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University of Birmingham expert spearheads campaign to boost antibiotic research

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A top UK microbiologist from the University is championing a major campaign calling for urgent new investment in antibiotic research.

Professor Laura Piddock (/staff/profiles/iandi/piddock-laura.aspx) is leading Antibiotic Action (AA), a global initiative by the British Society for Antimicrobial Chemotherapy (BSAC) to highlight the threat to world health from multi-drug resistant bacteria and lobby for urgent action to develop new antimicrobial treatments.

The BSAC, which recently published '**The Urgent Need (http://www.bsac.org.uk/Events/Past+events+2010/The+Urgent+Need)**' report outlining its mission to resurrect antibacterial drug research, believes the world is facing an unprecedented crisis characterised by the emergence of diseases caused by NDM-1 producing *E. coli* and multi-drug resistant gonorrhoea.

The World Health Organisation has described antibiotic resistance as 'one of the three greatest threats to human health'. Professor Piddock and other microbiology experts briefed MPs and journalists at the House of Commons today (Wednesday 9 November) before presenting a petition signed by thousands of supporters calling for renewed investment to the Prime Minister at 10 Downing Street.

Birmingham is at the forefront of intense collaborative research efforts to explore how bacteria become antibiotic resistant and to identify potential new drug compounds and combinations to combat resistance. Birmingham's strength in this area lies in understanding antimicrobial resistance and how bacteria infect the host, explains Professor Piddock.

'Twenty-first century medicine is very different from when antibiotics were first developed 70 years ago,' she says.'If we want effective cancer or transplant treatments we have to be able to treat the modern infections those patients often develop. Many patients spendtime in ICUs or have longer stays in hospital and are therefore exposed to drug-resistant bacteria.'

One of her research programmes is attempting to understand how bacteria have become so resistant to powerful antibiotic agents.

'One way they do this is to pump the drug out of the bacterial cell. We now know this system is also required for bacteria to infect the host, so we are looking at inhibiting this to make them susceptible to drugs while also trying to prevent infection. We are carrying out studies to understand what turns these systems on and off to identify novel targets.'

By raising public, and Government, awareness of what it describes as the impending crisis of the lack of new antibiotics , **Antibiotic Action (http://www.antibioticaction.com/)** hopes to change political will to influence the attitude of funding bodies ahead of **European Antibiotic Awareness Day (http://ecdc.europa.eu/en/EAAD/Pages/Home.aspx/)** on November 18.

'A return to a pre-antibiotic era is an all-too-real possibility and living with the spectre of untreatable infections could be a reality within our lifetimes unless urgent action is taken now.'

You can find out how the University is **leading the fight against infectious diseases (/alumni/giving/circlesofinfluence/infections.aspx)** thanks to the generous support of our alumni and friends.

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