1.3. Mortality from heart disease and stroke

Cardiovascular diseases are the main cause of mortality in almost all OECD countries, and accounted for 35% of all deaths in 2009. They cover a range of diseases related to the circulatory system, including ischemic heart disease (known as IHD, or heart attack) and cerebrovascular disease (or stroke). Together, IHD and stroke comprise two-thirds of all cardiovascular deaths, and between them they caused almost one-quarter of all deaths in OECD countries in 2009.

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 OECD countries in 2009. Mortality from IHD varies considerably, however (Figure 1.3.1). Central and eastern European countries report the highest IHD mortality rates; the Slovak Republic for both males and females, followed by Estonia, Hungary and the Czech Republic. IHD mortality rates are also relatively high in Finland, Poland and Ireland, far ahead of Korea and Japan, the countries with the lowest rates. There are regional patterns to the variability of IHD mortality rates. Closely following the two OECD Asian countries, the countries with the lowest IHD mortality rates are five countries located in southern Europe and the Mediterranean: France, Portugal, Spain, Israel and Italy. This lends support to the commonly held hypothesis that diet – an important underlying risk factor – explains much of the difference in IHD mortality across countries.

Death rates for IHD are much higher for men than for women (Figure 1.3.1). On average across OECD countries, IHD mortality rates in 2009 were nearly two times greater for men. The disparity was greatest in France and Luxembourg with male rates two-to-three times higher, and least in Mexico and the Czech and Slovak Republics, at 60% higher.

Since 1980, IHD mortality rates have declined in nearly all OECD countries. The decline has been most remarkable in the Netherlands, the Nordic countries (Denmark, Norway, Sweden and Iceland), Australia, the United Kingdom and Israel, with rates being cut by two-thirds or more. Declining tobacco consumption contributed significantly to reducing the incidence of IHD, and consequently to reducing mortality rates. Improvements in medical care have also contributed to reduced mortality rates (see Indicators 4.6 "Cardiac procedures" and 5.3 "In-hospital mortality following acute myocardial infarction"). A small number of countries however, including Hungary, Poland and the Slovak Republic, have seen little or no decline since 1980. The rate in Greece has declined only slightly, although it was already comparatively low in 1980. Only in Korea and Mexico have mortality rates increased.

Stroke was the underlying cause for about 8% of all deaths in OECD countries in 2009. It is a loss of brain function due to disruption of the blood supply to the brain. In addition to being an important cause of mortality, the disability burden from stroke is also substantial (Moon *et al.*, 2003). As with IHD, there are large variations in stroke mortality rates across countries (Figure 1.3.2). The rates are highest in the Slovak Republic, Hungary, Poland and the Czech Republic. They are the lowest in Israel, Switzerland, France and the United States.

Looking at trends over time, stroke mortality has decreased in all OECD countries (except Poland and the Slovak Republic) since 1980. Rates have declined by around three-quarters in Austria, Portugal and Japan. 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 (see Indicator 5.4 "In-hospital mortality following stroke").

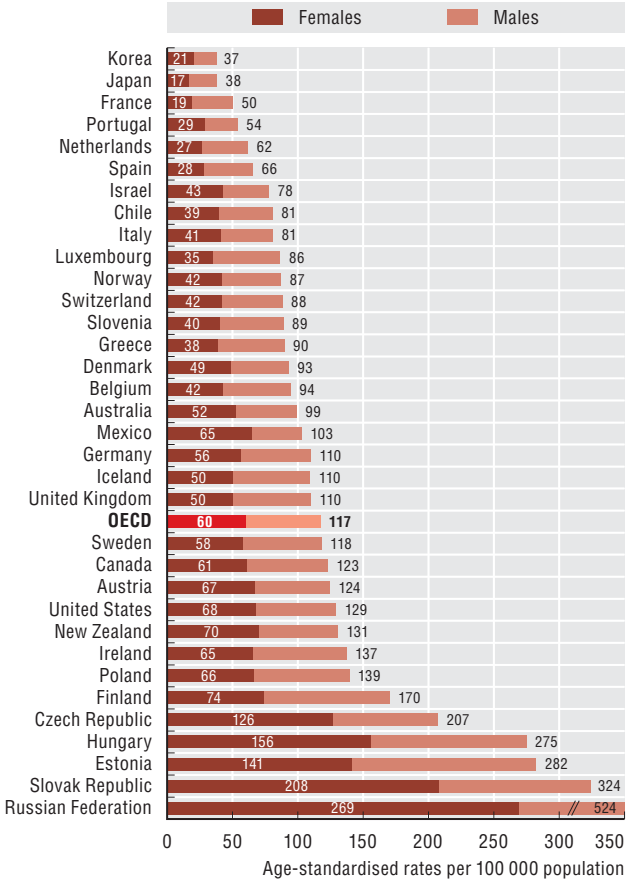
Definition and comparability

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 1980 OECD population to remove variations arising from differences in age structures across countries and over time. The source is the *WHO Mortality Database*.

Deaths from ischemic heart disease are classified to ICD-10 codes I20-I25, and stroke to I60-I69. Mathers *et al.* (2005) have provided a general assessment of the coverage, completeness and reliability of data on causes of death.

