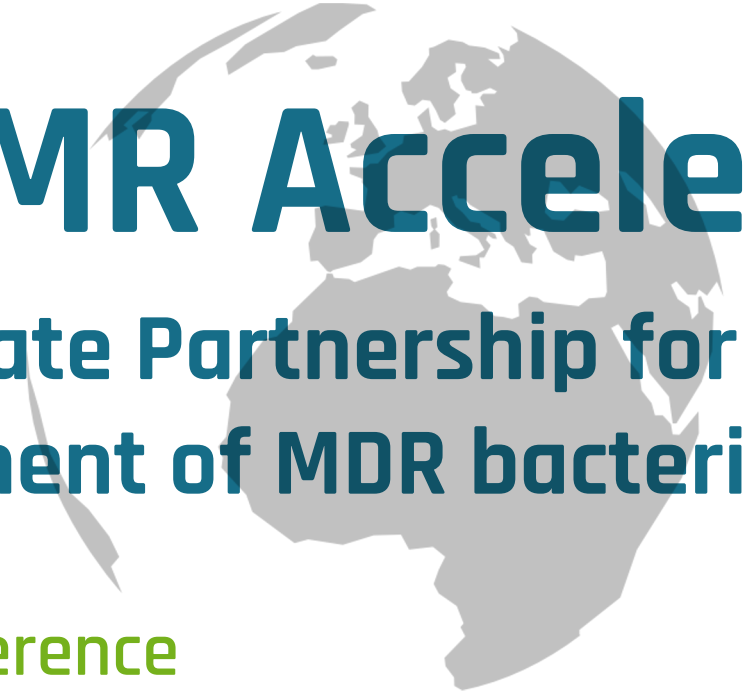
IMI AMR Accelerator

Public Private Partnership for prevention and treatment of MDR bacterial infections



4th AMR Conference

27 August 2020

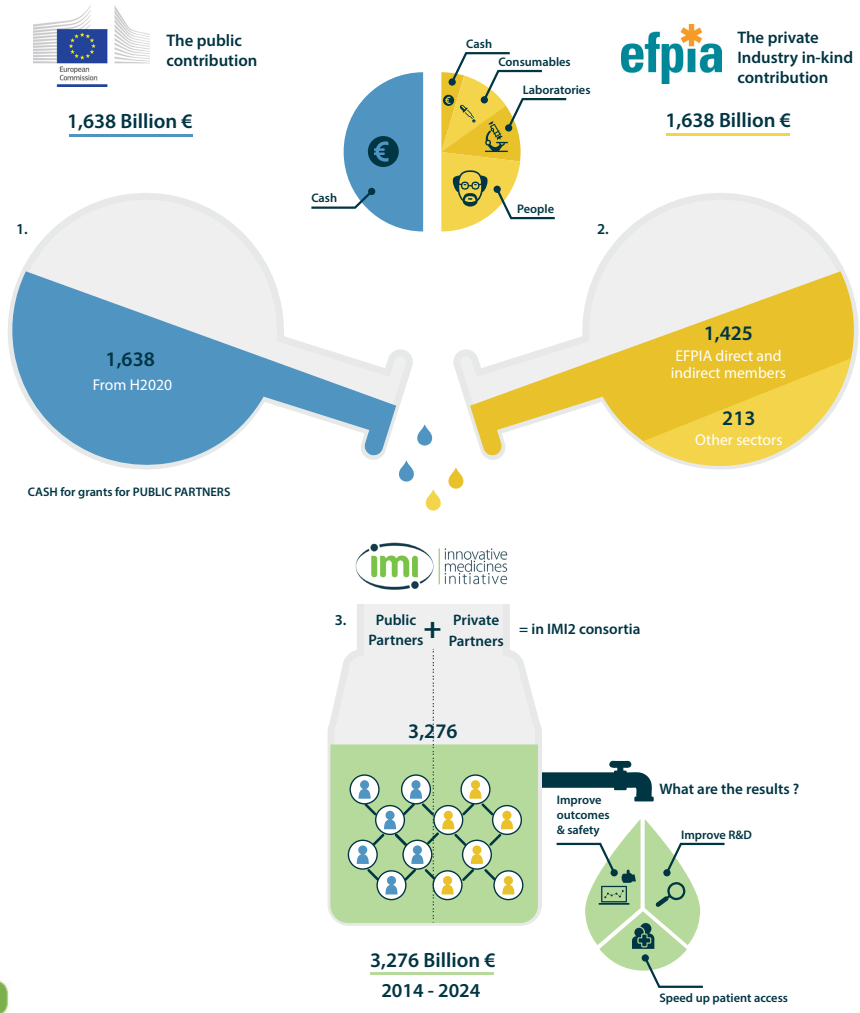
Graham Somers – GlaxoSmithKline Pharmaceuticals

