Mortality following acute myocardial infarction (AMI)

Mortality due to coronary heart disease has declined substantially in recent decades, although these reductions have slowed down over the past decade before the pandemic in several Western European countries as several risk factors are on the rise (see indicator "Mortality from circulatory diseases" in Chapter 3). Nonetheless, AMI (heart attack) remains the leading cause of cardiovascular death in many EU countries, highlighting the need for further reductions in risk factors and care quality improvements (OECD/The King's Fund, 2020[1]). The COVID-19 crisis has also revealed the need to maintain access to high-quality acute care for AMI during public health emergencies.

Metrics of 30-day mortality after AMI hospital admission are reflective of processes of care, such as timely transport of patients and effective medical interventions. However, the indicator is influenced not only by the quality of care provided in hospitals but also by differences in the patterns of hospital transfers, length of stay, and AMI severity across countries.

Figure 6.14 shows mortality rates within 30 days of admission to hospital for AMI using unlinked data – that is, only counting deaths that occurred in the hospital where the patient was initially admitted. The lowest rates in 2019 were in Iceland, the Netherlands, Norway and Sweden (3.5% or less among patients aged 45 and over) while the highest rates were in Latvia (over 14%).

Figure 6.15 shows the same 30-day mortality rate but calculated based on linked data, whereby the deaths are recorded regardless of where they occurred after hospital admission (in the hospital where the patient was initially admitted, after transfer to another hospital, or after being discharged). Based on these linked data, the AMI mortality rates in 2019 ranged from 3% in the Netherlands to 17% in Latvia.

Case fatality rates for AMI decreased substantially between 2009 and 2019, according to both indicators. Across EU countries, the average rate fell from 8.7% to 6.3% for same-hospital deaths and from 11.8% to 9.0% for deaths in and out of hospital.

Between 2019 and 2020, however, case fatality rates increased in Austria, Lithuania, Poland and Portugal, while the rates were stable in Iceland, Latvia and the Slovak Republic. Changes in the trend reflect challenges faced by health systems in ensuring timely access to acute care during the COVID-19 crisis. In all countries reporting 2020 data, the number of people admitted to hospital due to AMI decreased. Reductions were particularly large in Poland and Portugal. Reductions in AMI admissions and related procedures may be the result either of reduced hospital use from patients (due to concern about COVID-19 exposure or not wanting to burden the health system) or of ambulance systems not being able to transfer patients in a timely manner due to a surge in demand for COVID-19 patients. In Germany for example, the severity of myocardial infarctions was almost four times higher during the pandemic than before (Primessnig, Pieske and Sherif, 2020[2]).

Definition and comparability

The case fatality rate measures the percentage of people aged 45 years and over who die within 30 days following hospital admission for a specific acute condition. The linked data-based method requiring a unique patient identifier, is considered more robust than the rates based on unlinked data. Rates are age-standardised to the 2010 OECD population aged 45 and over admitted to hospital for AMI, using International Classification of Diseases, tenth revision (ICD-10) codes I21-I22.

References

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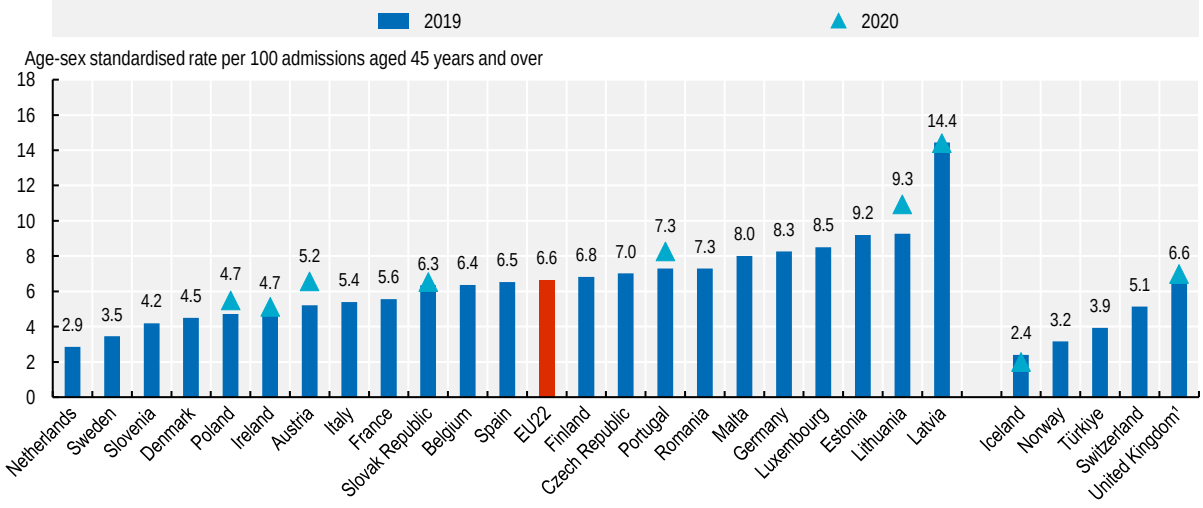
Primessnig, U., B. Pieske and M. Sherif (2020), "Increased mortality and worse cardiac outcome of acute myocardial infarction during the early COVID-19 pandemic", *ESC Heart Failure*, Vol. 8/1, pp. 333-343, https://doi.org/10.1002/ehf2.13075. [2]

