



Lung & Asthma
Information Agency

Asthma prevalence in Great Britain

Lung & Asthma Information Agency, Department of Public Health Sciences, St George's Hospital Medical School, Cranmer Terrace, London SW17 0RE

It is perhaps not widely appreciated that comprehensive information on the prevalence of asthma in the UK is not available. Reports of increases in asthma mortality or hospital admissions related to asthma often lead to speculation about possible increases in asthma prevalence or severity. However, indirect indicators such as these may reflect many other factors, including medical care, which are unrelated to prevalence. The only reliable information on prevalence comes from epidemiological surveys. Some of these - such as the national birth cohort studies - have had national coverage, but most have been local surveys of a specific age group, most commonly school-age children from a small geographical area.

Definitions

The prevalence of a disease is the proportion of the population who suffer from the condition at a given point in time. Measurement of the prevalence of asthma is not straightforward for a number of reasons (see footnote). Most estimates of asthma prevalence are therefore based on self-reported symptoms, most frequently the occurrence of wheezing and whistling in the chest over the last 12 months. Some surveys additionally measure airflow variability or bronchial hyper-responsiveness.

Children

Estimates vary, but between 12% and 15% of children currently suffer episodes of wheezing characteristic of asthma. These vary considerably in frequency and severity and probably less than 5% suffer persistent or repeated attacks of wheezing (figure 1). Prevalence is higher in boys than girls at least until adolescence.

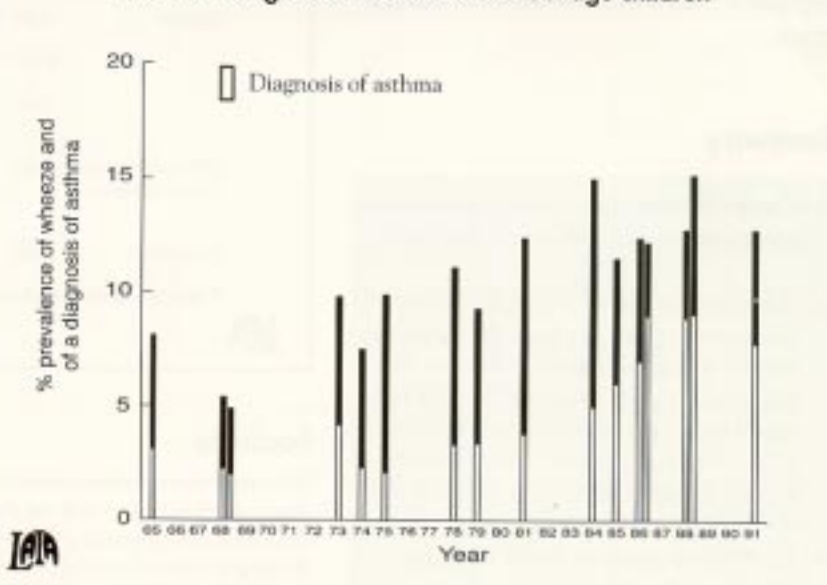
Results from a series of separate epidemiological surveys carried out since the mid-1960s (figure 2) show that the prevalence of wheezing illness in children increased substantially - by about half - between the early 1970s and mid-1980s. However, methodological and other differences between the studies make results difficult to interpret. More recent trends are less clear cut. These studies also show that the proportion of

Figure 1: Summary of morbidity statistics relating to asthma and symptoms of wheeze in children

	% of children
Current wheezing or 12 month period prevalence	12-15
Persistent wheezing	4
Severe acute attacks	1
Disabling disease	1-2
Diagnosis of asthma	8-10
Requiring regular treatment or care	4-6
Incidence per year	1-2
Incidence by age 23	30



Figure 2: Trends in the prevalence of wheeze in the past 12 months and of a diagnosis of asthma in school age children



children diagnosed as having asthma increased over the last decade. This recent increase in diagnosed asthma does not appear to be directly related to an increase in wheezing.

Results from the National Study of Health and Growth, in which 30,000 primary school children were studied between 1973 and 1986, similarly showed a small annual increase in the proportion of children with wheezing illness over that period. A 50% increase was also found in the proportion of children with persistent wheeze ("wheeze on most days and nights") suggesting a possible increase in the prevalence of more severe forms of asthma.

The prevalence of asthma in children shows some geographical variation. In the 1970 Birth Cohort Study, 10% of 5-year olds were found to have suffered an attack of wheezing on the chest in the last 12 months, with prevalence varying from 6% in Scotland to 11% in Wales and 12% in the South West (figure 3).

