

1.1. Case fatality within 30 days after admission for AMI (QE-5) and Case fatality within 30 days after admission for ischaemic stroke (QE-6)

1.1.1. Documentation sheet

Description	A. In-hospital case-fatality rate following admission for acute myocardial infarction (AMI) B. In-hospital case-fatality rate following admission for ischaemic stroke
Calculation	A. Proportion of people who die within 30 days of being admitted (including same day admissions) to hospital with an AMI. B. Proportion of people who die within 30 days of being admitted (including same day admissions) to hospital with an ischaemic stroke.
Rationale	<p>From the OECD report “Health at a Glance”:¹ Mortality due to coronary heart diseases has declined substantially over the past few decades. Important advances in both public health policies, including reductions in smoking and improved treatment for heart diseases, have contributed to these declines. Clinical practice guidelines such as those developed by the European Society of Cardiology have helped optimise treatment. Despite these advances, acute myocardial infarction (AMI or heart attack) remains the leading cause of cardiovascular deaths across European countries, making further improvements a priority. 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. Stroke is the second leading cause of death after heart disease, and is also the second leading cause of disability after depression.</p> <p>Another report from OECD on “Quality of care in cardiovascular diseases and diabetes” also discusses these indicators.²</p>
Data source	RHM – MZG (hospital administrative discharge data), FPS Public Health FPS Public Health and OECD health data for international comparison
Technical definitions	<p>From OECD website: Definitions for Health Care Quality and Outcome Indicators 2022-2023 HCQO data collection³</p> <p>Indicator A: Admission based AMI 30 day in-hospital (same hospital) mortality</p> <p>Indicator B: Admission based ischaemic stroke 30 day in-hospital (same hospital) mortality</p> <p>Coverage: patients aged 45 and older</p> <p>Numerator: number of deaths in the same hospital that occurred within 30 days of the admission date of the denominator cases</p> <p>Denominator: number of admissions to hospital for acute non-elective (urgent) care with a principal diagnosis of (A) acute myocardial infarction [AMI diagnostic codes upon separation: ICD-9 410 or ICD-10 I21, I22] (B) ischaemic stroke [Ischemic stroke diagnostic codes upon separation: ICD-9 433, 434, and 436 or ICD-10 I63-I64] from 1 January to 31 December in the specified year.</p> <p>The same day hospital episodes are included in both the numerator and the denominator.</p>
International comparability	<p>There are two types of OECD quality of care indicators for acute conditions such as AMI and stroke: the patient-based rates (“linked data”) and the admission-based rates (“unlinked data”).</p> <p>Ideally, rates should be based on individual patients (patient-based rates). However, not all countries have the ability to track patients in- and out-of-hospital or even within the same hospital because they do not currently use a unique patient identifier. Some countries (Finland, Portugal, Sweden, the Netherlands...) present also data on the more robust and comprehensive indicator of 30-day case fatality rate, patient based.</p>

	In order to increase country coverage, this indicator is also presented based on unique hospital admissions and restricted to mortality within the same hospital (admission-based). When counting the number of admissions for AMI (indicator A) or stroke (indicator B), transfers to other hospitals are excluded from the analysis.
Limitations	<p>The indicator is influenced not only by the quality of care provided in the hospitals but also by differences in hospital transfers, average length of stay and AMI/stroke severity.</p> <p>In Belgium, patients cannot be followed after discharge: only patients who died in hospital are accounted for.</p> <p>Change from ICD-9 to ICD-10 classification has resulted in a break in the series of RHM – MZG data from 2016 on (and no 2015 data available).</p> <p>Belgian data from RHM – MZG are not adjusted, explaining the differences with Belgian results presented in the international comparison.</p>
Dimension	Quality – effectiveness of care
Reviewer	Nathalie Terryn (SPF SPSCAE – FOD VVVL)

