

# What do the various non-commercial actors in the antibiotic R&D ecosystem do?

Guest speakers: Laura Marin, Erin Duffy & Peter Beyer

Moderator: Herman Goossens

Host: Shirine Derakhshani (GARDP)

**22 January 2024**



# REVIVE

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## THREE AIMS OF REVIVE:



# Webinar recordings

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**REVIVE** Advancing Antimicrobial R&D **GARDP** Global Antibiotic Research & Development Partnership

**LIVE WEBINAR**  
22 January 2024, 17:00-18:30 CET (11:00 am - 12:30 pm EST)  
What do the various non-commercial actors in the antibiotics R&D ecosystem do?  
Speakers: Erin Duffy, GARDP, USA  
Peter Beyer, GARDP, Switzerland  
Laura Marin, JPIAMR, Sweden  
Register now!  
22 JANUARY 2024  
What do the various non-commercial actors in the antibiotic R&D ecosystem do?  
more

**REVIVE** Advancing Antimicrobial R&D **GARDP** Global Antibiotic Research & Development Partnership

**LIVE WEBINAR**  
20 September 2023, 11:00-12:30 CEST  
Clinical trial platforms for new and neglected antimicrobials  
Speakers: Jessica Rodriguez-Baño, University of Sevilla, Spain  
Julia Bielicki, University of Bonn, Children's Hospital, Switzerland  
Moderated by Marc Borek, University Medical Center Utrecht, the Netherlands  
Recording available  
In collaboration with: **ecraid**  
20 SEPTEMBER 2023  
Clinical trial platforms for new and neglected antimicrobials  
more

**REVIVE** Advancing Antimicrobial R&D **GARDP** Global Antibiotic Research & Development Partnership

**LIVE WEBINAR**  
5 September 2023, 17:00-18:30 CEST (11:00 AM - 12:30 PM EDT)  
Starting an antibacterial drug discovery screening programme  
Speakers: Bruce Blough, CC-CARB & ATU USA  
Gary Wright, Wilfrid Laurier University, Canada  
Moderated by Philip Gröbke, Fraunhofer IPT, Germany  
Recording available  
In collaboration with: **CC-CARB**  
5 SEPTEMBER 2023  
Starting an antibacterial drug discovery screening programme  
more

**REVIVE** Advancing Antimicrobial R&D **GARDP** Global Antibiotic Research & Development Partnership

**LIVE WEBINAR**  
24 August 2023, 16:00-17:30 CEST (15:00-16:30 BST)  
Antimicrobial drug discovery: SAR optimization and QSAR  
Speakers: Alastair Parkes, Pfizer, UK  
James Duffy, Medicines for Malaria Venture (MMV), Switzerland  
Moderated by Charles Mowbray, Drugs for Neglected Diseases Initiative (DNDI), Switzerland  
Recording available  
24 AUGUST 2023  
Antimicrobial drug discovery: SAR optimization and QSAR  
more

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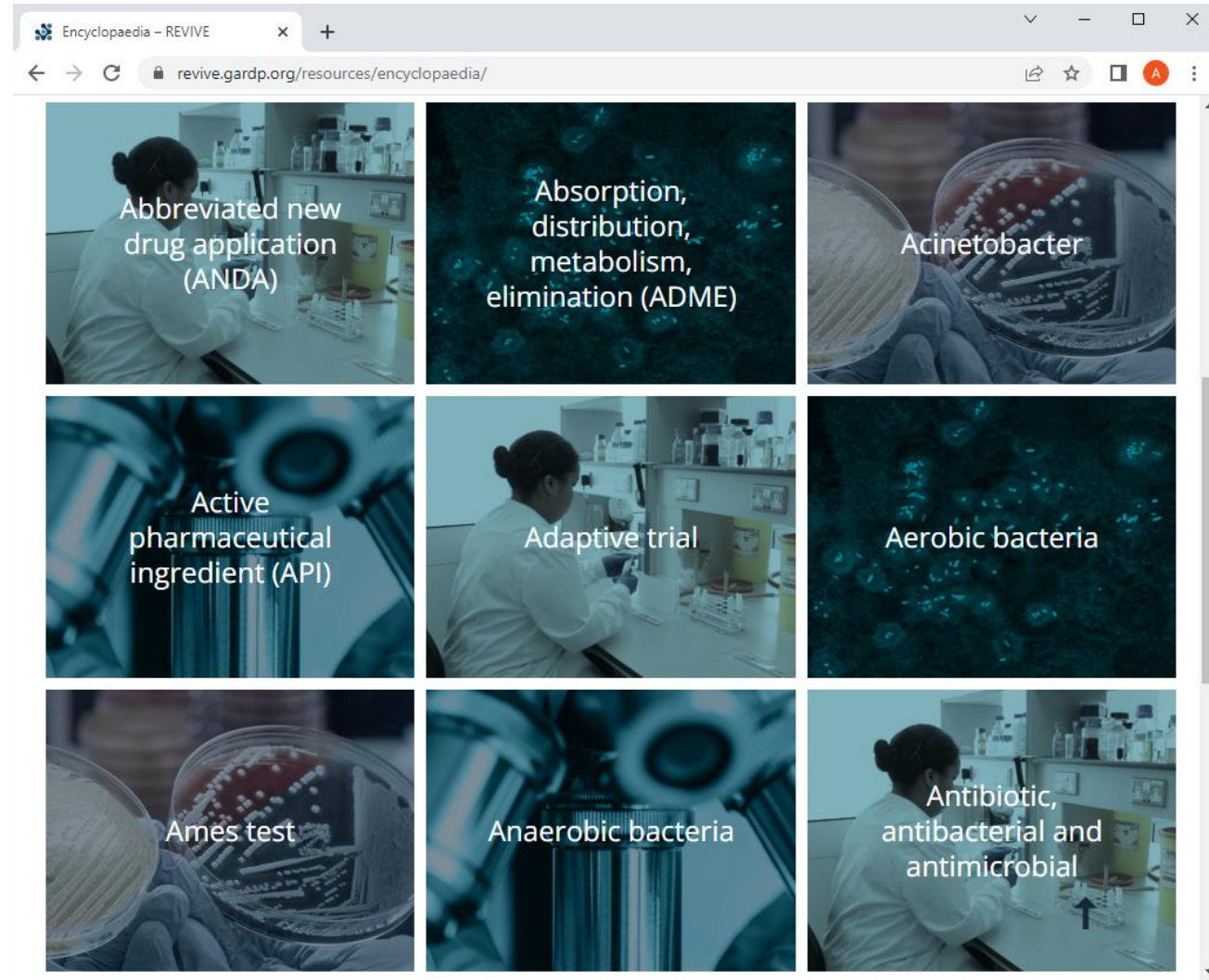
# Antimicrobial Viewpoints

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Date	Title	Author(s)
20 DECEMBER 2023	Sulbactam plus durlobactam: a new addition to antibacterial therapies	Ursula Theuretzbacher
13 DECEMBER 2023	The end of the pipeline is dry: major gaps in the clinical evidence required to inform clinical and country-level appraisal and use of newly ...	Jacob Madden, Timo ...
6 DECEMBER 2023	Plasmid-mediated resistance in the gonococcus and the use of post-exposure prophylaxis to prevent bacterial STIs	Christoph M. Tang, ...
29 NOVEMBER 2023	Nonclinical evidence for drug effectiveness can support streamlined antibacterial drug development	Tina Guina and Edward A. Weinstein ...
27 SEPTEMBER 2023	Putting the Pioneering Antimicrobial Subscriptions To End Upsurging Resistance (PASTEUR) Act under the microscope	Jacob Madden, Timo ...
16 AUGUST 2023	The emerging field of digital antibiotic discovery	Shuangzhe Lin & César de la Fuente

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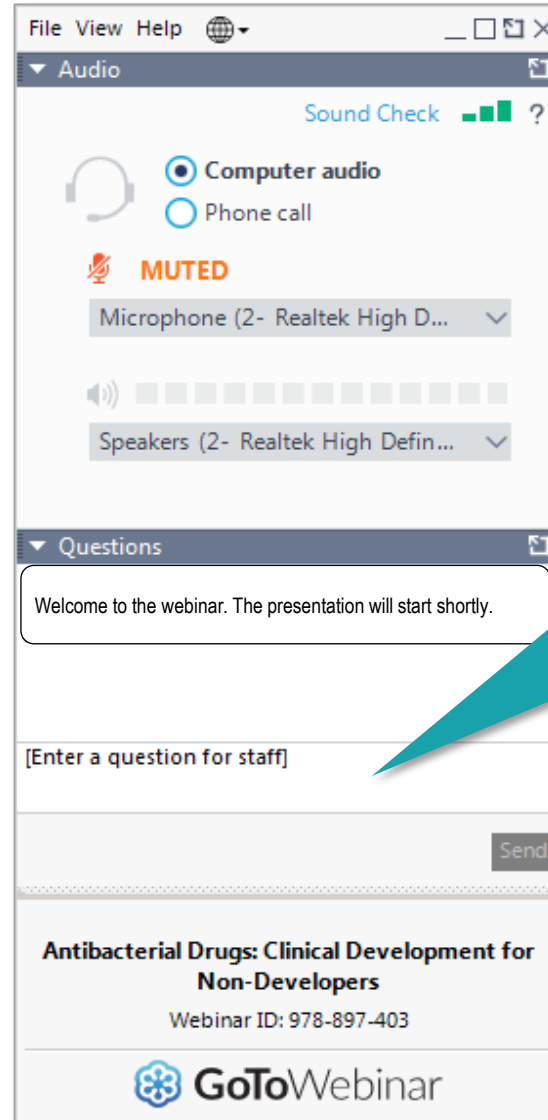
# Antimicrobial Encyclopaedia



[revive.gardp.org/resources/encyclopaedia](https://revive.gardp.org/resources/encyclopaedia)

# How to submit your questions

If your question is addressed to a specific speaker, please include their name when submitting the question.



The screenshot shows a GoToWebinar interface with two main sections: 'Audio' and 'Questions'. The 'Audio' section includes a 'Sound Check' indicator, radio buttons for 'Computer audio' (selected) and 'Phone call', a 'MUTED' status with a microphone icon, and dropdown menus for 'Microphone (2- Realtek High D...)' and 'Speakers (2- Realtek High Defin...)' with a volume slider. The 'Questions' section contains a text box with the message 'Welcome to the webinar. The presentation will start shortly.', a text input field with the placeholder '[Enter a question for staff]', and a 'Send' button. At the bottom, the webinar title 'Antibacterial Drugs: Clinical Development for Non-Developers' and ID 'Webinar ID: 978-897-403' are displayed, along with the GoToWebinar logo.

The presentation will be followed by an interactive Q&A session.

Please submit your questions via the 'questions' window. We will review all questions and respond to as many as possible after the presentation.

# Today's speakers

## What do the various non-commercial actors in the antibiotic R&D ecosystem do?



**Laura Marin**

Head

*Joint Programming Initiative on Antimicrobial Resistance – JPIAMR (Sweden)*



**Peter Beyer**

Deputy Executive Director

*Global Antibiotic Research & Development Partnership – GARDP (Switzerland)*



**Erin Duffy**

Chief of Research & Development

*Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator – CARB-X (USA)*



**Moderator:**

**Herman Goossens**

Emeritus Professor of Medical Microbiology  
*University of Antwerp (Belgium)*

&

Chair of the Scientific Advisory Committee  
*GARDP (Switzerland)*

# Laura Marin



**Laura Marin** heads the Secretariat of the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) initiative hosted by the Swedish Research Council. She also leads the preparations of the future One Health AMR Partnership.

Previously she was responsible for Science Policy and Member Relations at the European Science Foundation. Earlier on she was team leader of the European Science Open Forum in 2008 and Director of Operations at the Catalan Foundation for Research and Innovation.

She has several years of experience in Brussels and Germany managing research and innovation projects and facilitating numerous fora on science policy.





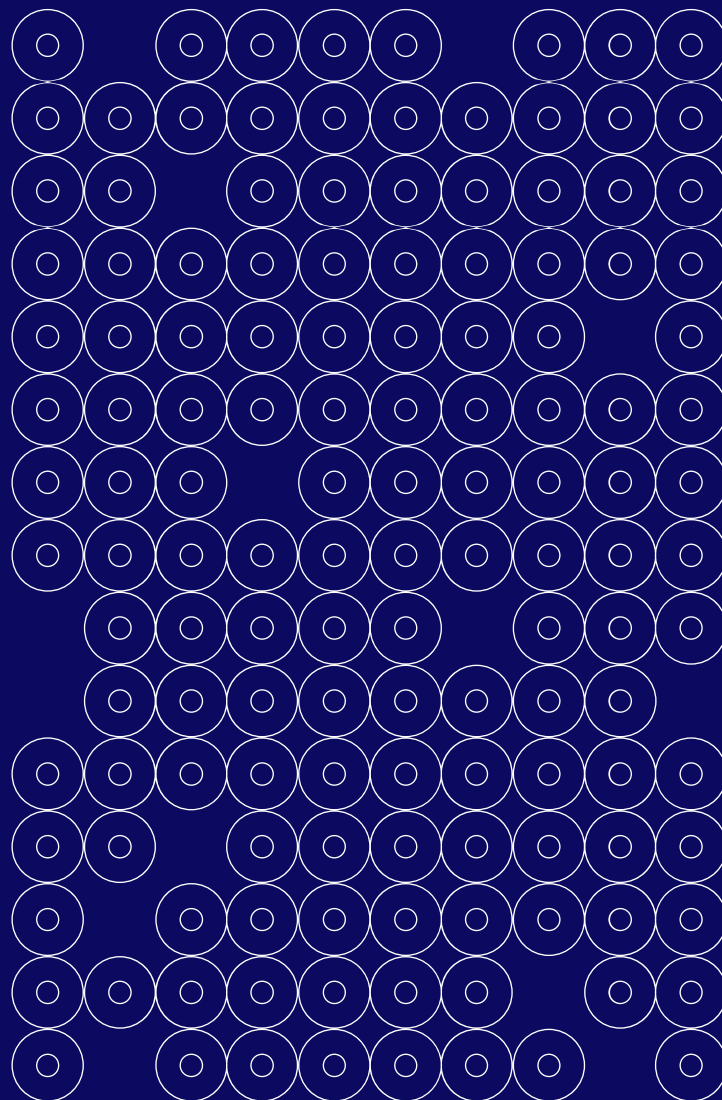
*"What do the various non-commercial actors in the antibiotic R&D ecosystem do?"*