Adults (figure 4)

Asthma has a good prognosis in childhood. In the 1958 Birth Cohort Study, 30% of 23 year-olds had been wheezy at some stage, but only 4% reported that they had suffered from asthma and/or wheezy bronchitis in the past year. At age 33, however, 18% of subjects reported wheezing or whistling in the chest during the past 12 months and 8% had used drugs prescribed for asthma during the last year.

Measurement of the prevalence of asthma in older adults is difficult because other conditions causing wheeze, such as chronic bronchitis, become increasingly common with age. These may either co-exist with asthma or produce similar symptoms. From early middle-age onwards, more reliable indicators of asthma are night time breathlessness or improvements in lung function following the use of bronchodilator drugs.

One study suggests that approximately 5% of older men and 2% of older women suffer from asthma. Because there have been so few comparable studies of asthma in adults, it is impossible to estimate time trends in this age group.

Summary

- Comprehensive information on asthma prevalence in the UK is not available.
- Asthma prevalence is usually estimated from survey data; in children and young adults, wheezing is most commonly used as an indicator of asthma although estimates based on wheezing will include trivial illness; estimates based on wheezing alone are unreliable in older adults.
- 12-15% of children suffer episodes of wheezing characteristic of asthma; less than 5% suffer persistent or repeated attacks.
- The prevalence of asthma in children increased by about half between the early 1970s and mid-80s but recent trends are less clear cut; the proportion of children diagnosed as having asthma increased over the last decade.
- 15-20% of adults experience wheezing, but probably less than 5% suffer night time breathlessness or reversible air flow limitation characteristic of asthma.

Figure 3: Prevalence of wheeze at age 5 by Regional Health Authority in 1975

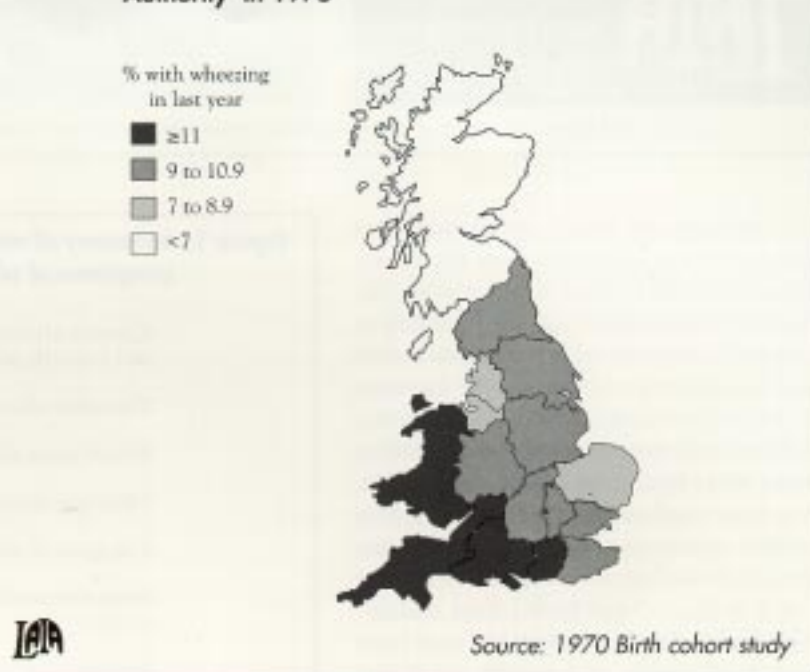


Figure 4: Prevalence of asthma and wheeze in adults

Area	Age		Males %	Prevalence Females %	All %
England	16-44	Wheeze/whistling in chest in last 12 months	16	15	16
	45-64		16	15	15
	65+		23	20	21
20 Local Authority Districts (England)	20-44	Night time breathlessness	3-5	-	-
South Wales	70+	Current asthma*	5	2	3

* wheezing/breathlessness + consistent response to treatment with bronchodilators/steroids

Footnote

The prevalence of asthma reflects both the incidence of the disease (the rate at which new cases of asthma arise) and the duration of the condition. An increase in the prevalence of asthma indicates that either more people are developing asthma, or that the people are tending to suffer the condition for longer, or both. Increases in the reported prevalence of wheezing may also reflect changes in respondents' perception of symptoms perhaps influenced by increased public awareness of asthma.

Measurement of the prevalence of asthma is not straightforward:

- Variation in the way in which asthma presents, making development of a standardised case definition difficult.
- Lack of an objective diagnostic test for the physiological or pathological characteristics of asthma which can be cheaply and easily administered in a large survey.
- Under-reporting of the condition by people with asthma (or their parents). They may be unaware that they have the condition or may attribute asthma symptoms to other conditions, such as respiratory infections and other wheezy conditions in young children, or chronic or recurrent bronchitis in adults.
- Lack of reliable and valid indicators of severity.
- Difficulty in knowing whether someone has "grown out" of asthma.