

Global search for next antibiotic

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Methicillin-resistant *Staphylococcus aureus* (MRSA) colonies grow in a blood agar plate. Credit: Institute for Molecular Bioscience, The University of Queensland

Australian researchers from The University of Queensland (UQ) have launched a global search to discover antibiotics capable of combating superbug bacteria that are resistant to current antibiotics.

The Community for Open Antimicrobial Drug Discovery (CO-ADD) is a not-for-profit initiative funded by A\$3.1 million from the Wellcome Trust, and led by researchers at UQ's Institute for Molecular Bioscience.

The initiative will invite chemists from around the world to submit their [compounds](#) for free screening for [antimicrobial activity](#).

Initiative Director Professor Matthew Cooper said the recent Review on Antimicrobial Resistance, commissioned by the UK Prime Minister and led by chief economist Jim O'Neill, has predicted that it will cause at least 10 million more deaths and cost the global economy up to A\$100 trillion (£64 trillion) by 2050.

"We are heading towards a return to the pre-antibiotic era, when even simple infections caused death," Professor Cooper said. "Now it is time to act."

The Australian scientists hope to screen more than 50,000 chemical compounds in the next 18 months, at no cost to the providers of the compounds.

"CO-ADD aims to help researchers around the world find new, diverse compounds to combat the superbug crisis," Professor Cooper said.

"Each year chemists around the world make millions of compounds, most of these are not designed as antibiotic drugs and would not otherwise be screened for antimicrobial activity.

"The next antibiotic could be out there, sitting on someone's shelf."

UQ Vice-Chancellor and President Professor Peter Høj said CO-ADD complemented the global campaign to fight [antibiotic resistance](#).

"This support from the Wellcome Trust, the world's second-largest charity for biomedical research, shows just how important this ground-breaking approach is," he said.

"Here at UQ, we're working to find answers to global problems, translating research into practical solutions."

England's Chief Medical Officer, Professor Dame Sally Davies, said [antimicrobial resistance](#) was not a new problem - Fleming acknowledged it when accepting the Nobel Prize for discovering penicillin.

"The problem we face today is that no new classes of antimicrobials have been discovered and marketed since the late 1980s, and without new antimicrobials to turn to when resistance develops, the bugs start to win. We could see a return to the pre-antibiotic era when 40% of mortality was due to infections.

"Technologies such as this could hold the key to antimicrobial drug discovery in the future," she said.

CO-ADD will screen compounds against strains of bacteria and fungi that cause life-threatening infections, with all results made available to the research community.

The Australian team will establish the world's first antimicrobial-focused open access database of [chemical compounds](#) to help researchers understand how antibiotics work and what type of compounds to look for.

More information: Chemists can submit their compounds or find out more information online at www.co-add.org

Provided by University of Queensland

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