

SHORT REPORT

Trends in asthma hospitalisation: is this related to prevention inhaler usage?

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Sunderland and Fleming¹ show declining episodes of acute asthma seen in general practice and make reference to increasing hospitalisation for childhood asthma between 1970 and 1990. Whilst overall paediatric admissions have risen since 1990,² I present data here which

shows that there has been a decline in hospital asthma admissions for children in England since 1990. This is the case even when the trend to describe some hospital admissions as due to viral wheeze or wheezy bronchitis is taken into account—"a diagnostic transfer" also considered by Sunderland and Fleming. Hospital episode statistics for England were analysed for 11 years up to 2001, examining the various codes used for describing wheeze diagnoses. Data are presented for age 0–4 years and 5–14 years separately.

The hospital episodes for England coded as shown in table 1 were summarised into two groups. Firstly, those where the term asthma was used, and secondly episodes likely to be wheeze illnesses. Bronchiolitis and lower respiratory infection episodes were excluded.

Data on trends in prescription of prevention inhalers based on the general practice research database were summarised from the Office of National Statistics report and are shown in table 2.³

Trends in hospitalisation of children for asthma and wheeze by age are shown in table 3 and fig 1 with an overall decline in hospitalisation being evident. Figure 1 also shows trends in prescription of prevention inhalers over some of the years.

Use of diagnostic descriptions and codes vary by age strata and this is shown in figs 2 and 3.

The results of this analysis show a decline in asthma and wheeze admissions and no evidence of a misleading decline which might follow differences in use of viral wheeze or wheezy bronchitis as descriptions for asthma admissions. This decline mirrors the reported decline in GP contacts for acute asthma, although the latter may miss the quite frequent access to acute care following self referral to accident and emergency departments where breathing difficulty, including asthma, is the commonest non-trauma presentation in children.⁴

Trends in asthma and wheeze admissions confirm the primary care observation of an apparent true decline in

Table 1 Codes analysed in acute wheeze illnesses and asthma

ICD 9 code	Diagnosis	Group
466	Acute bronchitis and bronchiolitis	Excluded
	Unspecified acute lower respiratory infection	Excluded
490	Bronchitis, not specified as acute or chronic	Wheeze
491	Chronic bronchitis	Wheeze
493	Asthma	Asthma
518	Other diseases of lung	Excluded
	Status asthmaticus	Asthma
	Acute bronchitis	Wheeze
7860	Dyspnoea and respiratory abnormalities 7860 (ICD 9)	Wheeze
	Wheezing R062 (ICD 10)	Wheeze

Table 2 Percentage of children diagnosed with asthma who are prescribed a prevention inhaler (steroids or cromoglycate with or without bronchodilator)

Year	% aged 0–4 y on prevention	% aged 5–14 y on prevention
1994	49.3	68.2
1995	56	69.9
1996	60.9	70.9
1997	64.7	72.8
1998	68	73.5

Data presented for males only.

Table 3 Wheeze and asthma admissions each year England

Year	Wheeze 0–4 y	Asthma 0–4 y	Wheeze 5–14 y	Asthma 5–14 y
1990/91	9291	33089	1087	17599
1991/92	10262	33249	1328	20130
1992/93	10995	32755	1348	17537
1993/94	12021	32412	1690	18810
1994/95	11129	28623	1767	15843
1995/96	8294	28657	690	16280
1996/97	8228	27247	509	13585
1997/98	8369	21570	658	14089
1998/99	9023	19902	653	13017
1999/00	9982	18026	815	12803
2000/01	9665	15021	806	12199

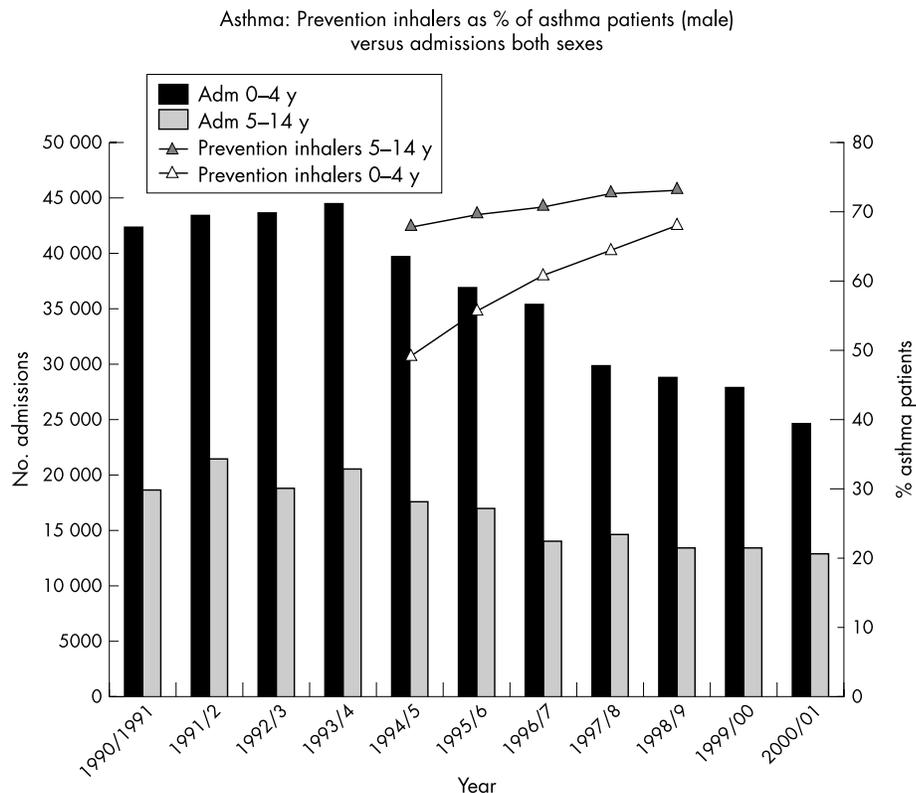


Figure 1 Trends in hospital admissions of children (male and female) with asthma and wheeze in total shown with trends in use of prevention inhalers in males only.