**Joint Programming Initiative on Antimicrobial Resistance**

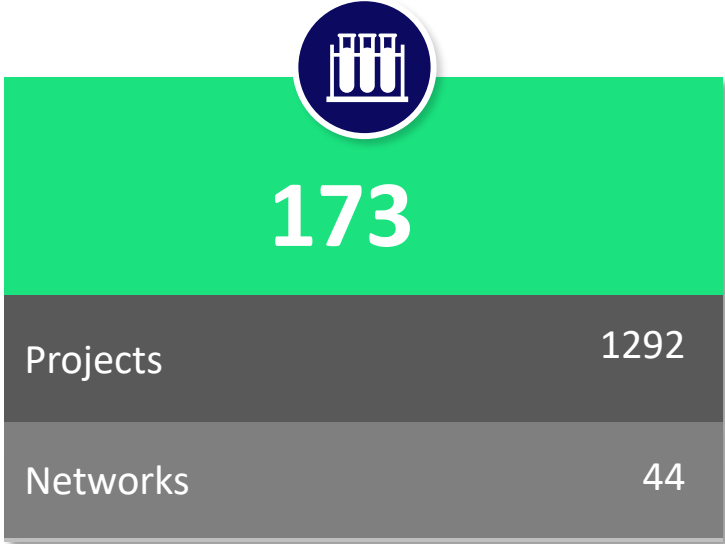
# **The JPIAMR funding portfolio and the discovery pipeline**




Laura Marin,  
Head of Secretariat - JPIAMR  
*Swedish Research Council*

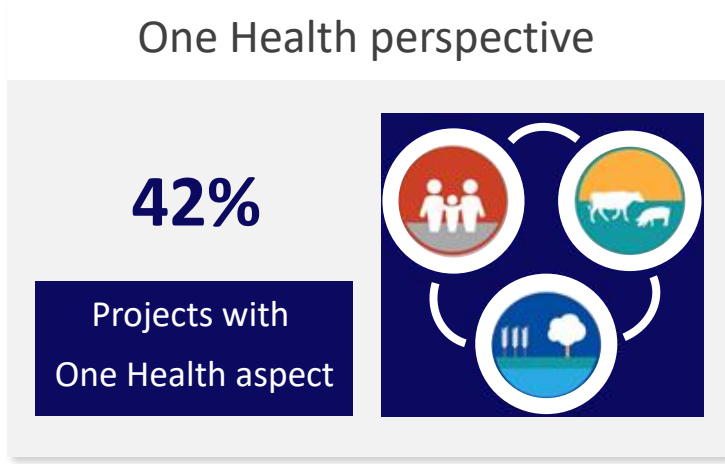
*22 January 2024*



# JPIAMR supporting AMR research globally



-  **44 LMICs involved**
-  **155 researchers from LMICs**
-  **59 research project and networks with LMIC elements in their research scope**



# JPIAMR: A global One Health AMR Research Funder

## Environment

- Transmission routes in environment
- Surveillance of non-human AMR reservoirs (wildlife, wastewater)



## Therapeutics

- Discovery of new antimicrobials and therapeutic alternatives
- New target identification
- Repurposing of drugs



## Surveillance

- Improvement of Surveillance tools and technologies
- Standardisation of methods



## Diagnostics

- New rapid diagnostics and point-of-care techniques
- AMR detection in multiple reservoirs



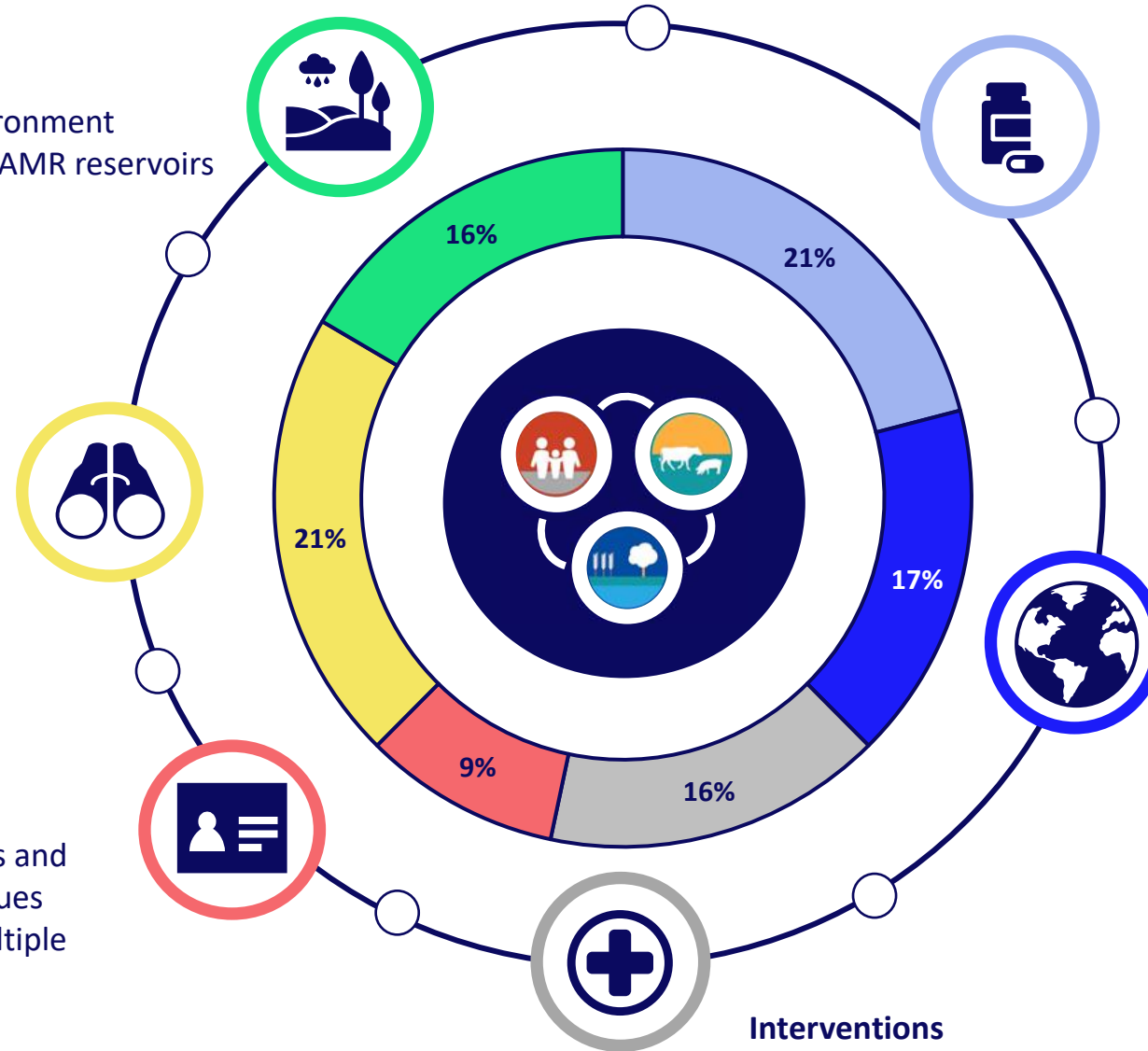
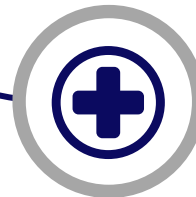
## Transmission

- Transmission mechanisms and routes
- Strategies to inhibit or reduce AMR transmission
- Risk assessment



## Interventions

- Interventions for infection prevention and control measures



# JPIAMR funding mechanisms

	Call for Research Projects	Call for Research Networks
Nature of the call	Project calls support multi-national translational research collaborations for AMR research scientists that includes (but not limited to) basic research, pre-clinical and phase 1 clinical trials	Networks of AMR experts, scientists and policy makers to enhance resource alignment, capacity building and maximise existing and future efforts to combat AMR through multinational collaborations
Expected outputs and outcomes	Research findings	White papers, views, guidelines, and/or best practice frameworks, and others
Application process	2-stage application	1-stage application
Size of the consortium	3-7 researchers from at least 3 JPIAMR (or fundable) countries	Typically 15 partners from at least 10 different countries
Funding amount and details	<ul style="list-style-type: none"><li>• Coordinator and partners funded by their national funding agencies</li><li>• Funding amount according to national guidelines</li></ul>	<ul style="list-style-type: none"><li>• Coordinator is funded by their national funding agency</li><li>• Funding amount 50-200k€ (call dependent)</li></ul>

**JPIAMR 17th Call**

# **AMR Interventions 2024**

Participating countries:

**Australia, Belgium, Canada, France, Germany, Hungary, Ireland, Israel, Italy, Latvia, Lithuania, Moldova, Netherlands, Norway, Poland, Spain, Sweden, Switzerland, United Kingdom.**

Estimated budget: € 17.7 Million

Call closes on March 14, 2024

Info webinar on January 24, 2024

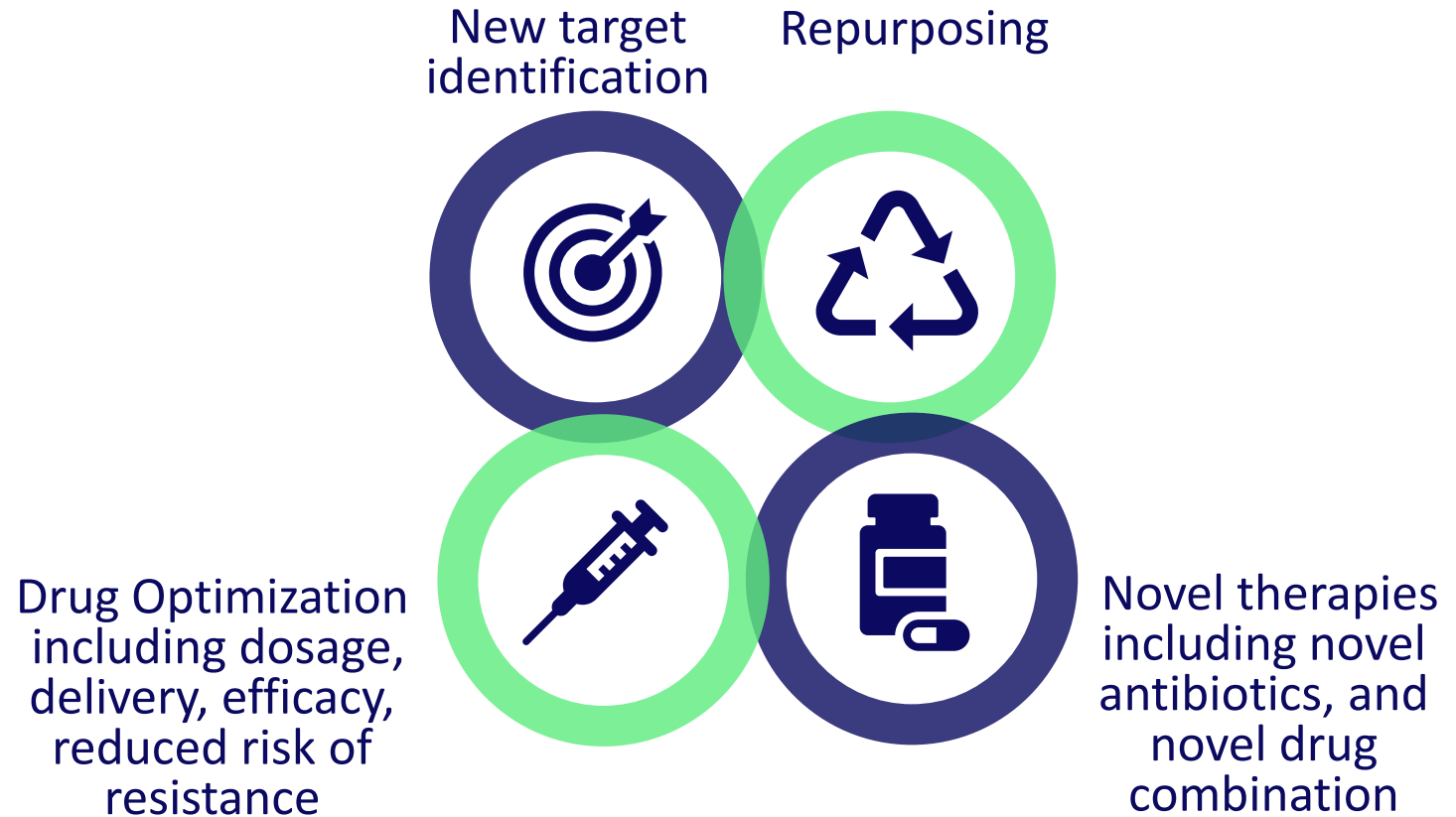
[www.jpiamr.eu](http://www.jpiamr.eu)



