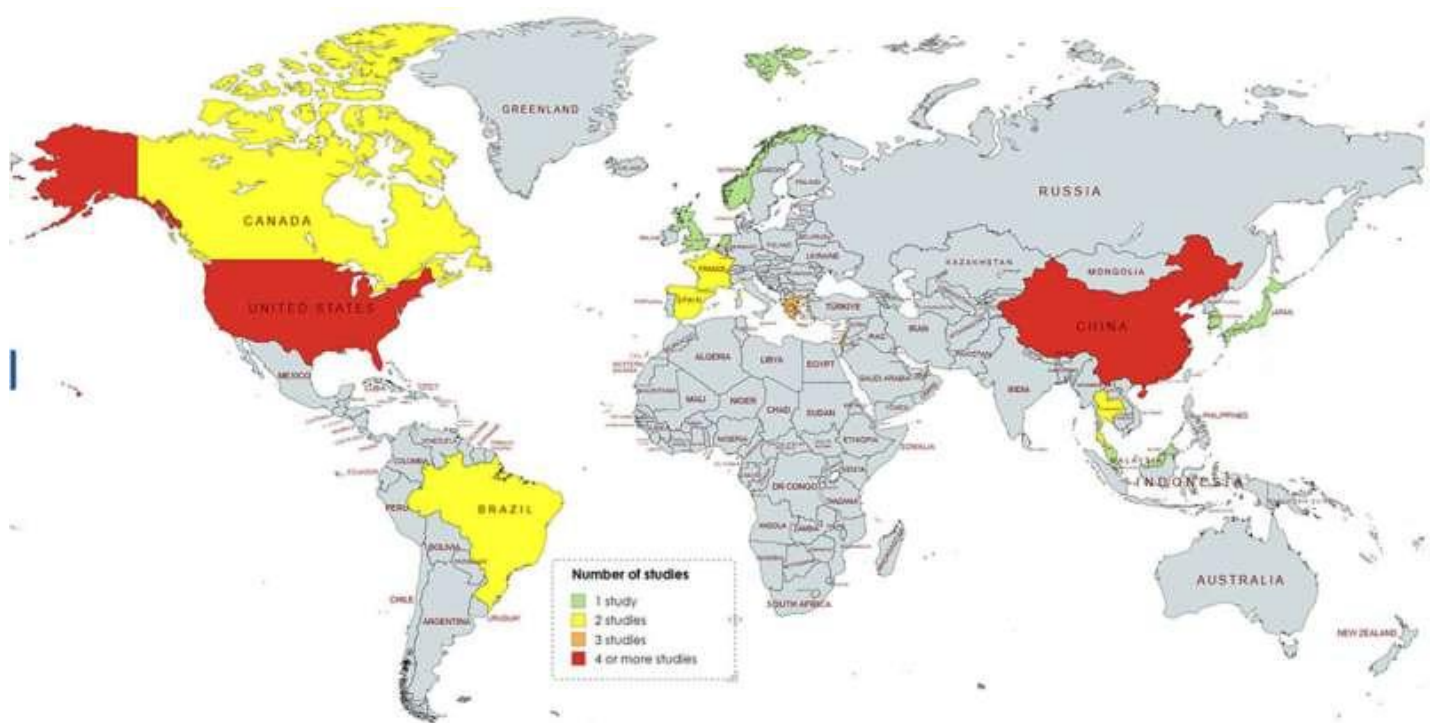


SEPTEMBER 24, 2025

Around one in three hospital infections involve antimicrobial resistance, study shows

by University of Leicester

edited by Gaby Clark, reviewed by Robert Egan



World map demonstrating where studies analyzed were conducted. Credit: *eClinicalMedicine* (2025). DOI: 10.1016/j.eclinm.2025.103384

With an estimated 1.14 million deaths worldwide annually caused by bacteria becoming resistant to antibiotics, a University of Leicester-led study shows that in hospital settings antimicrobial resistance is common and independently associated with a higher risk of death.

The results were [published](#) in September 2025 in *eClinicalMedicine*.

Dr. Daniel Pan, [infectious diseases clinician](#), National Institute for Health and Care Research (NIHR) Doctoral Research Fellow at the University of Leicester, said. "Hospitals are high-risk environments for acquiring [drug-resistant infections](#) because many patients receive antibiotics and have invasive procedures.

"Even in settings where effective antibiotics should be available, resistant infections still carry an independent increase in the risk of dying. AMR doesn't just threaten public health systems; it directly harms the individuals who acquire these infections."

Drawing on 34 hospital-based studies covering 20,658 patients across 18 countries, Dr. Pan and the team found that over one-third of hospital-acquired infections involved drug-resistant bacteria (pooled prevalence 36.5%).

Patients with resistant infections had a 58% higher adjusted risk of death than those with susceptible infections, with the greatest risk seen for deaths during the same admission and for bloodstream infections.

Senior author, Professor Manish Pareek, Chair in Infectious Diseases and Director of the Development Center for Population Health at the University of Leicester, said, "Our analysis also highlights major evidence gaps: many under-represented regions, including parts of Africa, the Middle East and South Asia, had few or no eligible hospital-based studies linking AMR to mortality. If countries are to meet emerging UN goals on antibiotic access and reducing AMR, we urgently need better surveillance and studies from these regions."

Publication details

Nisha A. George et al, The prevalence and risk of mortality associated with antimicrobial resistance within nosocomial settings—a global systematic review and meta-analysis of over 20,000 patients, *eClinicalMedicine* (2025). DOI: [10.1016/j.eclinm.2025.103384](https://doi.org/10.1016/j.eclinm.2025.103384)

Journal information: [EClinicalMedicine](#)

Key medical concepts

Antimicrobial Resistance

Hospital Infection

Sepsis

Clinical categories

Infectious diseases

Hospital medicine

Provided by [University of Leicester](#)

Citation: Around one in three hospital infections involve antimicrobial resistance, study shows (2025, September 24) retrieved 20 January 2026 from <https://medicalxpress.com/news/2025-09->

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