

Pneumothorax

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Pneumothorax is the presence of air in the pleural cavity and can either be primary, without an obvious underlying cause, or secondary to underlying lung disease. The incidence of pneumothorax can be identified from GP consultations, hospital admissions and mortality data. Pneumothoraces due to trauma or medical or surgical treatment are excluded from this factsheet.

Incidence

In the UK between 1991 and 1995 the incidence of GP consultations for pneumothorax (both primary and secondary combined) was 24.0 per 100,000 per year for males and 9.8 per 100,000 per year for females. The incidence of emergency hospital admissions for pneumothorax was 16.7 and 5.8 per 100,000 per year for males and females respectively.

Age and Sex Distribution

The age and sex distributions of GP consultations and emergency hospital admissions show a similar pattern (Fig. 1). In males there is a marked increase in early adult life which peaks in the 20's and then falls until the 40's when it increases again. In females, the incidence is lower than in males but there is a similar tendency for a rise and fall in early adult life followed by an increase after the 50's. The younger age group (15-34 years) accounts for nearly half of cases with incidences in general practice of 37 per 100,000 per year for males and 15 per 100,000 per year for females and for hospital admissions, 26 and 9 per 100,000 per year respectively. The older age group (55+ years) accounts for about a third of cases, with male and female incidence rates in general practice of 33 and 11 per 100,000 per year respectively, while equivalent figures for hospital admissions are 25 and 6 per 100,000 per year respectively.

Geographical Distribution

In the younger age group there is no apparent association with urbanisation (Fig. 2). In contrast, in those aged over 55 years there is a clear trend towards increasing rates with increasing urbanisation. The incidence of

Figure 1: Rates of hospital admissions and patients consulting a general practitioner for pneumothorax, England, 1991-94

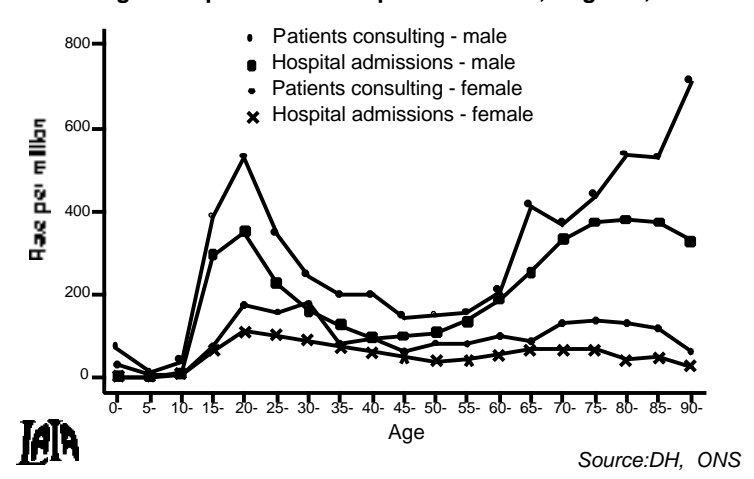


Figure 2: Hospital admissions for pneumothorax by rural/urban classification, England, 1991-94

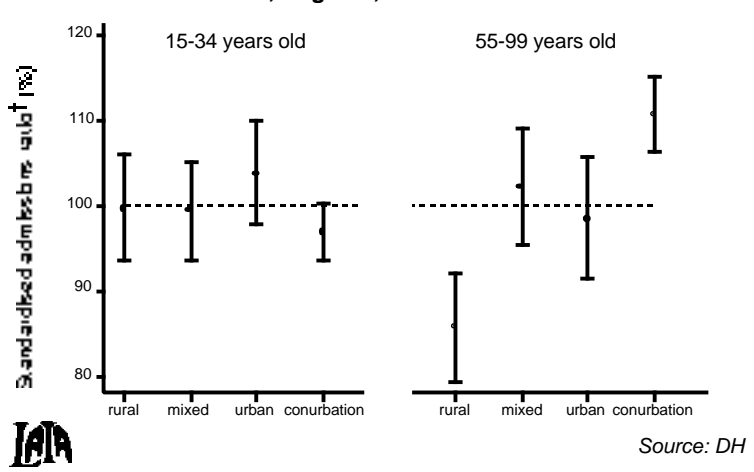
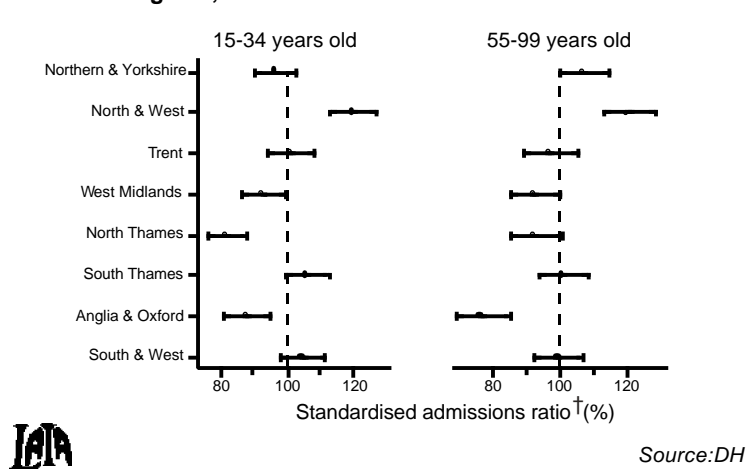


Figure 3: Hospital admissions for pneumothorax by regions, England, 1991-94



pneumothorax in both younger and older age groups is highest in the North West region of England, although other regions with high rates are South Thames for younger and Northern & Yorkshire for older people (Fig. 3). Lower rates are seen in Anglia & Oxford, North Thames and West Midlands for both age groups. The geographical distribution of pneumothorax follows that of COPD (LAIA 99/2) and of smoking, both risk factors for secondary pneumothorax.