1.1.2. Results

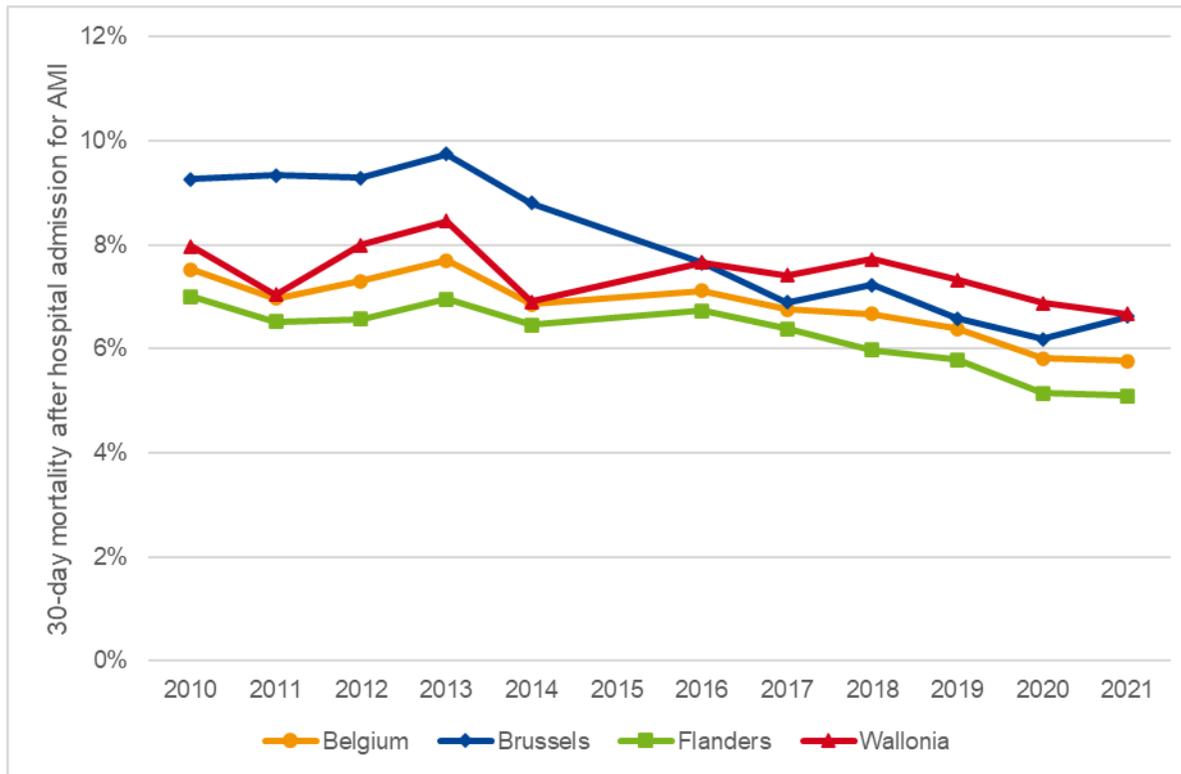
period, the case-fatality rate for AMI hospital admission has decreased in Belgium, from 7.5% in 2010 to 5.8% in 2021 (Figure 1).

1.1.2.1. Case-fatality rate after hospital admission for acute myocardial infarction

Belgium

In Belgium, approximately 18 000 patients are admitted every year at the hospital for an episode of acute myocardial infarction (AMI). Over the study

Figure 1 – Case-fatality within 30 days after admission for AMI, admission-based (same hospital) by hospital region (2010-2021)



