

COMBATING ANTIMICROBIAL RESISTANCE:

A Coordinated Global Response by the UK Science and Innovation Network



Dr Lindsay R Chura

Antimicrobial resistance (AMR) is a global threat that has been referred to in the same terms as terrorism and climate change. The ability for doctors to prescribe antibiotics to combat infection has been part of modern medicine since Scottish biologist Sir Alexander Fleming discovered penicillin in 1928. However, widespread and sometimes unregulated use of antibiotics in both humans and livestock has led to the growing problem of antimicrobial resistance. "Superbugs" know no borders; therefore coordinated international action is vital.

Lord Jim O'Neill, Chairman of the Review on AMR, commissioned by the Prime Minister in 2014, suggests that without action, AMR could cost some 2-3.5% of global GDP and cause 10 million more deaths by 2050. The UK is leading on global efforts to prevent, detect, and control illnesses and deaths caused by antibiotic-resistant bacteria. The UK's international engagement to tackle AMR is a comprehensive cross-government effort, with the Department of Health, Foreign and Commonwealth Office, Department for International Development, Department for Environment, Food and Rural Affairs, Department for Business, Innovation and Skills and others working in partnership to develop and deliver coordinated

action. An international cross-Whitehall steering group on AMR has been established and plays a key role in guiding activities across government departments.

New international partnerships:

The UK Science and Innovation Network (SIN), based in 28 countries, is playing a key, supporting role in the UK Government's international

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The Chief Medical Officer, Dame Sally Davies, has led a UK government push to raise global awareness and galvanise action. Significant progress has been made in 2015 with the World Health Organisation (WHO) adopting an AMR Global Action Plan in May followed by the UN Food and Agriculture Organisation and World Organisation for Animal Health adopting resolutions expanding action into agriculture and animal health spheres. The Global Health Security Agenda (GHSa) is an important mechanism for delivering international engagement on AMR with the UK as a leading

campaign for global action on AMR. SIN India co-organised a workshop on Open Innovation in Drug Discovery and AMR in September 2014. SIN Japan co-organised a workshop in November 2014 to discuss research collaboration on diagnostics and drug discovery, and a network for research collaboration is being established on animal health. SIN US worked with Chatham House to organise a "One Health" Colloquium in December 2014 to examine direct and indirect benefits and risks to human health posed by livestock. In February 2015, the team organised a symposium at the

... raise global awareness ...

partner on the AMR action package. GHSa was launched by the United States in February 2014 to advance a world safe and secure from infectious disease threats and to bring together nations to make new, concrete commitments, and to elevate global health security to a national leaders-level priority. The G7 endorsed the GHSa in June 2014.

American Association for the Advancement of Science conference in California involving the CMO and other UK experts. SIN US also supported a recent visit by Lord O'Neill in June 2015, where highlights included engagement with the United Nations, a keynote presentation at the Biotechnology Industry Organization convention (the world's largest gathering of the biotechnology industry) as well



Elizabeth Hogben



Stefania Di Mauro-Nava

as a range of high-level meetings in Washington.

Promoting innovation: The network works closely with UKTI to ensure that opportunities are maximized to showcase innovative technologies from the UK. SIN has been working with Nesta to promote the Longitude Prize, a £10 million UK-led challenge to find a cost-effective, accurate, rapid and easy-to-use point of care **test kit for bacterial Infections.**

Building capacity: SIN is well placed to support efforts to

boost capacity. SIN helped support development of the first Commonwealth laboratory AMR regional twinning workshop in Trinidad and Tobago. SIN China ran a series of collaborative

research workshops on quantitative microbial risk which resulted in the UK Institute for Food Research conducting risk assessment training for the Chinese Centre for Disease Control and Prevention. SIN will continue to place a big

emphasis on wider engagement in BRIC countries, particularly as China prepares to host the G20.

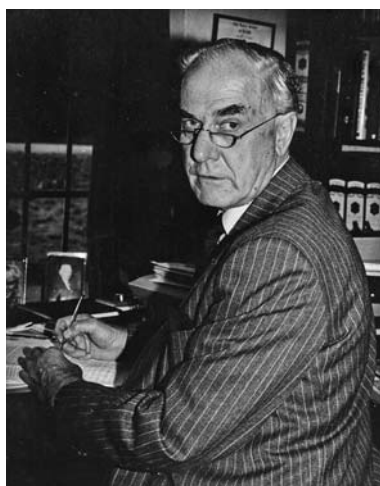
Galvanising global action: The WHO Global Action Plan was ratified in May 2015 on AMR

... network for research collaboration ...

and represented a landmark moment in global health. SIN is working in a number of areas to further progress and will continue to support the UK's international engagement on AMR, including through advancing work towards a high-

level 2016 meeting on AMR at the United Nations.

AMR is a global health and economic issue which cannot be solved by any one country acting alone. Action is needed to drive forward the development of more refined diagnostics, surveillance and infection control methods. Governments around the world must act collectively to address the growing threat posed by AMR, taking into account both the human and animal dimensions of this complex challenge.



PROFESSOR JOHN BLEBY 1932-2015

The Parliamentary and Scientific Committee is sorry to record the recent death of Professor John Bleby.

He had been a loyal and supportive member of the P&SC for more than 30 years. He was a member of the Steering Committee, and later was elected to the Council.

He joined Sir Gerard Vaughan in Westminster Publishing which published Science in Parliament between 1989 and 1998.

He represented the Research Defence Society (now Understanding Animal Research) on the Parliamentary and Scientific Committee for many years.

He was also one of the small team of Parliamentary and Scientific Committee members who went to Washington to learn about the Office of Technology Assessment. This fact finding mission then led to the establishment of the Parliamentary Office of Science and Technology (POST).

During the foot and mouth outbreak in 2001 he volunteered as a Ministry vet and spent six months in Cumbria.

He also went on one of the Parliamentary and Scientific Committee delegations to China.