5.3. Mortality following acute myocardial infarction (AMI)

Mortality due to coronary heart disease has declined substantially since the 1970s (see Indicator 1.3 "Mortality from cardiovascular disease"). This reduction can, in part, be attributed to better treatments, particularly in the acute phases of myocardial infarction (AMI). Care for AMI has changed dramatically in recent decades, with the introduction of coronary care units and treatments aimed at rapidly restoring coronary blood flow (Khush et al., 2005). Clinical practice guidelines provide clinicians with information on how to optimise treatments and studies have shown that greater compliance with guidelines improve health outcomes (e.g., Schiele et al., 2005; Eagle et al., 2005). However, some AMI patients do not receive recommended care, raising concerns over the quality of care in some countries (Brekke and Gjelsvik, 2009; Kotseva et al., 2009).

A good indicator of acute care quality is the 30-day AMI case-fatality rate. This indicator measures the percentage of people who die within 30 days following admission to hospital for AMI. The 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 5.3.1 shows the case-fatality rates within 30 days of admission for AMI. The panel on the left reports the in-hospital case-fatality rate when the death occurs in the same hospital as the initial AMI admission. The lowest rate is found in Denmark (3%) and the highest rate is in Mexico (27%). Although Mexican case-fatality data only refer to public sector hospitals, the quality of pre-hospital emergency medical services is reportedly poor (Peralta, 2006). The high rate of uncontrolled diabetes in Mexico, Korea and Hungary may also be a contributing factor in explaining the high AMI case-fatality rates (see Indicators 1.10 "Diabetes prevalence and incidence" and 5.1 "Avoidable hospital admissions"). Patients with diabetes have worse outcomes after AMI compared to those without diabetes, particularly if the diabetes is poorly controlled (Norhammar et al., 2007; Ouhoummane et al., 2010; Yan et al., 2006). In Korea and 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 many other OECD countries. One possible explanation for this 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, treatment patterns and even disease coding practices (OECD, 2012b).

The right-hand-side panel of Figure 5.3.1 shows 30-day AMI 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 linked data which is not available in all countries. The average AMI case-fatality rate is 10.8% and ranges from 8.2% (Norway) to 18.8% (Hungary). The degree of cross-country variation is considerably less with the in- and out-of-hospital indicator compared to the same-hospital indicator. One potential reason for this is that patients may be more commonly transferred to other facilities in countries such as Denmark compared to countries such as Hungary.

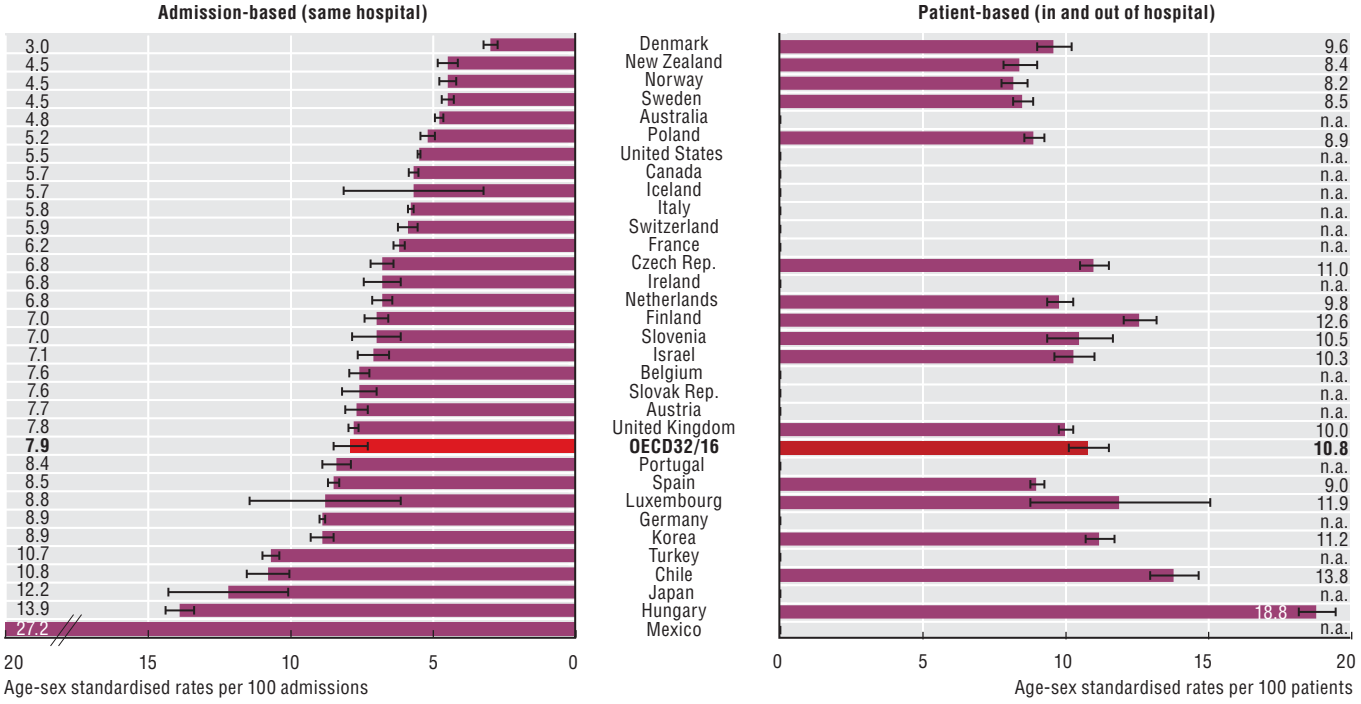
Same-hospital case-fatality rates for AMI have decreased substantially over the ten year period between 2001 and 2011 (Figure 5.3.2). Across the OECD, case fatalities fell from 11.2% to 7.9%. Between 2006 and 2011, the rate of decline was particularly striking in Denmark, the Slovak Republic, Poland and Canada, where case-fatality rates fell by more than 30%. The improvements can at least be partially attributed to better and more reliable processes of care.