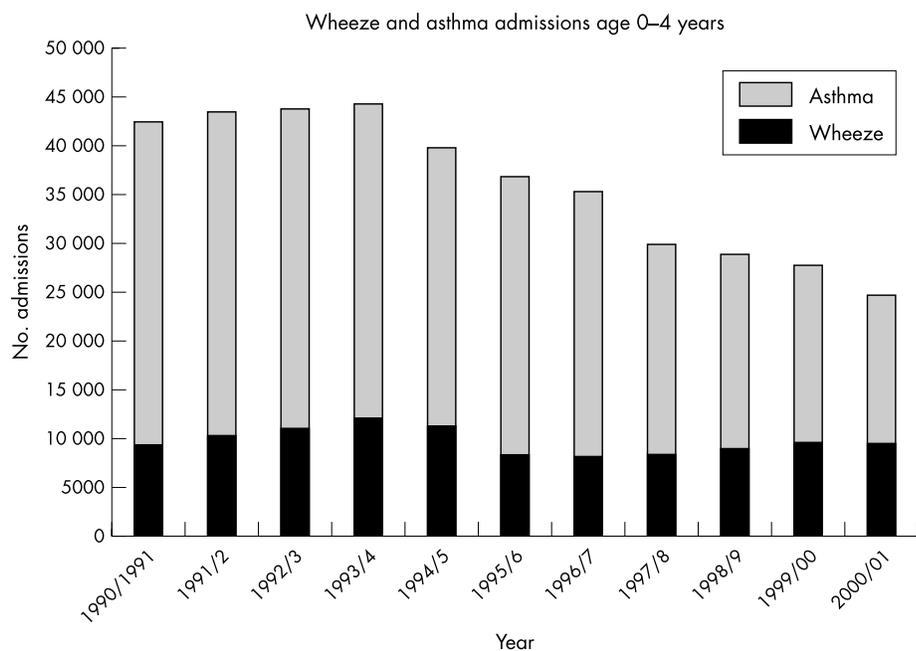


Figure 2 Wheeze and asthma codes used on discharge . Numbers per year, England, age 0-4 years.

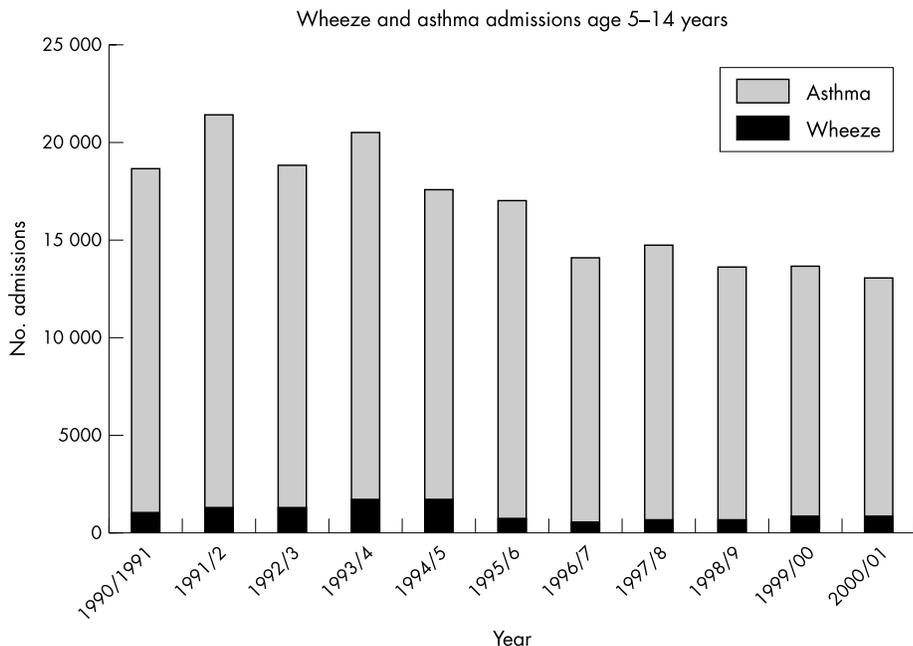


Figure 3 Wheeze and asthma codes used on discharge. Numbers per year, England, age 5-14 years.

childhood asthma morbidity. Part of the explanation may lie in the increased prescription of asthma inhalers and better supervision of their use.

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- 3 **ONS**. Key health statistics from general practice 1998. MB6 number 2. Office of National Statistics, 2000.
- 4 **Armon K**, Stephenson T, Gabriel V, et al. What are the common medical presenting problems to accident and emergency? *Arch Dis Child* 2001;**84**:390-2.

