

Cardiovascular diseases are the main cause of mortality in almost all European Union countries, accounting for 40% of all deaths in the region in 2008. They cover a range of diseases related to the circulatory system, including ischemic heart disease (known as IHD, or heart attack) and cerebro-vascular disease (or stroke). Together, IHD and stroke comprise 60% of all cardiovascular deaths, and caused one-quarter of all deaths in EU countries in 2008.

Ischemic heart disease is caused by the accumulation of fatty deposits lining the inner wall of a coronary artery, restricting blood flow to the heart. IHD alone was responsible for 15% of all deaths in EU countries in 2008. Mortality from IHD varies considerably, however, across EU countries (Figure 1.4.1). Central and eastern European countries report the highest IHD mortality rates, Lithuania for both males and females, followed by Latvia, the Slovak Republic and Estonia. IHD mortality rates are also relatively high in Finland, Malta and Ireland, with rates several times higher than in France, Portugal, the Netherlands and Spain. There are regional patterns to the variability in IHD mortality rates. Besides the Netherlands, the countries with the lowest IHD mortality rates are four countries located in Southern Europe: France, Portugal, Spain and Italy, with Greece also having low rates. This lends support to the commonly held hypothesis that there are underlying risk factors, such as diet, which explain differences in IHD mortality across countries.

Death rates are much higher for men than for women in all countries (Figure 1.4.1). On average across EU countries, IHD mortality rates for men in 2008 were nearly two times greater than for women.

Since the mid-1990s, IHD mortality rates have declined in nearly all countries (Figure 1.4.3). The decline has been most remarkable in the Netherlands, Denmark and Norway among the Nordic countries, Ireland, Slovenia and Estonia (although rates there are still high), with IHD mortality rates being cut by one-half or more. A number of factors are responsible, with declines in tobacco consumption, and heavy drinking in some countries reducing the incidence of IHD, and consequently reducing IHD mortality rates. Significant improvements in medical care for treating IHD have also played a part (Moïse *et al.*, 2003) (see Indicator 3.9 “Cardiac procedures”). A small number

of countries, however, have seen little or no decline since 1994. In the Slovak Republic, mortality rates have increased slightly. Declines in Poland, Hungary and Lithuania have been moderate, at under 20%.

Stroke is another important cause of mortality in EU countries, accounting for about 10% of all deaths in 2008. It is caused by the disruption of the blood supply to the brain, and in addition to being an important cause of mortality, the disability burden from stroke is substantial (Moon *et al.*, 2003). As with IHD, there are large variations in stroke mortality rates across countries (Figure 1.4.2). Again, the rates are highest in central and eastern European countries, including Bulgaria, Romania, Latvia, Lithuania, the Slovak Republic and Hungary. They are the lowest in Switzerland, France, Iceland and the Netherlands.

Looking at trends over time, stroke mortality has decreased in all EU countries (except the Slovak Republic and Poland) since 1994, with a more pronounced fall after 1999 (Figure 1.4.4). Rates have declined by one-half or more in Italy, Estonia, Portugal, Austria, Germany and the Czech Republic. As with IHD, the reduction in stroke mortality can be attributed at least partly to a reduction in risk factors. Tobacco smoking and hypertension are the main modifiable risk factors for stroke. Improvements in medical treatment for stroke have also increased survival rates.

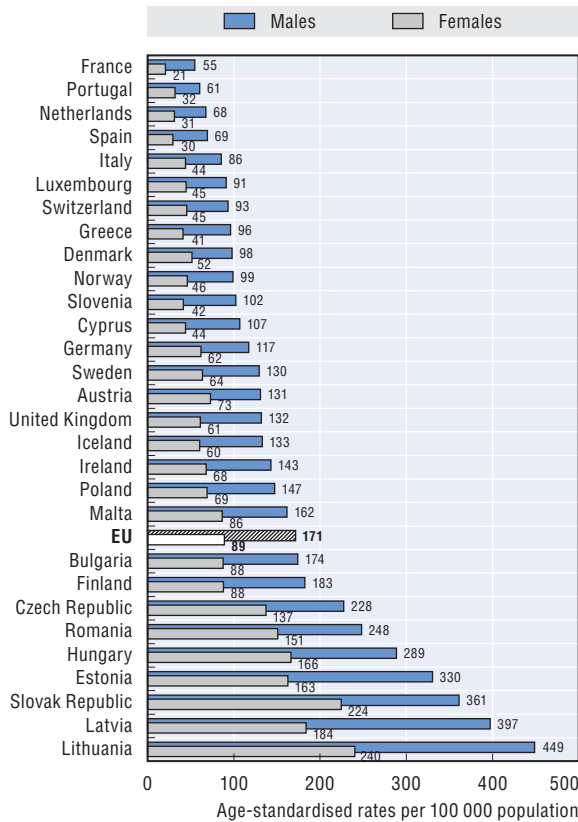
Definition and deviations

Mortality rates are based on numbers of deaths registered in a country in a year divided by the size of the corresponding population. The rates have been directly age-standardised to the WHO European standard population to remove variations arising from differences in age structures across countries and over time. The source is the *Eurostat Statistics Database*.

