Acute myocardial infarction (AMI) and stroke each account for around 3 million deaths a year in the Asia-Pacific region, being two of the major causes of death and disability (WHO, 2014h). Additionally, both are associated with significant health, social and non-financial costs, because of the persistent disabilities suffered by many survivors. Treatment for AMI and stroke has advanced greatly over the past decade. Until the 1990s, treatment focused on prevention of complications and rehabilitation. But following the great improvements in AMI survival rates that were achieved with thrombolysis (Gil et al., 1999), clinical trials also demonstrated the clear benefits of thrombolytic treatment for ischemic stroke (e.g. Mori et al., 1992). Dedicated cardiac care and stroke units offering timely and proactive therapy achieve better survival than conservative care (Seenan et al., 2007), although studies have shown that a considerable number of patients fail to receive high-quality, evidence-based care (Eagle et al., 2005).

For both AMI and stroke, the case-fatality rate is a useful measure of acute care quality. It reflects the processes of care, such as effective medical interventions, including early thrombolysis or treatment with aspirin when appropriate, and co-ordinated and timely transport of patients. For AMI, crude and age-sex standardised in-hospital case-fatality rates within 30 days of admission vary widely, with the lowest rates reported in Australia (4.1%) and New Zealand (6.6%) (Figure 5.4). Japan has the highest reported case-fatality rates of 12.2%. Beyond the quality of care provided in hospitals, differences in hospital transfers, average length of stay, emergency retrieval times and average severity of AMI may influence reported 30 day-case fatality.

For ischemic stroke, the lowest case-fatality rates are reported in Japan (3%) and Korea (3.2%), while Malaysia reports the highest crude rate of 11.7% (Figure 5.5). Fatality rates for haemorrhagic stroke are significantly greater than for ischemic stroke, and countries that achieve better survival for one type of stroke also tend to do well for the other. Again, the lowest case-fatality rates for haemorrhagic stroke are reported in Japan (11.8%) and Korea (14%), with Malaysia reporting the highest crude rate of 27.3% (Figure 5.6). Given the initial steps of care for stroke patients are similar, this suggests that system-based factors play a role in explaining the differences across countries. Other factors such as patterns of hospital transfers, average length of stay, emergency retrieval times and average severity of stroke may also influence the rates.

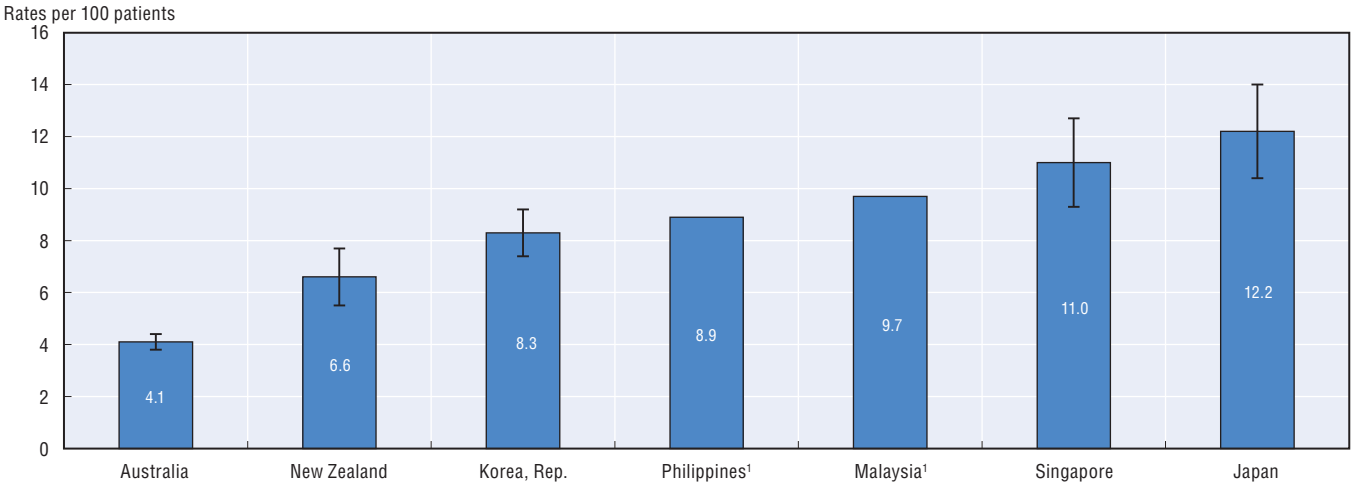
Patient-based data which follows patients in and out of hospital and across hospitals is a more robust (although administratively more complex) indicator for national monitoring and international comparison. This is because admission-based data may bias case-fatality rates downwards if unstable patients are transferred elsewhere, and the transfer is recorded as a live discharge. Currently, very few countries in the Asia-Pacific region are able to track patients hence produce patient-based data, so this indicator is not shown here.

