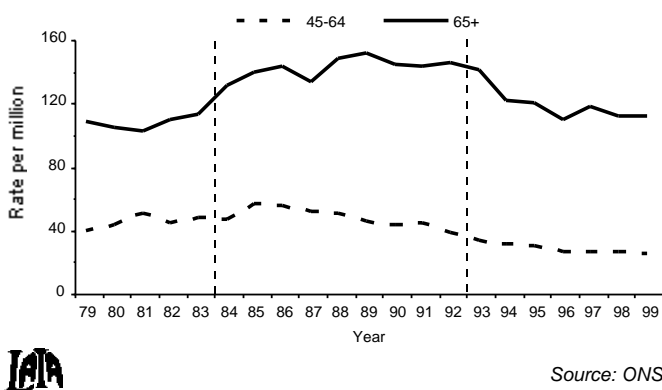


Figure 5: Trends in asthma mortality rates in ages 45+, England & Wales 1979-1999



Sources

Department of Health, Hospital In-patient Enquiry and Hospital Episode Statistics
 Health Solutions Wales, Bro Taf Health Authority
 Common Services Agency, Scotland, Hospital discharges
 Office for National Statistics, Mortality Statistics

