Vaccines (and More) Against Antimicrobial Resistant Infections: The COMBINE Project (Part of the IMI AMR Accelerator)

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DZIF Vaccine Development Workshop
26th January 2022
IMI AMR Accelerator

Public-Private collaboration to progress the development of new medicines to treat or prevent resistant bacterial infections

**TUBERCULOSIS & NTM**

Accelerating scientific discoveries and advancing the R&D pipeline of new and innovative agents to treat TB and NTM lung disease.

**GRAM-NEGATIVES**

Advancing the R&D pipeline of new and innovative agents to address AMR in Gram-negative bacteria.

**CAPABILITY BUILDING**

Accelerating and validating scientific discoveries in AMR. Coordinating and supporting projects across the AMR Accelerator.

IMI: Innovative Medicines Initiative
A coordination role and a scientific mission around capability building

Coordination and support of the Accelerator projects (WP 1-3)

WP4 - Improve the **design and analysis of clinical trials** for vaccines and antibacterial agents (data-driven)

WP5 - Improve **animal infection models and translation to clinical efficacy**
Bottlenecks in the R&D of vaccines against AMR?

Vaccine Expert Workshop (February 2021) – Focus on *S. aureus, C. difficile, K. pneumoniae, Extraintestinal pathogenic E. coli*

- **Gaps in basic knowledge:**
  - Role of precolonisation, microbiome, (toxins)
  - Pathogenesis, optimal target(s)/pathway(s)/antigen combination

- **Preclinical testing:**
  - Lack of reliable animal models (e.g. different pathogenicity)
  - Translation issues

- **Clinical testing:**
  - Manifold clinical manifestations ➔ Endpoint definition
  - Low incidence, characterisation of study population ➔ Feasibility
    - Lack of surrogates of protection
Next step (WP4)

Integrative data-analysis to investigate bottlenecks and propose solutions for translation and clinical trial design

- **Open data call:** share clinical and matched preclinical data from antibiotics, vaccines, mAbs, successes or failures?
- **Capability building:** Share ideas or expertise?

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Stay up to date: [https://amr-accelerator.eu/](https://amr-accelerator.eu/)
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