# JPIAMR Therapeutics discovery pipeline

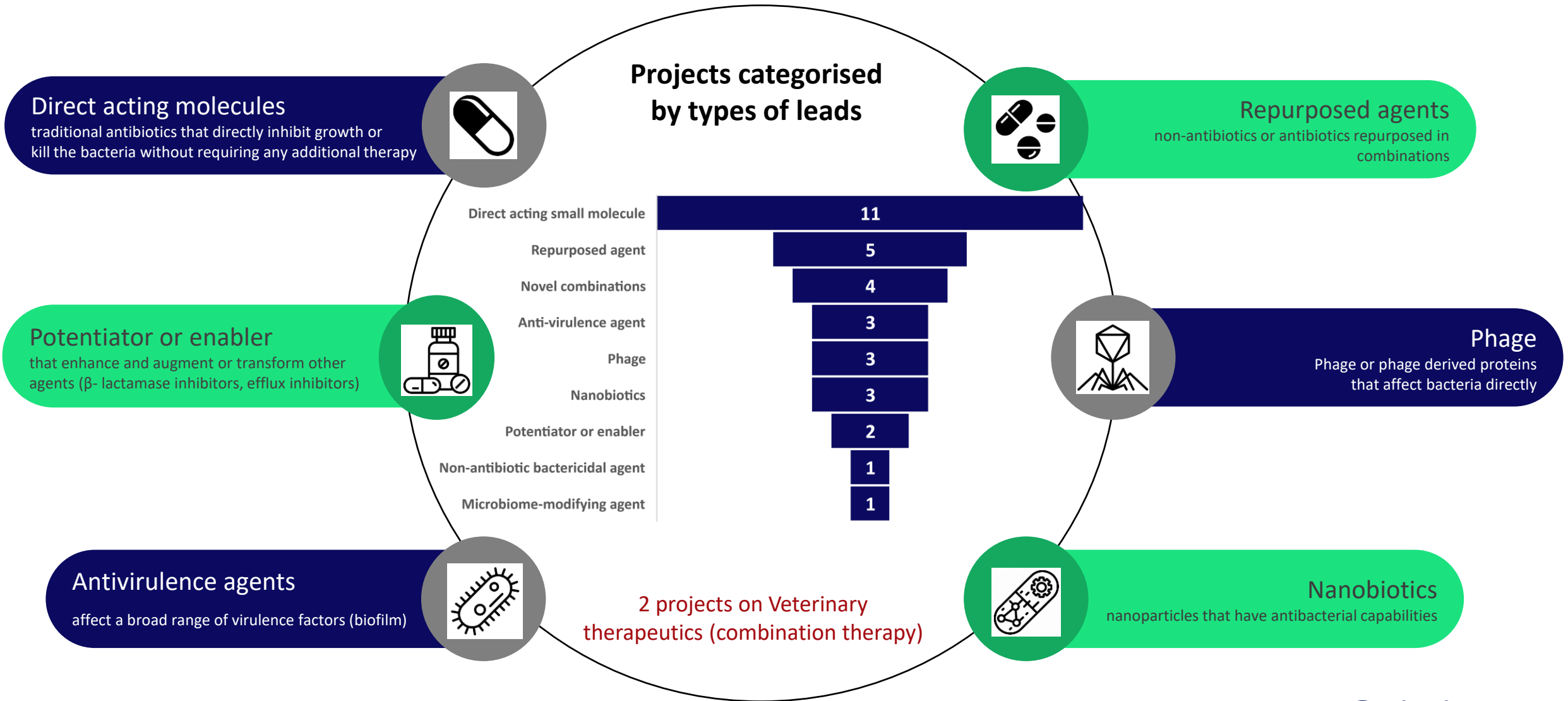
 35.6 M€

 33 projects  
8 networks

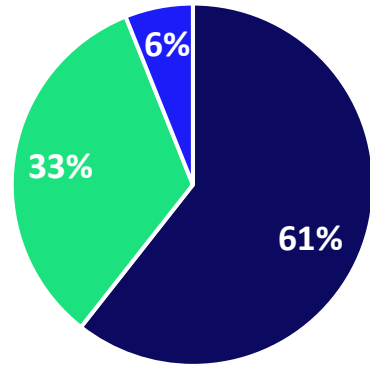


Details related to the main findings and the impact generated by the projects and networks in the area of therapeutics can be found in the following report [JPIAMR therapeutics discovery pipeline: Outputs, outcomes and impact of the funded projects and networks in the Therapeutics priority topic of the JPIAMR-SRIA \(May 2022, pdf 0,8 MB\)](#)

# Overview of the JPIAMR discovery pipeline



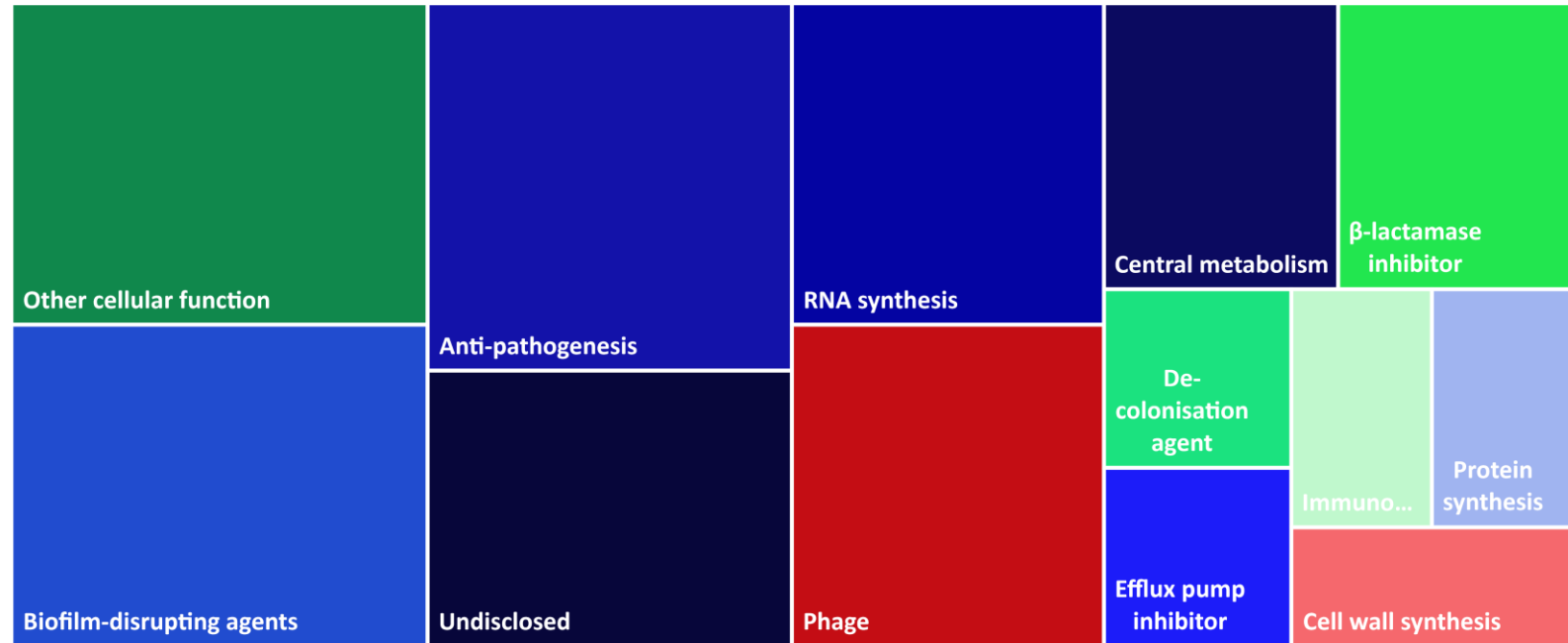
# Approach and mode of action of leads in the JPIAMR discovery pipeline



- Traditional approach
- Non-traditional approach
- Other

Others include nanobiotics, non-antibiotic bactericidal agent

Mode of action





# Outcomes of some of the JPIAMR supported Therapeutics projects



## New leads

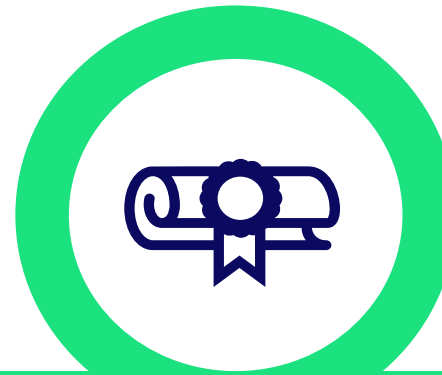
- 2 Biofilm-disrupting agents
- 1 Secretion system inhibitor
- 1 Peptidoglycan fragment analog
- 2  $\beta$ -lactamase inhibitor
- Combinations of antibiotics and non-antibiotics
- 3 flavodoxin inhibitors
- 2 compounds targeting TolC of efflux pump system
- Multiple ribosome-targeting antibiotics
- 1 siderophore-antibiotic conjugate
- 2 siderophore based PET probes to detect bacteria with high sensitivity



## Therapeutic indications

Treat infections caused by

- *Pseudomonas aeruginosa*
- *Mycobacterium tuberculosis*
- Counteract  $\beta$ -lactam resistance
- Pneumonia



## 8 Patents

- 1  $\beta$ -lactamase inhibitor
- 1 anti-tubercular agent
- 3 Combinations of antibiotics and non-antibiotics
- 1 Bacteriophage(s) targeting capsular deficient *Klebsiella pneumoniae*
- In vitro screening assays for translation in ESKAPE pathogens
- 1 siderophore-based conjugate (theranostic composition having both, therapeutic as well as diagnostic activities)

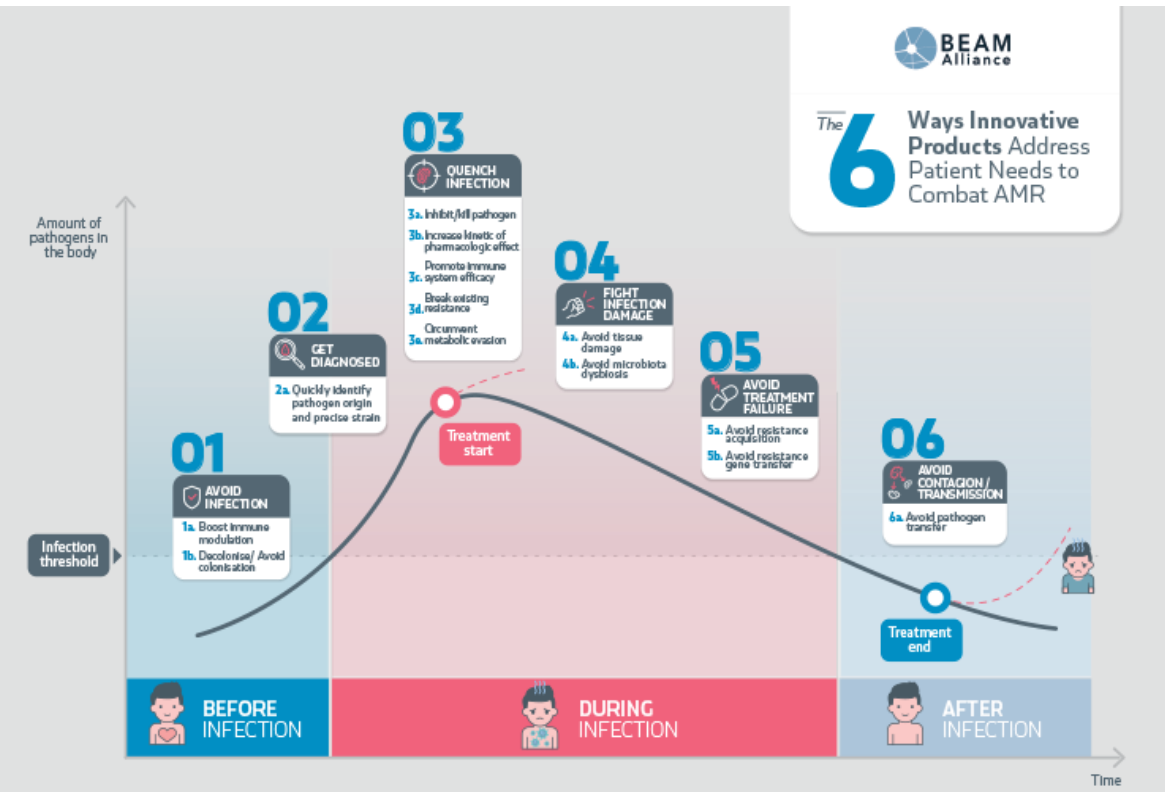


## Future development

- 1 project supported by CARB-X (NAPCLI, Call 2014,  $\beta$ -lactamase inhibitor)
- 1 project in collaboration with TB Alliance
- 1 project received H2020-EU funding

# JPIAMR Therapeutics Networks

The 6 Ways Innovative Products Address Patient Needs to Combat AMR: White Paper from BEAM Alliance



## Translocation-Transfer: improving antibiotic uptake

*Support regulatory shift to evaluate innovative therapeutics based on category of products rather than individual products*

## International Research Alliance for Antibiotic Discovery & Development

Focus: **early stages of antibiotic discovery and development**  
Implement a **global cooperative platform** to exchange scientific data, translational knowledge and interdisciplinary expert advice

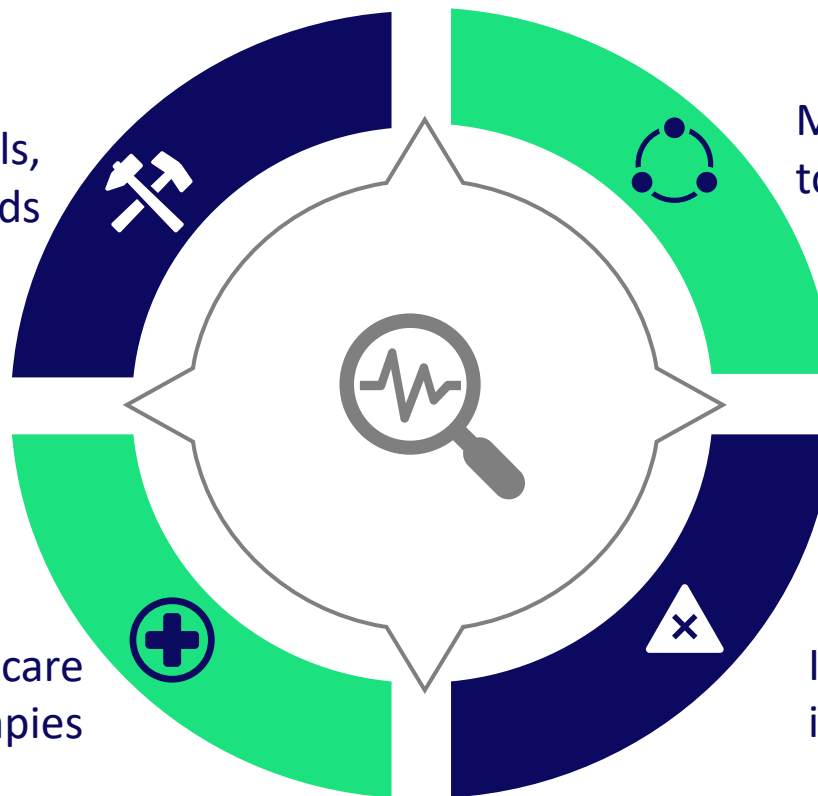
<https://beam-alliance.eu/wp-content/uploads/2019/10/beam-alliance-a-new-vision-to-support-amr-innovation.pdf>

