

## MORTALITY FOLLOWING STROKE

Across EU countries, some 610 000 stroke events occurred in 2015 and the number is expected to rise by one-third by 2035 due to population ageing and increases in some risk factors (King's College London, 2017). Stroke is the second leading cause of death after heart disease (see the indicator “Mortality from circulatory diseases” in Chapter 3), and is also the second leading cause of disability after depression.

A stroke occurs when the blood supply to a part of the brain is interrupted. Of the two types of stroke that exist, about 85% are ischaemic (caused by clotting) and 15% are haemorrhagic (caused by bleeding). Pneumococcal infections and influenza infections, both vaccine-preventable, have a marked effect on triggering strokes. Treatment for ischaemic stroke has advanced dramatically over the last decades with systems and processes now in place in many European countries, which include specialised stroke units that are devoted to care for stroke patients by a multidisciplinary team, and medical progress such as thrombolysis and thrombectomy.

Figure 6.12 shows the mortality rates within 30 days of admission for ischaemic stroke using unlinked data to measure deaths occurring in the same hospital. Using linked data, Figure 6.13 shows the mortality rate where deaths are recorded regardless of where they occurred (in the hospital admitted initially, after transfer to another hospital or after discharge). This indicator is more robust because it takes account of hospital transfers and captures fatalities more comprehensively. Although more countries report the same-hospital measure using unlinked data, an increasing number of countries are investing in their data infrastructure and using linked data to provide more comprehensive measures.

Across EU countries, 8.6% of patients admitted for ischaemic stroke in 2015 died within 30 days in the same hospital in which the initial admission for ischaemic stroke occurred (Figure 6.12). Thirty-day mortality rates were highest in Latvia (18.3%), Malta (15.9%) and Lithuania (15.3%). Rates were less than 5% in Denmark and Finland. Generally, countries that have 30-day mortality for ischaemic stroke lower than the EU average also tend to have lower 30-day mortality rates for acute myocardial infarction (AMI) (see indicator “Mortality following acute myocardial infarction”). This suggests that certain aspects of acute care may be influencing outcomes for both stroke and AMI patients.

Across those EU countries that reported in- and out-of-hospital mortality rates, 11.7% of patients died within 30-days of being admitted to hospital for stroke (Figure 6.13). 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 hospital.

Between 2005 and 2015, 30-day mortality rates for ischaemic stroke have decreased in nearly all countries (and by over 25% on average), with the exception of Latvia where the rates have increased when considering fatalities in and out of hospital, although this may reflect improved data accuracy (OECD, 2016). The reduction in 30-day mortality rates was substantial in Denmark and the United Kingdom. Across European countries, 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 mortality rates (OECD, 2015).

Despite the progress so far, there is still room to improve implementation of best practice acute care for stroke and other cardiovascular diseases across countries. Targeted strategies can be highly effective to shorten acute care treatment time. Advances in technology are now leading to models of care to deliver reperfusion therapy in an even more rapid and efficient manner, whether through pre-hospital triage via telephone, administration via telemedicine, or administering the therapy in the ambulance (Chang and Prabhakaran, 2017).

