

Surgical infections linked to drug-resistant bugs, study suggests

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Surgical infections linked to drug-resistant bugs, study suggests. Credit: University of Birmingham

Patients having surgery in low income countries are more likely to develop an infection than those in wealthier nations, which may be linked to drug-resistant bacteria, research led by the Universities of

Birmingham, Edinburgh and Warwick suggests.

Patients in low income nations also have higher antibiotic use and are more likely to be infected with bacteria that are resistant to medicines, the study found.

The findings shed light on a link between antibiotic use and infection and highlight an urgent need to tackle surgical infection in low income nations, scientists say.

Infection at the site of a surgical wound is a complication that prolongs recovery times for patients and can be fatal. Until now, the extent of the problem in low income countries was unknown.

To address this, researchers looked at hospital records - from 66 low, middle and high income countries - for more than 12,000 patients undergoing surgery on the digestive system.

Patients in low income countries were 60 per cent more likely to have an infection in the weeks following an operation compared with high and middle income countries.

Those who developed a wound infection were more likely to die, although the infection was not necessarily the cause of death. Infected patients were also found to stay in hospital three times longer.

Drug-resistant bacteria do not respond to antibiotics, making it hard to treat infection. Their spread has been linked to overuse of antibiotics and is an urgent global healthcare challenge.

The research was led from the Universities of Edinburgh, Birmingham, and Warwick as part of GlobalSurg Collaborative, an international network of doctors who gather healthcare data by recruiting healthcare

centres through social media.

It is published in *Lancet Infectious Diseases* and was funded by the National Institute of Health Research (NIHR).

Professor Dion Morton, of the University of Birmingham's Institute of Cancer and Genomic Sciences, said: "Countries with a low Human Development Index carry a disproportionately greater burden of surgical infections than countries with a middle or high Human Development Index.

"In view of World Health Organisation recommendations on measures for surgical site infection prevention that highlight the absence of high-quality evidence for interventional research, urgent, pragmatic, randomised trials are needed to assess measures aiming to reduce this preventable complication."

Dr Ewen Harrison, Clinical Senior Lecturer and Honorary Consultant Surgeon at the University of Edinburgh, who led the research said: "Our study shows that low income countries carry a disproportionately high burden of infections linked to surgery.

"We have also identified a potential link between these infections and antibiotic resistance. This is a major healthcare concern worldwide and this link should be investigated further."

More information: Aneel Bhanu et al, Surgical site infection after gastrointestinal surgery in high-income, middle-income, and low-income countries: a prospective, international, multicentre cohort study, *The Lancet Infectious Diseases* (2018). [DOI: 10.1016/S1473-3099\(18\)30101-4](https://doi.org/10.1016/S1473-3099(18)30101-4)

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