

Mortality due to coronary heart disease has declined substantially since the 1970s (see indicator “Mortality from heart disease and stroke” in Chapter 3). Smoking reduction (see indicator “Smoking among adults” in Chapter 4) and improvements in treatment of cardiovascular diseases have played a large role in this decline (OECD, 2015) along with changes in diet and exercise. Clinical practice guidelines such as those developed by the European Society of Cardiology have also helped optimise treatment. Despite these advances, AMI (or heart attack) remains the leading cause of cardiovascular deaths across EU countries, making further improvements a priority.

A good indicator of acute care quality is the 30-day AMI case-fatality rate. The measure reflects a number of factors from timely transport of patients to effective medical interventions along with patient factors such as AMI severity. Two different calculations exist for this indicator based either on admission data or patient data.

Figure 6.11 shows the case-fatality rates within 30 days of admission for AMI based on admission data. This calculation includes deaths which take place in the admission-hospital and which are reported for 100 admissions. By definition this calculation does not take into account deaths occurring after hospital discharge or transfer. Large variations were observed across EU countries with rates of death ranging from 4.5% of patients admitted to the hospital for AMI in Sweden to 15.4% in Latvia. This range may reflect variations in pre-hospital emergency care, treatment or transfer patterns, case severity, or data definitions. An important reduction in rates can be seen across most countries between 2003 and 2013. The largest reductions between these years were seen in both the Netherlands and Austria which reduced death rates by over 5 percentage points although case fatality rates still remain above the EU average in these two countries. These reductions are also reflected in the EU average which fell from 12.3 in 2003 to 9.7 in 2008 and 7.5 in 2013. This equals a 39% reduction over this ten-year period.

Figure 6.12 shows 30-day case fatality rates based on patient data. This calculation includes fatalities regardless of where they occur. This is a more robust indicator than the admission-based indicator because it records all deaths for relevant patients within 30 days of admission for AMI, irrespective of where the deaths occur (including after discharge or transfer to another hospital) and not just those occurring in the hospital of admission. This contributes to higher and more accurate patient-based rates as compared

to the admission-based calculation. They show a 2.5-fold variation between countries, compared with a 3.4-fold variation in the admission-based indicator. But they require data which is not available in all countries. The AMI case-fatality rate based on patient data ranges from 7.5% in Italy to 19.1% in Latvia. Like admission-based rates, there have been significant decreases in rates over the past ten years. Poland showed the highest proportional rate decrease between 2003 and 2013 with a reduction of 46%. EU rates showed a reduction of 35% during this period declining from 15.3% in 2003 to 9.9% in 2013.

These substantial improvements reflect a number of changes including better access to high-quality acute care for heart attack, timely transportation of patients, evidence-based medical interventions, and high-quality specialised health centres such as those capable of percutaneous catheter intervention (OECD, 2015).

Definition and comparability

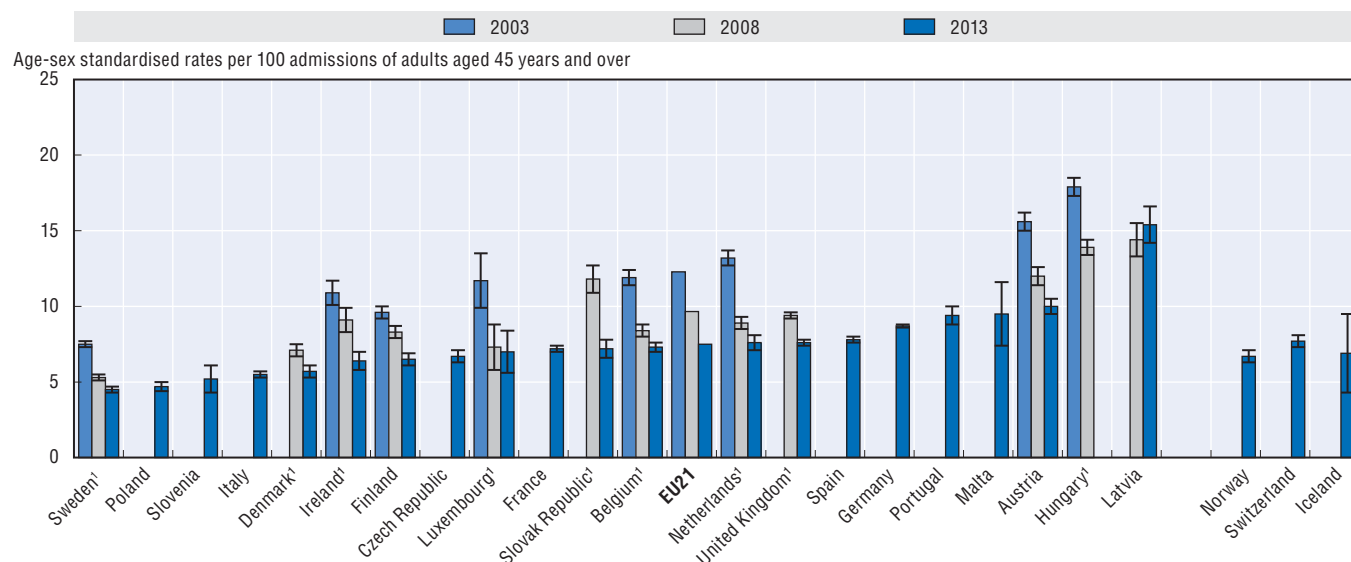
The case-fatality rate measures the percentage of people aged 45 and over who die within 30 days following admission to hospital for a specific acute condition. Rates based on admission data refer to the deaths occurring in the same hospital as the initial admission. Admissions resulting in a transfer were excluded for all countries except Belgium, Denmark, Hungary, Ireland, Luxembourg, the Netherlands, the 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 a death occurring 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.