Source: FPS Public Health, hospital administrative discharge data

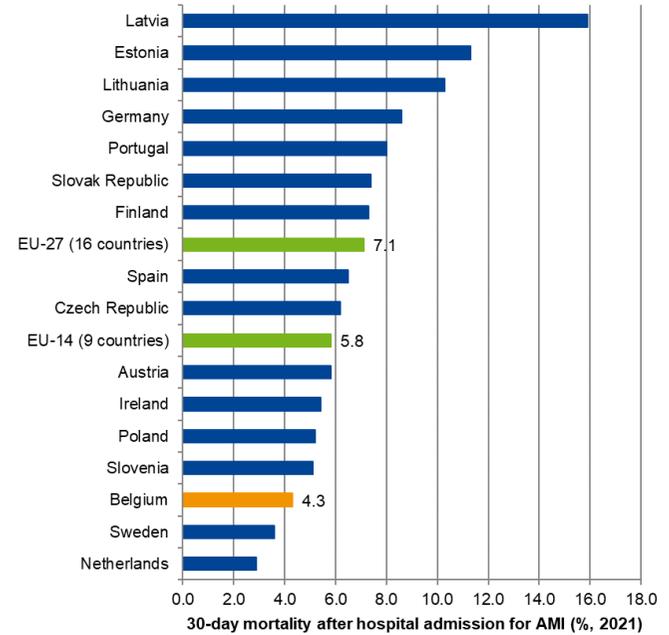
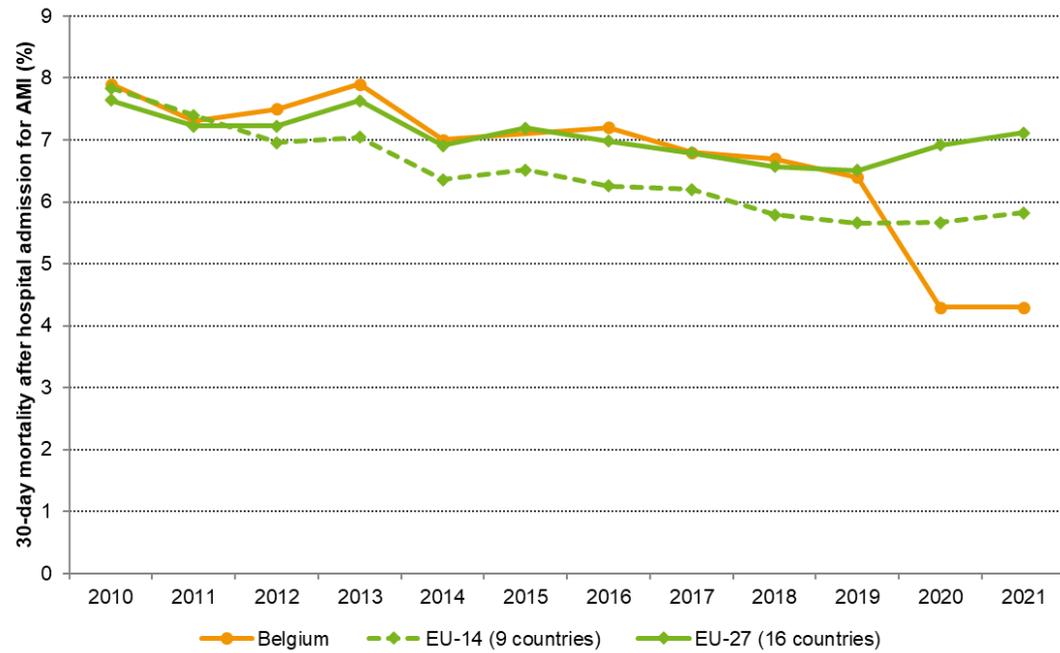
Regional comparison

Rates are lower in Flanders (5.1% in 2021) than in Wallonia (6.7% in 2021) and Brussels (6.6% in 2021, see Figure 1).

International comparison

Rates in European countries have been decreasing from 2010 to 2019, then increased in 2020 and 2021 (Figure 2, left). In Belgium, the decrease was sharp from 2019 to 2020. Latest figures (2021) place Belgium among the best countries (Figure 2, right) with a 4.3% (adjusted) case-fatality rate.

Figure 2 – Case-fatality within 30 days after admission for AMI, admission based (same hospital): international comparison (2010-2021)



Source: OECD health statistics 2023

Impact of COVID-19 pandemic

Unlike what happened in other European countries, AMI case-fatality rate has decreased from 2019 to 2020 in Belgium.

