1.3. In hospital mortality after admission for acute myocardial infraction (QE-5) or ischaemic stroke (QE-6)

1.3.1. 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	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. Another report from OECD on "Quality of care in cardiovascular diseases and diabetes "also discusses these indicators.[2]
Primary data source	RHM – MZG (hospital administrative discharge data), FPS Public Health
Source of results	FPS Public Health and OECD health data for international comparison.
Technical definitions	From OECD website: [3] (Definitions for Health Care Quality Indicators 2012-2013 HCQI Data Collection) **Indicator A: Admission based AMI 30 day in-hospital (same hospital) mortality** **Indicator B: Admission based ischaemic stroke 30 day in-hospital (same hospital) mortality** Coverage: patients aged 45 and older Numerator: number of deaths in the same hospital that occurred within 30 days of hospital admission with primary diagnosis of (A) acute myocardial infarction [ICD9 410 or ICD-10 I21, I22] (B) ischaemic stroke [ICD-9 433, 434, 436 or ICD-10 I63-I64] in a specified year. Denominator: number of admissions to hospital with primary diagnosis of (A) acute myocardial infarction (B) ischaemic stroke in the specified year The same day hospital episodes are included in both the numerator and the denominator.
International comparability	These are two types of OECD quality of care indicators for acute conditions such as AMI and stroke: the patient-based rates and the admission-based rates. 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 (Denmark, Finland, Sweden, the Netherlands…) present also data on the more robust and comprehensive indicator of 30-day case fatality rate, patient based.

	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.
Limitation	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.
Dimension	Quality – effectiveness of care

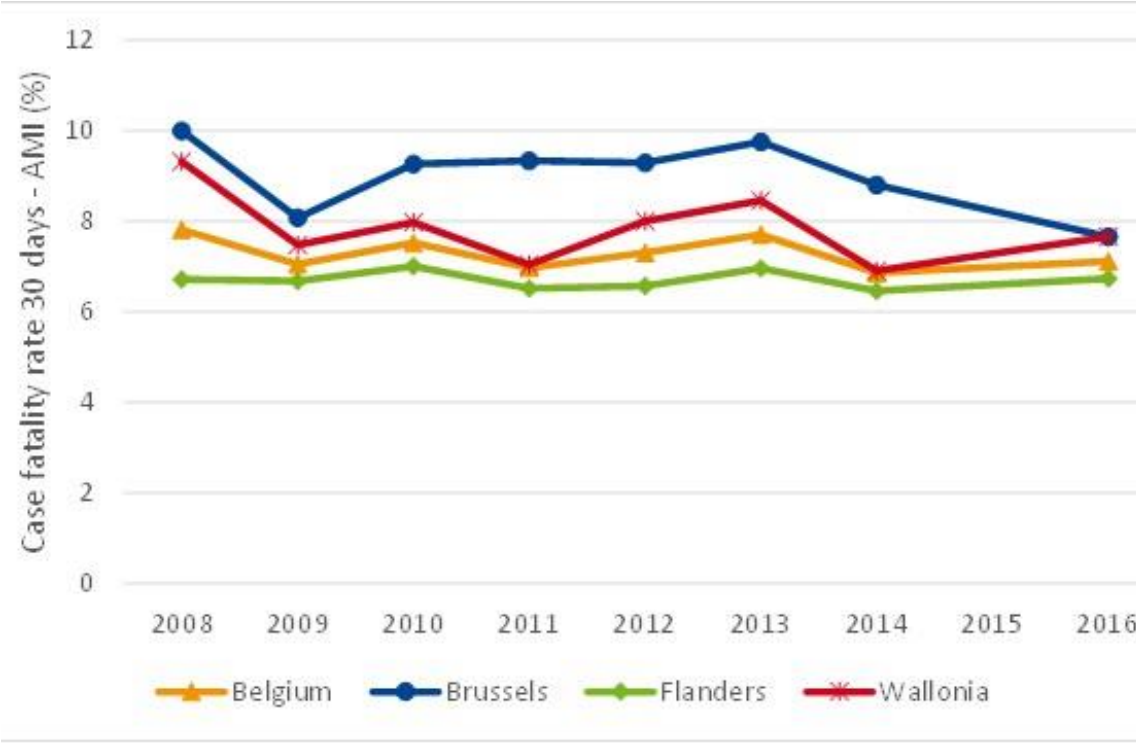
1.3.2. Results

1.3.2.1. Case Fatality Rate after hospital admission for Acute Myocardial Infarction

In Belgium, approximately 19 000 patients are admitted every year at the hospital for an episode of acute myocardial infarction. From 2008 to 2016, the case-fatality rate of AMI has slightly decreased in Belgium, from 7.8% in 2008 to 7.1% in 2016. Rates are lower in Flanders (6.7%) than in Wallonia and Brussels (7.7% each) (Figure 10).

