



## PRESS RELEASE

### Antibiotic Research UK launches its first research programme to tackle superbugs with Antibiotic Resistance Breakers

*Research will use drug repurposing to test whether existing therapies for the treatment of any medical condition can extend the life of existing antibiotics*

**ANTRUK, London, UK, 2 March 2016** – To meet the challenge of the rise in antibiotic resistant bacteria (superbugs), national charity 'Antibiotic Research UK (ANTRUK) is commissioning the first ever research programme to screen antibiotic resistance breakers against antibiotic resistance in Gram-negative bacteria. ANTRUK is asking scientific organisations and universities to submit tenders for this testing to see if therapies already in use and being safely administered in humans can be co-administered with antibiotics. This is the first of five projects to be carried out in the next 5 to 7 years, with the ultimate objective of developing new antibiotic therapies for use by the early 2020's to overcome superbugs.

ANTRUK has ambitious goals to reverse the decline in antibiotic drug development particularly given the lack of appetite among 'big pharma' to find new therapies. This is critical as the WHO believes antibiotic resistance threatens a global situation as serious as the AIDs epidemic; this has been supported by the UK's Chief Medical Officer Dame Sally Davies and the Prime Minister.

In the first of its five projects – identified by ANTRUK's Scientific and Technical Advisory Committee, on which some of the UK's foremost experts in antibiotic resistance sit - up to 1500 drugs in use today for any therapeutic purpose, for example cancer treatment, heart disease and arthritis, will be tested to find out if any can reverse antibiotic resistance. The target antibiotic resistance bacteria to be examined

in the screen are the so-called Gram-negative type. These species are responsible for urinary tract, skin and blood infections as well as pneumonia.

ANTRUK has raised funds to finance its first scientific programme from Trusts and Foundations, major donors and the general public. Professor Colin Garner, the Charity's Chief Executive said "We are delighted to have raised sufficient funds 20 months from formation to commence our research. Our Antibiotic Resistance Breaker programme could potentially find new ways of extending the life of our existing antibiotics at a fraction of the cost and time compared to conventional drug development".

Dr David Brown an ex-senior research executive who has worked for Pfizer, Roche and AstraZeneca and, Chair of the Charity's Scientific and Technical Advisory Committee said "Our Committee has been developing this programme for the past 12 months. I believe it offers the possibility of finding new antibiotic therapies to meet our goal of bringing one into clinic by the early 2020's. The Charity is delighted to be starting real research now".

The deadline for final applications is 17:00, 31<sup>st</sup> March 2016. Electronic applications should be sent to [applications@antibioticresearch.org.uk](mailto:applications@antibioticresearch.org.uk)

For more information and for details on informal enquiries please visit: <http://www.antibioticresearch.org.uk/research-calls-apply-now-closing-date-31-march-2016/>

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## CONTACT DETAILS

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Website: [www.antibioticresearch.org.uk](http://www.antibioticresearch.org.uk)

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About ANTRUK (see below)

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## Notes to Editors

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<http://www.antibioticresearch.org.uk/research-calls-apply-now-closing-date-31-march-2016/>

Add para on Applicants should have capability to...

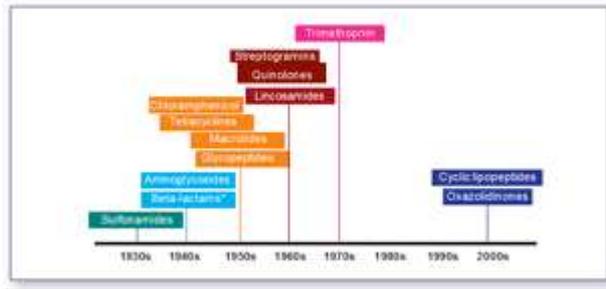
ANTRUK has a number of ideas that require testing in a qualified laboratory, and the charity wishes to award a contract for this testing.

