

CF AMR Syndicate

Partnering for Impact: The Cystic Fibrosis Antimicrobial Resistance Syndicate

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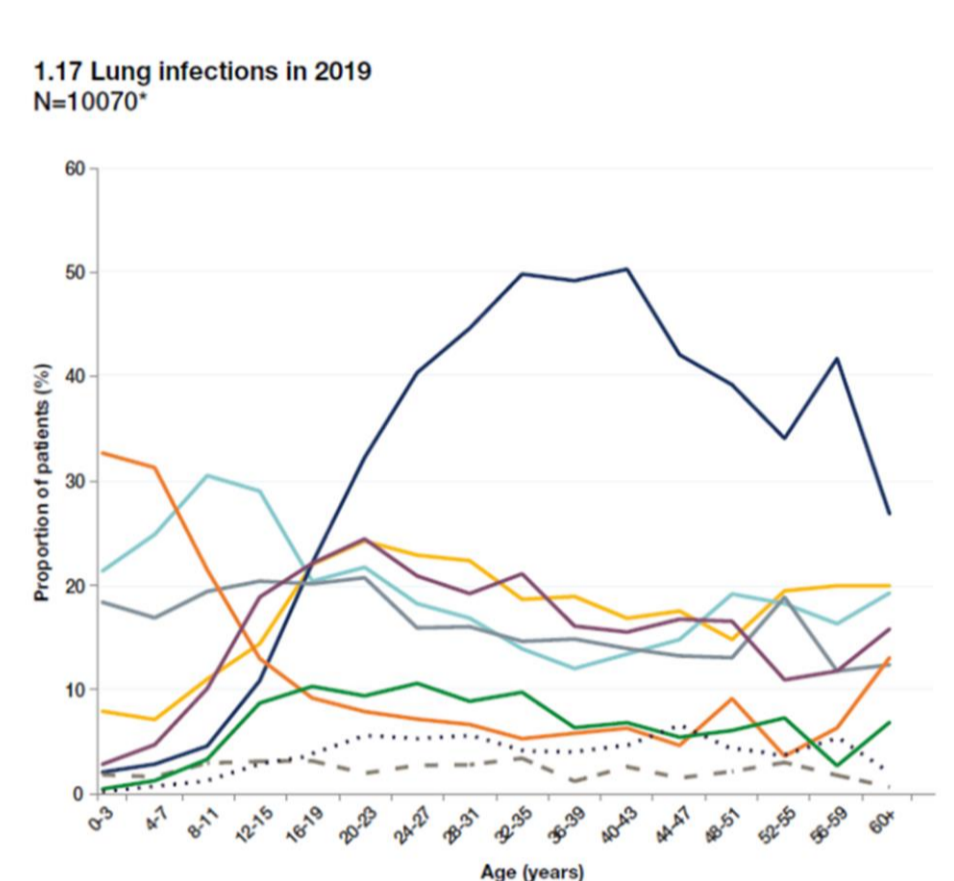
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Cystic Fibrosis (CF) and Antimicrobial Resistance (AMR)

AMR is now the leading cause of death globally [1]. Antibiotics remain a key and necessary therapeutic for people with cystic fibrosis (pwCF) particularly as recurrent and increasingly multidrug resistant respiratory infections dominate as a cause of morbidity and mortality [2]. There is, therefore, an urgent and unmet need for the development of new antimicrobials to treat respiratory infections in CF. To this end, the CF Trust (the Trust) partnered with the Medicines Discovery Catapult (MDC) to create the CF AMR Syndicate; a unique cross-sector collaboration that brings together people with CF and leading experts in CF/AMR from industry, academia and the clinic.



Lung Infections in pwCF in 2019 across the UK
Proportion with pathogen per age group



Reference: UK Cystic Fibrosis Registry Annual Data Report 2019

The CF AMR Syndicate

Our Mission: to accelerate the translation and adoption of new CF antimicrobials and diagnostics to the clinic, through collaboration. Bring new treatments to people with CF, faster.

Our Goals

- Build supporting tools and resources for CF antimicrobial and diagnostic development
- Create a unique cross-sector CF AMR Network to facilitate collaboration and knowledge exchange
- Identify, enable and support CF antimicrobial and diagnostic programmes

The managing partners, the Trust and MDC, joined together with pwCF, academics, industry and clinical collaborators to form the CF AMR Syndicate.

The CF AMR Syndicate



Towards a Toolkit of Enabling Resources

An initial scoping exercise undertaken by the Syndicate focused on sector needs and challenges in antimicrobial discovery.