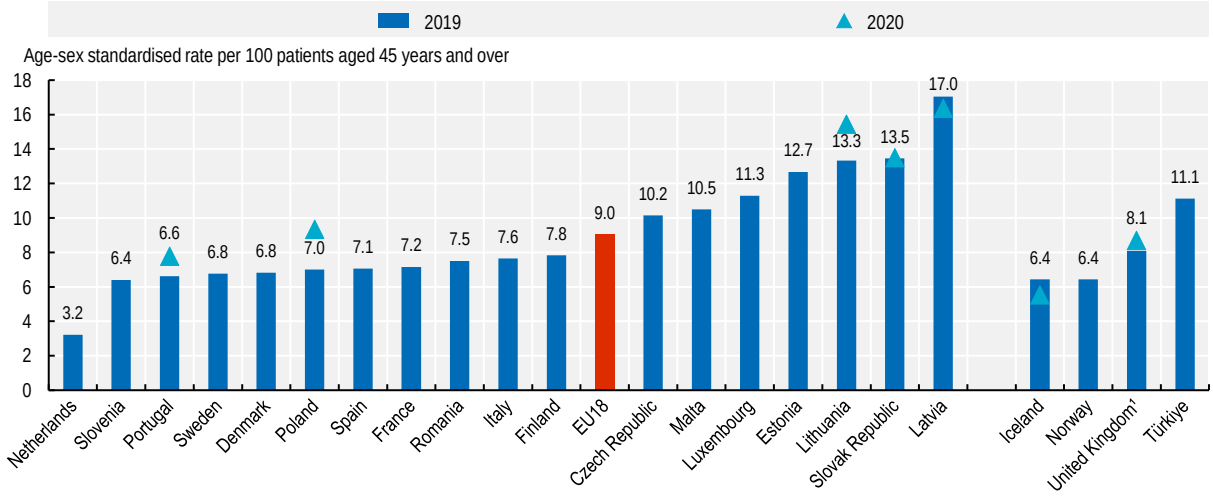
Figure 6.14. Thirty-day mortality after hospital admission for AMI based on unlinked data, 2019 (or nearest year) and 2020



Note: The EU average is unweighted. 1. 2020 data are provisional and include England only.
Source: OECD Health Statistics 2022.

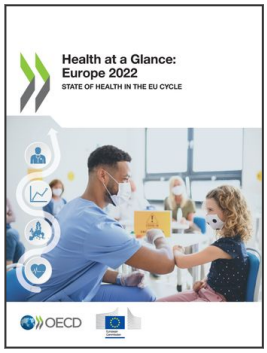
StatLink https://stat.link/8a3bsn

Figure 6.15. Thirty-day mortality after hospital admission for AMI based on linked data, 2019 (or nearest year) and 2020



Note: The EU average is unweighted. 1. 2020 data are provisional and include England only.
Source: OECD Health Statistics 2022.

StatLink https://stat.link/418wkx



From:

Health at a Glance: Europe 2022

State of Health in the EU Cycle

Access the complete publication at:
https://doi.org/10.1787/507433b0-en

Please cite this chapter as:

OECD/European Union (2022), "Mortality following acute myocardial infarction (AMI)", in *Health at a Glance: Europe 2022: State of Health in the EU Cycle*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/2e1cf99b-en