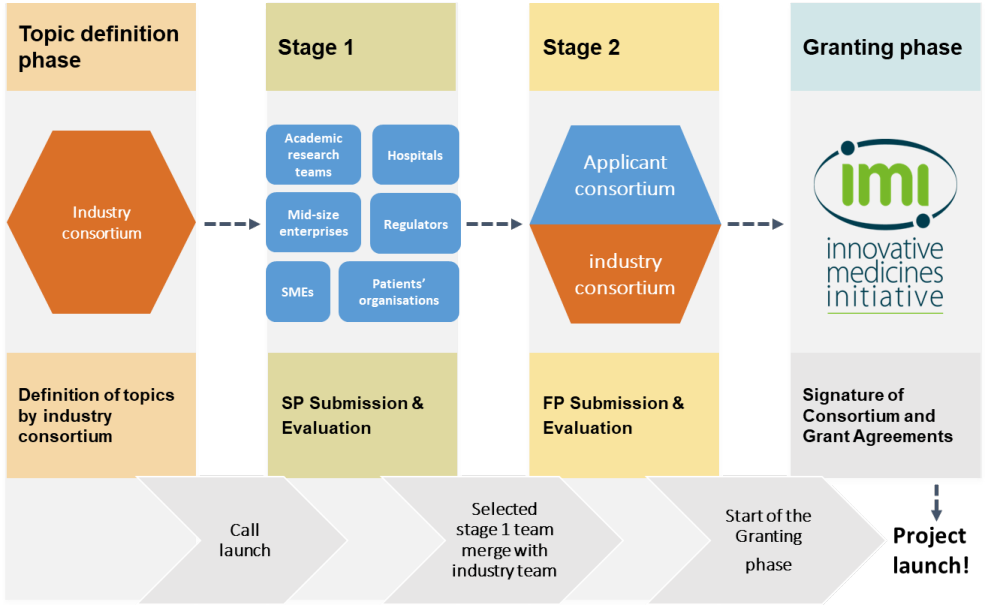
IMI AMR Accelerator

innovative medicines initiative

efpia

IMI2 : How it works





IMI AMR Accelerator

Programme Concept

IMI's Antimicrobial Resistance (AMR) Accelerator programme

comprises several projects with the shared goal of progressing the development of new medicines to treat or even prevent resistant bacterial infections in Europe and worldwide.

The AMR Accelerator

COMBINE

GNA NOW

Currently 58 participants, >295 M€ budget

AB-Direct

RespiriNTM

Current Goals : by 2025

10 new preclinical candidates

Up to 5 Phase II-ready compounds

ERA4TB

TRIC-TB

RespiriTB

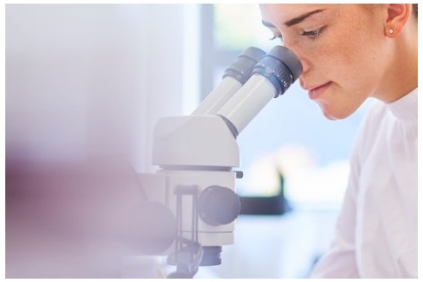
IMI AMR Accelerator

AMR Accelerator Projects (www.amr-accelerator.eu)

ERA4TB

ERA4TB is expected to revolutionize the way in which tuberculosis treatments are developed thanks to its parallelized, multi-entry pipeline structure, analogue to a production line. This structure will enable to systematically investigate the efficacy of several drug candidates and combinations simultaneously while allowing new molecules to enter the project pipeline at the research stage corresponding to the degree of knowledge on said candidate drugs gathered before the project.

