Mortality following acute myocardial infarction (AMI)

Mortality due to coronary heart disease has declined substantially since the 1970s (see indicator "Mortality from cardiovascular diseases" in Chapter 3). Advances in the prevention such as smoking (see indicator "Tobacco consumption among adults" in Chapter 4) and treatment of cardiovascular diseases outpaced those of many other diseases (OECD, 2015a).

A good indicator of acute care quality is the 30-day AMI case-fatality rate. This measure reflects the processes of care, such as timely transport of patients and effective medical interventions. The indicator is influenced by not only the quality of care provided in hospitals but also differences in hospital transfers, average length of stay and AMI severity.

Figure 8.10 shows the case-fatality rates within 30 days of admission for AMI when the death occurs in the same hospital as the initial AMI admission. The lowest rate is found in Australia at 4.1% and the highest rate is in Mexico at 28.2%, suggesting AMI patients do not always receive recommended care. In Mexico, the quality of pre-hospital emergency medical services is reportedly poor (Peralta, 2006), and the high rates of uncontrolled diabetes may also be a contributing factor in explaining the high AMI case-fatality rates (see indicator "Diabetes care" in Chapter 8) as patients with diabetes have worse outcomes after AMI compared to those without diabetes, particularly if the diabetes is poorly controlled. In Japan, people are less likely to die of heart disease overall, but are more likely to die once admitted into hospital for AMI compared to other OECD countries. One possible explanation is that the severity of patients admitted to hospital with AMI may be more advanced among a smaller group of people across the population, but could also reflect underlying differences in emergency care, diagnosis and treatment patterns (OECD, 2015b).

Figure 8.11 shows 30-day case fatality rates where fatalities are recorded regardless of where they occur. This is a more robust indicator because it records deaths more widely than the same-hospital indicator, but it requires a unique patient identifier and linked data which is not available in all countries. The AMI case-fatality rate ranges from 7.1% in Canada to 18.8% in Hungary and 19.1% in Latvia.

Case-fatality rates for AMI have decreased substantially between 2003 and 2013 (Figures 8.10 and 8.11). Across the OECD, case fatalities fell from 11.2% to 8.0% when considering same hospital deaths and from 14.3% to 9.5% when considering deaths occurred in and out of hospital. The rate of decline was particularly striking in the Slovak Republic, the Netherlands and Australia for the first indicator and in Finland and Poland for the second indicator, with more than 6% annual average reduction per year compared to an OECD average of respectively 3 and 4 %. Better access to high-quality acute care for heart attack, including timely transportation of patients, evidence-based medical interventions and high-quality specialised health facilities such as percutaneous catheter intervention-capable centres have helped to reduce 30-day case-fatality rates (OECD, 2015a). For example, Korea had higher case-fatality rates for AMI but in 2006 it has implemented a Comprehensive Plan for CVD, encompassing prevention, primary care and acute CVD care (OECD, 2012). Under the Plan, specialised services were enhanced through a creation of regional cardio and cerebrovascular centres throughout the country, and average waiting time from emergency room arrival to initiation of catheterisation fell from 72.3 in 2010 to 65.8 minutes in 2011, leading to a reduction in case-fatality (OECD, 2015a).

Definition and comparability

The case-fatality rate measures the percentage of people aged 45 and over who die within 30 days following admission to hospital for a specific acute condition. Rates based on admission data refer to the death occurred in the same hospital as the initial admission. Admissions resulting in a transfer were excluded for all countries except Australia, Belgium, Denmark, Hungary, Ireland, Israel, Japan, Luxembourg, Mexico, Netherlands, Slovak Republic and Sweden. This exclusion generally increases the rate compared with those countries which do not exclude these transfers. Rates based on patient data refer to the death occurred in the same hospital, a different hospital, or out of hospital.

Rates are age-sex standardised to the 2010 OECD population aged 45+ admitted to hospital for a specific acute condition such as AMI and ischemic stroke.

