

Annually, 15 million people worldwide suffer a stroke leading to 5 million deaths and 5 million people permanently disabled (WHO, 2016). Ischemic stroke represents around 85% of all cerebrovascular disease cases. Ischemic stroke occurs when the blood supply to a part of the brain is interrupted, leading to a necrosis (i.e. cell death) of the affected region. Treatment for ischemic stroke has advanced dramatically over the last decade. Clinical trials have demonstrated clear benefits of thrombolytic treatment for ischemic stroke as well as receiving care in dedicated stroke units to facilitate timely and aggressive diagnosis and therapy for stroke victims (Seenan et al., 2007).

Figure 6.13 shows the case-fatality rates within 30 days of admission for ischemic stroke per 100 admissions when the death occurred in the same hospital as the initial stroke admission. Across EU countries, the average death rate in 2013 was 9.4% using this indicator. The case-fatality rates were highest in Latvia (18.4%) and Slovenia (13.2%). The lowest rate of 5.1% was reported in Finland with Italy showing the second lowest rate at 6.2%. These two countries also showed better than average performance for mortality among acute myocardial infarction (AMI) patients. This suggests that certain aspects of acute care may be influencing outcomes for both stroke and AMI patients.

Figure 6.14 shows the case-fatality rates where deaths are recorded regardless of where they occurred. This indicator is more robust because it captures fatalities more comprehensively but requires patient-level data not available in all countries. Although more countries can report the same-hospital measure, an increasing number of countries are investing in their data infrastructure and are able to provide more comprehensive measures. Across the 14 EU countries that reported in- and out-of-hospital case-fatality rates, 12.0% of patients admitted to the hospital for stroke on average died within 30-days after being admitted in 2013. This figure is higher than the same-hospital based indicator because it captures deaths that occur not just in the same hospital but also in other hospitals and out of hospitals.

Between 2003 and 2013, case-fatality rates for ischemic stroke have decreased substantially from 13.5% to 12.0% for patient-based calculations and from 10.4%

to 9.4% for admission-based calculations across the European Union. The Netherlands showed the biggest drop in this time period moving from 12.6% to 7.1% for the admission-based indicator and from 14.2% to 9.6% using the patient-based indicator. Between 2008 and 2014 the United Kingdom showed the biggest reductions in rates from 14.8 to 9.2 in admission-based data and 17.0 to 10.6 in patient-based data. Better access to high-quality stroke care, including timely transportation of patients, evidence-based medical interventions and high-quality specialised facilities such as stroke units have helped to reduce 30-day case-fatality rates (OECD, 2015).

Despite the progress seen so far, there is still room to improve implementation of best practice acute care for cardiovascular diseases including stroke across countries. To shorten acute care treatment time, targeted strategies can be highly effective. But to encourage the use of evidence-based advanced technologies in acute care, wider approaches are needed. Adequate funding and trained professionals should be made available, and health care delivery systems should be adjusted to enable easy access to treatment (OECD, 2015).

Definition and comparability

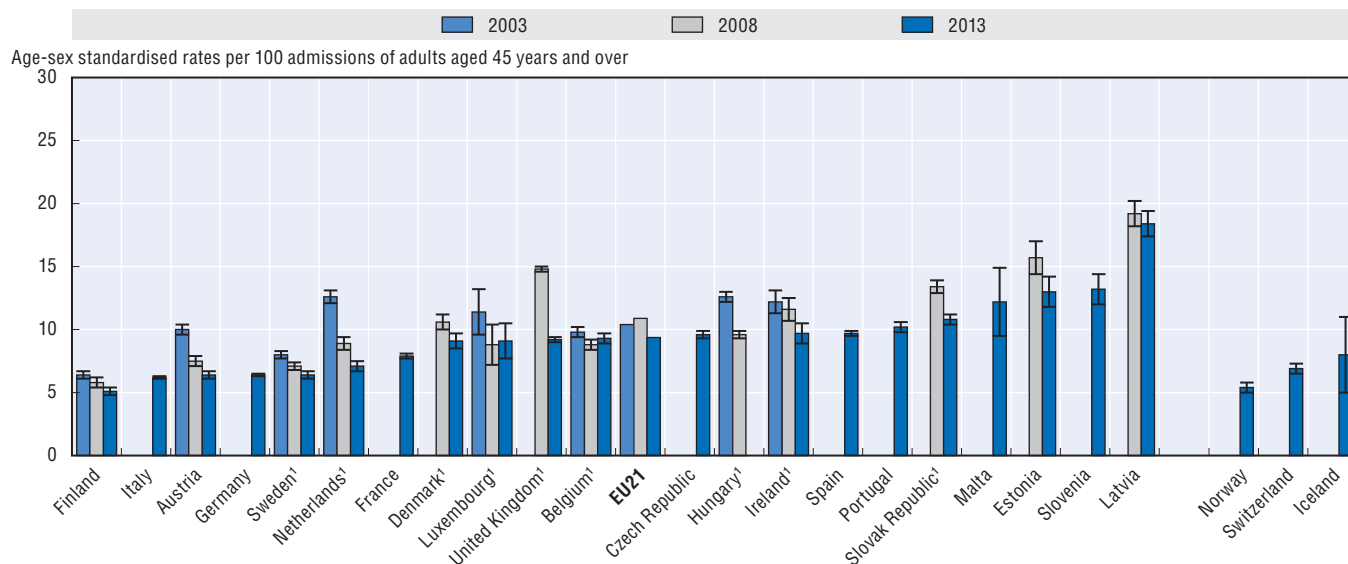
Case-fatality rates are defined in the indicator “Mortality following acute myocardial infarction” in Chapter 6.

