

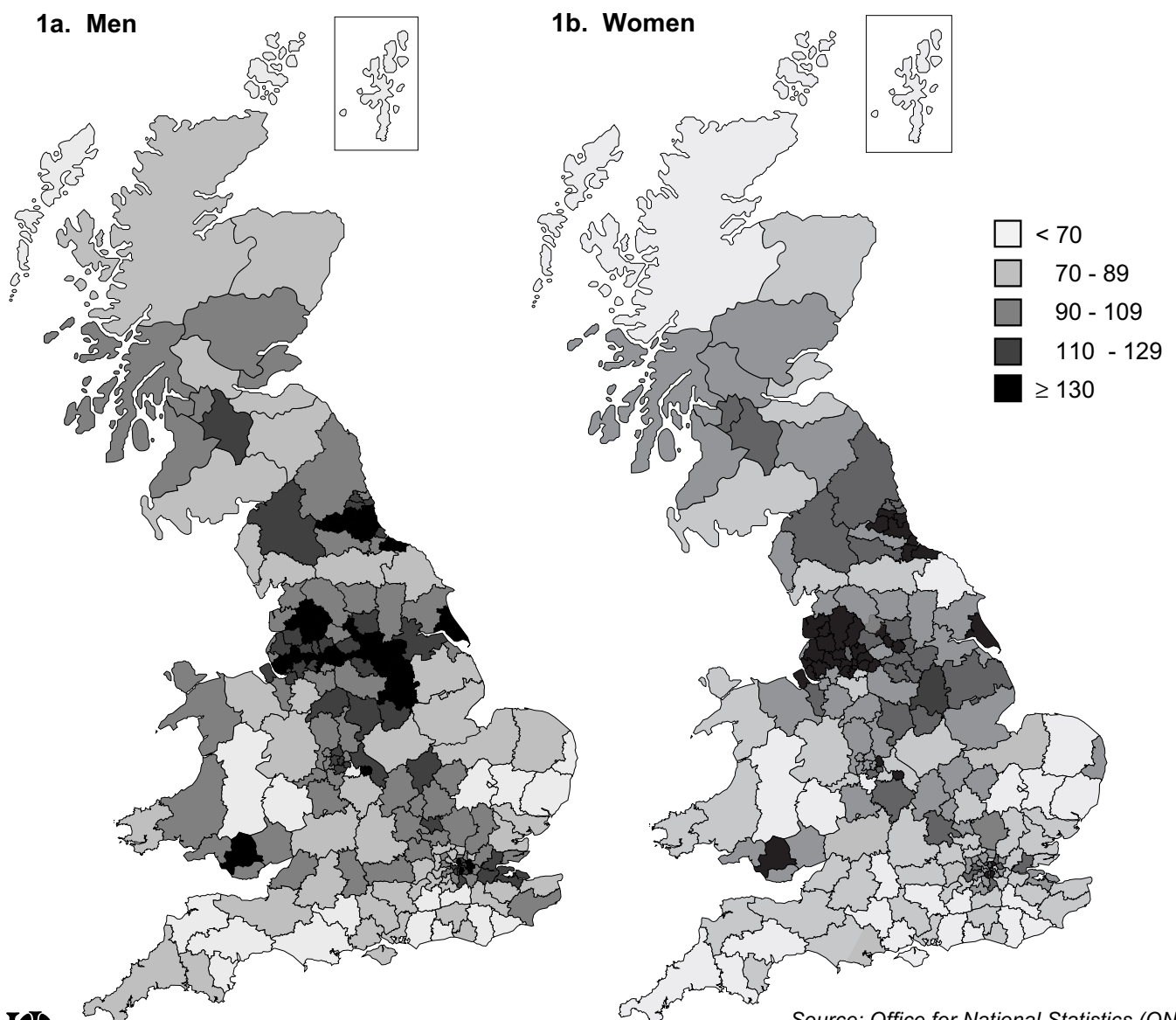
Introduction

Chronic obstructive pulmonary disease (COPD) describes a group of obstructive lung diseases including chronic bronchitis, emphysema, chronic airways obstruction and asthma. This factsheet looks at geographical variations in mortality from COPD in the elderly. The maps present standardised mortality ratios (SMRs) for COPD for the three years 1990-92 by District Health Authority in England & Wales, and Health Board in Scotland, a total of 202 areas. Further information on the method of calculation of the standardised mortality ratios is given in the footnote.

Males

In men aged 65+, for the three years, 1990-92, there were 51,500 deaths attributed to COPD in Great Britain, a crude mortality rate of 48.2 per 10,000. Figure 1a shows the nationwide variation in standardised mortality ratio for COPD in males. The SMRs vary from 185 in North Manchester to 49 in the Western Isles in Scotland. The highest SMRs, indicating relatively high mortality, are seen in Durham, Lancashire, Yorkshire, London and South Wales. The lower SMRs, indicating relatively low mortality, tend to occur in more rural areas, such as East Anglia, South West England and Mid Wales.

