

# Deadly superbugs cross borders

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UQ PhD student Hosam Zowawi. Credit: Rolex Awards/Julian Kingma

Dangerous superbug clones have successfully spread beyond the borders of the Middle East Gulf States, University of Queensland researchers have found.

The superbug *Acinetobacter baumannii*, a [bacteria](#) well known for being

antibiotic-resistant and associated with dangerous [hospital](#)-acquired infections and subsequent outbreaks, has been found in Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Oman and Bahrain.

UQ Centre for Clinical Research PhD student Hosam Zowawi and his advisor Professor David Paterson have collaborated with international researchers to lead the first region-wide collaborative study on superbugs (antibiotic-resistant bacteria) in the Gulf Cooperation Council.

Mr Zowawi said the study found certain *A. baumannii* clones resistant to last-line antibiotics prevalent in all Gulf States.

"Our study found multiple clones of this particular superbug have found their ways to different cities in the Gulf States," he said.

"Most notably, we found a big cluster of bacteria with identical genetic fingerprints in Riyadh, Khobar, Kuwait, Manama, Muscat and Abu Dhabi, which is a very unusual finding.

"We used to see clones of this bacteria spreading inside individual hospitals and causing outbreaks from patient-to-patient transmission, but we have never before encountered a clone that is scattered across the entire (Arabian) Peninsula.

"We anticipate this finding should encourage collaboration between clinical, veterinary and environmental microbiologists to understand where these clones originate from, how they find their way into our hospitals and what is making them successful travellers.

"Answering these mysteries will potentially suggest interventions to limit future international spread."

Professor Paterson highlighted the need for hospitals to work together to

combat the regional spread of superbugs.

"The results of this study will hopefully encourage hospitals to implement or strengthen effective infection control precautions to minimise the risk of spreading superbugs between patients, hospitals and across international borders," he said.

Centre researchers are collaborating with environmental microbiologists at King Abdullah University for Science and Technology in Saudi Arabia to identify the link between superbugs found in environmental settings to those associated with clinical infections.

Findings from this research are available in the *Journal of Clinical Microbiology*.

**More information:** "Molecular Epidemiology of Carbapenem-Resistant *Acinetobacter baumannii* Isolates in the Gulf Cooperation Council States: Dominance of OXA-23-Type Producers." *J. Clin. Microbiol.* March 2015 53:3 896-903; Accepted manuscript posted online 7 January 2015, [DOI: 10.1128/JCM.02784-14](https://doi.org/10.1128/JCM.02784-14)

Provided by University of Queensland

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