With this approach, the ERA4TB consortium expects to reduce the time required for the development of new tuberculosis treatment regimens by up to a quarter.



GNA NOW

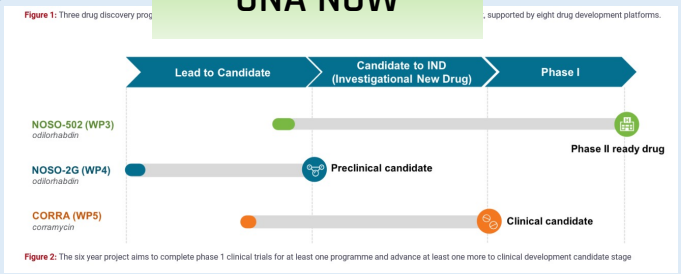
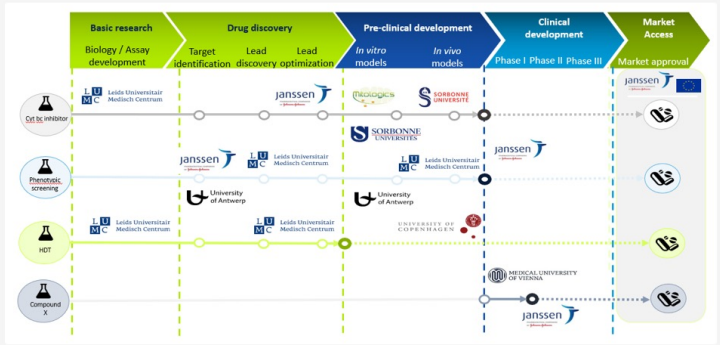


Figure 1: Three drug discovery prog , supported by eight drug development platforms.

Figure 2: The six year project aims to complete phase 1 clinical trials for at least one programme and advance at least one more to clinical development candidate stage

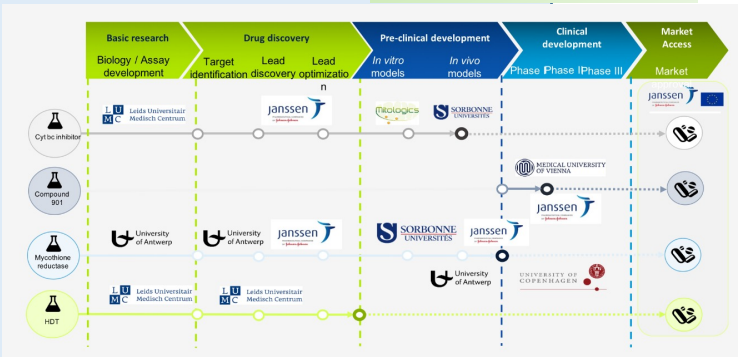
RespiriNTM



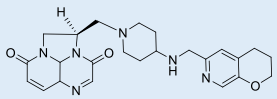
COMBINE

- **COMBINE** will coordinate the AMR Accelerator and support the delivery of projects across the Accelerator in order to progress a pipeline of potential new medicines to treat and prevent infections with resistant bacteria;
- **COMBINE** will establish an IT infrastructure for management, integration and analysis of combined data from across all Accelerator projects, perform regular data management reviews, leverage best practices, create software specifications, review existing tools;
- **COMBINE** will facilitate communication among Accelerator projects, with the AMR community and beyond as well as disseminate news and results, work in close collaboration with existing AMR drug development initiatives;
- **COMBINE** will share and analyse vaccine and antibacterial data, to improve the design and analysis of clinical trials;
- **COMBINE** will improve the understanding of animal infection model reproducibility and translation to clinical efficacy

RespiriTB



AB-Direct



Gepotidacin is a novel antibiotic currently under development. The objective of the project is to explore a potential new option for the treatment of pharyngeal or prostatic bacterial infections by demonstrating adequate penetration of a novel antibiotic in tonsillar and prostate tissues.