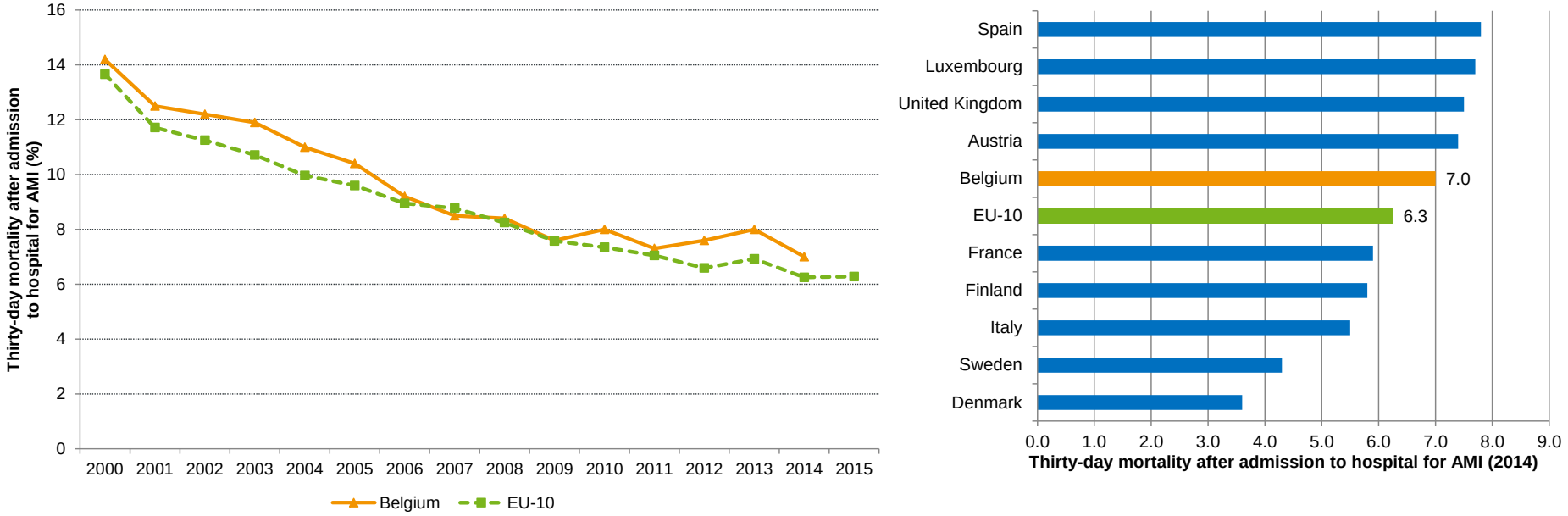
Rates in European countries vary by a factor two for AMI-case fatality rates: from the lowest rates observed in Denmark (3.6%) to highest in Spain (7.8%). In 2014, Belgium (7.0%) was slightly above the European average of 6.3% (Figure 11). The trend over a longer period shows a steep slope: the rate has been halved between 2000 and 2015.

Figure 10 – Case-fatality within 30 days after admission for AMI, admission-based (same hospital) by hospital region (2008-2016)



Source: RCM-MKG and RHM-MZG
Note: This indicator reports in-hospital death within the hospital of initial admission.

Figure 11 – Case-fatality within 30 days after admission for AMI, admission based (same hospital): international comparison (2000-2014)