**Network addressing antifungal resistance**  
**CycleDrug:** using repurposed agents (drug cycling) and combination therapy strategies

# The Diagnostics project portfolio



New or improved diagnostic tools, technologies and methods



Methods to detect AMR in multiple reservoirs to support One Health AMR surveillance

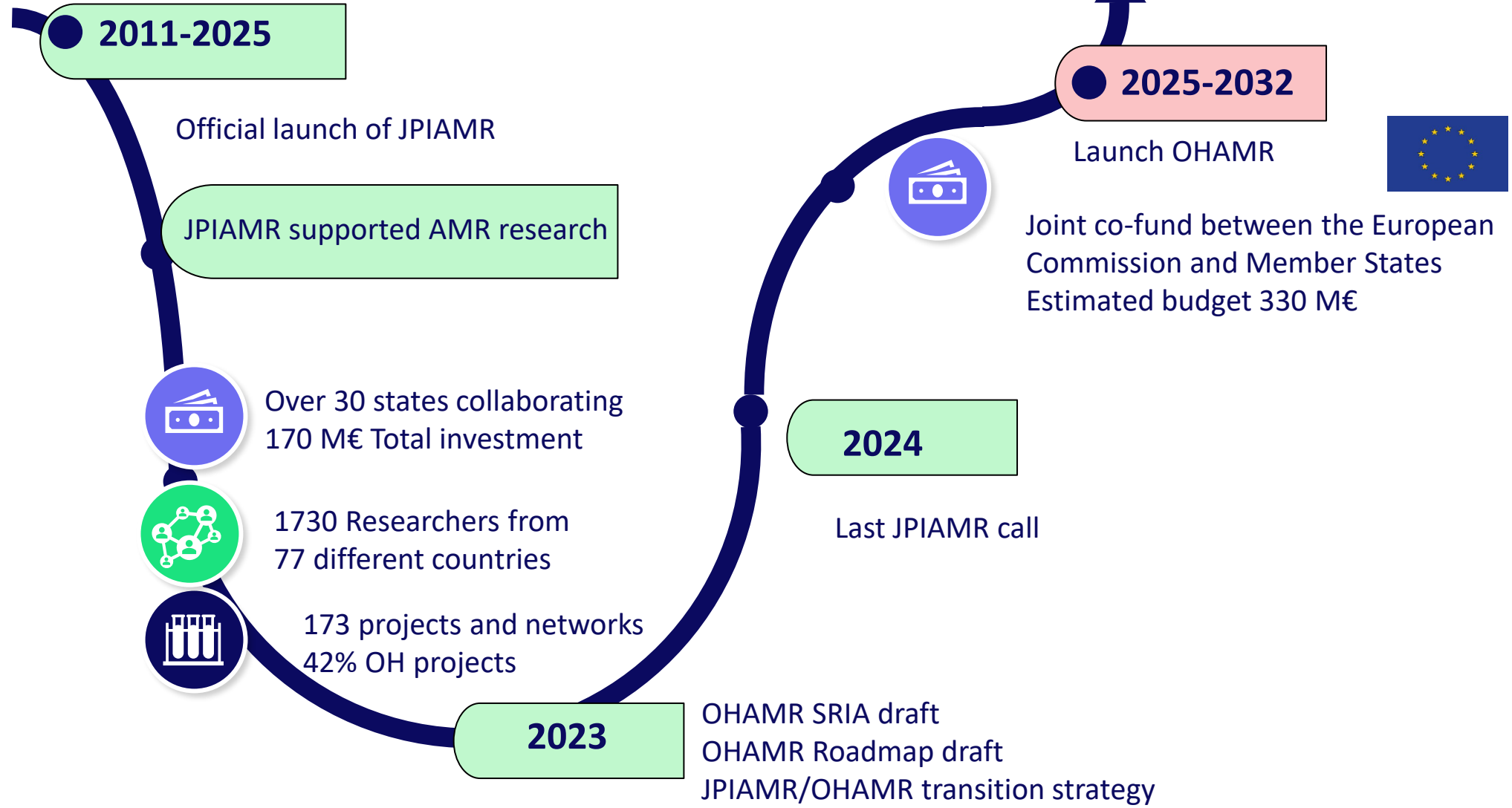
Rapid diagnostics and point-of-care techniques to improve personalised therapies

Identify barriers of development and implementation of rapid diagnostic tests

# Approaches and indications of the JPIAMR diagnostic innovations

	Pathogen ID	AST	RDT	Indications
AntiRYB	● ● ●	● ● ●	● ● ●	Yeast biosensors for specific bacterial species and pathogen detection
IDAREMS	● ● ●	● ● ●	● ● ●	Tool for clinical diagnosis of blood stream infection
K-STaR	● ● ●	● ● ●	● ● ●	Combination of Nanopore and K-mer based sequencing approaches
MAGITICS	● ● ●	● ● ●	● ● ●	Machine learning and strategies for predicting MIC; Digital diagnostics
SAMPAN	● ● ●	● ● ●	● ● ●	Detection in human-water interface
TARGET	● ● ●	● ● ●	● ● ●	Bacterial and viral detection in lower respiratory tract infection
SENSIF	● ● ●	● ● ●	● ● ●	AI-based methods for periprosthetic joint infection diagnosis
ERADIAMR	● ● ●	● ● ●	● ● ●	Nanomotion technology platform and single-cell microfluidics-microscopy

**Evolution**





Joint Programming Initiative  
on Antimicrobial Resistance

# Erin Duffy



**Erin Duffy** is the Chief of Research & Development at CARB-X.

CARB-X is a global biopharmaceutical accelerator for the discovery and early development of products to prevent, diagnose and treat bacterial infections.

Most of her professional growth was with Melinta Therapeutics (founded as Rib-X Pharmaceuticals) where ultimately she became Executive Vice President, Chief Scientific Officer and Research & Development site head.

Her entry into the pharmaceutical sector began with Pfizer Central Research. Erin's formal training was at Yale University, where she completed a PhD in physical-organic chemistry and an HHMI postdoctoral fellowship in computational structural biology.



# CARB-X

Combating Antibiotic-Resistant Bacteria

BOSTON  
UNIVERSITY

## How CARB-X Contributes to the Antibiotic R&D Ecosystem

Erin M Duffy, PhD, Chief of R&D  
January 22, 2024



# The global partnership accelerating early-stage antibacterial R&D



- Three pillars: therapeutics, preventatives and diagnostics
- Non-dilutive funding **and** comprehensive support model
- All programs enter through active funding calls
- Focused on performance characteristics, pathogens + infectious syndromes with highest morbidity and mortality rates attributable to/associated with AMR
- Created the world's most scientifically-diverse discovery & early-development portfolio, with **significant progress**:

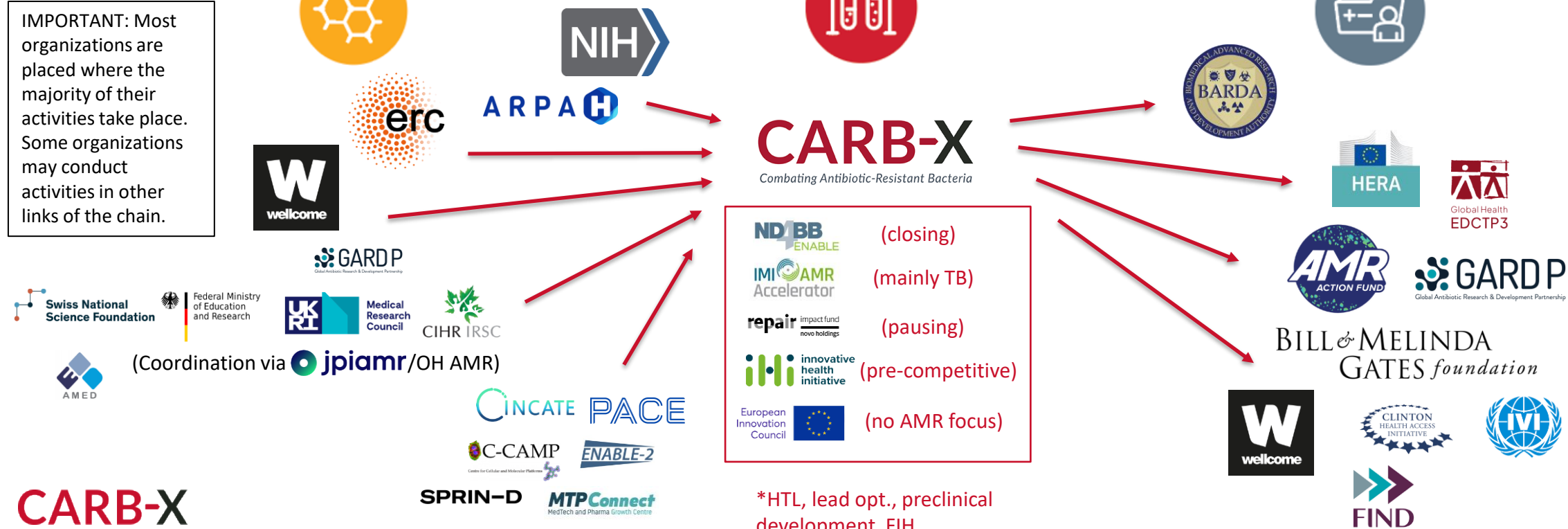


\*several in negotiations

# CARB-X is a crucial link in the antibacterial innovation chain



IMPORTANT: Most organizations are placed where the majority of their activities take place. Some organizations may conduct activities in other links of the chain.



\*HTL, lead opt., preclinical development, FIH

# What CARB-X Supports in our “Link of the Innovation Chain”

Tx

- Hit-to-Lead through FIH

Pv

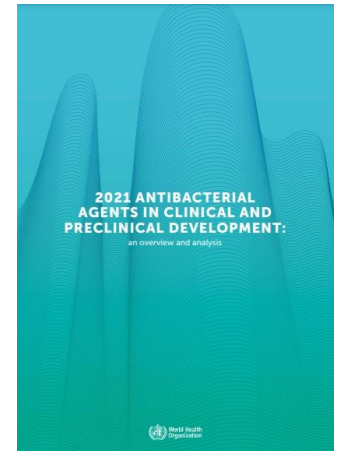
- Antigen/composition discovery through FIH

Dx

- Feasibility through alpha-prototype development

# Funding early-stage R&D is indispensable AND urgent

- **Early-stage R&D is where the most promising projects, but also the most vulnerable product developers, are:**
  - The AMR Action Fund has struggled to find investment opportunities, with its CEO [acknowledging](#) publicly that the clinical pipeline is “much thinner” than he had originally realized (Jan 2023)
  - The World Health Organization [found](#) that “the *clinical* pipeline and recently approved antibiotics are insufficient to tackle the challenge of AMR.” By contrast, “[t]he *preclinical* pipeline is innovative and includes a large number of non-traditional approaches” (May 2022)
  - Yet, “[t]he *preclinical* antibacterial pipeline continues to rely on micro (< 10 employees) and small (< 50 employees) companies and academic institutions,” and the “analysis of groups with programmes in the *preclinical* antibacterial pipeline clearly indicates significant volatility and turnover” (May 2022)
- **Without a healthy early-stage pipeline, there will be no R&D projects to develop clinically and no treatments to make accessible.**



# The funding gap in push funding for early-stage AMR R&D

- [AMR Review](#) (2015): “a global AMR Innovation Fund of around 2 billion USD over 5 years” = **USD 400 M annually** (when CARB-X did not exist)
- [GUARD](#) (2017): a Global Research Fund with USD 87.5 M for preclinical development and USD 85 M for Phase 1 studies = **additional USD 172.5 M annually**
- [Drive-AB](#) (2018): “additional annual global push funding in the range of USD 200 million to USD 500 million would particularly benefit early-stage research” = **additional USD 200-500 M annually**
- [WHO/Global AMR R&D Hub](#) (2023): drew “renewed attention to a significant funding gap in the pre-clinical stages of R&D” and highlighted that “the most promising pre-clinical antibacterial R&D projects need additional push funding to replenish a weak clinical pipeline.”
- [Swedish Presidency of the EU](#) (2023): “There remains a very significant funding gap for early-stage product development ...”
- [DG HERA](#) (2023): “push funding should complement pull models, acting where the pull models are least efficient: in the early phases of development” and “there is relative consensus on the need to provide **additional push funding, in a range between USD 250 and USD 400 million on an annual basis, and at a global level ...**”

