



# Trends in COPD

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Chronic obstructive pulmonary disease (COPD) is a relatively new name for an old condition. As a diagnostic category in hospital admissions and mortality data, the label "chronic airways obstruction" was first established in 1979 with the introduction of ICD 9, largely replacing chronic bronchitis and emphysema. In ICD 10, introduced for coding admissions from April 1996 and from 2001 for mortality, the term used is "Other chronic obstructive pulmonary disease" (Table 1). The WHO predicts that COPD will rise up the rankings of chronic disease prevalence from 12th to 5th place by 2020 world wide, but the trends in the UK tend not to follow that global pattern.

## Prevalence

There are few data on the prevalence of COPD in the UK. The Health Survey for England 1996 reported on relative lung function and chronic respiratory symptoms in the adult population. The prevalence of low FEV<sub>1</sub> values was 11% in men and 8% in women (see footnote) while the prevalence of chronic cough or phlegm production was 19% in men and 14% in women. The General Household Survey records self-reported diagnoses of chronic bronchitis and emphysema. These showed a far lower prevalence of 0.9% in men and 0.7% in women in 2001 which indicates that much early disease is unrecognised.

## GP consultations

Factsheet 96/3 reported patient-consulting rates from the three national Morbidity Surveys in General Practice which showed no increase between 1971 and 1991 for patients diagnosed with chronic bronchitis. Analysis of the General Practice Research Database (GPRD) showed a prevalence of GP consultations for COPD of 1.6% in men and 1.4% in women in 1997. There was a small upward trend in women from 1990-97 and a levelling off in men during that period. However, these figures will not include those who have COPD but without symptoms of sufficient severity to report that year. The GPRD also shows the predicted winter seasonality of consultations for COPD (figure 1). In contrast, prescribing for COPD-like symptoms is constant throughout the year except during the Christmas/New Year period.

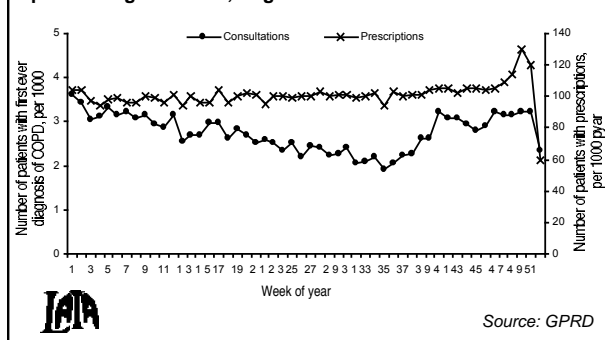
## Hospital admissions

Most admissions for chronic obstructive pulmonary diseases are coded as COPD or COAD, rather than chronic bronchitis or emphysema (figure 2). Admission

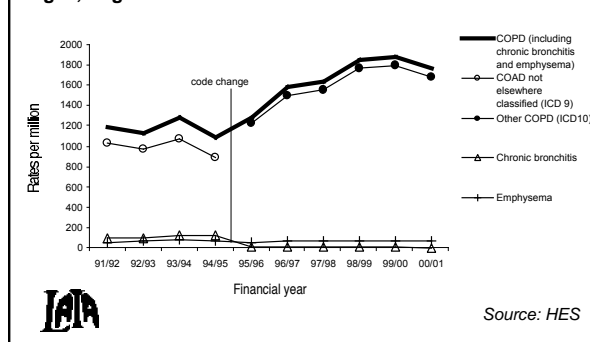
**Table 1: ICD codes for chronic lower respiratory obstructive diseases**

ICD 9		ICD 10	
490-496	Chronic obstructive pulmonary disease and allied conditions	J40-J47	Chronic lower respiratory diseases
490	Bronchitis not specified as acute or chronic	J40	Bronchitis not specified as acute or chronic
491	Chronic bronchitis	J41,J42	Chronic bronchitis
492	Emphysema	J43	Emphysema
496	Chronic airways obstruction	J44	Chronic airways obstruction

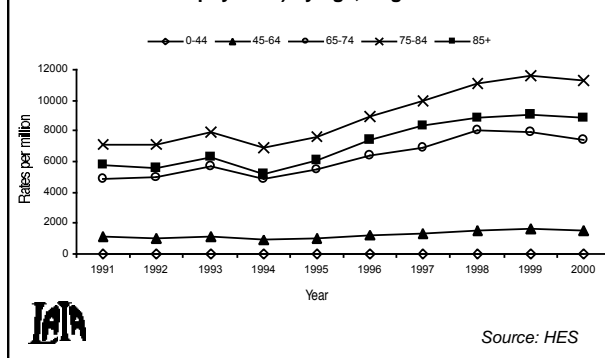
**Figure 1: Seasonal variations in GP consultations and prescribing for COPD, England 1991-95**