ICD-10 codes for AMI include: I21, I22.

Reference

OECD (2015), *Cardiovascular Disease and Diabetes: Policies for Better Health and Quality of Care*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264233010-en>.

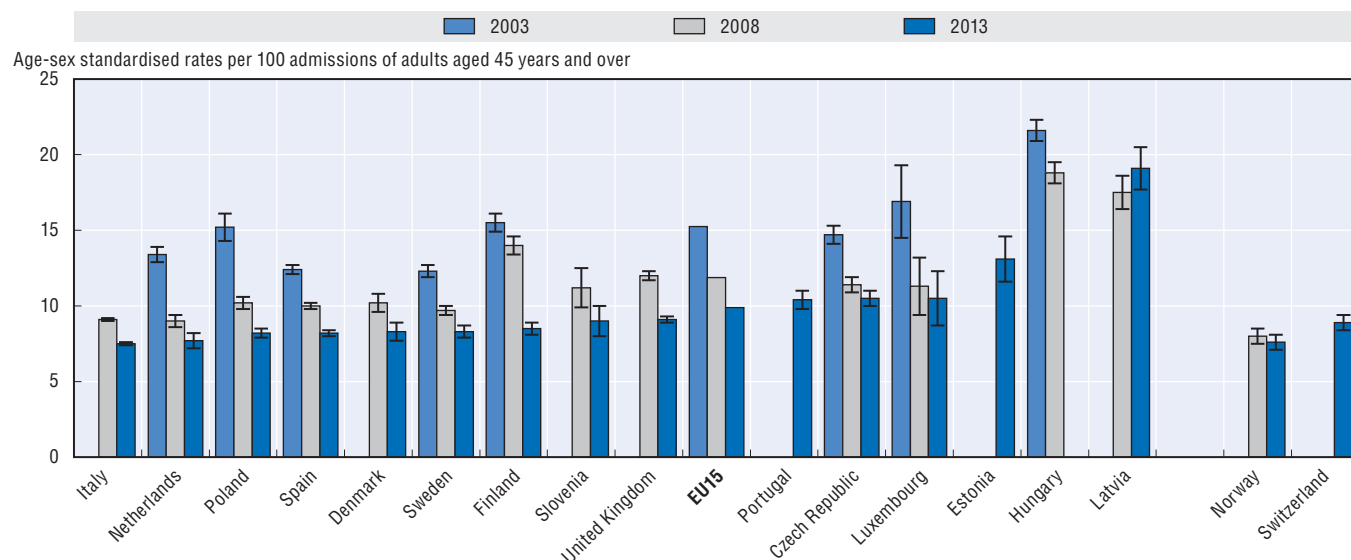
6.11. Thirty-day mortality after admission to hospital for AMI based on admission data, 2003 to 2013 (or nearest years)

Note: 95% confidence intervals represented by H. Three-year average for Iceland and Luxembourg. EU average unweighted.

1. Admissions resulting in a transfer are included.

Source: OECD Health Statistics 2016.

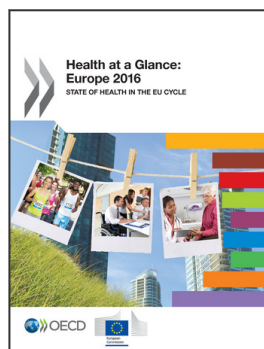
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6.12. Thirty-day mortality after admission to hospital for AMI based on patient data, 2003 to 2013 (or nearest years)

Note: 95% confidence intervals represented by H. Three-year average for Luxembourg. EU average unweighted.

Source: OECD Health Statistics 2016.

StatLink <http://dx.doi.org/10.1787/888933429478>



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