This will be achieved in the project by:

- Conducting in vivo studies to predict human exposures of gepotidacin in healthy and infected prostate;
- Measuring gepotidacin levels in tonsillar and prostate tissue following single oral dose of gepotidacin in subjects undergoing elective tonsillectomy or prostatectomy;
- Refining the PBPK and the population pharmacokinetic (PopPK) models based on the generated clinical data to describe gepotidacin penetration into human tonsillar and prostate tissue;
- Developing a pharmacokinetic-pharmacodynamic (PKPD) model that relates the gepotidacin tissue exposure (PK) with the effect (PD)
- Determining the probability for target attainment for subjects in plasma, prostate and tonsils based on data from the healthy volunteer study to support the evaluation of dosing regimens for disease;
- Analysing the prostate non-clinical and clinical data, evaluating and contributing to the current understanding of translation across species.

Ultimately, the data generated by AB-DIRECT will contribute to a decision on whether or not to run clinical trials of gepotidacin as a treatment for throat infections caused by *N. gonorrhoeae* or prostate infections caused by *E. coli*. AB-DIRECT is part of the IMI AMR Accelerator programme.

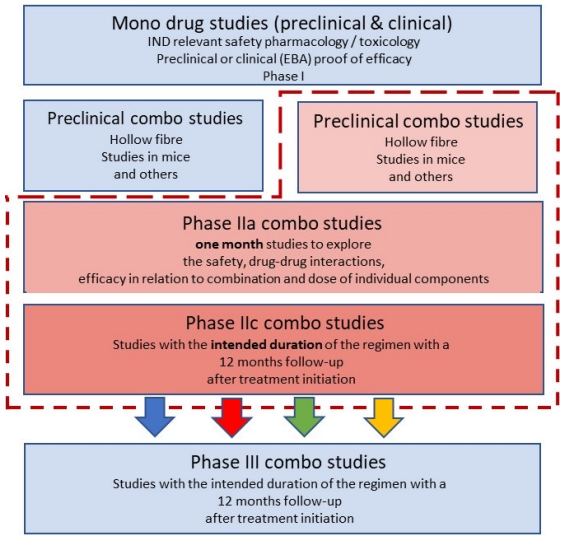
TRIC-TB

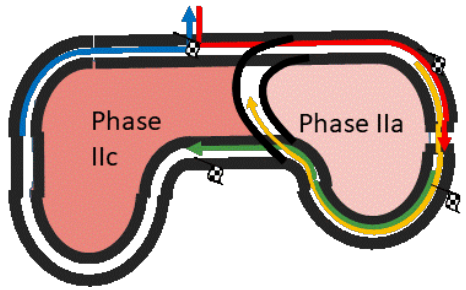
The specific objectives of this IMI project are to deliver one Phase II ready booster molecule, having a) completed preclinical CTA enabling studies and b) completed Phase I (SAD and MAD) for safety and PK evaluation in healthy volunteers. Ultimately, the results from this project will pave the way for the booster to be integrated into new, improved regimens to treat TB including MDR-TB. A small molecule booster in combination with lower ETH/PTH doses will deliver a better tolerated and more potent drug combination than standard doses of ETH alone, and this can massively impact the current TB treatment armamentarium and significantly improve both patient experience and treatment outcomes.

