

## New global research consortium to optimise antimicrobial use in humans

Research teams from institutions in Africa, Asia, Europe and South America are coming together to form the Centres for Antimicrobial Optimisation Network (CAMO-Net). With funding from Wellcome, this ground-breaking consortium will support translational research to address a major driver of antimicrobial resistance, using a bespoke funding model to help enhance global health research equity.

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A new global research consortium is being established to help optimise antimicrobial use in humans. Centres for Antimicrobial Optimisation Network (CAMO-Net), brings together research teams from the [University of Liverpool](#) and [Imperial College London](#) in the UK, the [University of Cape Town](#) in South Africa, the [Infectious Diseases Institute](#) in Uganda, and the [Fundação Faculdade de Medicina](#) in Brazil.

CAMO-Net's aim is to address the global impact of antimicrobial resistance (AMR) on human health. This will be achieved through optimising antimicrobial use through a sustainable global research ecosystem, developed across low, middle, and high resource settings, and across urban and rural environments.

Researchers will seek to build knowledge relating to the optimised use of antibiotics, improved access to effective treatment and better prevention and treatment of bacterial infections, all of which will minimise AMR. This will take into account specific epidemiological, cultural, structural, and economic factors.

This initiative will help to improve clinical decision-making regarding antimicrobial use and also inform practices and guidelines for prescribers, users and policymakers. Importantly, the consortium's key operations will be in regions with extremely high burden of drug-resistant infections, serving some of the communities most affected by escalating infectious disease, while taking a unique, multi-sectoral, systems-based approach to improving the use of antimicrobials.

The four sites form 'National Hubs' responsible for driving the research and leading the global network. Each hub has specific and complementary multidisciplinary research expertise, necessary to help address the inappropriate use of antimicrobials – a complex, dynamic and multifactorial issue. CAMO-Net also includes three "Shadow National Sites" which will participate in network activities and develop a pilot project as part of the larger CAMO-Net programme. The Shadow National Sites include: [Dow University of Health Sciences](#) in Pakistan, [Child Health Research Foundation](#) in Bangladesh and [Unversidade da Paz](#) in Timor Leste, supported by [Menziess School of Health Research](#).

Each of the National Hubs will receive its own individual funding, with awards linking directly to those of the other three countries. This approach will aim to improve research equity by ensuring local leadership and facilitating joint ownership of the programme across partners. These elements form the consortium's core values alongside knowledge mobilisation, output sharing and mutual cross-regional learning.

CAMO-Net will use its extensive network of interdisciplinary experts, partners at the forefront of relevant technological innovation and links with policymakers to conduct research to actionably improve antimicrobial use in humans through three interlinked themes identified through a [Wellcome-commissioned roadmap](#).

The network will seek to build a comprehensive contextual understanding of situational data in each National Hub to identify opportunities to address existing gaps and challenges. It will harness the power of data through strategic and targeted studies to generate new knowledge, implement co-produced, contextually fit, and sustainable solutions to optimise antimicrobial use, and evaluate these interventions and strategies using an intersectional approach.

**Timothy Jinks, Head of Infectious Disease Interventions at Wellcome, said:** *“Antibiotics have been saving millions of lives for decades, but their effectiveness is under increasing pressure. Our funding for CAMO-Net will support research that generates new knowledge about how best to preserve and sustain their efficacy, drawing on local contexts where the burden of drug-resistant infections is highest. This will help guide more effective and tailored interventions from policymakers and prescribers, ensuring patients can continue to benefit from these lifesaving medicines into the future.”*

**Dr Andrew Kambugu, executive director of the Infectious Diseases Institute in Uganda said:** *“Our engagement in the CAMO-Net grant is a landmark opportunity to generate new knowledge (research) and mitigate the looming threat of antimicrobial resistance in the region. We are keen to leverage our 20-year experience in combatting and studying infectious diseases in Africa to influence leadership and empower the rising generation of scientists in the Global South.”*

**Professor Anna Levin of the Faculty of Medicine at the University of São Paulo said:** *“The connection between the use of antibiotics and bacterial resistance has been extensively studied. Over time, as antibiotics are used, resistance appears and leads to their obsolescence. It is imperative that we improve the use of these drugs if we want to extend the useful life of antibiotics. However, how to do this is a huge practical challenge. In Brazil, the CAMO-Net study will focus on strategies to improve the use of antibiotics in the community, and the impact that this may have on antimicrobial resistance, including patients, health workers, and the environment (wastewater and drinking water). We established a partnership with a city of 162000 inhabitants in the state of São Paulo, São Caetano do Sul and its local university, and will work with the entire municipality. This is the sort of challenge made possible by our international partnership CAMO-Net.”*

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#### **Additional quotes**

Professor Alison Holmes from the University of Liverpool and Imperial College London in the UK said: "I am absolutely delighted to be working with such extraordinary and expert colleagues, national centres and institutes across the world. Not only will this network provide a unique opportunity to advance multidisciplinary research to improve and sustain access to effective antimicrobial treatments and address AMR, it has shared international learning embedded within it and also represents a major commitment to more equitable research models."