**Summary: additional USD 172.5-500 M annually**

# How Programs Enter Portfolio: Active Funding Calls

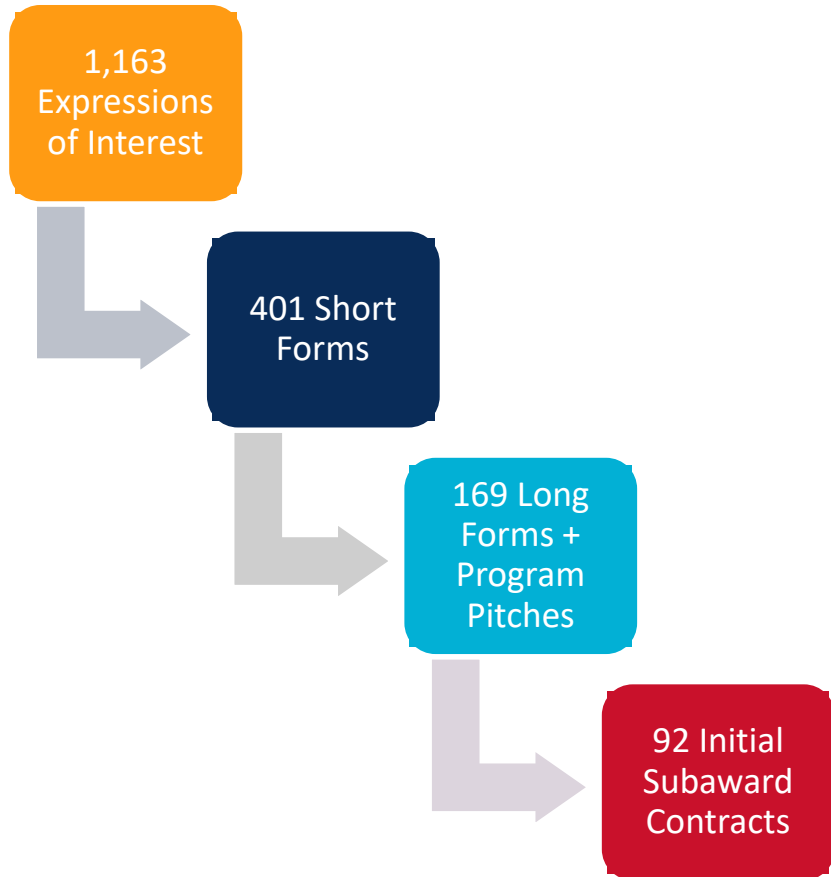
- 8 funding calls (2016-2020)
  - First 4 “all-comer” calls, predicated on a product focused on one or more priority pathogens
  - Last 4 thematic (non-traditional products; vaccines & biotherapeutics; rapid diagnostics and Gram-negative-targeting therapeutics)
- 1 omnibus solicitation (2022-2023)
  - 3 funding themes (oral therapeutics; vaccines against top etiologies for neonatal sepsis; cross-pillar gonorrhea products)
  - 3 sequential intakes to allow for package-building or resubmission
- New rounds to be shaped by recent Strategic Review

# Stages and Evaluation of Applications

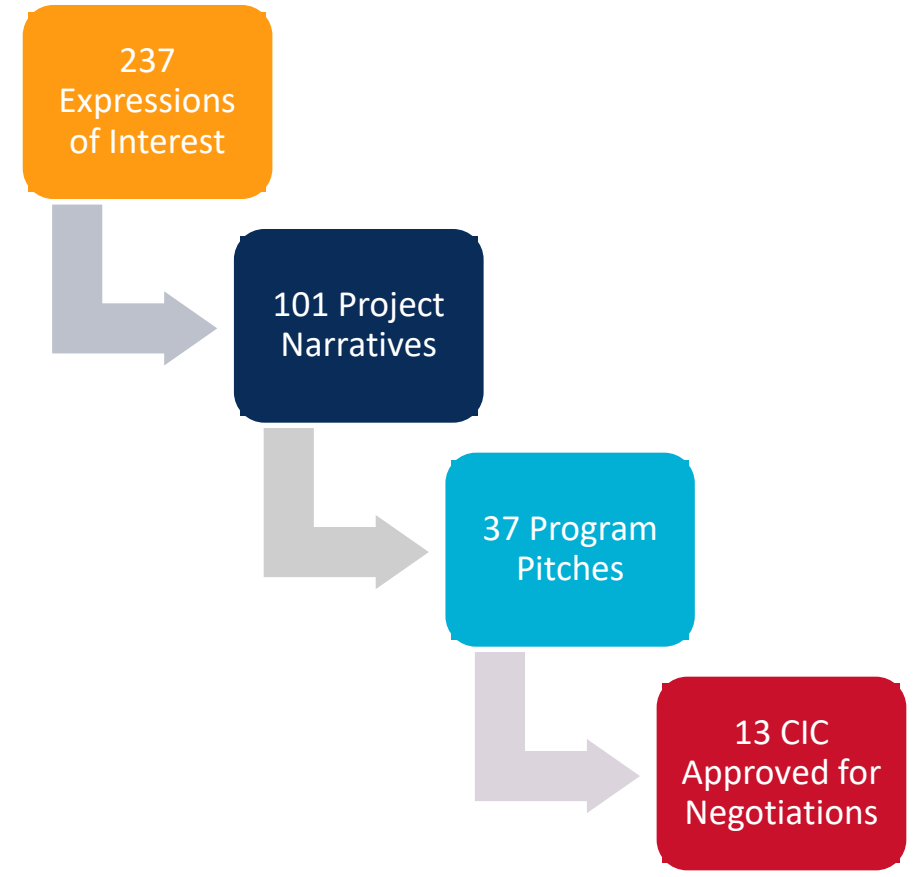
- non-confidential Expression of Interest (EOI)
  - reviewed by CARB-X R&D for responsiveness
- confidential written proposal/project narrative + budget workbook
  - juried by sub-teams of external Advisory Board
- presentation to virtual advisory board (invitation only)
  - juried by full external Advisory Board
- negotiations to enter CARB-X portfolio
  - recommended by Advisory Board and CARB-X R&D
  - decided by CARB-X Investment Committee

# Application Outcomes

2016 - 2020

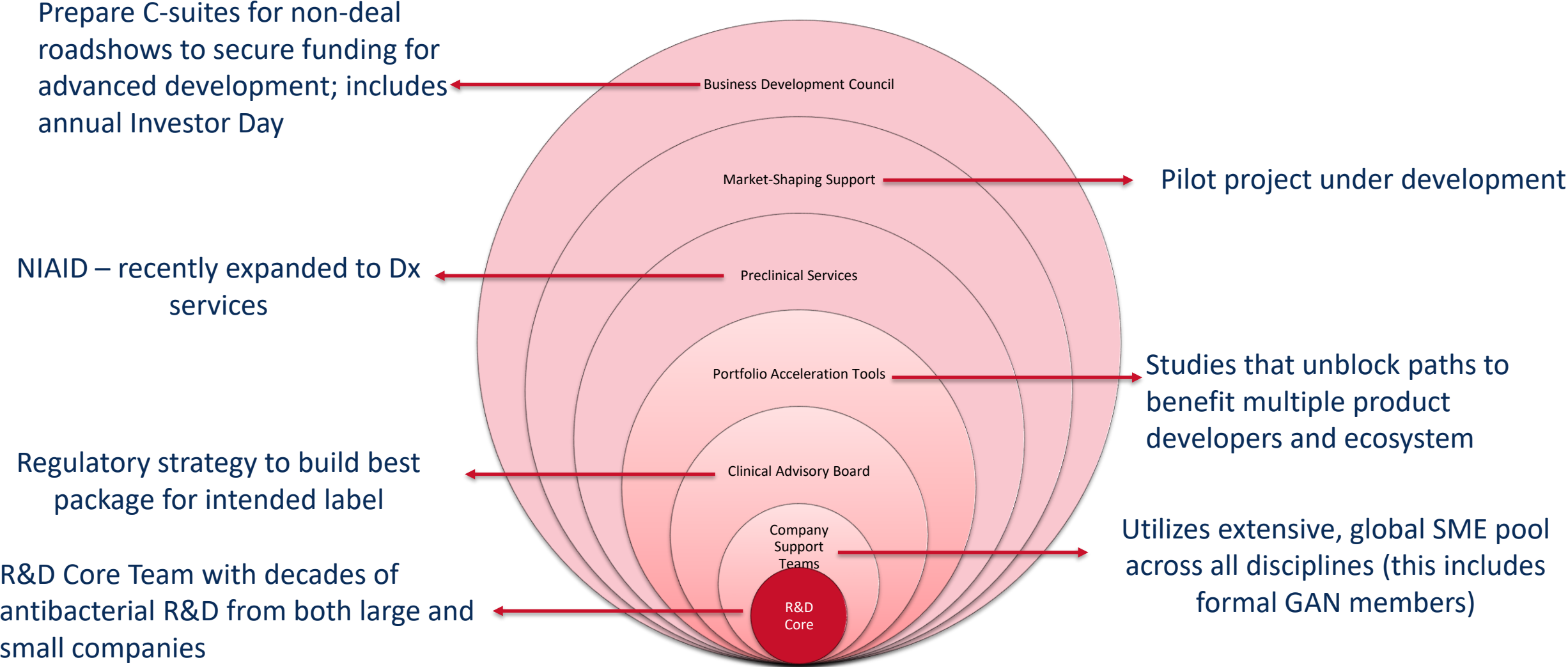


2022 - 2023

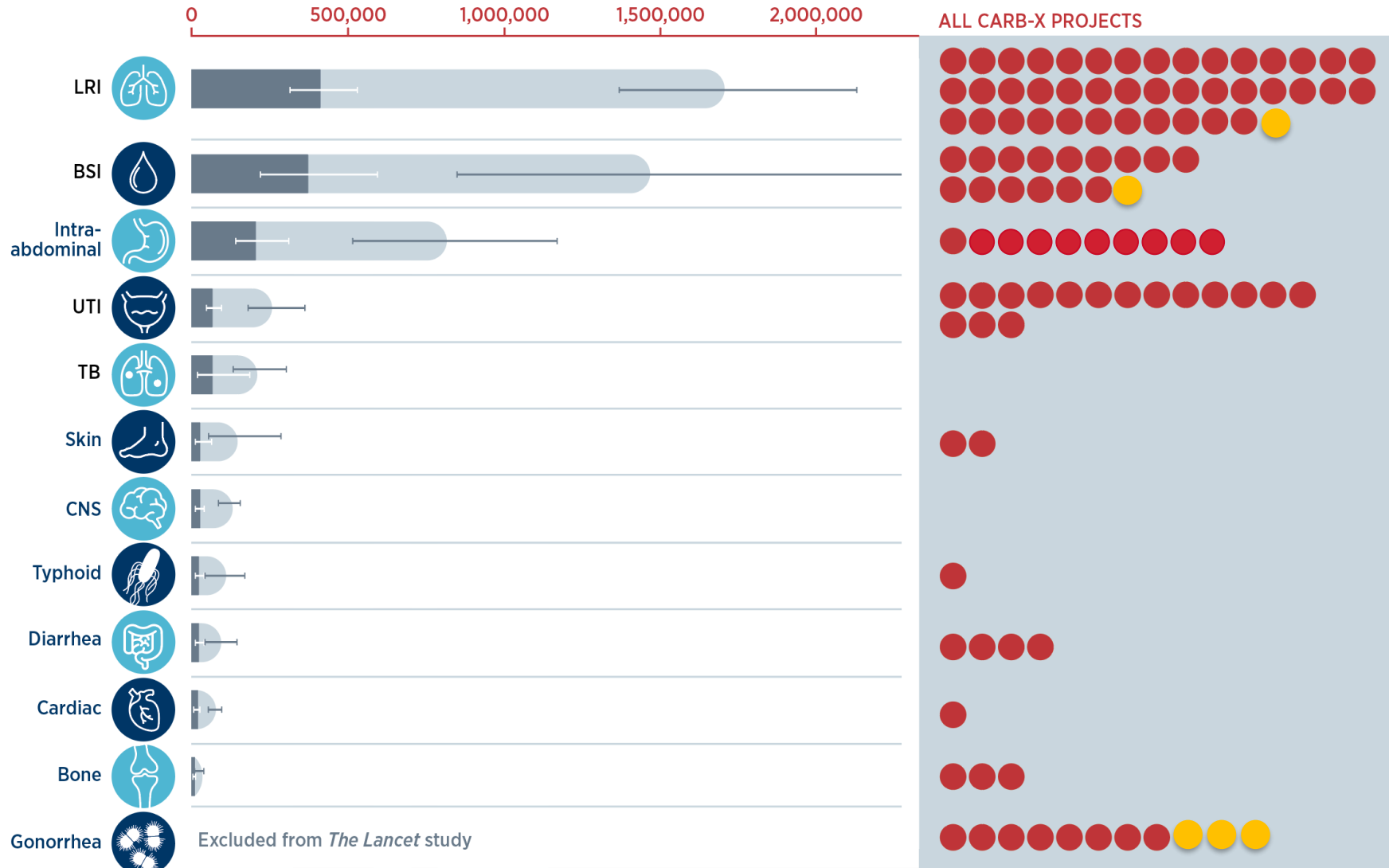




# A Unique and Layered Support Model



# Portfolio Responsive to Global Burden of Disease



Source: Antimicrobial Resistance Collaborators, *The Lancet*, published online January 20, 2022

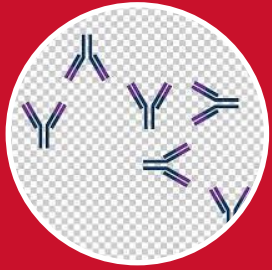
\* = mostly targeted secondary indication;  
 dark grey = global deaths attributable to AMR in 2019;  
 light grey = global deaths associated with AMR in 2019

**CARB-X** ● =first 92 projects ● =omnibus

# A Look at Portfolio Acceleration Tools



early-evaluation of pre-existing resistance



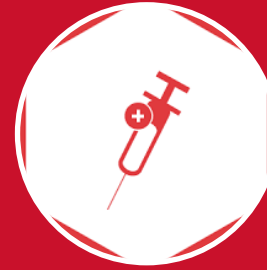
early-evaluation of antigenic variability risk



consistent assessment of key safety risk



models of efficacy with back-translation



access to optimal adjuvants



sample collection optimization



clinical-trial design

*Many programs experience the same hurdles – let's lower them*

IHMA program cuts across all pillars  
23 Tx (susceptibility); 7 Pv (antigenic conservation); 6 Dx (challenge panels)  
refresh underway

