

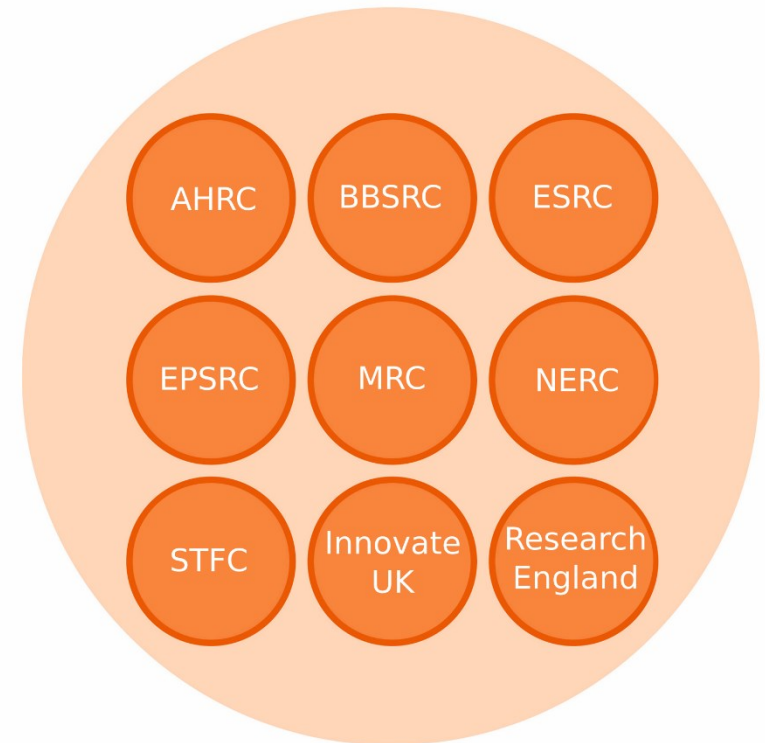
India-UK Tackling AMR in the Environment from Antimicrobial Manufacturing Waste

Overview of new DBT-UKRI call

Caroline Culshaw, NERC
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- Main public funder of research and innovation in the UK
- Annual budget of £7bn across all disciplines, business-led innovation, and university funding
- Enables challenge-focussed multi- and inter-disciplinary research and innovation

UK Research and Innovation



DBT-UKRI AMR Initiative

- 2016 – India-RCUK strategic group on AMR research
- 2017 – Jointly commissioned and published scoping report
- 2017 – DBT-UKRI sandpit led by ESRC for interdisciplinary One Health framed projects

