

Surgery patients in lower income countries have three times greater risk of dying

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New research has shown that patients undergoing emergency surgery in lower income countries have a three times greater chance of dying than in higher income countries.

The study, published in the *British Journal of Surgery*, monitored post-surgery [death rates](#) and mapped them against the Human Development Index (HDI) of each country.

10,745 patients were monitored up to 30 days after undergoing emergency abdominal surgery, at hospitals in 58 participating countries.

The study showed that death rates were three times higher in low income countries than in high income countries, even after adjustment for [prognostic factors](#) such as fitness for surgery, diabetes history and smoking status.

The team behind the research, from the Universities of Birmingham, Edinburgh and Sheffield, believe that the study demonstrates a need to improve patient safety in [low income countries](#), and revisit the use of the surgical safety checklists—the standard global marker of hospital safety.

Dr Aneel Bhangu, from the University of Birmingham, explained, "The association between increasingly mortality and lower income countries might be explained by differences in prognosis, in treatment, or maybe both. What we can say is that our study highlights the significant disparity between countries, and an urgent need to address it."

It is believed that less than a third of the world's population have access to safe, timely and affordable surgery. Only 6% of the 300 million surgical procedures performed each year take place in low or middle income countries, despite a third of the world's population living there.

Surgical death rates are routinely collected in high income countries, such as the United Kingdom and United States, but there is little to no surveillance in as many as 70% of low and middle income countries.

Mr Ewen Harrison, from the University of Edinburgh, described the importance of collecting this data in order to understand what influences [surgical outcomes](#); "Improving surgical access and safety can only be achieved if we really understand what influences surgical outcomes on a global scale".

The team behind the research have developed a novel model of data collection, forming an international collaboration of doctors known as 'GlobalSurg'. This network was created largely using social media, and data capture during the study was improved by use of a novel platform accessible from mobile internet devices.

Dr Edward Fitzgerald, from the GlobalSurg committee, added, "By creating an international network of surgeons it has been possible to collect data on real patients, at the bedside. To measure surgical outcomes we reversed the traditional research model and recruited study collaborators via social media and other avenues. This established a data-sharing platform that is accessible from smartphones."

The team also analysed the types of [surgery](#) being conducted. Regardless of income setting, the most commonly performed emergency abdominal operation was removal of appendix.

The GlobalSurg team hopes that their ongoing research will build on the

findings and look to identify targets to help improve the safety of operations for surgical patients around the world.

More information: *British Journal of Surgery*, [DOI: 10.1002/bjs.10151](https://doi.org/10.1002/bjs.10151)

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