Figure 1: Standardised mortality ratios by District Health Authority in England & Wales and Health Board in Scotland, ages 65+, 1990-92.



Source: Office for National Statistics (ONS)
& General Register Office, Scotland.

Females

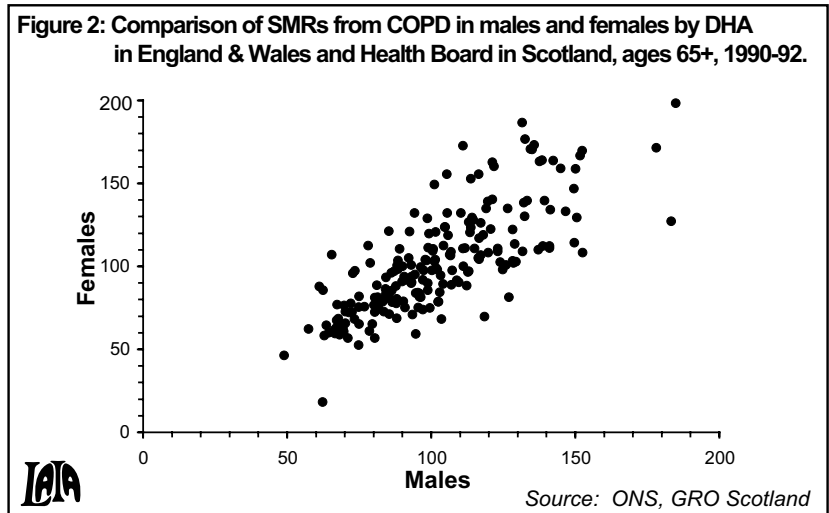
Mortality from COPD is about half as common in women than men. In Great Britain in 1990-92, there were 30,000 deaths in women aged over 65, giving a crude mortality rate of 18.8 per 10,000. Figure 1b shows the nationwide geographical variations in standardised mortality ratio for COPD in females. The range of SMRs is wider than that for the men - 199 in North Manchester to 18 in Shetland, although the latter is based on a very small number of deaths. The geographical pattern is similar to that seen in males although there appears to be less variation between neighbouring districts than is the case for men.

Males vs females

Apart from gender differences in the aetiology and survival from COPD, there might also be local factors influencing COPD mortality. It would then be expected that high rates would occur together in men and women. Figure 2 shows the correlation between SMR for each area among males and females. It can be seen that in general, there is good agreement, showing that high COPD mortality in males is often associated with high COPD mortality in females.

Smoking

Smoking is one of the established risk factors associated with obstructive lung disease. In the elderly, past rather than current cigarette consumption is more likely to influence current mortality rates. Data from the 1972 General Household Survey show that smoking prevalence varied across the country. There were high proportions of smokers in North West England, Wales



and Scotland, and low proportions in East Anglia, South West England, and South East England outside Greater London. Thus, there does appear to be some correlation with past smoking and current COPD mortality

Summary

- **For the three years, 1990-92, the crude mortality rates from COPD in Great Britain were 48.2 per 10,000 and 22.5 per 10,000 in men and women aged over 65 respectively.**
- **Across the country, there are substantial geographical variations: more than 3-fold in men and more than 10-fold in women.**
- **The highest rates tend to occur in the large conurbations in Northern England, whereas the lower rates are seen in more rural areas.**
- **Smoking is one of the risk factors associated with COPD. Past, rather than current, cigarette consumption is more likely to be related to current COPD mortality in the elderly. There is regional variation in past smoking patterns, which show some correlation with current COPD mortality.**

Footnote

In this factsheet, mortality rates have been presented as standardised mortality ratios or SMRs. These are useful when comparing mortality in different areas, as they are single summary figures, which take into account the differing age-structures of the populations. In this case, comparing the crude death rates in different districts could be misleading, as the proportion of men aged 70-74 years, for example, will not be the same in each district. When interpreting SMRs, a value of less than 100 shows lower than expected mortality, and values above 100 indicate higher than expected mortality.

To calculate SMRs, a standard population is needed - England and Wales was chosen here. Then, for each district and health board in the three years 1990-92, the observed number of deaths and the population by 5-year age-band over the age of 65 was used. The expected number of deaths in each 5-year age-band was calculated, by applying the England & Wales rates for each age-group during 1990-92 to the district population. The total number of expected deaths in the 65+ age-group was thus obtained, and the SMR for each district calculated as the observed number of deaths divided by the expected number of deaths.

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