Mathers *et al.* (2005) have provided a general assessment of the coverage, completeness and reliability of data on causes of death.

Deaths from ischemic heart disease are classified to ICD-10 codes I20-I25, and stroke to I60-I69.

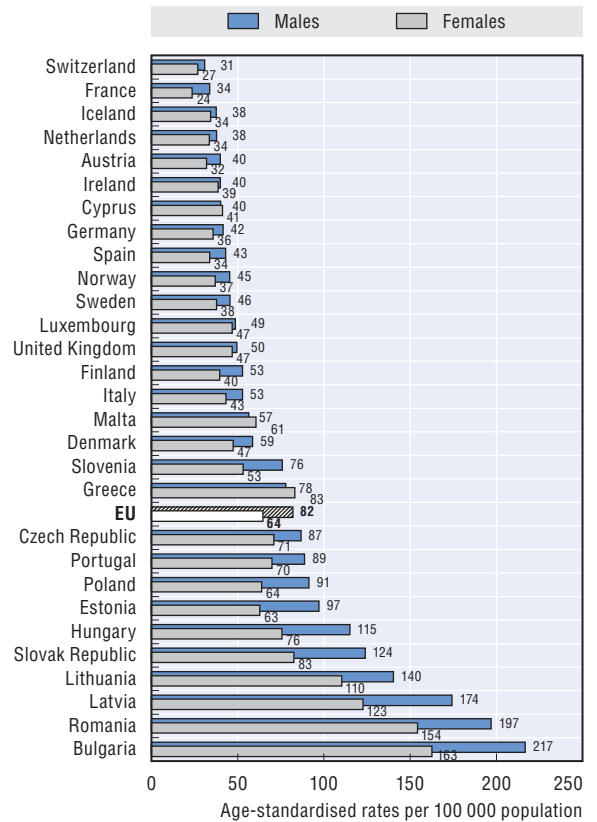
1.4.1. Ischemic heart disease, mortality rates, 2008 (or nearest year available)



Source: Eurostat Statistics Database. Data are age-standardised to the WHO European standard population.

StatLink <http://dx.doi.org/10.1787/888932335552>

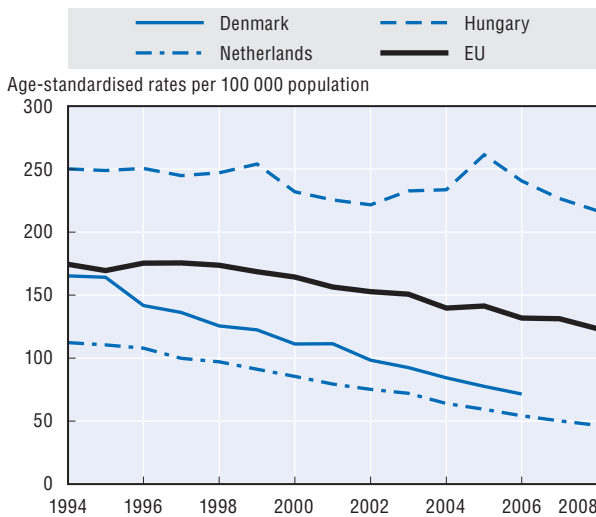
1.4.2. Stroke, mortality rates, 2008 (or nearest year available)



Source: Eurostat Statistics Database. Data are age-standardised to the WHO European standard population.

StatLink <http://dx.doi.org/10.1787/888932335571>

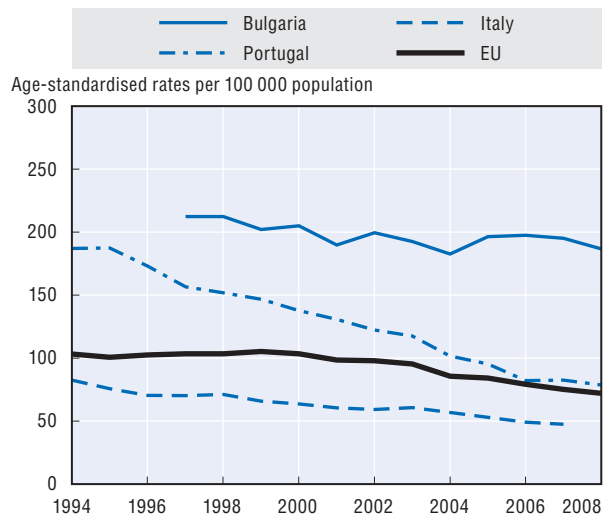
1.4.3. Trends in ischemic heart disease mortality rates, selected EU countries, 1994-2008



Source: Eurostat Statistics Database. Data are age-standardised to the WHO European standard population.

StatLink <http://dx.doi.org/10.1787/888932335590>

1.4.4. Trends in stroke mortality rates, selected EU countries, 1994-2008



Source: Eurostat Statistics Database. Data are age-standardised to the WHO European standard population.

StatLink <http://dx.doi.org/10.1787/888932335609>



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