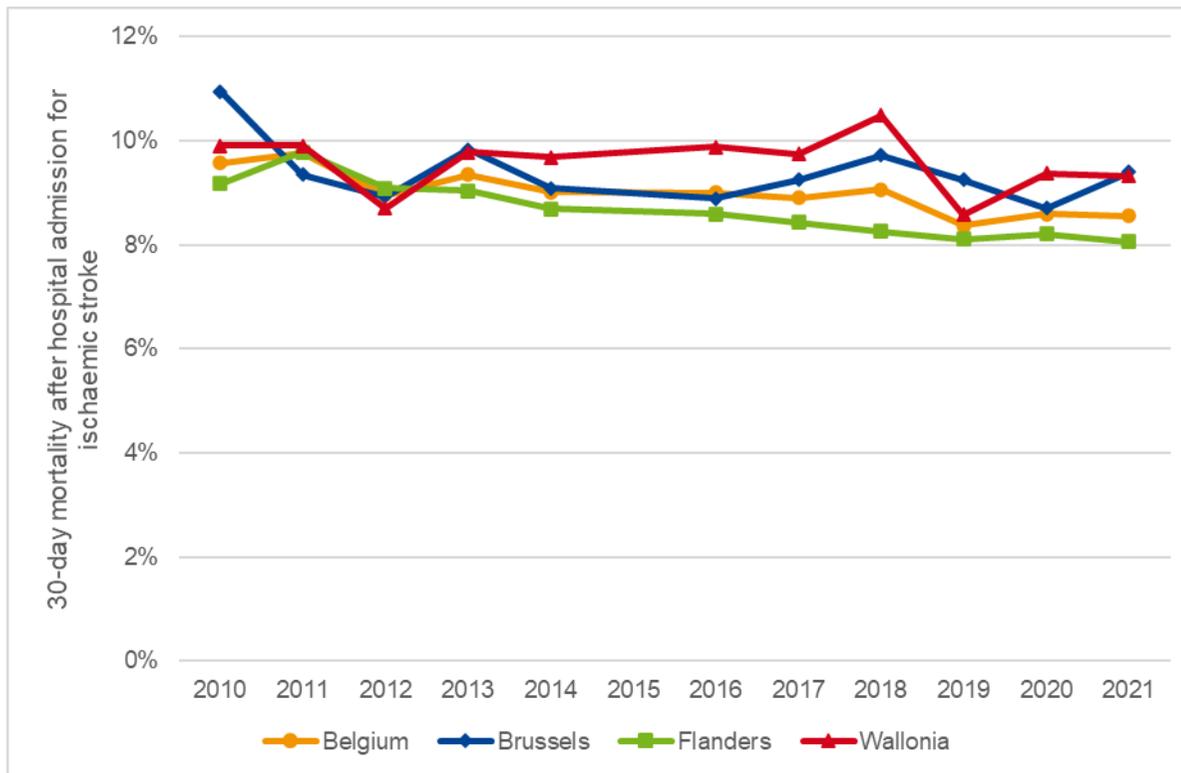
1.1.2.3. Case-fatality rate after admission for ischaemic stroke

Belgium

In Belgium, approximately 17 000 patients are admitted every year at the hospital for an episode of ischaemic stroke. In opposition to long-term trends

in case-fatality after AMI, case-fatality after ischaemic stroke was only slightly reduced during the 2010-2021 period: from 9.6% in 2010 to 8.6% in 2021 (Figure 3).

Figure 3 – Case-fatality within 30 days after admission for ischaemic stroke, admission based (same hospital), by hospital region (2010-2021)