**Figure 2: Admissions for chronic obstructive pulmonary diseases including chronic bronchitis and emphysema, all ages, England 1991-2001**



**Figure 3: Admission rates for COPD (including chronic bronchitis and emphysema) by age, England 1991-2000**



rates for all COPD diagnoses combined have increased across all age groups over the last decade (figure 3) and this is due largely to factors other than a diagnostic shift from asthma to COPD. The increase is slightly greater in females than in males but the trends are broadly similar (figure 4). COPD admissions as a percentage of all admissions have also increased steadily from 0.5% in 1991 to 1% in 2000.

### Mortality

Age-adjusted mortality rates for COPD have fallen over the last twenty years in males from 1070 to 634 per million (largely in those over the age of sixty five) (figure 5). In contrast rates have increased in females overall from 230 to 323 per million over the same period. This increase in females has been in the 65-84 years age group while the rates at younger ages have fallen slightly (figure 6). It is notable that there is a greater divergence in trends in COPD mortality between the sexes than in admissions or GP consultations. This might be due to a sex difference in the pathology of the airway inflammatory process, differences in perception of symptom severity or in the natural history in the terminal stages of the disease.

The geographical pattern for mortality tends to concentrate over industrialised areas, but is broadly similar between males and females (LAIA factsheet 96/1).

### Summary

- The prevalence of diagnosed COPD is about 1.5% in the UK and prevalence of reduced lung function is about 10%.
- COPD continues to be responsible for over 90,000 hospital admissions a year which, with an average duration of stay of 11 days, means nearly a million hospital bed days per year.
- Mortality continues to rise in women but has fallen in men.
- The disparity between the trends for mortality, hospital admissions and GP consultations between the sexes remains unexplained.

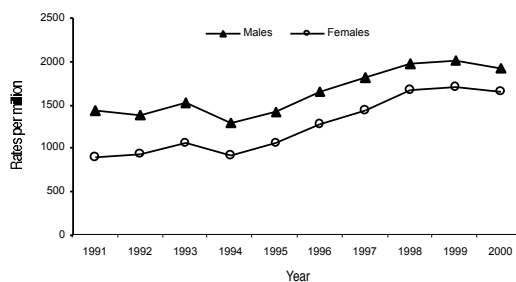
### Footnote

Forced Expiratory Volume in the first second (FEV<sub>1</sub>). This is the volume that can be expelled in the first second of forced expiration, starting from a full inspiration. A low FEV<sub>1</sub> is a marker of airway narrowing, indicative of COPD, asthma or other obstructive lung diseases. 'Low' in this case meant that people were less than 1.64 standard deviations lower than the predicted level based on a reference population (that is, within the lowest expected 5% of the predicted population).

### Sources

Health Survey for England 1996 (<http://www.archive.official-documents.co.uk/document/doh/survey96/ehtitle.htm>)  
 General Household Survey 2000  
 Soriano JB et al. Recent trends in physician diagnosed COPD in women and men in the UK. *Thorax* 2000; 55: 789-794  
 ONS Mortality Statistics

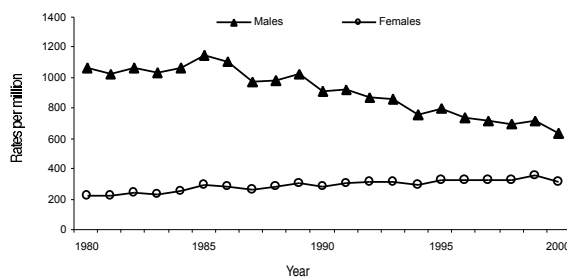
Figure 4: Trends in admission rates for COPD (including chronic bronchitis and emphysema) in males and females, all ages, England 1991-2000



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Source: HES

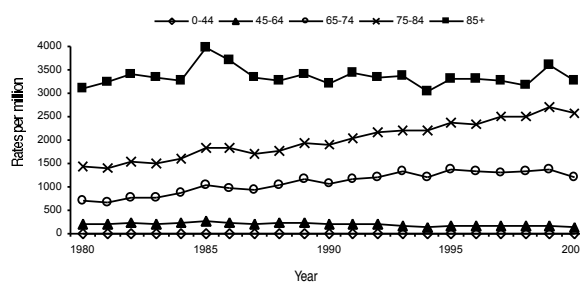
Figure 5: Trends in age-adjusted mortality rates from COPD in males and females, England & Wales 1980-2000



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Source: HES

Figure 6: Trends in deaths in females from COPD by age, England & Wales 1980-2000



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Source: ONS