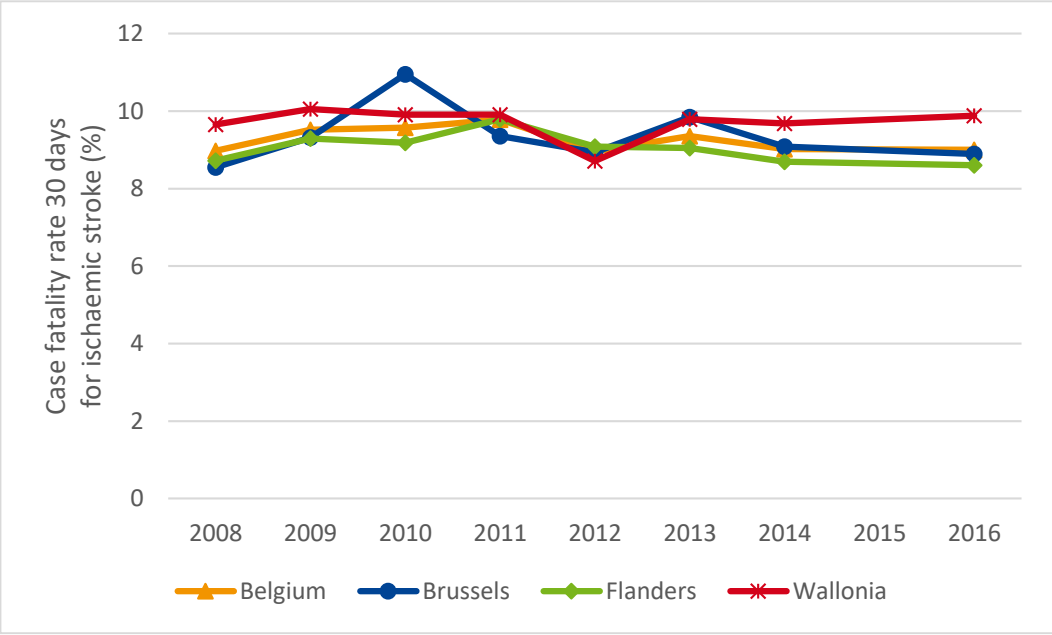


Source: OECD Health Statistics 2018

1.3.2.2. Case Fatality Rate after admission for Ischaemic Stroke

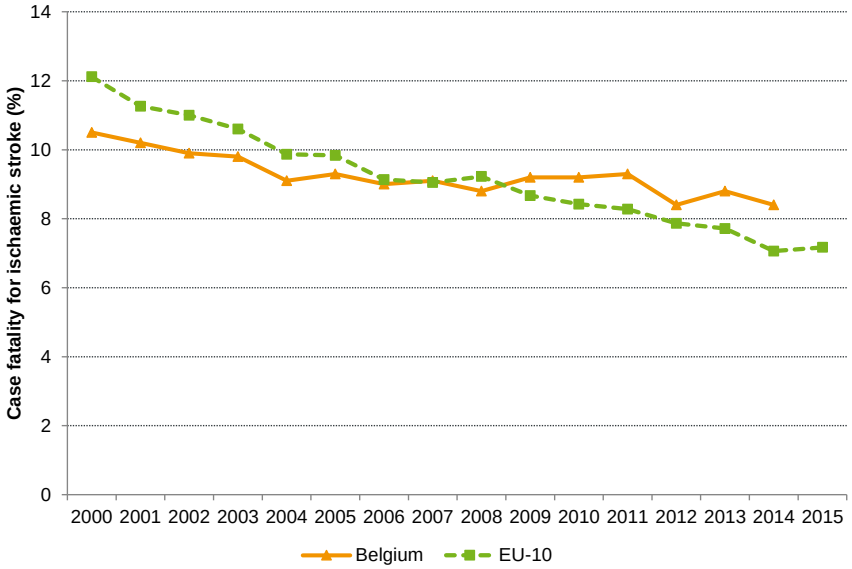
In Belgium, approximately 21 000 patients are admitted every year at the hospital for an episode of ischaemic stroke. In opposition to long term trends in case-fatality after AMI, case-fatality after ischaemic stroke was only slightly reduced during the 2000-2015 period, both in Belgium and in European countries (see Figure 12 and Figure 13): 10.1% in 2000, 9.0% in 2016, with small differences between the Regions (Flanders 8.6%, Wallonia 9.9%, Brussels 8.9%, see Figure 12).

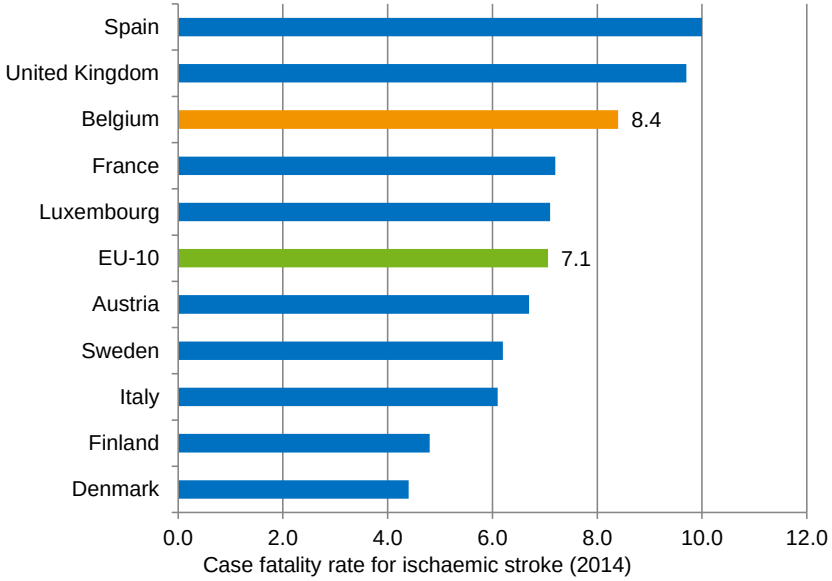
Figure 12 – Case-fatality within 30 days after admission for ischaemic stroke, admission based (same hospital), by hospital region (2008-2016)



Source: RCM-MKG and RHM-MZG
Note: This indicator reports in-hospital death within the hospital of initial admission.

Figure 13 – Case-fatality within 30 days after admission for ischaemic stroke, admission based (same hospital): international comparison (2000-2014)





Source: OECD Health Statistics 2018.

Key points

- **Case-fatality after acute myocardial infraction decreased sharply in Belgium between 2000 and 2015, following the trend of all other European countries. Mortality results are lower in Flanders than in the two other regions, but the gap is closing.**
- **Case-fatality after ischaemic stroke decreased slightly in Belgium between 2000 and 2016, following the trend of all other European countries. Results are similar across Regions, except for Wallonia where rates are slightly higher in recent years.**
- **For international comparisons, case fatality rates are above EU-15 average for both indicators.**

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. Health statistics 2018 [Web page].2018. Available from: http://www.oecd.org/els/health-systems/health-data.htm