

Researchers develop a new test to assist GP antibiotic prescribing

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A research team at the University of Bristol has won a prestigious international award for a technology that could help in the fight against antibiotic resistance.

One of the main driving forces behind the evolution of antibiotic resistance in bacteria is the inappropriate use of [antibiotics](#). Providing doctors with rapid diagnostics to indicate which antibiotic to prescribe for a particular infection would reduce inappropriate antibiotic use and protect this valuable resource for the future. These rapid "antibiotic susceptibility tests" would also ensure that a patient receives a working antibiotic first time around, reducing the length and severity of their infection, and potentially saving their life.

A collaborative team from the University of Bristol has received a grant from the Longitude Prize Discovery Awards, which will enable them to further develop a portable device for rapid antimicrobial susceptibility testing. The team is working on a test that uses a unique system to monitor the responses of individual infection-causing bacteria to antibiotics. They have demonstrated the test's ability to determine, within 20 minutes, the effectiveness of a collection of antibiotics to kill infection-causing bacteria. Using this Discovery Award, the team will now work on a prototype machine to assist GPs when prescribing antibiotics in their practices.

The interdisciplinary team comprises academics and researchers from the School of Physics (Drs Massimo Antognozzi and Charlotte

Birmingham); School of Cellular and Molecular Medicine (Dr Matthew Avison); Merchant Venturers School of Engineering (Drs Ruth Oulton and Krishna Coimbatore Balram); Bristol Medical School (Dr Helen Baxter) and NIHR CLAHRC West (Dr Niamh Redmond). The Avoidable Hospital Admissions Health Integration Team (ITHAcA HIT) is part of the wider collaboration supporting this work.

Dr Antognozzi, Senior Lecturer from the School of Physics and lead academic, said: "The team is excited to receive this award, which confirms the originality of our approach and gives us crucial support at this development stage."

Dr Avison, Reader in Molecular Bacteriology and impact lead for the EPSRC-funded BristolBridge AMR research consortium, which provided the initial seed-funding for this project, added: "The continuing development of this potentially transformative diagnostic device, and its receipt of this highly competitive international [award](#), is testament to the interdisciplinary excellence of Bristol's [antibiotic resistance](#) research. We all look forward to seeing this project develop further."

Provided by University of Bristol

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