Queensland nephrotoxicity studies  
transitioning to NIAID Preclinical Services

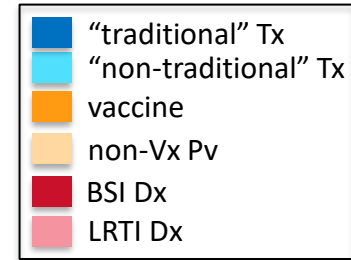
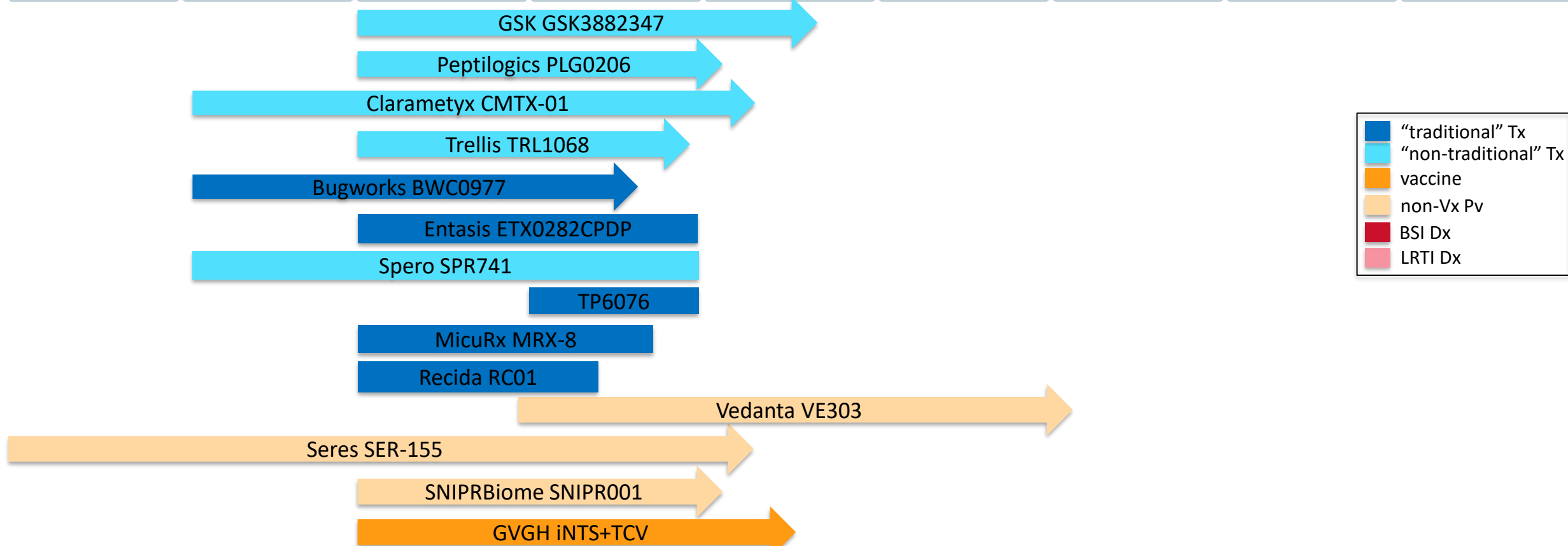
lung model standardization (IMI Combine/iiCON) and validation (CARB-X/Hartford Hospital)

discussions with NIAID to aid both vaccine developers and adjuvant innovators

urine, sputum challenging samples – better methods unlock interest in Dx development

Superiority-design workshops; decolonization systematic review consortium

# CARB-X Advances Projects Closer to Patients



# CARB-X graduates remaining active with follow-on funding

Company	Pillar	Product	Stage	Follow-on Funding	Notes
Clarametyx	Tx	CMTX-101	Ph1B	Series A	\$33M, including the CF Foundation
GSK	Tx	GSK3882347	Ph1B	GSK	Successful FIH gained internal support
Seres	Pv	SER-155	Ph1B	current investors	IND-effective gained internal support
Vedanta	Pv	VE303, VE707	Ph3	Series D + BARDA	Series D (\$81M including AMRAF, BMGF, Global Health Fund), BARDA (\$7.4M upfront; \$23.8M option)
Pattern Biosciences	Dx	Pneumonia Action Panel	$\alpha$ -development clinical studies	Series C	\$29.0M including AMRAF
Specific Diagnostics	Dx	Vitek REVEAL	CE mark; 510(k) filed	bioMerieux	\$416.8M acquisition
T2 Biosystems	Dx	T2 Resistance	CE mark	BARDA	\$5.9M upfront; \$18.5M in 3 exercised options

# Most Novo REPAIR companies were co-funded with CARB-X

 Salt Lake City, USA ✓	 Boston, USA ✓	 Maryland, USA ✓
 Europe ✓	 Copenhagen, Denmark	 Romainville, France ✓
 Allschwil, Switzerland ✓	 Norwich, UK ✓	 California, USA ✓*
 Massachusetts, USA ✓	 London, UK ✓ (also attracted BI Venture Fund)	

- ✓ current or formerly-funded program(s) specifically listed as part of the goals of the financing
- ✓\* formerly-funded CARB-X program as part of a newco active preclinical portfolio

# AMRAF selected 5 companies with prior CARB-X funding

 **BIOVERSYS**



 **adaptive phage  
THERAPEUTICS**

**Venatorx**  
PHARMACEUTICALS



 **VEDANTA  
BIOSCIENCES**



**pattern**



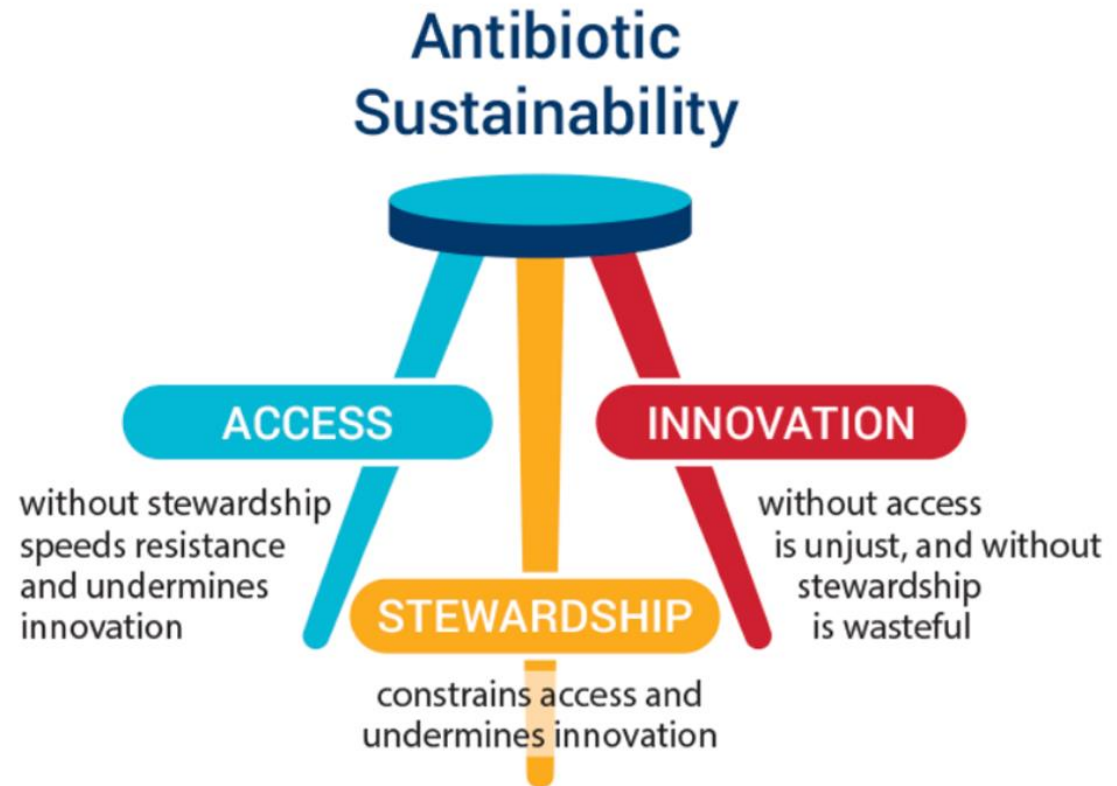
 **ANTABIO**  
Developing tomorrow's antibacterials



# Stewardship and access are vital to sustainability

*CARB-X is not just about funding innovation*

- Innovation delivers new solutions to address the global threat of drug-resistance
- Access supports patient care and helps control the spread of drug-resistant bacteria
- Stewardship helps reduce misuse and overuse of innovative products and promotes responsible use

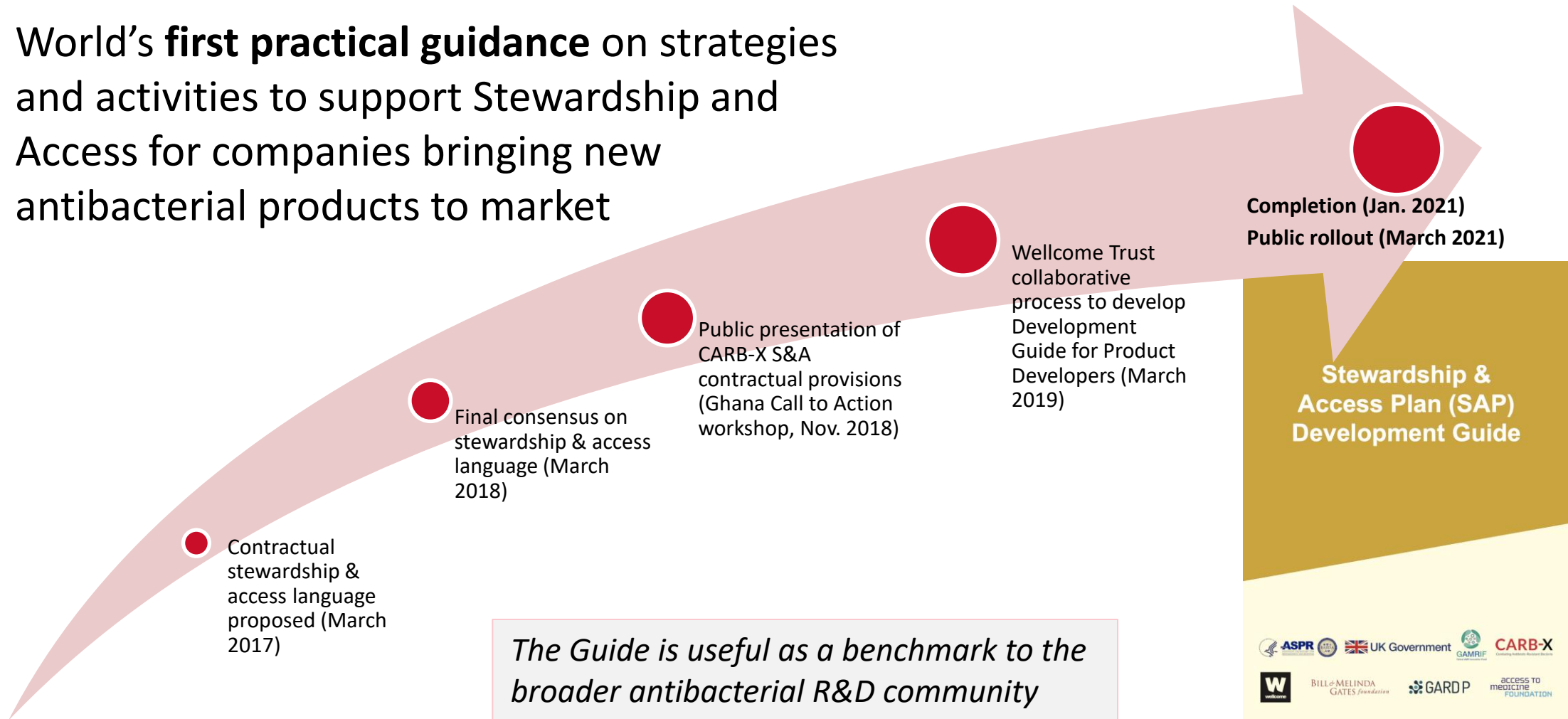


Hoffman S, Outterson K. JLME (2015)



# Development Guide for Stewardship & Access

World's **first practical guidance** on strategies and activities to support Stewardship and Access for companies bringing new antibacterial products to market



# Lean and efficient CARB-X



Leverage extensive network of >100 global subject-matter experts & 4 organizations in our Global Accelerator Network



Performance-based milestones which gate project funding decisions



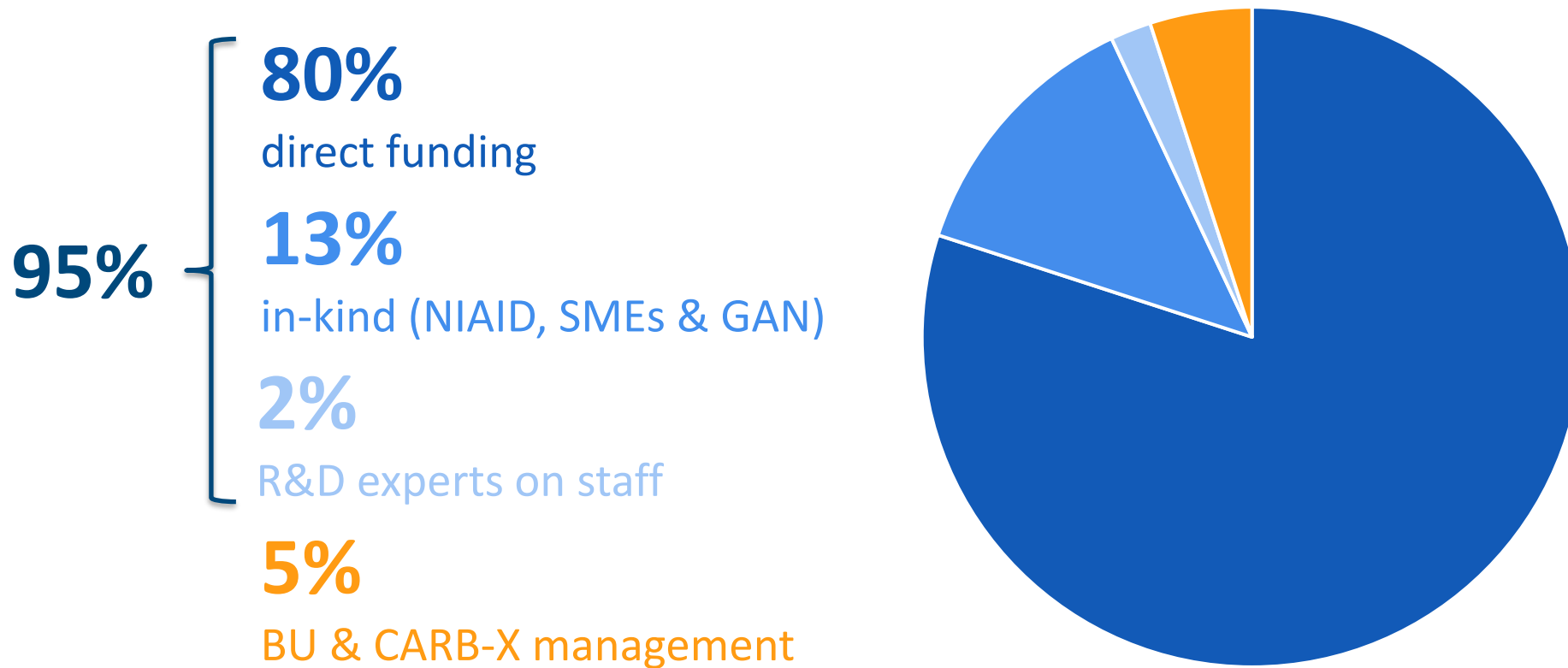
Leverage BU infrastructure (payroll, compliance, databases, security, space)



Prudent fund management per funder requirements

# Lean and efficient CARB-X

*95% of CARB-X funding goes directly to product developers via financial grants, in-kind support or R&D expertise*



# CARB-X Product Developers



# CARB-X

*Combating Antibiotic-Resistant Bacteria*

BOSTON  
UNIVERSITY

Thank you  
[emduffy@bu.edu](mailto:emduffy@bu.edu)

# Peter Beyer



**Peter Beyer** is the Deputy Executive Director at the Global Antibiotic Research & Development Partnership (GARDP).

Prior to joining GARDP, he was at the World Health Organization (WHO) where he led the unit responsible for developing global initiatives to foster the development and access to new antimicrobial treatments.