IMI AMR Accelerator

AMR Accelerator Projects : currently under development

UNITE4TB
(Stage 2 negotiation Call 20)
~200 M€ budget





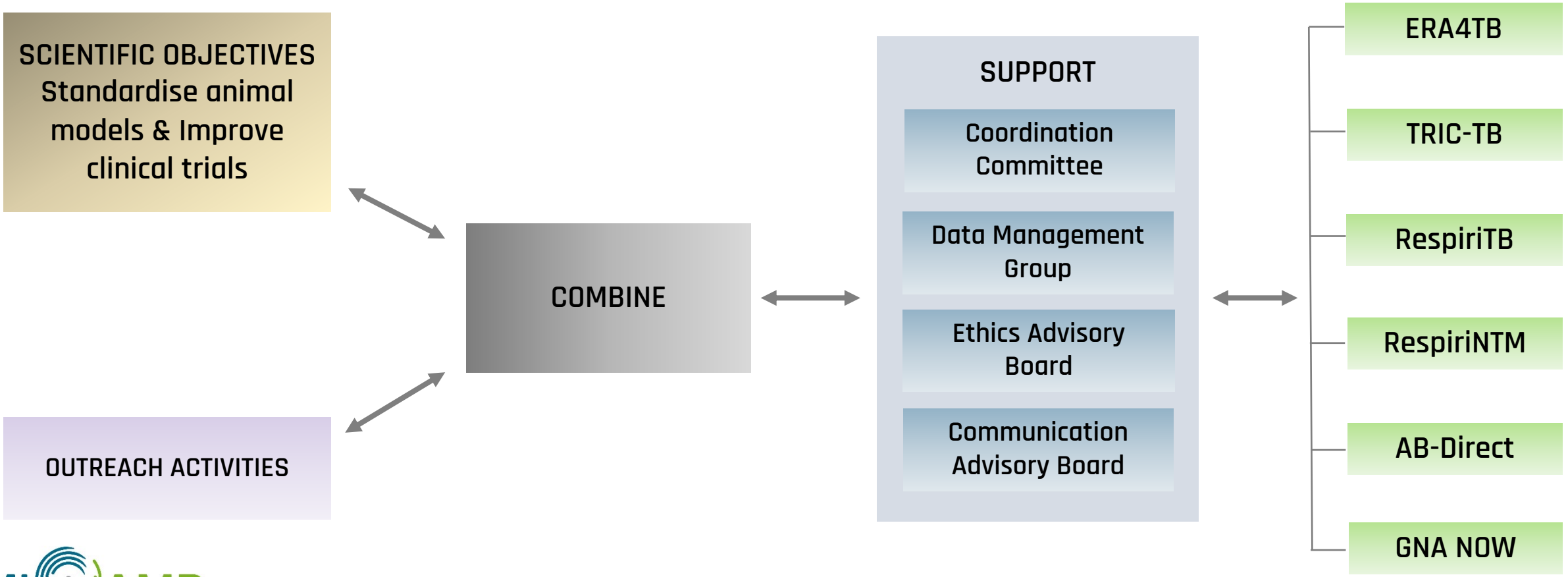
Modelling the Impact of mAbs and vaccines on the reduction of AMR
(Call 23)

- Evaluate burden of disease
- Develop a model to estimate the cost and benefits of mAbs and vaccines in AMR