Definitions and comparability

The in-hospital case-fatality rate following AMI, ischemic and hemorrhagic stroke is defined as the number of people who die within 30 days of being admitted (including same day admissions) to hospital. Ideally, rates would be based on individual patients, however not all countries have the ability to track patients in and out of hospital, across hospitals or even within the same hospital because they do not currently use a unique patient identifier. Therefore, since this indicator is based on unique hospital admissions and restricted to mortality within the same hospital, differences in practices in discharging and transferring patients may influence the findings.

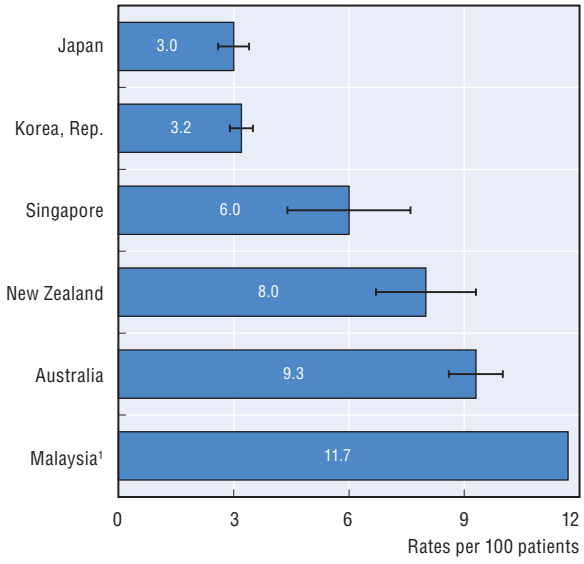
Where available, both crude and age and sex standardised rates are presented. Standardised rates adjust for differences in age (45+ years) and sex, and facilitate more meaningful international comparisons. Crude rates are likely to be more meaningful for internal consideration by individual countries.

5.4. In-hospital case-fatality rates within 30 days after admission for AMI, 2013 (or nearest year)

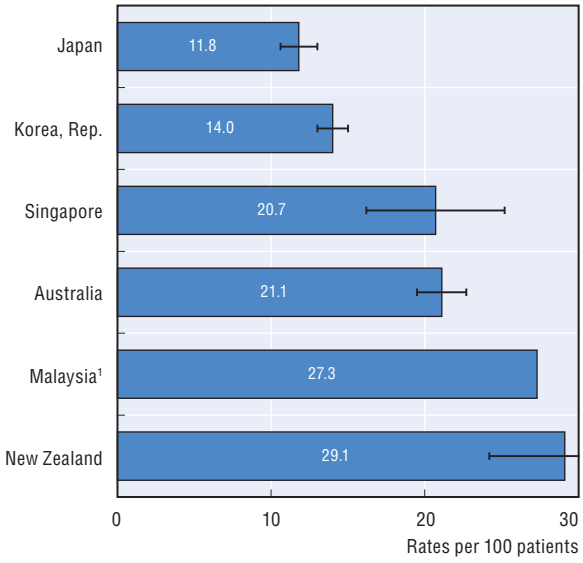


Note: 95% confidence intervals represented by H.
1. Data refer to crude rates.
Source: *OECD Health Statistics 2016.*

5.5. In-hospital case-fatality rates within 30 days after admission for *ischemic stroke*, 2013 (or nearest year)



5.6. In-hospital case-fatality rates within 30 days after admission for *hemorrhagic stroke*, 2013 (or nearest year)



Note: 95% confidence intervals represented by H.
1. Data refer to crude rates.
Source: *OECD Health Statistics 2016.*

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