

# Inequalities in mortality in Scotland 1981-2001

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## Executive summary

### *Methods*

The report combines death records from 1980-2002 with population data from the 1981, 1991 and 2001 Censuses to analyse changes in the pattern of mortality by social class and area-based social deprivation. Both measures of social position have weaknesses, so using the two provides a more detailed and robust picture of changes in inequalities in mortality than either would provide on its own.

### *Population*

There was a pronounced “bulge” in the Scottish population structure at ages 10-34 in 1981. This bulge has aged with the population – occurring at ages 30-54 in 2001 – and will disappear in about 60 years. The regional share of the total population changed little from 1981 to 2001 with the exception of a 3% fall in the population of the Clydeside conurbation attributable to a 19% fall in the population of Glasgow.

### *Overall mortality*

Both the crude death rate and the age standardised mortality rate are declining. Age standardised mortality fell by 30% for men and 25% for women between 1981 and 2001. Mortality fell by 55% for people under 15 and by about 35% at ages 45-59 in this period; however, there were increases among men aged 15-29 from 1981-2001, among men aged 30-44 from 1991-2001 and among women aged 15-29 from 1991-2001.

Regional differences in mortality persisted or grew between 1981 and 2001. Male mortality rates in Clydeside (nearly one third of Scotland’s population) were 9% above the Scottish average in 1981 and 17% higher in 2001. Male life expectancy at birth in Glasgow was 3.5 years lower than in Edinburgh in 1981, but 5.4 years lower in 2001.

### *Causes of death*

The 32% decline in male mortality at ages 0-64 between 1981 and 2001 is largely due to a 62% fall in deaths from Ischaemic Heart Disease (IHD) and reductions of about one half in deaths due to each of lung cancer, cerebrovascular disease, chronic respiratory disease and accidents. However, a 43% increase in suicides and a substantial increase in deaths from chronic liver disease saw rates from these two causes at the same level as lung cancer in this age group by 2001. There were also marked increases in deaths linked to mental and behavioural disorders due to the use of drugs and alcohol; by 2001, the death rate from each of these was about the same as for colorectal cancer.

Female mortality under 65 declined by 33%; this reflected falls of 62% for IHD, 32% for breast cancer and just 15% for lung cancer. Mortality rates due to cerebrovascular disease and accidents both fell by about one half and there were falls of about 20% for deaths from chronic lower respiratory disease and for suicide. As for men there was a substantial increase in deaths from chronic liver disease.

Changes in mortality from each of the causes were patterned by age and differed for men and women. Mortality rates from IHD fell by 64% (males) and 65% (females) at ages 45-59 but only by 36% and 31% at ages greater than 74. Male lung cancer mortality rates fell by 53% at ages 45-59 but only by 19% over 74; female rates at these ages fell by 23% and increased by 135% respectively.

### *Social class inequalities in mortality*

Difficulties in attributing social class to older people and to women mean that analysis of deaths by social class is restricted to men aged 20-64. Analysing trends in social class inequalities is further complicated by changes in the system of classification between 1991 and 2001, but some features are clear.

For men aged 20-59, mortality gradients were evident in both old and new classifications. In 1991 mortality rates in partly and unskilled occupations (22% of the relevant population) were 2.9 times the rate in professional, managerial and technical occupations (29%). In 2001, mortality rates in routine and semi-routine occupations (25%) were 3.7 times those in professional and managerial occupations (32%).

Increasing differentials in mortality from suicide and chronic liver disease between manual or routine occupations and professional or managerial occupations appear to be driving the increase in social class inequalities in mortality.

In 2001, the male mortality rate in each social class was higher in Glasgow than in Clydeside as a whole, and was higher in Clydeside than in the whole of Scotland. Differences in the social structure of the population clearly cannot explain the region's higher mortality rate.

### *Inequalities in mortality by small area deprivation*

The report uses two measures of small area deprivation: Carstairs scores which allow comparisons between 1981, 1991 and 2001, and the income domain of the Scottish Index of Multiple Deprivation, which allows detailed comparisons between very small areas in 2001.

The increases in male mortality already mentioned were restricted to the more deprived areas. A general pattern of greater decreases in the more affluent areas led to increasing inequalities for males aged under 75 and for women aged 30-74. Increasing inequalities were evident in most of the major causes of death, either because mortality was falling faster in the more affluent areas, as in the case of IHD, or was rising faster in the more deprived areas, as in the case of chronic liver disease.

Deprivation accounts for most but not all of the regional differences in mortality rates. In Glasgow and the Clydeside conurbation, male mortality rates tend to be comparable to those in the rest of Scotland in the more affluent areas but, in more deprived areas, they are higher than the Scottish rates at a given level of deprivation. Aberdeen City stands out as having, for the most part, mortality rates that are higher than in areas of comparable deprivation in Glasgow.

### *European comparisons*

High mortality concentrated in deprived areas, particularly in the West of Scotland, has a substantial impact on national mortality rates. Scotland as a whole has higher mortality than other Western European countries with the exception of Portugal, yet 24 of the 32 local council areas in Scotland have male mortality rates within the range of those of other European countries. The remaining eight (comprising about 30% of the Scottish population) have rates above this range, with Glasgow City having a rate 60% higher than that of the country with the highest death rate.

For the full report see <http://www.inequalitiesinhealth.com>