

Researchers make FAST work of antibiotic resistance

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Credit: University of Western Australia

Researchers from The University of Western Australia have showcased exciting results from a screening test to detect antibiotic resistance and to ensure the right antibiotics can be prescribed quicker.

The time-saving solution known as FAST (Flow cytometer-assisted Antimicrobial Susceptibility Testing) has been proven to accurately measure how resistant [bacteria](#) will be 21 hours faster than the international standard.

Dr. Tim Inglis, from UWA's Schools of Medicine and Biomedical Sciences, presented the results at the International One Health Congress in Saskatoon, Canada and said the FAST workflow promised to change

clinical practice.

"In just over a year since the UWA team published this method in *Scientific Reports*, we have chalked up a long list of tests for specific microbe and antibiotic combinations, attracted interest from the biotech industry, worked out how to deliver these tests safely in a diagnostic laboratory, and run our first pilot trial on clinical specimens," Dr. Inglis said.

"We were surprised how well FAST works with every drug-bug combination we've tried.

"Different combinations of [antibiotics](#), bacteria and coloured dye were analysed to evaluate performance of the FAST [test](#) method. We've been able to show that FAST really works."

Dr. Inglis said the remaining obstacles were concerned with meeting the regulatory standards for clinical tests.

"This is a game-changer, so we want to bring FAST into use as quickly as possible. But it will be the regulators who tell us when that will be," Dr. Inglis said.

Antimicrobial resistance is a global concern as it increases the risk of treatment failure in a wide range of [common infectious diseases](#). At least two million people in the US a year become infected with bacteria that are resistant to antibiotics and at least 23,000 people die as a direct result of these infections.

More information: K. T. Mulrone et al. Rapid susceptibility profiling of carbapenem-resistant *Klebsiella pneumoniae*, *Scientific Reports* (2017). [DOI: 10.1038/s41598-017-02009-3](https://doi.org/10.1038/s41598-017-02009-3)

Provided by University of Western Australia

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