IMI AMR Accelerator

The COMBINE Project – Coordination Role

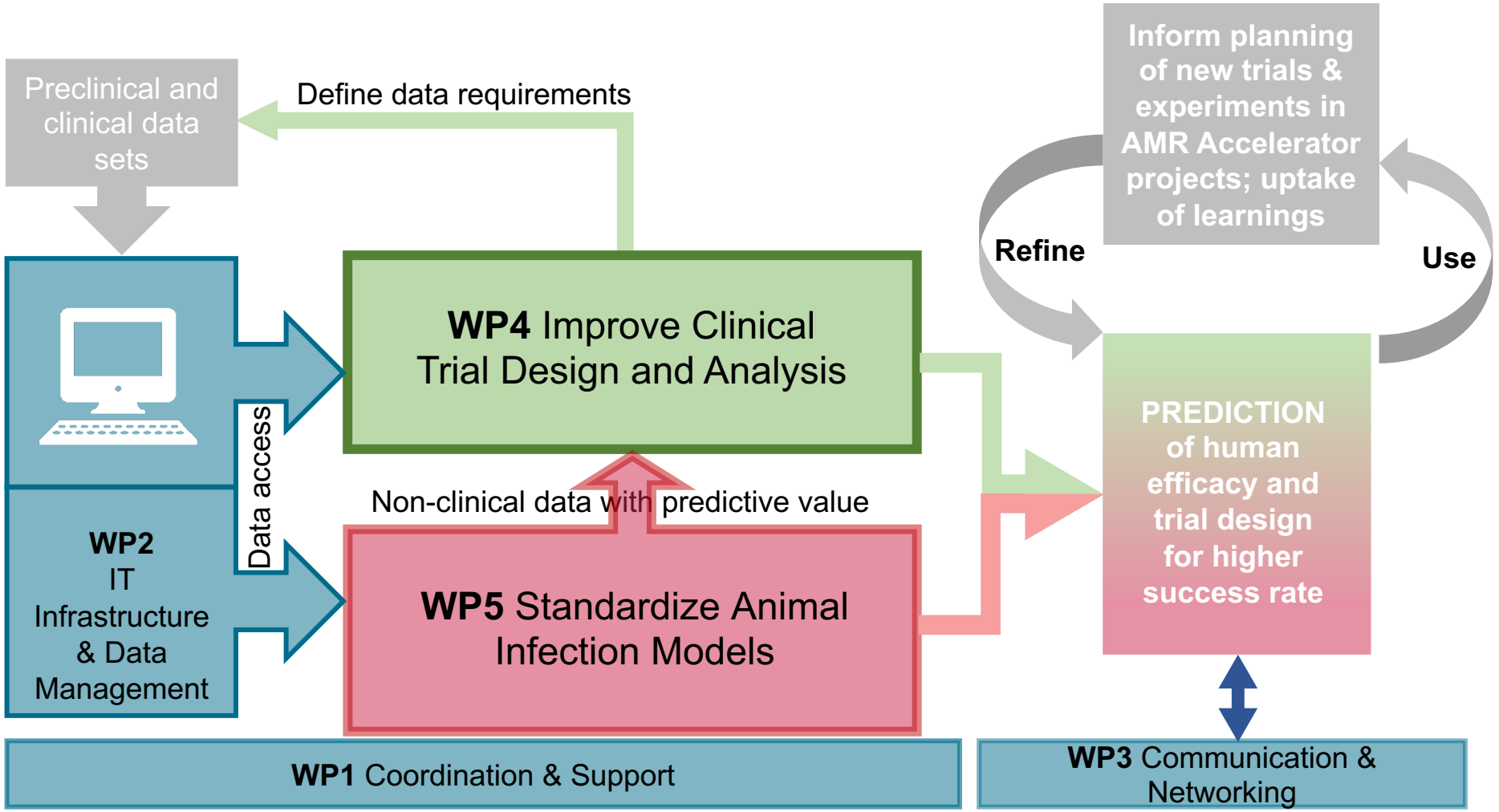
The COMBINE project was created to coordinate the AMR Accelerator projects and provide them with the resources they need to achieve their goals.



IMI AMR Accelerator

The COMBINE Project – Scientific Mission

The COMBINE project also has scientific goals around capability building.



IMI AMR Accelerator

You Can Help! - Open Call for Data

Call for non-clinical (preclinical) and clinical data sets from the study of prevention or treatment of bacterial infections

Antibiotics, vaccines, monoclonal antibodies, pathoblockers and phages

We are specifically looking for
1) Matched pairs of preclinical toxicology data and Phase 1 studies
2) Matched pairs of preclinical PK/PD analysis and clinical PK/PD studies
3) Matched pairs of preclinical efficacy in challenge models and data from efficacy trials
4) Data from clinical trials for prevention or treatment of bacterial infections

What pathogens?
- ESCAPE pathogens: *Enterococcus faecium, Staphylococcus aureus, Clostridioides difficile, Acinetobacter baumannii, Pseudomonas aeruginosa, Enterobacteriaceae*
- *Neisseria gonorrhoeae*
- *Mycobacterium tuberculosis*

IMI AMR Accelerator

Submit your Expression of Interest:
AMR-data-technical.COMBINE@grit42.com
Deadline extended to October 2020

A new focus with the future health initiative via a Cross-Sector Partnership with a potential €3B public private partnership

IHI Vision is to

- **Push boundaries of the pre-competitive space**: mobilise and combine expertise across pharma, biologic, med tech and health IT
- **Pioneer paradigm changes** and cross-sector innovation
- **Strengthen translational research ecosystem** in Europe

Five new focus areas for the IHI

1. Genetics, biology & technology across continuum of care
2. Big Data & AI in R&D, products & services for integrated healthcare
3. Patient-centric integrated care across HC continuum
4. Engaging patients to manage & improve their Health
5. Value initiatives to guide investment & rewarding of innovation in HC

IMI Accelerator

Source: EFPIA

Acknowledgements

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Karen o Dwyer and Anders Karlen (Combine)

AP : BMGF, DZIF, Dundee, LMU, TB alliance,

Public partners....too numerous to mention....

.....and special mention to Rob Stavenger.....

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https://www.imi.europa.eu/