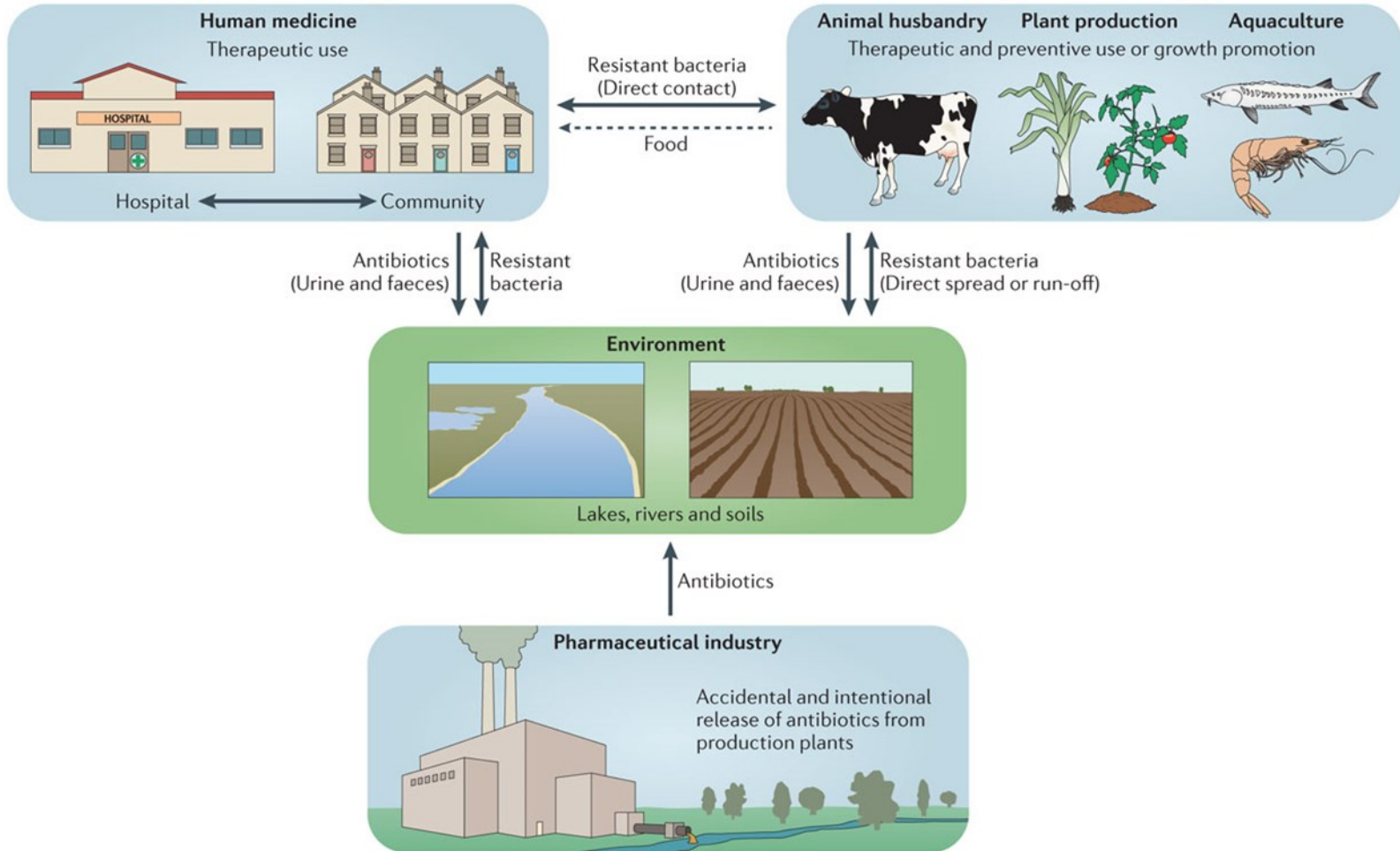


AMR in the Environment

- UN AMR Inter-Agency Coordination Group report says sustained One Health approach is essential
- AMR resolution at 2017 UN Environment Assembly recognises AMR as a pollution issue
- New UK 20 Year Vision and 5 Year National Action Plan on AMR calls for more research to deepen understanding about AMR in the environment



Complex challenge



Manufacturing waste

- DBT-UKRI report highlighted manufacturing waste effluent as particular research gap for UK-India collaboration
- WT/UK SIN/US CDCP white paper identified antimicrobial manufacturing waste as a priority area
- AMR Industry Alliance work on effluent emissions standards

Initiatives for Addressing Antimicrobial Resistance in the Environment

Current Situation and Challenges



U.S. Centers for Disease
Control and Prevention



Fund for International Collaboration

Aims:

- Enhance excellence in research and innovation through global partnerships
- Work with partner countries with high performing research and innovation sectors
- Deliver new knowledge, societal and economic impact for mutual benefit of UK and partner countries



New programme aims

Tackling AMR in the Environment from Antimicrobial Manufacturing Waste

- Ultimate aim => to contribute to global efforts to contain AMR infections in humans and animals
- Programme overarching aim => to contribute to **strategies to limit environmental contamination by antimicrobial waste from manufacturing**
- Anticipate this will be through contributing to risk assessments and development of environmental standards



Programme themes

- Understanding of the **extent of environmental antimicrobial pollution** from pharmaceutical manufacturing waste (wastewater, solid waste and air) and its pathways through environmental systems in various parts of India.
- Development and validation of **globally relevant standardised methods and tools** for detection of active antimicrobial residues in industrial effluents and receiving environments.
- Determining the **health risks presented by antimicrobial manufacturing waste**, through examining antibiotic-resistance in humans and livestock in proximity to the antibacterial manufacturing industry, their interactions with the environment (particularly use of water systems, including wastewater channels) and antibiotic use.

Aims of the workshop

Today

- Learn from the experience of the DBT-UKRI AMR Initiative sandpit
- Network and meet potential collaborators

Tomorrow

- Understand key challenges in AMR in the environment from antimicrobial manufacturing waste
- Discuss the scope of the call and develop ideas to address it