Mortality

Death from pneumothorax is rare. The overall mortality between 1991 and 1995 was 1.26 per million per year for males and 0.62 per million per year for females. The majority of deaths occurred in the elderly (Fig. 4), presumably because of underlying lung disease.

Time trends

There was no significant trend over time for GP consultations, hospital admissions or mortality for pneumothorax during 1991-1995 (Table 1). However, mortality rates in the older age group (55+ years) increased markedly between 1960 and 1990 and have since fallen steeply (Fig. 5). These changes have been predominantly in males. Mortality for the younger age group (15-34 years) has remained consistently low.

Summary

- GP consultations and hospital admissions for pneumothorax show similar bimodal age distributions.
- The incidence of pneumothorax is higher in males than females at all ages.
- Hospital admission rates for pneumothorax increase with increasing urbanisation in the 55+ age group.
- Between 1991 and 1995, GP consultations and hospital admissions for pneumothorax show no significant trend over time.
- Deaths from pneumothorax occur mainly in the elderly. Mortality in men aged 55+ increased markedly between 1960 and 1990 but has since declined.

Figure 4: Mortality rates for pneumothorax by age and sex, England, 1991-95

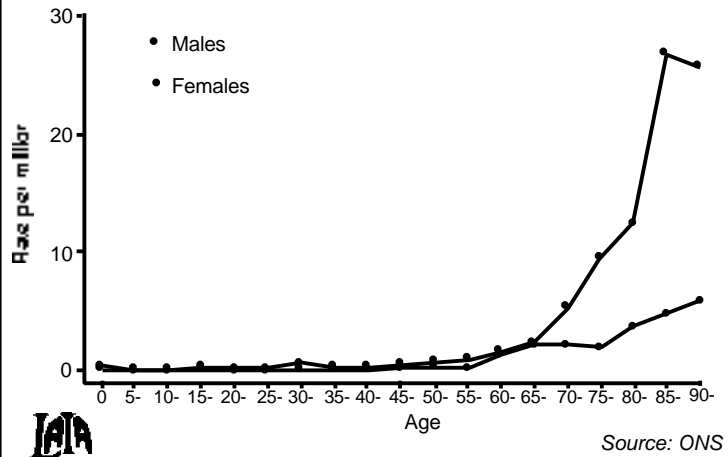


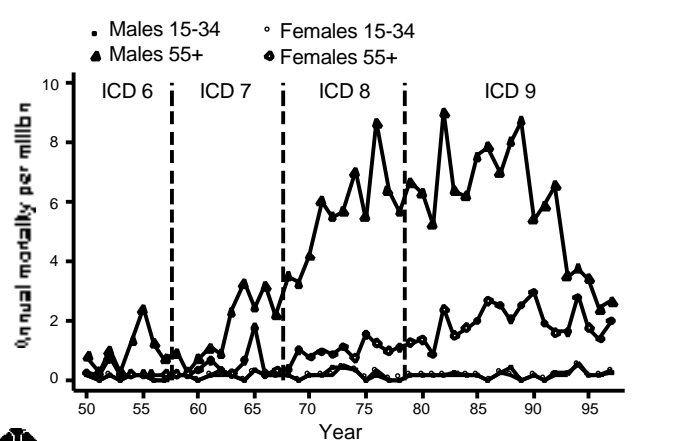
Table 1: Rates of emergency hospital admissions, patients consulting a GP and mortality for pneumothorax per million population in England, 1991-95

	Hospital admissions		Patients consulting GP		Mortality	
	Male	Female	Male	Female	Male	Female
1991	166	58	261	103	1.5	0.6
1992	177	60	254	93	1.6	0.6
1993	172	59	218	104	0.9	0.5
1994	153	56	233	99	1.2	0.8
1995	—	—	239	92	1.1	0.5



Source: DH, ONS

Figure 5: Mortality rates for pneumothorax, England & Wales, 1950-97



Source: ONS

† Gupta D, Hansell A, Nicholas T, Duong T, Ayres JG, Strachan D
The epidemiology of pneumothorax in England. *Thorax* 2000; 55: 666-671

We would like to thank Dr Dheeraj Gupta for preparing this factsheet

Erratum: In factsheet 2000/1, figure 4, the line for influenza is missing. Please see the website for the correct graph.
The LAIA website address is <http://www.sghms.ac.uk/depts/laia/laia.htm> Back copies of factsheets and sets of the charts from factsheets can be downloaded from the website in Adobe PDF format, or emailed on request from laia@sghms.ac.uk