He was instrumental in setting up GARDP as well as the AMR Action Fund.

Peter chairs the Expert Advisory Group of the Medicines Patent Pool that assesses the terms and conditions of all proposed license agreements. Peter is a trained lawyer and was admitted to the bar in Berlin in 2002. He holds a PhD from the University of Freiburg, Germany on European environmental law and has extensive experience in international negotiations.



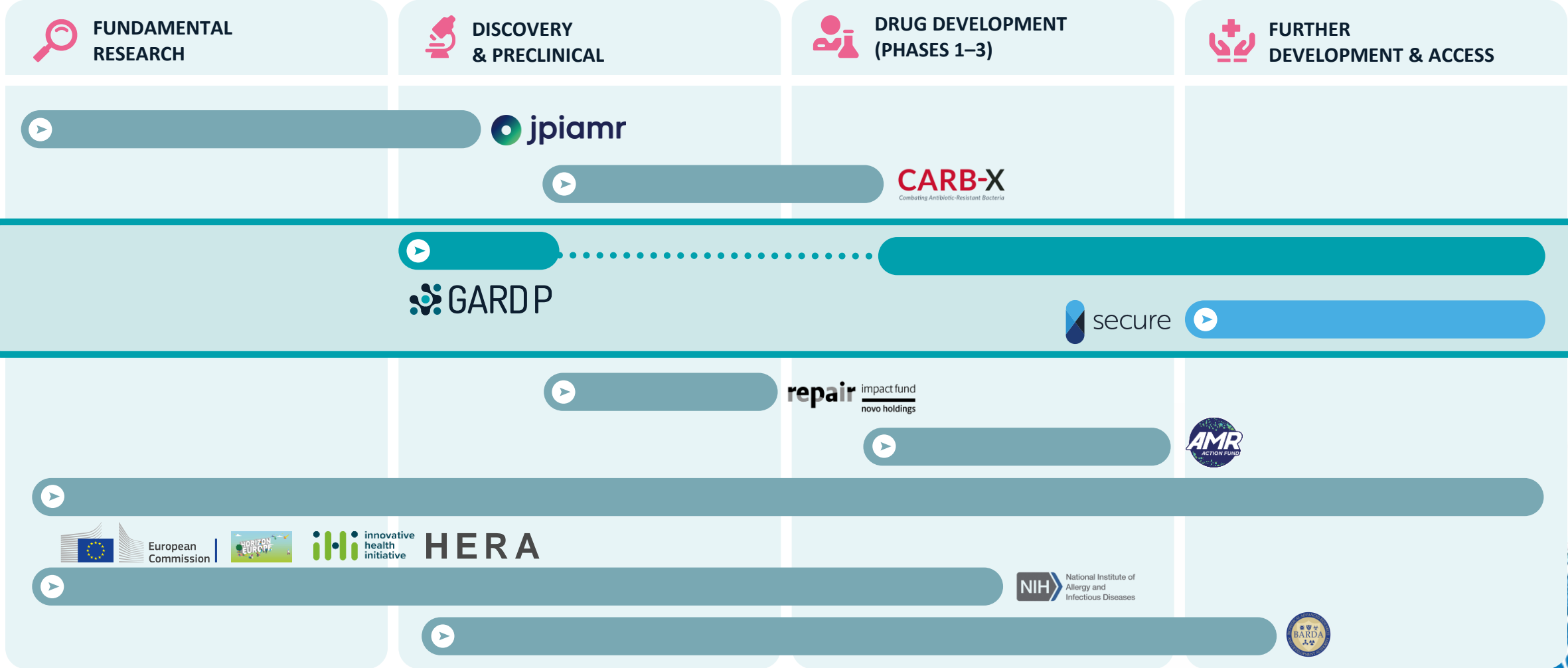


2024-2028

# STRATEGY

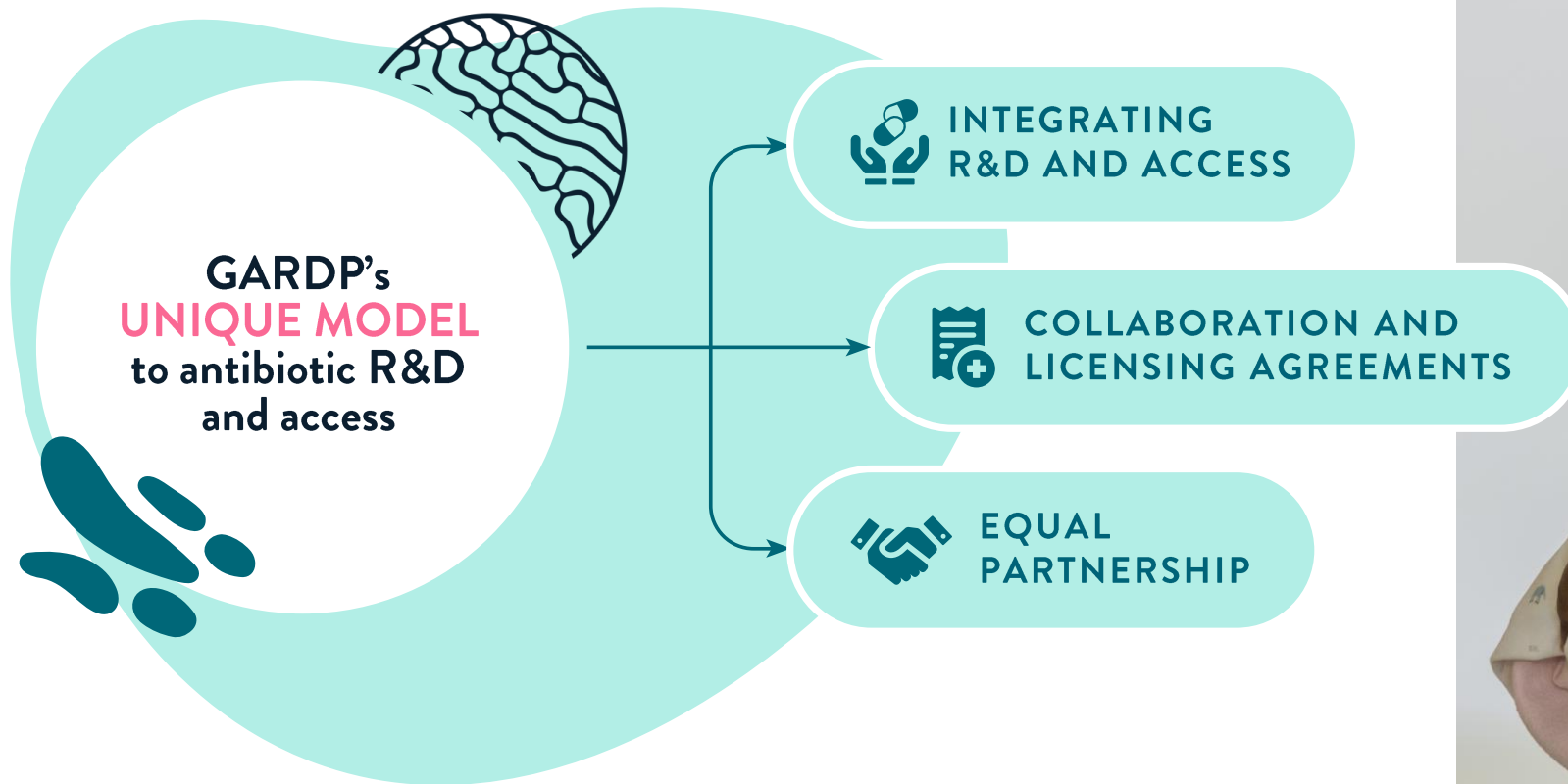
Putting public health needs at the  
centre of antibiotic drug development

# GARDP in the antibiotic R&D and access landscape





# GARDP response: A public health-driven approach





# INTEGRATING R&D AND ACCESS



**DRUG DEVELOPMENT (INCLUDING CLINICAL TRIALS PHASE 1-3)**



**FURTHER DEVELOPMENT & ACCESS**

R&D-TO-ACCESS STRATEGY



LICENSING AND COLLABORATION AGREEMENTS

SUBLICENSING: MANUFACTURING & COMMERCIAL

FORMULATION DEVELOPMENT, MANUFACTURING, DISTRIBUTION, MARKET SHAPING

R&D AND ACCESS CONSIDERATIONS FOR PRODUCT SELECTION, TARGET PRODUCT PROFILES

REGULATORY STRATEGY & PATHWAYS (STRINGENT REGULATORY AUTHORITY SUBMISSION, NATIONAL REGULATORY SUBMISSION, WHO PREQUALIFICATION)

CLINICAL TRIALS

EVIDENCE GENERATION FOR OPTIMAL USE

PAEDIATRIC DEVELOPMENT

SUPPORT GLOBAL IMPLEMENTATION & STEWARDSHIP

ALL R&D  
ALL ACCESS  
R&D TO ACCESS

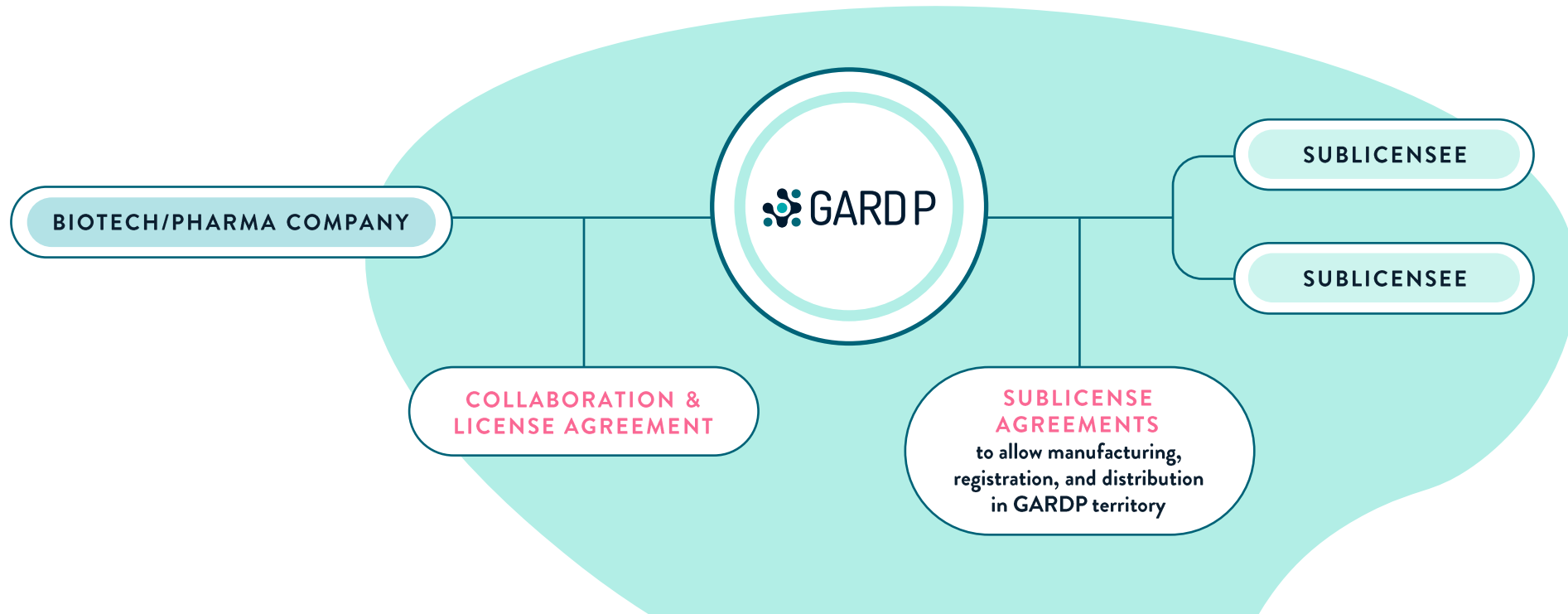




# COLLABORATION AND LICENSE AGREEMENTS

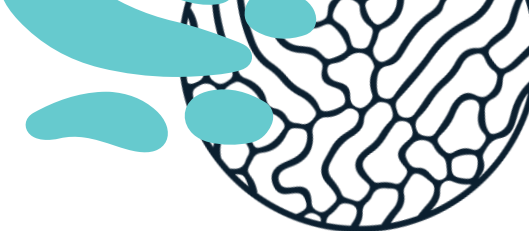
We de-risk antibiotic drug development projects:

- Negotiate collaboration and license agreements with pharmaceutical companies
- In exchange for our expertise and financial support, we seek the rights to manufacture and distribute treatments in hard-hit regions
- Sublicense these rights to manufacturers for registration and distribution to facilitate access





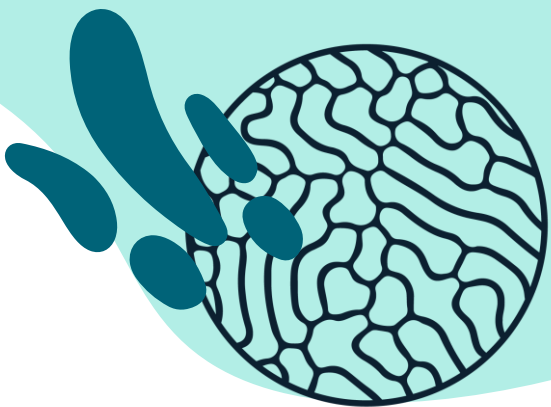
## EQUAL PARTNERSHIP



**Our public-private partnership approach involves working with experts in many low- and middle-income countries and all key stakeholders from the get-go:**

- Work with partners to coordinate efforts in the antibiotic pipeline of drug development and access
- Offer a range of skills, financial support, and scientific resources, as well as geographic reach

# 5 treatments by 2025: Progress to date



2019 2020 2021 2022 2023 2024 2025 2026 2027 2028

SERIOUS BACTERIAL INFECTIONS & SEPSIS

NEONATAL SEPSIS

SEXUALLY TRANSMITTED INFECTIONS

**CEFIDEROCOL FOR CR INFECTIONS**

LICENSE AGREEMENT SIGNED

REGULATORY APPROVAL OF LICENSED PRODUCT

**CEFEPIME-TANIBORBACTAM FOR CR INFECTIONS**

COLLABORATION AGREEMENT SIGNED

REGULATORY APPROVAL

**NEW TREATMENT DEVELOPMENT (TBD)**

LATE-STAGE DEVELOPMENT

**EMPIRIC TREATMENT REGIMENS FOR NEONATAL SEPSIS\***

TRIAL STARTED

TRIAL EXPANDED

TRIAL COMPLETED

**ZOLIFLODACIN FOR GONORRHOEA INFECTION**

TRIAL STARTED

REGULATORY APPROVAL

CR: carbapenem-resistant

\* fosfomycin-amikacin / flomoxef-amikacin / fosfomycin-flomoxef

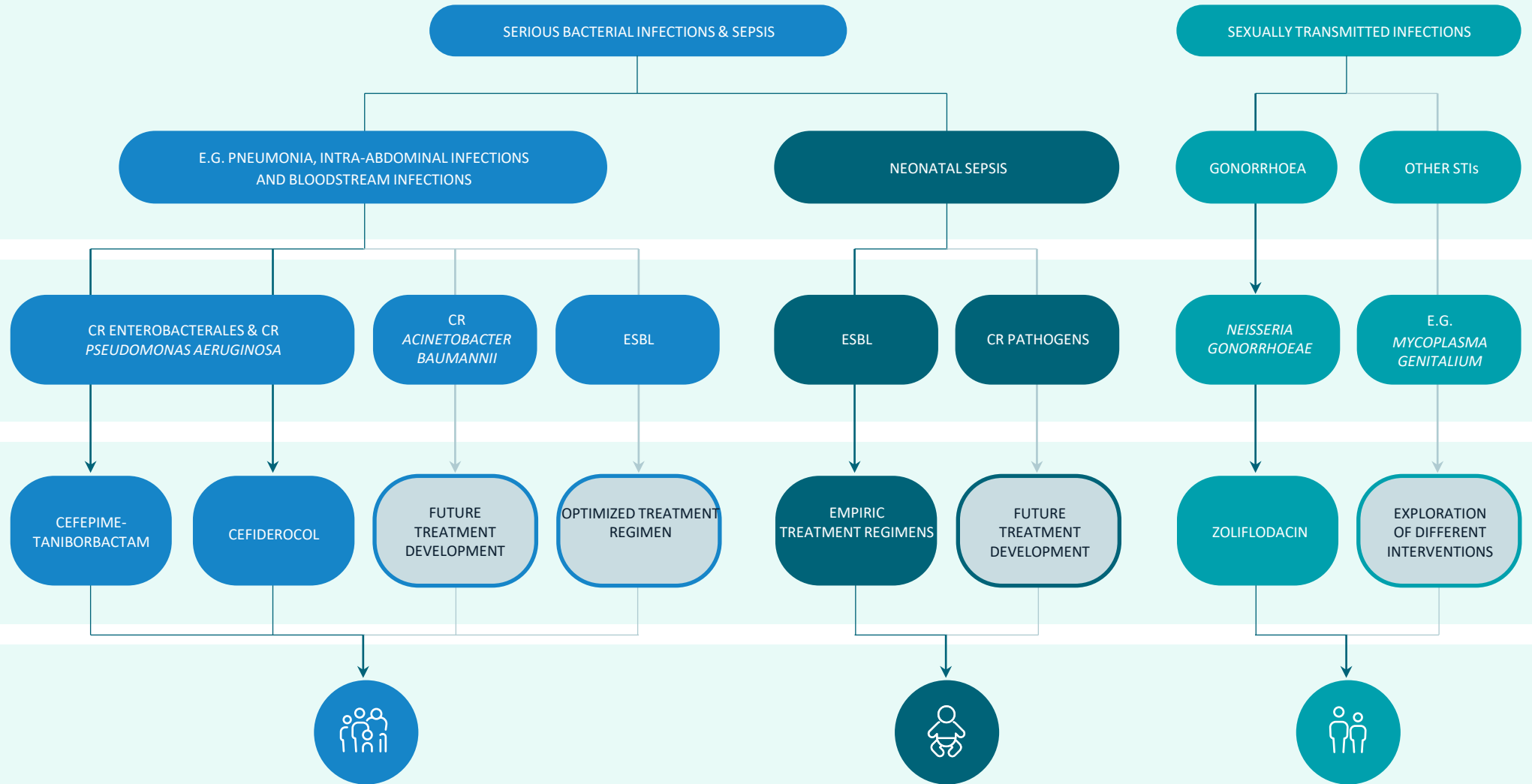
# Developing critical new treatments 2024-2028

PRIORITY DISEASES & INFECTIONS

WHO PRIORITY PATHOGENS

TREATMENT

KEY POPULATIONS



# Achieving success 2024-2028

## CURRENT PORTFOLIO

Continue developing up to  
**5 TREATMENTS**

Facilitate initial access for at least  
**3 TREATMENTS**

## EXPANDED PORTFOLIO

Begin developing at least  
**1 NEW TREATMENT**

Launch critical partnerships for  
**ECOSYSTEM OF ANTIBIOTIC R&D AND  
ACCESS**

SPONSORED BY THE



Canada



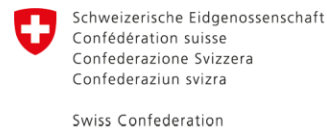
Ministry of Foreign Affairs



Ministry of Health, Welfare and Sport



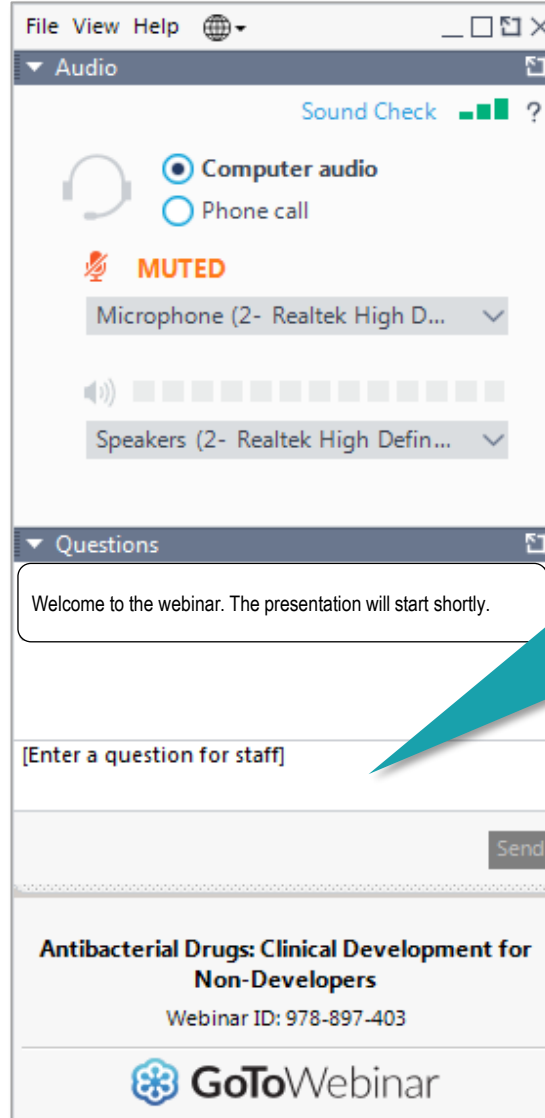
Co-funded by the European Union





# How to submit your questions

If your question is addressed to a specific speaker, please include their name when submitting the question.



The screenshot shows a GoToWebinar interface with two main sections: 'Audio' and 'Questions'. The 'Audio' section includes a 'Sound Check' indicator, radio buttons for 'Computer audio' (selected) and 'Phone call', a 'MUTED' status with a microphone icon, and dropdown menus for 'Microphone (2- Realtek High D...)' and 'Speakers (2- Realtek High Defin...)' with a volume slider. The 'Questions' section contains a text box with the message 'Welcome to the webinar. The presentation will start shortly.', a text input field with the placeholder '[Enter a question for staff]', and a 'Send' button. At the bottom, the webinar title 'Antibacterial Drugs: Clinical Development for Non-Developers' and ID 'Webinar ID: 978-897-403' are displayed, along with the GoToWebinar logo.

The presentation will be followed by an interactive Q&A session.

Please submit your questions via the 'questions' window. We will review all questions and respond to as many as possible after the presentation.

# Today's speakers

## What do the various non-commercial actors in the antibiotic R&D ecosystem do?



**Laura Marin**  
Head  
*Joint Programming Initiative on Antimicrobial Resistance – JPIAMR (Sweden)*



**Peter Beyer**  
Deputy Executive Director  
*Global Antibiotic Research & Development Partnership – GARDP (Switzerland)*



**Erin Duffy**  
Chief of Research & Development  
*Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator – CARB-X (USA)*



**Moderator:**  
**Herman Goossens**  
Emeritus Professor of Medical Microbiology  
*University of Antwerp (Belgium)*  
&  
Chair of the Scientific Advisory Committee  
*GARDP (Switzerland)*

# Upcoming webinars – 14 February



**WEBINAR**

**SECURE: Improving access to antibiotics through new economic models**

**REGISTER NOW**

Wednesday 14 February 2024  
14:00 - 15:00 CET



[revive.gardp.org/webinars](https://revive.gardp.org/webinars)

# Upcoming webinars – 27 February

## AMR DISCUSSIONS

 GARDP

### What does the future look like if pull incentives to support antibiotic R&D are insufficient?

#### MODERATOR:



**LAURA JUNG**

Medical doctor & AMR researcher,  
Leipzig University Medical Center,  
Division of Infectious Diseases and Tropical  
Medicine, Leipzig, Germany

#### SPEAKERS:



**AARON KESSELHEIM**

Professor of Medicine  
Brigham and Women's Hospital and  
Harvard Medical School, Boston, USA



**RADHA RANGARAJAN**

Director,  
CSIR-Central Drug Research Institute,  
Lucknow, India



**HENRY SKINNER**

CEO,  
AMR Action Fund,  
Boston, USA

27 February 2024, 14:30-15:30 CET / 08:30-09:30 am EST / 07:00-08:00 pm IST

  
Register  
now!

[revive.gardp.org/webinars](https://revive.gardp.org/webinars)

# Don't forget to register!



## Antimicrobial Chemotherapy Conference

6-7 February, 2024 | Online Conference

This free, virtual conference is jointly organised by GARDP and BSAC. For ACC2024, the collaborating organisations are Ecraid and NADP.



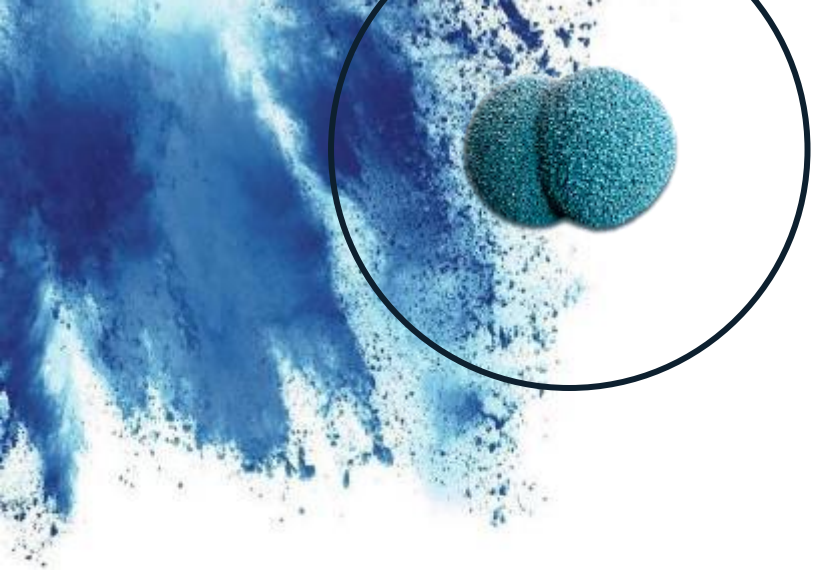
Programme and registration here:  
[www.acc-conference.com](http://www.acc-conference.com)

[www.acc-conference.com](http://www.acc-conference.com)

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**Thank you for joining us**