Two key challenges were identified:

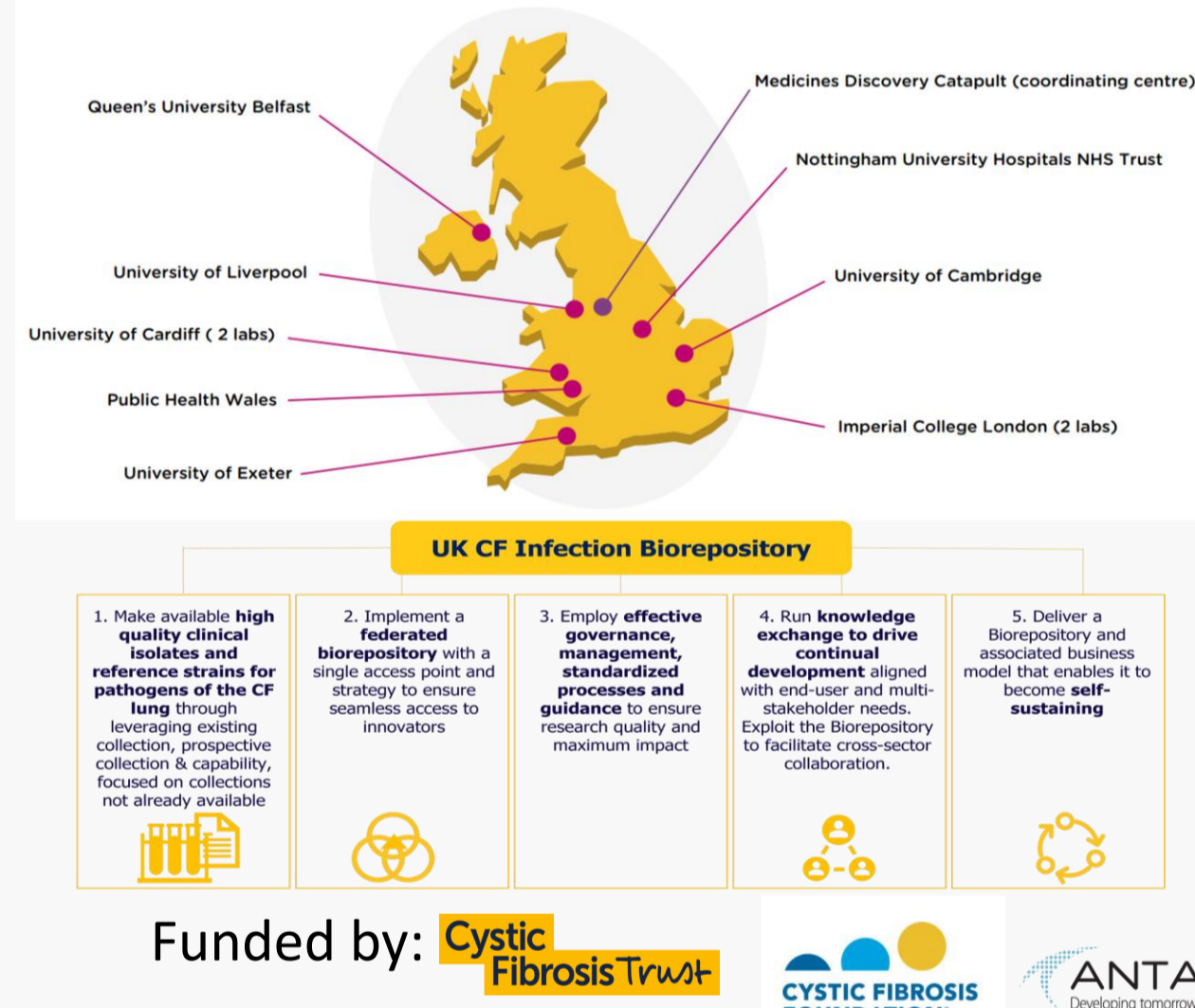
1. Difficulty in accessing appropriate clinical samples and data
2. Lack of a well-defined preclinical development pathway

The Syndicate then worked with the community to initiate collaborative R&D projects to address these challenges:



The UK CF Infection Biorepository

A coordinated national network of labs that enables researchers from academia and industry to access well characterised, high quality clinically relevant samples, data and expertise.