ICD-10 codes for stroke include: I63-I64.

References

- 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>.
- Seenan, P. et al. (2007), “Stroke Units in Their Natural Habitat: Systematic Review of Observational Studies”, *Stroke*, Vol. 38, pp. 1886-1892.
- WHO (2016), “Global Burden of Stroke”, *The Atlas of Heart Disease and Stroke*, WHO, Geneva.

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



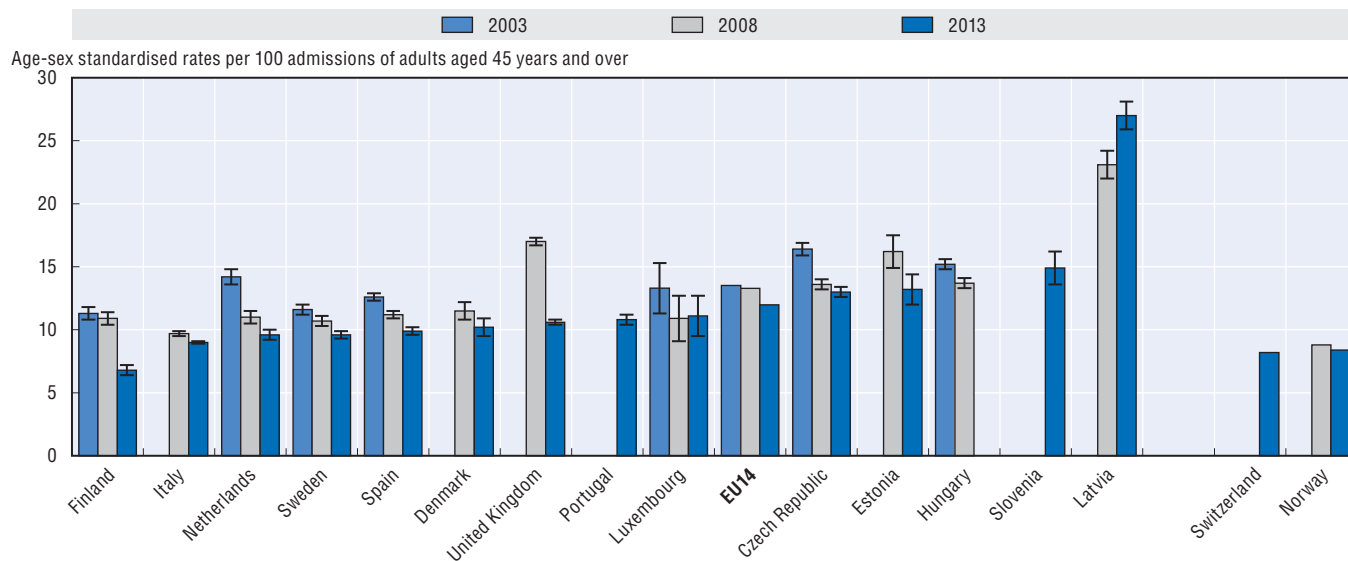
Note: 95% confidence intervals represented by H. Three-year average for Iceland and Luxembourg. EU average unweighted.

1. Admissions resulting in a transfer are included.

Source: OECD Health Statistics 2016.

StatLink <http://dx.doi.org/10.1787/888933429489>

6.14. Thirty-day mortality after admission to hospital for ischemic stroke 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/10.1787/888933429490>



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