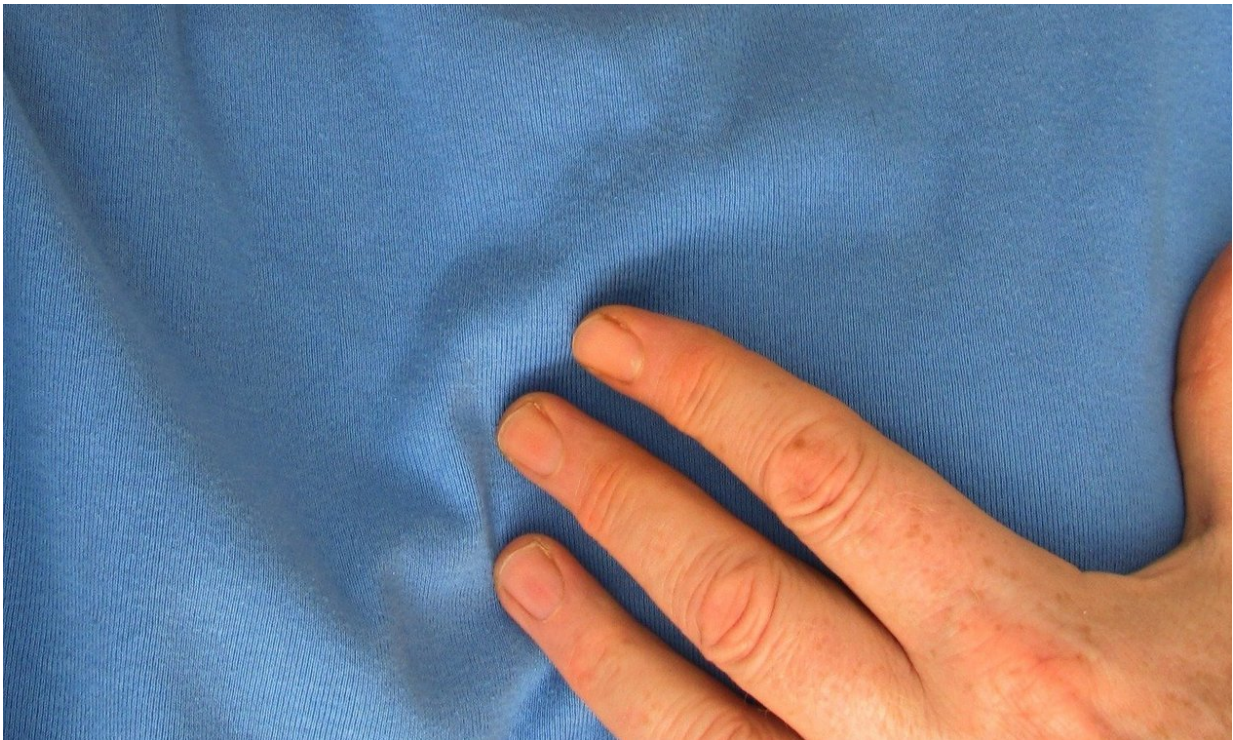


Study finds large differences in heart attack care across six high income countries

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A study published in *The BMJ* today finds "substantial differences" in care for heart attack patients across six high income countries (US, Canada, England, Netherlands, Israel, and Taiwan), despite there being established international consensus on diagnosis and treatment of this serious condition.

The findings, by the international health system research collaborative (IHSRC) investigators, include low use of procedures to open up blood vessels in England and the Netherlands and high death rates after one year in the US and Taiwan—results that should help guide countries in focusing their improvement efforts, say the researchers.

International data are increasingly being used to compare [patient care](#) and outcomes across different countries, but studies often lack the detail required to evaluate specific diseases, and it's still not clear why certain countries appear to perform better and why others fall short.

To explore this further, a team of international researchers set out to compare treatment and outcomes for patients (aged 66 and over) admitted to hospital with a heart attack ([acute myocardial infarction](#) or AMI) in six [high income countries](#) between 2011 and 2017.

The countries included were the US, Canada, England, Netherlands, Israel, and Taiwan. They were chosen because all have highly developed healthcare systems and accessible administrative data, but differ in their financing, organization, and overall performance in international rankings.

AMI was chosen because it is a common condition with established international diagnostic criteria and consensus about evidence based treatments, and has well developed coding schemes for identification using administrative data.

Outcomes were assessed separately for patients with two different types of [heart attack](#) (ST-segment elevation [myocardial infarction](#) or STEMI and non-ST-segment elevation myocardial infarction or NSTEMI).

The total number of hospital admissions ranged from 19,043 in Israel to 1,064,099 in the US.

Large differences were found between countries for all outcomes. For example, the proportion of patients admitted to hospital with STEMI who received percutaneous coronary intervention (inserting a tube to open up [blood vessels](#) in the heart) in hospital during 2017 ranged from 36.9% in England to 78.6% in Canada, where higher use is generally better.

Use of [percutaneous coronary intervention](#) for STEMI increased in all countries between 2011 and 2017, with particularly large rises in Israel (48.4 to 65.9%) and Taiwan (49.4 to 70.2%).

The proportion of patients with NSTEMI who underwent [coronary artery bypass graft](#) (surgery to improve blood flow to the heart) within 90 days of admission during 2017 was lowest in the Netherlands (3.5%) and highest in the US (11.7%), which could suggest under-use in the Netherlands and over-use in the US.

Death within one year of admission for STEMI in 2017 ranged from 18.9% in the Netherlands to 27.8% in the US and 32.3% in Taiwan.

Average hospital length of stay in 2017 for STEMI was lowest in the Netherlands and the US (5.0 and 5.1 days) and highest in Taiwan (8.5 days), while 30 day readmission for STEMI was lowest in Taiwan (11.7%) and the US (12.2%) and highest in England (23.1%).

This is an observational study, so can't establish cause, and the researchers point out that their analysis lacked certain types of data from some countries and was limited to [older adults](#), so the findings might not apply to younger patients or those with [private insurance](#) or enrolled in Medicare managed care in the US.

Nevertheless, this was a well designed study with rigorous methods for assessing outcomes that "adds to the existing international comparison

research landscape."

As such, they conclude that while all countries had areas of high performance, no country excelled in all three domains. Therefore, our results suggest that all countries have important opportunities for improvement."

More information: Variation in revascularisation use and outcomes of patients in hospital with acute myocardial infarction across six high income countries: cross sectional cohort study, *The BMJ* (2022). [DOI: 10.1136/bmj-2021-069164](https://doi.org/10.1136/bmj-2021-069164)

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