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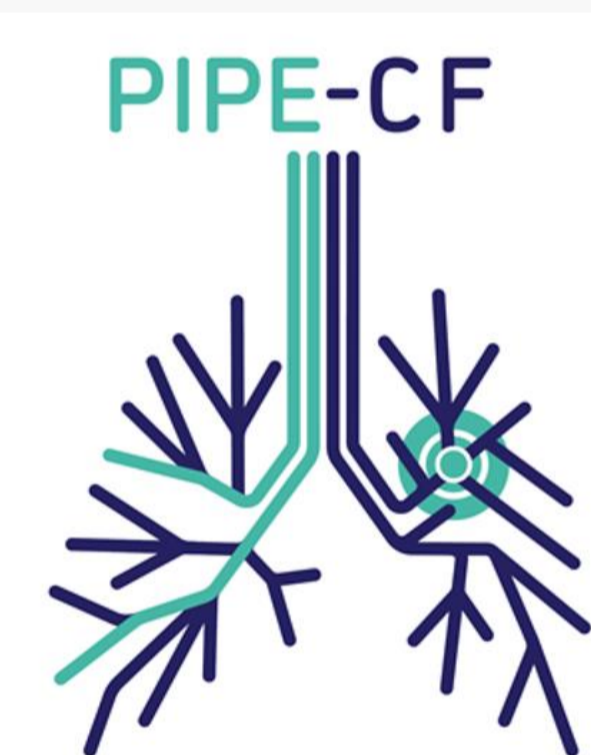
Patient-focused Target Product Profiles

The TPPs aim to provide guidance for drug developers on the key characteristics and requirements that antimicrobials should meet in order to successfully address the needs and priorities of pwCF.



PIPE-CF

A global consortium led by Dr. Jo Fothergill (University of Liverpool) to develop an evidence-based preclinical framework for the development of antimicrobial therapeutics in CF.



A Trust Strategic Research Centre with the goals to:

- Recommend appropriate CF pathogen panel(s)
- Develop model systems that capture key aspects of the CF lung
- Compare and benchmark assays to aid choice of screening tools
- Cross-validate to ensure reproducibility
- Produce and maintain open-access guides and SOPs

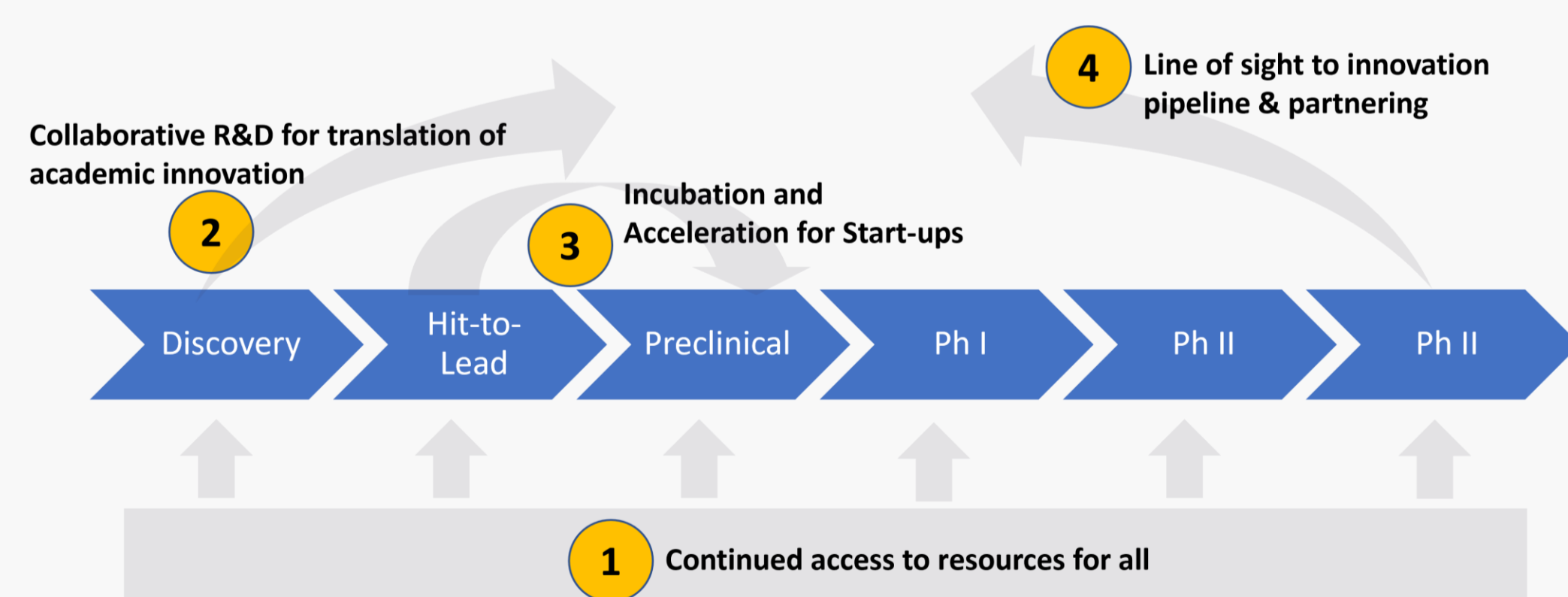


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The Syndicate continues to work with the research community to address these and further identify barriers to the development of novel antimicrobials & diagnostic agents.

