

# Europe-wide study finds death rates after surgery double that of recent estimates

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National estimates of death following general surgery have been too optimistic, suggests the first large-scale study to explore surgical outcomes across Europe published in the first Article in a special *Lancet* theme issue on surgery. New estimates generated using a snap-shot of death after surgery in over 46 000 patients from 500 hospitals in 28 European countries indicate that overall crude mortality (death from all causes) is 4%, which is more than double previous estimates.

The overall picture shows that mortality rates vary widely between countries, from 1.2% in Iceland to 21.5% in Latvia. In the UK, the mortality rate was 3.6%, well above the highest previous estimates of 1.

What is more, says Rupert Pearse from Queen Mary, University of London who led the research, "Nearly three-quarters of patients who died were never admitted to intensive care. Failure to allocate critical care resources to patients at greatest risk of death is a serious public health concern for patients undergoing surgery in Europe."

The European [Surgical Outcomes](#) Study (EuSOS) measured national in-hospital mortality and examined the allocation of critical care resources during 7 days in April, 2011. [Adult patients](#) (aged 16 years or older) who underwent various non-cardiac procedures in participating centres were enrolled and tracked for up to 60 days after surgery.

Even after adjusting for possible confounding variables (eg, urgency and surgical procedure, age, and presence of metastatic disease) substantial

differences in [mortality rates](#) remained between nations. Compared with the UK (the country with the largest dataset), patients in Poland (OR: 6.92), Latvia (OR: 4.98), and Romania (OR: 3.19) had the greatest odds of dying. Within western Europe, patients in Ireland (OR: 2.61), Italy (OR: 1.70), Belgium (1.65), Portugal (1.43), and France (1.36) had a higher risk of dying.

The researchers note that the high mortality they identified across Europe contrasts with the 2% for [cardiac surgery](#) patients who are routinely admitted to critical care. They speculate that the provision and use of [critical care](#) beds may play a vital role in improving survival in patients undergoing non-[cardiac procedures](#).

According to Pearse, "The substantial variations in mortality between countries highlight the urgent need for national and international strategies to improve care for this group of patients."

In a linked Comment, René Vonlanthen and Pierre-Alain Clavien from University Hospital Zurich in Switzerland write, "In future studies, we need to learn more about the relevant issues and optimum processes to secure quality [assurance in surgery]. Targets could include the type of intensive care beds needed, volume, university versus community hospitals, and surgeons' qualifications. Costs for the overall postoperative course would also be key, to allow us to propose cost-effective and relevant corrective measures."

**More information:** [www.thelancet.com/journals/lan ... \(12\)61148-9/abstract](http://www.thelancet.com/journals/lan... (12)61148-9/abstract)

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