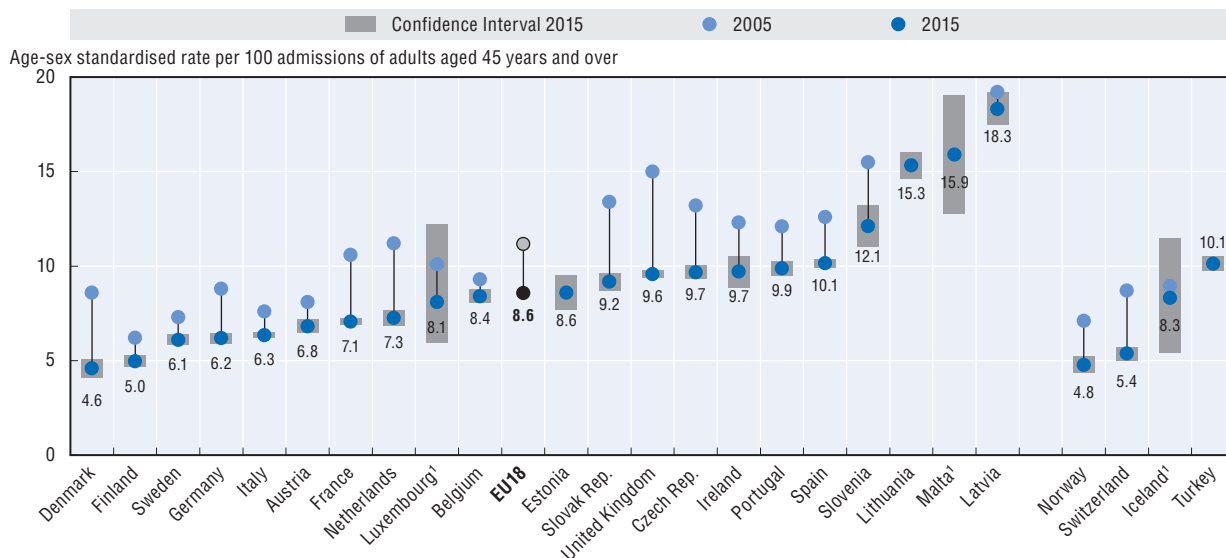
### Definition and comparability

Thirty-day mortality rates are defined in the indicator “Mortality following acute myocardial infarction” in Chapter 6. Rates are age-sex standardised to the 2010 OECD population aged 45+ admitted to hospital for ischaemic stroke (ICD-10 I63-I64).

### References

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### 6.12. Thirty-day mortality after admission to hospital for ischaemic stroke based on unlinked data, 2005 and 2015 (or nearest years)



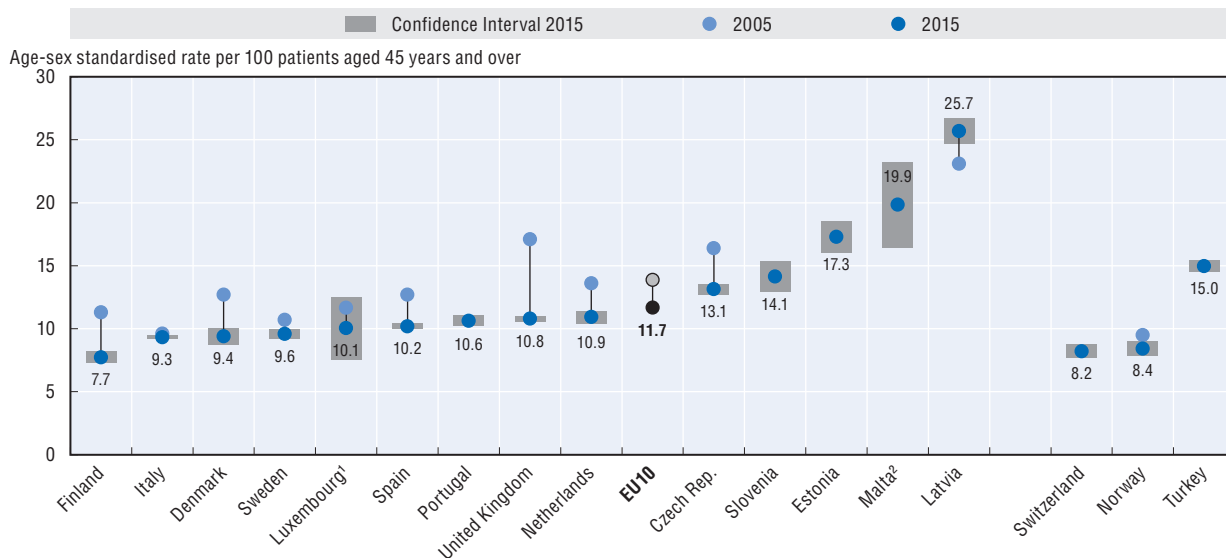
1. Three-year average.

Note: 95% confidence intervals for the latest year are represented by grey areas. The EU average is unweighted and only includes countries with data covering the whole time period.

Source: OECD Health Statistics 2018, <https://doi.org/10.1787/health-data-en>.

StatLink <http://dx.doi.org/10.1787/888933835839>

### 6.13. Thirty-day mortality after admission to hospital for ischaemic stroke based on linked data, 2005 and 2015 (or nearest years)



1. Three-year average.

2. Two-year average.

Note: 95% confidence intervals for the latest year are represented by grey areas. The EU average is unweighted and only includes countries with data covering the whole time period.

Source: OECD Health Statistics 2018, <https://doi.org/10.1787/health-data-en>.

StatLink <http://dx.doi.org/10.1787/888933835858>



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