Public-private partnerships to boost antibiotic development

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The Innovative Medicines Initiative
**IMI New Drugs for Bad Bugs programme**

**Challenge 1: Getting the drug into the bug**

**TRANSLOCATION**: Addressing scientific challenge of penetration barriers & efflux

**Challenge 2: Translation from early discovery to clinic**

**ENABLE**: Combine academia / industry expertise to work on early-stage novel molecules

**Challenge 3: Clinical dvpt long, costly & often inefficient**

**COMBACTE family, iABC**: Creating sustainable clinical investigator / laboratory / epidemiology networks; clinical studies

**Challenge 4: Low return on investment**

**DRIVE-AB**: Options for a new economic model of antibiotic development & stewardship. Buy in from all stakeholders
ND4BB facts

7 projects up and running
EUR 700 million / USD 785 million
+ 1 project in the pipeline

CLIN-Net hospital network
697 hospitals – 437 cities –
39 countries in Europe

LAB-Net network: 426 laboratories
6 clinical development programmes active
Observational studies, epidemiology
ND4BB facts

• Development of **new techniques** to analyse uptake of antibiotics by bacteria.

• Worked out **structure of 20 proteins** found in membranes of bacteria & greater understanding of efflux pumps.

• **Hit-to-clinical candidate discovery engine** has accepted **15 novel programmes** to date (largely academia & SMEs), of which 6 terminated again on scientific grounds (ENABLE).

• Discovery that **30% drop in efficacy of antibiotics** could result in 120 000 extra infections & 6 300 deaths / year in US alone.
Collaboration among funders
IMI & BARDA

Carbapenem-resistant enterobacteriaceae (CRE)
Development of Aztreonam-Avimbactam (ATM-AVI)

• IMI supports Phase 2 study of ATM-AVI in Europe under COMBACTE-CARE.
• Parallel collaborations between IMI & BARDA to deliver Phase 3 study
• COMBACTE-CARE to lead European aspects & provide global medical leadership to global Phase 3 study supported by BARDA OTA (other transaction authority)
• BARDA supports additional studies for development of ATM-AVI
The future: international collaboration in clinical trials related to AMR

Workshop
Transatlantic collaboration on clinical trials related to antimicrobial resistance

organised in collaboration with:

Agenda
21–22 January 2016
Sheraton Stockholm Hotel
Tegelbacken 6 • 101 23 Stockholm, Sweden
Summary

• IMI can address challenges related to discovery & development of new medicines against AMR

• Collaboration is key!

• Support for early stage programmes from academia & SMEs is vital

• We will see more international collaboration in clinical trials in AMR

• We see increasing activity on new economic models of antibiotic R&D
Thank you!

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