Applicants should have the capability to handle up to 100,000 assays in 96-well or 384-well plate formats including liquid handling capability. Applicants should be able to provide evidence of recent relevant experience of antibacterial screening and evidence of established procedures for screening and data handling. Facilities for safe handling of Hazard Group II bacterial pathogens are essential. Applicants should have a well-characterised bacterial strain collection which includes multi-drug resistant strains of *E. coli*, *K. pneumoniae*, *P. aeruginosa* and *A. baumannii*. Appropriate quality procedures need to be in place.

### **Introduction and Background**

'Antibiotic Research UK – developing new antibiotics' (ANTRUK) is a new charity set up to tackle the scarcity of new antibiotics to treat antibiotic resistant bacterial infections. These infections can be life threatening particularly in susceptible members of the population such as the young and the elderly. It is estimated that there are 400,000 cases of reported antibiotic resistant infections with 25,000 deaths each year in the European Union; in the UK the figure is close to 5,000 deaths per year. 35,000 people die each year from sepsis of which a proportion can be directly linked to infection with antibiotic resistant bacteria. The problem of resistance is increasing to such an extent that the UK's Chief Medical Officer, Professor Dame Sally Davies has said 'the danger posed by growing resistance to antibiotics should be ranked along with terrorism on a list of threats to the nation' Professor Dame Sally Davies described it as a "ticking time bomb".(see <http://www.bbc.co.uk/news/health-21737844>) The Prime Minister, David Cameron recently announced the formation of a commission to investigate some of the issues around why only two new antibiotics have been introduced in the past 20 years (see <https://www.gov.uk/government/news/prime-minister-warns-of-global-threat-of-antibiotic-resistance>).

### Discovery of new classes of antibacterial drugs has stalled (1930s to 2000s)



WHO 2012

The problem of antibiotic resistance is a global one but as there is free movement of people around the world then an antibiotic resistant pandemic is a distinct possibility as the WHO have recently concluded (see [http://apps.who.int/iris/bitstream/10665/112642/1/9789241564748\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/112642/1/9789241564748_eng.pdf?ua=1)). The danger of antimicrobial resistance (AMR) could be so great that it will be impossible to practice modern medicine as we know it. Operations such as certain cancer treatments for bowel and stomach cancer, organ transplantation and hip and knee replacements would become impossible without effective antibiotics. The main danger of AMR stems from the fact that common infections can become life threatening owing to the lack of availability of suitable drugs. Children and the elderly are particularly at risk of getting antibiotic resistant infections because their immune systems may be weak.

### About Antibiotic Research UK

Professor Colin Garner, an academic formerly based at the University of York, founded ANTRUK in June 2014, following discussions held with some of the UK's leading academic scientists and clinicians who had formed an informal network known as Antibiotic Discovery UK. There was general agreement amongst this community that the country that discovered penicillin and some of the other leading antibiotics in common use today had let this area of drug development slip backwards to such an extent that there was very little research now being conducted in the area. The charity was registered in July 2014.

In a recent scientific paper by Professor Laura Piddock and her colleague Eilis Bragginton from the University of Birmingham, they estimated that just £95 million was spent on antibiotic research (0.7% of all UK medical research funding). This compares with £500 million spent annually on cancer research and a total annual expenditure on medical research of £1.4 billion. Without effective antibiotics the position of medicine would go 'back to the dark ages' as David Cameron recently stated.

It is against this backdrop that ANTRUK has been created with the aim of kick starting antibiotic drug development in the UK's universities and small and medium size companies. The Charity's mission is to provide a step change in developing new antibiotics with a view to developing one new antibiotic therapy in the next 5-7 years. Typically it takes 10-15 years to develop a new drug but ANTRUK will use some novel methods which will short-circuit this process including taking drugs into patients much earlier than currently practiced (accelerating the process of drug development from lab bench to bedside). In order to achieve this medium term objective, ANTRUK aims to raise up to £30 million in the next five to seven years using social media campaigns, crowd funding, applications to Foundations and Trusts and corporate sponsorship activities within Antibiotic Research UK (ANTRUK).

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