Strategic priority to fight AMR

Launching a new program
Wellcome’s framework for supporting science

Advancing ideas
We support great ideas and inspired thinking

Seizing opportunities
We bring ideas together to make a difference

Driving reform
We change ways of working so more ideas can flourish
Wellcome’s new strategic framework

Seizing opportunities

We bring ideas together to make a big difference

We identify times when our concerted intervention can accelerate progress towards better health.

We identify a critical need and set ambitious goals.

We connect experts from different disciplines, build partnerships, and lead advocacy, policy development, communications and public engagement.

We do this by providing focused, intensive support that creates a step change over five to ten years.
Wellcome’s priority area focused on AMR

• Will be
  ➢ Outcome / objective led
  ➢ Targeting research activities to deliver outcomes
  ➢ Commissioning work and inviting requests for proposals
  ➢ Influencing & advocating
  ➢ Building and catalysing partnerships

• Response-mode funding (*Advancing Ideas*) will still support AMR research as it always has

• Not a broad funding scheme for AMR

• Not pulling all AMR activities under one umbrella
The opportunity to be seized
Developing Wellcome Trust’s strategic priority

Seeking to transform the response to the threat of AMR by improving treatments, enabling policy and engaging communities

Near-term goals

• Understanding emergence and transmission of AMR
• Increased pipeline of new therapeutics and diagnostics, and optimisation of existing Tx
• Accelerating development of new treatments for patients
• Coordinating activities toward common goals

Long-term goals

• Paradigm shift in preventing and treating infections
• Coordinated international response to make healthcare systems resilient to threat of resistance
• Public mandate for change
The moment to act is now

Drug-Resistant Infection is a global health threat that undermines the progress made in the fight against infectious disease in the last century.

Our strategy will deliver a reduction in the impact of AMR

- Epidemiology of Drug-Resistant Infection
- New treatments
- Accelerating clinical assessment
- Global governance
Epidemiology of AMR

Outcome
Robust epidemiology generated and used in global and national strategies

Activities proposed:
- **Global analysis of surveillance and mapping data**
- **Levers for global change**
New treatments

Outcome
Accelerated discovery of new treatments

The current PIPELINE is INADEQUATE to meet future needs

Activities proposed:
- **CARB-X** with partner commitments $250 million from BARDA, NIH, FDA
- **CARB-X Plus** to address access and conservation
Accelerating clinical assessment

Outcome
Accelerated clinical development of new drugs and improved use of existing drugs

Activities proposed:
- Global clinical trial networks (GCTN) to support design, operation and interpretation
- Continuous master protocols (CMP) to accelerate registration of new treatments
Outcome
Effective global governance framework for DRI

Activities proposed:
• Coordinate global action
• Support OECD in G7/G20 Action Plan
• Incentivise R&D

LACK of an effective global GOVERNANCE and coordination framework
CARB-X and accelerating development of new treatments
CARB-X

Accelerating global antibacterial innovation
Reinvigorating the pipeline

Drugs and Therapeutics
- Pre-X
  - Hit to Lead (TRL 3)
- Lead Optimization (TRL 4)
- Pre-Clinical (TRL 5)
- Phase 1 (TRL 6)
  - CARB-X Graduate

Diagnostics
- Pre-X
  - Feasibility Demonstration (TRL 3)
- Optimization and Preparation for Development (TRL 4)
- Product Development (TRL 5)
- System Integration and Testing (TRL 6)
  - CARB-X Graduate
## CARB-X Antibacterial Product Portfolio: Eleven 30 Mar 2017 Awardees

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>Tetraphase Pharmaceuticals</td>
<td>TP-6076</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Next-generation tetracycline</td>
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<td>✓</td>
<td>✓</td>
<td>Bifunctional immunotherapy</td>
<td>✓ ✓</td>
<td>Acinetobacter + P. aeruginosa. + Enterobacteriaceae</td>
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<tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Virulence modifier</td>
<td>✓ ✓</td>
<td>P. aeruginosa</td>
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<td></td>
<td>✓</td>
<td>Potentiator</td>
<td>✓ ✓</td>
<td>Gram-negative activity</td>
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<td></td>
<td>✓</td>
<td>Oral Gram-negative combination</td>
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<td>✓</td>
<td>Inhibitor of LpxC</td>
<td>✓ ✓</td>
<td>Gram-negative activity</td>
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<td>✓</td>
<td>✓</td>
<td>Recombinant Lysin protein</td>
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<td>P. aeruginosa</td>
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<tr>
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<td>Dual-acting topoisomerase inhibitor</td>
<td>✓ ✓</td>
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<td>Visterra</td>
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<td>✓</td>
<td>Antibody-drug conjugate</td>
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<td>P. aeruginosa</td>
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# CARB-X Antibacterial Product Portfolio: Eleven 30 Mar 2017 Awardees

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<tr>
<th>Sponsor</th>
<th>Product</th>
<th>Novelty</th>
<th>Description</th>
<th>Priority</th>
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## Summary

- **10 therapies**
- **3 novel class small molecules**
- **4 non-traditional products**
- **7 new bacterial targets**
- **1 POC diagnostic**
## CARB-X Portfolio Priorities (Year 1)

<table>
<thead>
<tr>
<th>Area</th>
<th>Sub-Area</th>
<th>Priority*</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Direct Rx</td>
<td>Gram-negative</td>
<td>8</td>
<td>Highest Need to get this area moving</td>
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<tr>
<td>Diagnostic</td>
<td>Rapid diagnosis</td>
<td>1</td>
<td>Especially tools that allow therapy to be stopped or not started</td>
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<tr>
<td>Diagnostic</td>
<td>Predict susceptibility</td>
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<td>Especially tools that give strong guidance on initiation (or not) of reserve agents</td>
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<tr>
<td>Prevention</td>
<td>Any</td>
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<td>Scientific and development plausibility must be addressed</td>
</tr>
<tr>
<td>Indirect Rx</td>
<td>Any</td>
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<td>Development plausibility must be addressed</td>
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<tr>
<td>Direct Rx</td>
<td>Gram-positive</td>
<td>Lowest</td>
<td>Reasonable options, at least for now</td>
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*Priorities define the approximate shape of the overall portfolio. Priorities are expected to shift in future years.
CARB-X Going Forward

• Up to $450m will be deployed over 5 years
  • Next announcements this summer

• Bacterial treatment, prevention, or diagnosis
  • Best science, anywhere in the world

• Expect to see
  • More open application calls late 2017
  • CARB-XED educational events
Building the skills base

CARB-X

- In collaboration with GARDP, ASM, & ESCMID, CARB-X will be producing workshops and webinars on the art & science of going from a compound to a drug
- The first Antibiotic Bootcamp sessions will be 5 Sep 2017 in Boston
  - Just before the 6-8 Sep ASM-ESCMID conference
- Webinars and other materials will also be produced
- Everything will be available online
Wellcome Trust priority on AMR

Wellcome seeks to achieve a TRANSFORMATIVE IMPACT on AMR through the delivery of a coordinated and interconnected set of activities.

Wellcome has:

- Invested over £287m in DRI-related research since 2004
- Shown capacity to integrate and coordinate activities of disparate stakeholders

We are building:

- **In-house team** dedicated to the Wellcome DRI Priority Platform
- **A joint Strategic Advisory Committee with Vaccines initiative** - a formal committee of Wellcome’s Board of Governors

Projected budget £175m
Thank you