Information on data for Israel: *http://dx.doi.org/10.1787/888932315602*.

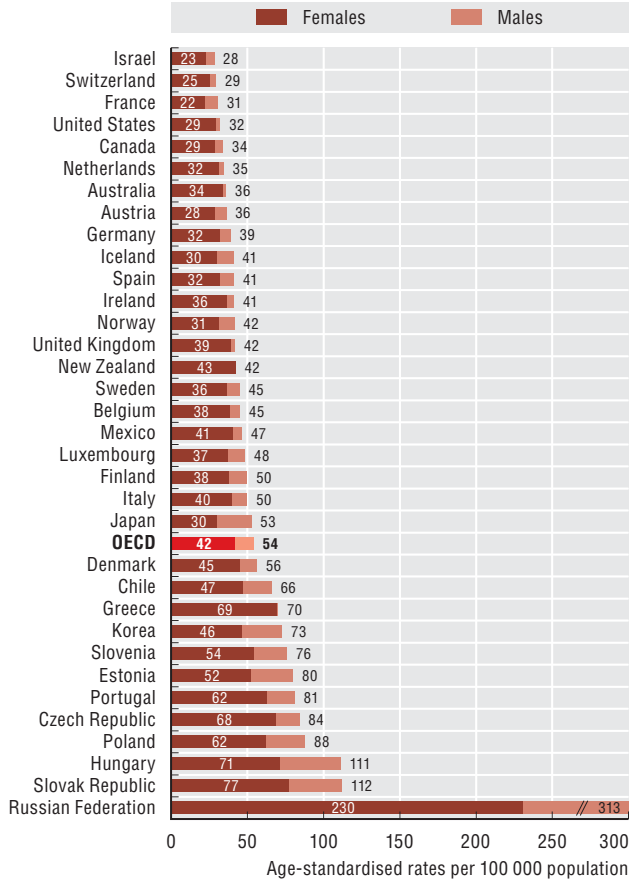
1.3.1 Ischemic heart disease, mortality rates, 2009 (or nearest year)



Source: OECD Health Data 2011; IS-GBE (2011).

StatLink http://dx.doi.org/10.1787/888932523348

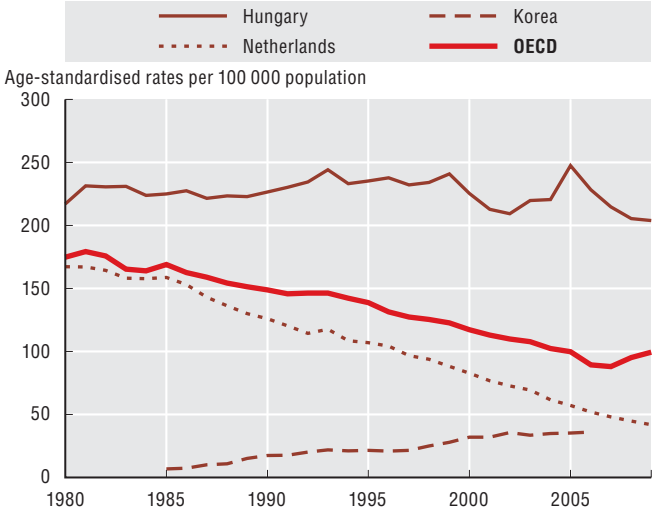
1.3.2 Stroke, mortality rates, 2009 (or nearest year)



Source: OECD Health Data 2011; IS-GBE (2011).

StatLink http://dx.doi.org/10.1787/888932523367

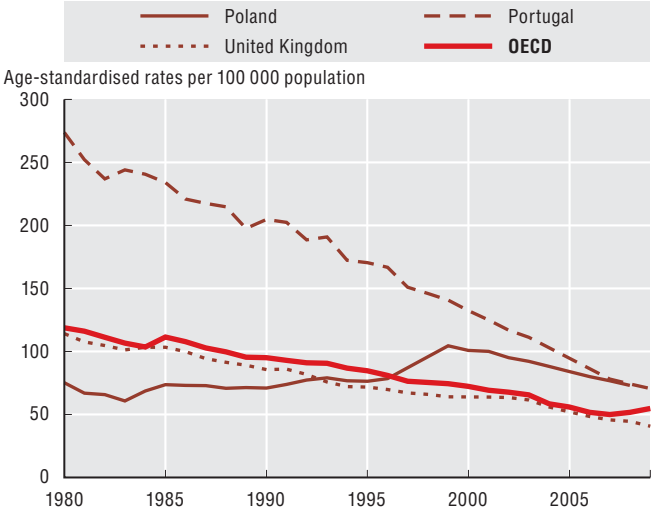
1.3.3 Trends in ischemic heart disease mortality rates, selected OECD countries, 1980-2009



Source: OECD Health Data 2011.

StatLink http://dx.doi.org/10.1787/888932523386

1.3.4 Trends in stroke mortality rates, selected OECD countries, 1980-2009



Source: OECD Health Data 2011.

StatLink http://dx.doi.org/10.1787/888932523405

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