#### **About the University of Liverpool**

Founded in 1881 as the original 'red brick', the University of Liverpool is one of the UK's leading research-intensive higher education institutions with an annual turnover of £597.6 million, including an annual research income of £146 million.

Consistently ranked in the top 200 universities worldwide, we are a member of the prestigious Russell Group of the UK's leading research universities and have a global reach and influence that reflects our academic heritage as one of the country's largest civic institutions.

The University has 30,000 students, 6,500 of whom travel from all over the world to study here, and a thriving community of more than 270,000 alumni in 187 countries.

#### **About Imperial College London**

Imperial College London is a global top ten university with a world-class reputation. The College's 22,000 students and 8,000 staff are working to solve the biggest challenges in science, medicine, engineering and business.

The [Research Excellence Framework \(REF\) 2021](#) found that it has a greater proportion of world-leading research than any other UK university, it was named [University of the Year 2022](#) according to The Times and Sunday Times Good University Guide, University of the Year for Student Experience 2022 by the Good University Guide, and awarded a [Queen's Anniversary Prize](#) for its COVID-19 response. <https://www.imperial.ac.uk/>

#### **About the Infectious Disease Institute**

The Infectious Diseases Institute (IDI), part of the College of Health Sciences at Makerere University, is a not-for-profit organisation that was established in October 2002 in Kampala, Uganda, by the Academic Alliance for AIDS Care and Prevention in Africa. The institute has since evolved through HIV prevention, care and treatment to play an integral role in Uganda's (and Africa's) healthcare system, having developed enduring links with the Ministry of Health through its long-term support of health facilities in the districts. IDI's mission is to strengthen health systems in Africa, with a strong emphasis on infectious diseases, through research and capacity development. It runs programmes in research, health system strengthening, training, laboratory and global health security

### **About the University of Cape Town**

UCT is the highest-ranking university for scientific productivity in South Africa and the highest-ranking African university in both the Times Higher Education (THE) World University Rankings and the Shanghai Jiao Tong Academic Ranking of World Universities. The Faculty of Health Sciences (FHS) has been consistently ranked in the world top 100 in the THE World University Rankings 13 for clinical, preclinical and health category. The FHS is the oldest medical school in sub-Saharan Africa and has built a reputation for distinction in teaching, training, service and cutting-edge research. The FHS campus extends from its main teaching hospitals in Cape Town to a range of secondary hospitals and primary health care clinics throughout, and beyond the Cape Peninsula. Some famous breakthroughs in health care, including the first successful heart transplant in the world in 1967 and the pioneering research that led to the development of the CAT scanner (and a Nobel Prize), placed the Faculty on the map as a world-class facility in sophisticated, tertiary medicine. At the same time, the Faculty is driven by a strong primary health vision relevant to Africa, with much current research involving prevention science and implementation science at a primary care level. [www.uct.ac.za](http://www.uct.ac.za)

### **About the Faculty of Medicine at the University of São Paulo and the Fundação Faculdade de Medicina**

FMUSP is recognized for its pioneering spirit and excellence in teaching and research. It was founded in 1912 and began in 1913. In 1931, the current building of the Faculty of Medicine was inaugurated. In 1934, it joined the University of São Paulo.

The Faculty of Medicine Foundation (FFM), a non profit private foundation, founded in 1986 by former students of the Faculty of Medicine of the University of São Paulo , is the body of support and institutional support for the Faculty of Medicine of the University of São Paulo – FMUSP, Hospital das Clínicas of the Faculty of Medicine of the University of São Paulo – HCFMUSP and its institutes.

The administrative and financial management of HCFMUSP activities has been largely carried out by the Faculdade de Medicina Foundation, since 1988, through an agreement. All results obtained from the provision of medical care services are managed by FFM together with those responsible for HCFMUSP and its institutes. [www.fm.usp.br](http://www.fm.usp.br)

### **About Wellcome**

Wellcome supports science to solve the urgent health challenges facing everyone. We support discovery research into life, health and wellbeing, and we're taking on three worldwide health challenges: mental health, infectious disease and climate and health.

For more information on Wellcome, please visit [www.wellcome.org](http://www.wellcome.org)