Support and Grow the CF Antimicrobial Pipeline

Our aim is to work closely with innovators at every stage of antimicrobial discovery to bring the Syndicate-developed resources, expertise and wider network to impact on their programmes and grow and accelerate the antimicrobial pipeline in CF. We are working in partnership with other organisations to enable this.



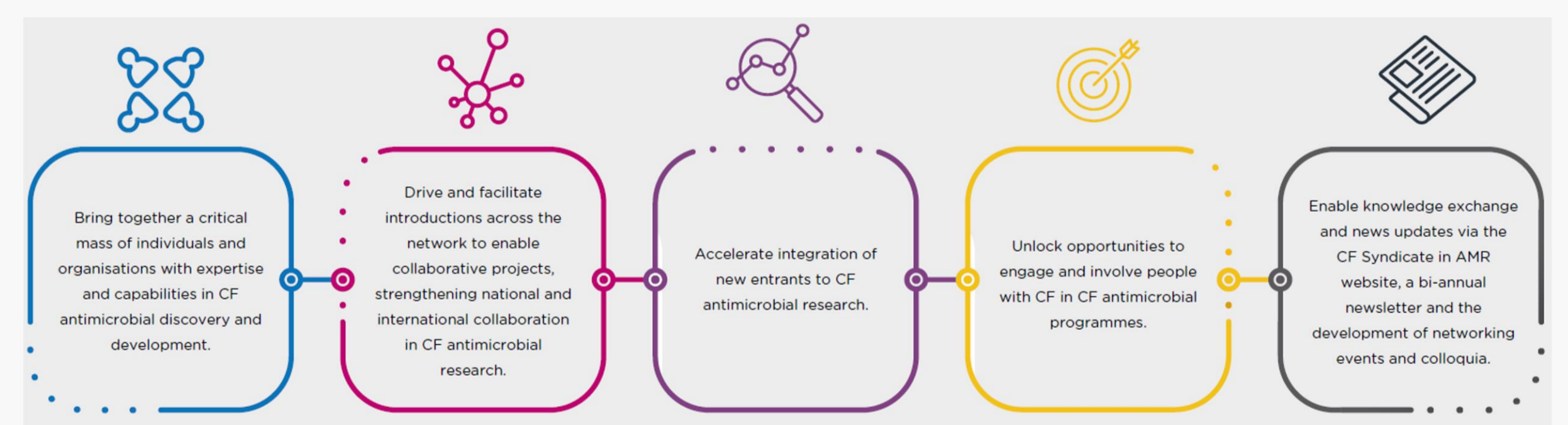
Case Study: The MDC-WSV Funding Programme for CF AMR SME Start-up incubation

3 promising start-ups selected to receive bridge funding. The Syndicate is supporting with access to networks, expertise disease & patient insights.

The CF AMR Network

Through the CF AMR Network we facilitate collaborative programmes and knowledge exchange by bringing together a diverse group of actors from across different sectors of expertise, knowledge and resource, and ultimately bring new therapies to pwCF faster.

Catalysing Innovation: The CF AMR Network



CF AMR Syndicate Website & Newsletter
Blogs News Resources

Events, Workshops & Focus Groups
Knowledge exchange & problem solving

Networking & Signposting
Catalysing collaborations

Conclusions

By providing innovators and researchers with access to an ecosystem of specialist support and enabling resources, the Syndicate is rapidly establishing itself as a unique entity which is helping to accelerate antimicrobial drug discovery, bringing novel treatments to the clinic faster. Through the Syndicate, insights into the needs and priorities of pwCF are made visible, critically helping inform those working in the drug discovery space. The Syndicate continues to gain momentum in its mission to accelerate the translation and adoption of new antimicrobials for those with CF and beyond.

To work with us and/or join our CF AMR Network. Please contact us at cfamr@md.catapult.org.uk

Acknowledgements

The CF AMR Syndicate Steering Committee and all members of the wider community that have supported us with this initiative.

References

- [1] Antimicrobial Resistance Collaborators. Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. The Lancet 2022; 399:629-655. [https://doi.org/10.1016/S0140-6736\(21\)02723-0](https://doi.org/10.1016/S0140-6736(21)02723-0)
- [2] Bell SC, Mall MA, Gutierrez H, Macek M, Madge S, Davies JC et. al. The future of cystic fibrosis care: A global perspective. The Lancet 2020; 8 65-124. [https://doi.org/10.1016/S2213-2600\(19\)30337-6](https://doi.org/10.1016/S2213-2600(19)30337-6)

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