Definition and comparability

The admission-based case-fatality rate following AMI is defined as the number of people aged 45 and over who die within 30 days of being admitted to hospital with an AMI, where the death occurs in the same hospital as the initial AMI admission. The in- and out-of-hospital case-fatality rate is defined as the number of people who die within 30 days of being admitted to hospital with an AMI, where the death may occur in the same hospital, a different hospital, or out of hospital.

Rates were age-sex standardised to the 2010 OECD population aged 45+ admitted to hospital for AMI. The change in the population structure in this edition of *Health at a Glance* compared with previous editions (where rates were standardised using the 2005 OECD population of all ages) has led to a general increase in the standardised rates for all countries.

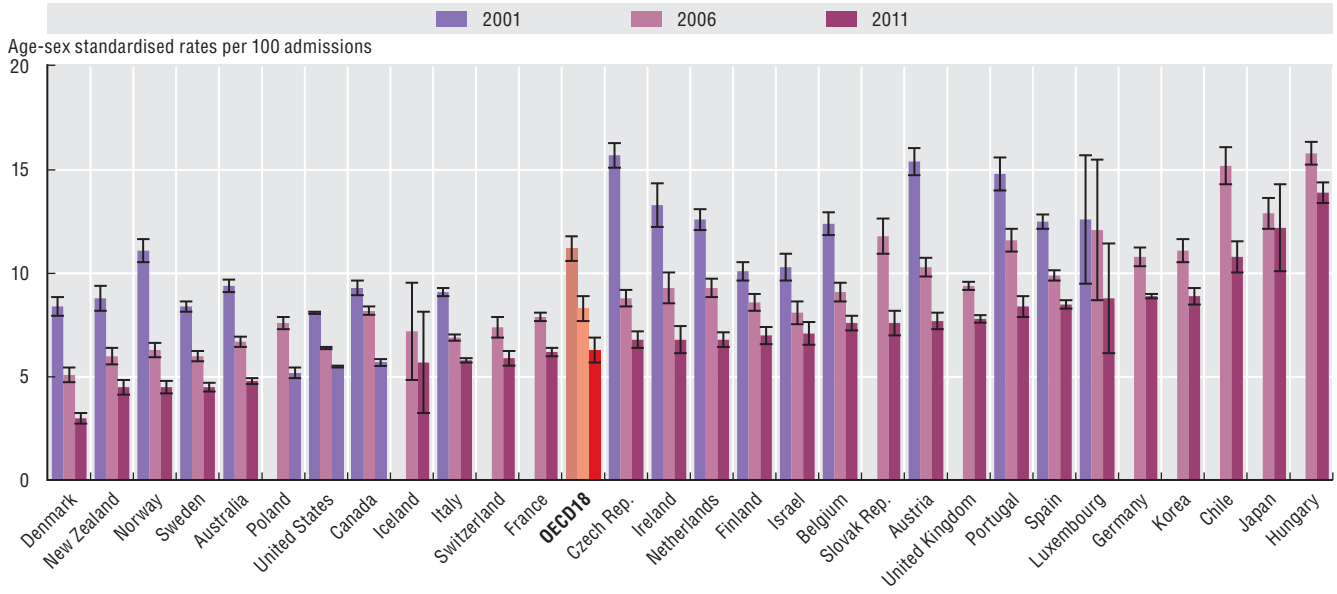
5.3.1. Case-fatality in adults aged 45 and over within 30 days after admission for AMI, 2011 (or nearest year)



Note: 95% confidence intervals represented by |—|.
Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

StatLink http://dx.doi.org/10.1787/888932917902

5.3.2. Reduction in admission-based (same hospital) case-fatality in adults aged 45 and over within 30 days after admission for AMI, 2001-11 (or nearest year)



Note: 95% confidence intervals represented by |—|.
Source: OECD Health Statistics 2013, http://dx.doi.org/10.1787/health-data-en.

StatLink http://dx.doi.org/10.1787/888932917921

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