Source: FPS Public Health, hospital administrative discharge data

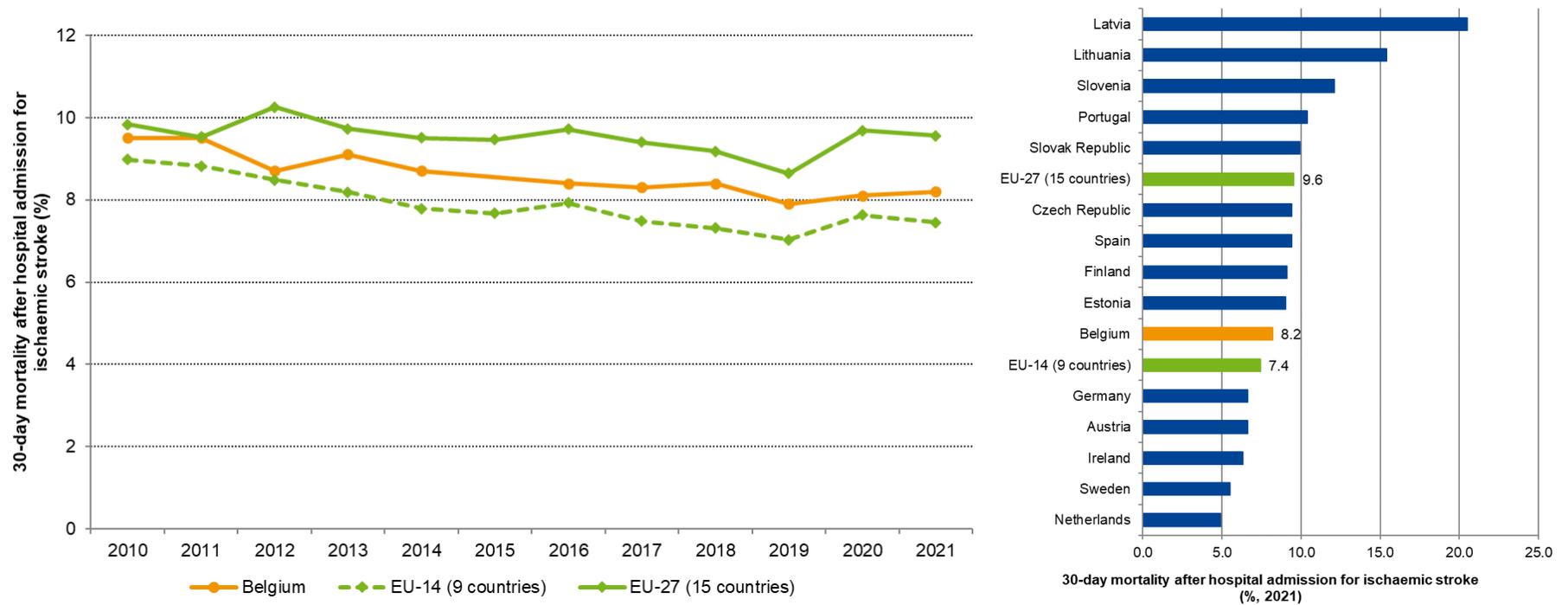
Regional comparison

Flanders has a lower rate of case-fatality for ischaemic stroke admission; it is at 8.1% in 2021, while Wallonia and Brussels are respectively at 9.3% and 9.4% in 2021.

International comparison

The rate for Belgium is between EU-14 (9 countries) and EU-27 (15 countries) mean rates (Figure 4).

Figure 4 – Case-fatality within 30 days after admission for ischaemic stroke, admission based (same hospital): international comparison (2010-2021)



Source: OECD health statistics 2023

Impact of COVID-19 pandemic

Unknown (the trend has been reversed between 2019 and 2020: growing again, but is it tiny for Belgium; the rate has increased more in other countries).

Key points

- **Case-fatality after acute myocardial infraction decreased in Belgium between 2010 and 2021 (from 7.5% to 5.8%), following the trend of other European countries. Mortality results are lower in Flanders than in the two other regions.**
- **Case-fatality after ischaemic stroke decreased slightly in Belgium between 2010 and 2021 (from 9.6% to 8.6%), as in other European countries. Flanders has a lower rate than Wallonia and Brussels.**

References

1. OECD. Health at a Glance: Europe 2018. OECD Publishing; 2018.
2. OECD. Cardiovascular Disease and Diabetes: Policies for Better Health and Quality of Care. Paris: OECD; 2015. OECD Health Policy Studies.
3. OECD. Healthcare Quality and Outcomes (HCQO) indicators 2022-23 Definitions. Available from: <https://www.oecd.org/els/health-systems/Definitions-of-Health-Care-Quality-Outcomes.pdf>