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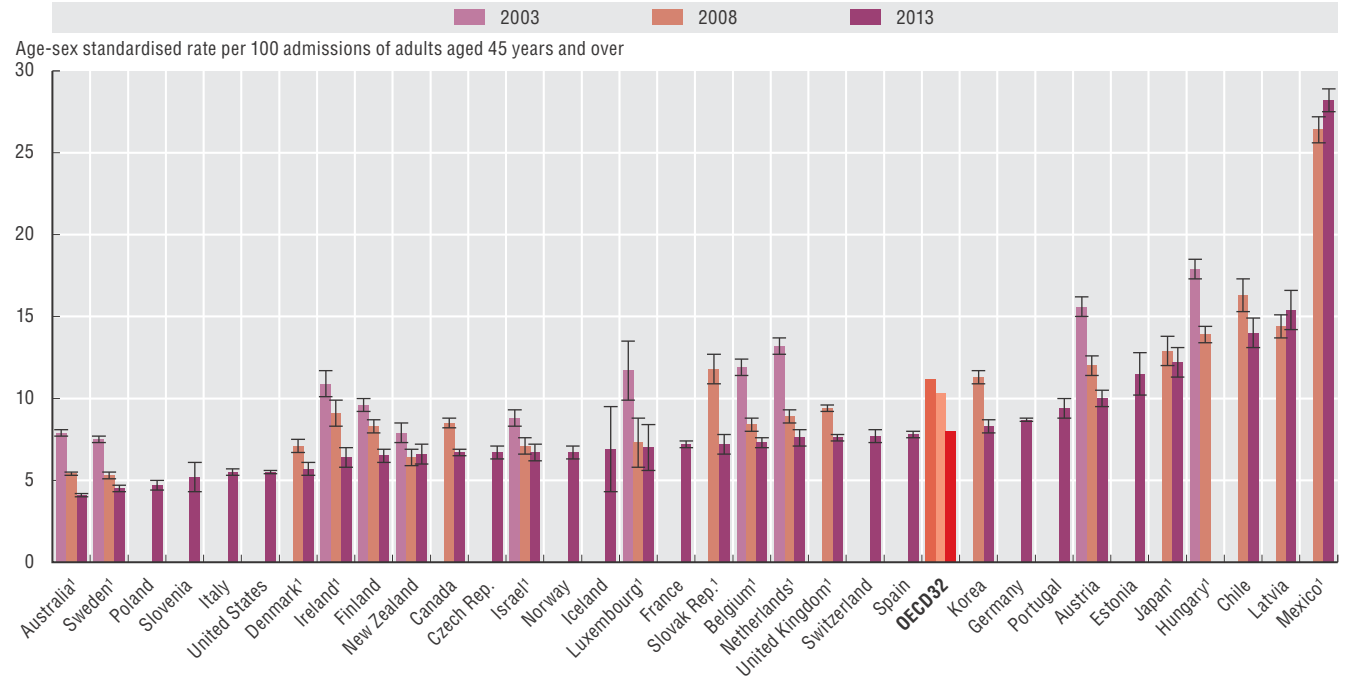
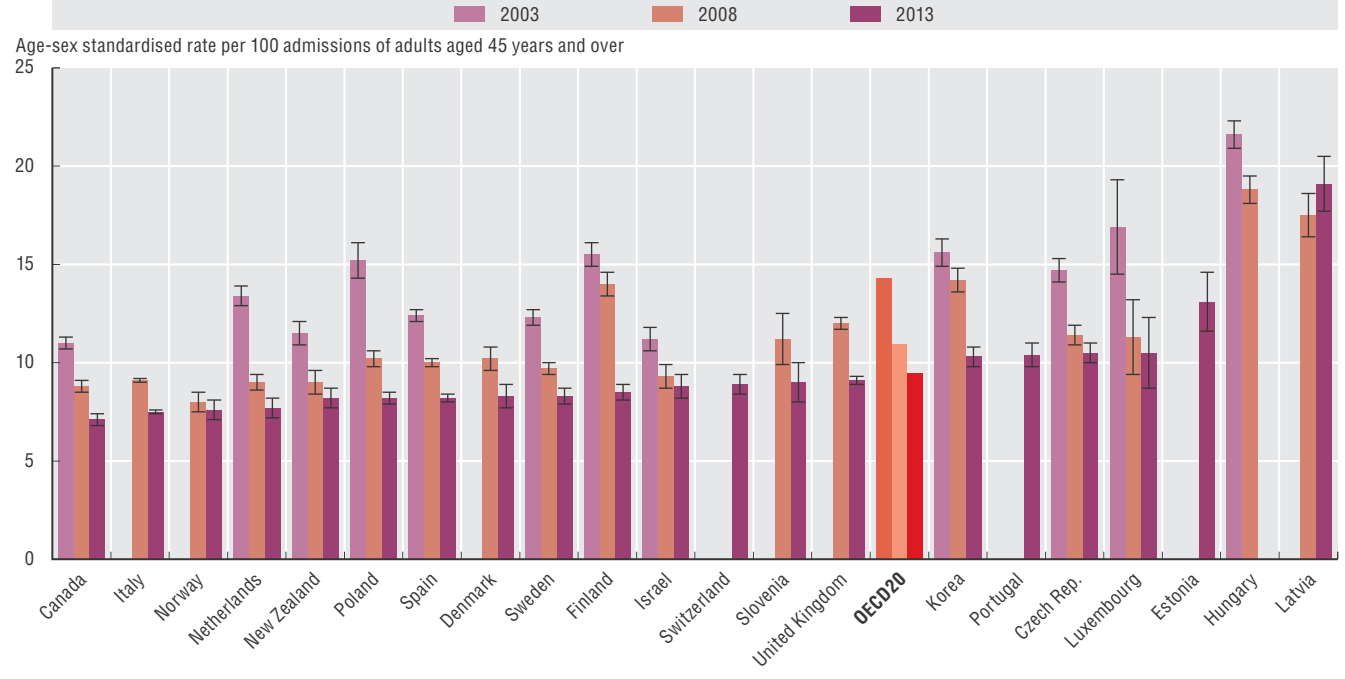
8.10. Thirty-day mortality after admission to hospital for AMI based on admission data, 2003 to 2013 (or nearest years)



Note: 95% confidence intervals represented by H. Three-year average for Iceland and Luxembourg.
1. Admissions resulting in a transfer are included.
Source: *OECD Health Statistics 2015, http://dx.doi.org/10.1787/health-data-en.*

StatLink http://dx.doi.org/10.1787/888933281135

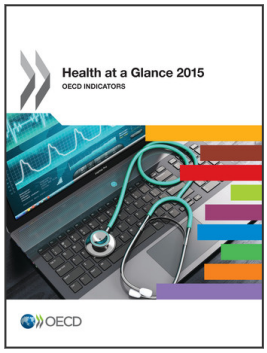
8.11. Thirty-day mortality after admission to hospital for AMI based on patient data, 2003 to 2013 (or nearest years)



Note: 95% confidence intervals represented by H. Three-year average for Luxembourg.
Source: *OECD Health Statistics 2015, http://dx.doi.org/10.1787/health-data-en.*

Information on data for Israel: *http://oe.cd/israel-disclaimer*

StatLink http://dx.doi.org/10.1787/888933281135



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