

GLOBAL  
AMR R&D  
HUB



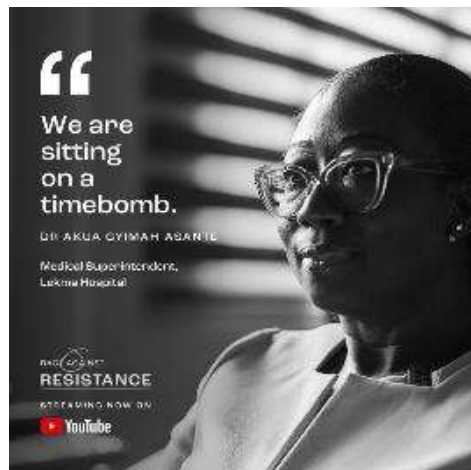
# Challenges and Opportunities Across the Antibiotic R&D and Access Chain

Dr. Lesley Ogilvie  
Director, Secretariat  
Global AMR R&D Hub

World Health Summit, 16<sup>th</sup> October, 2023

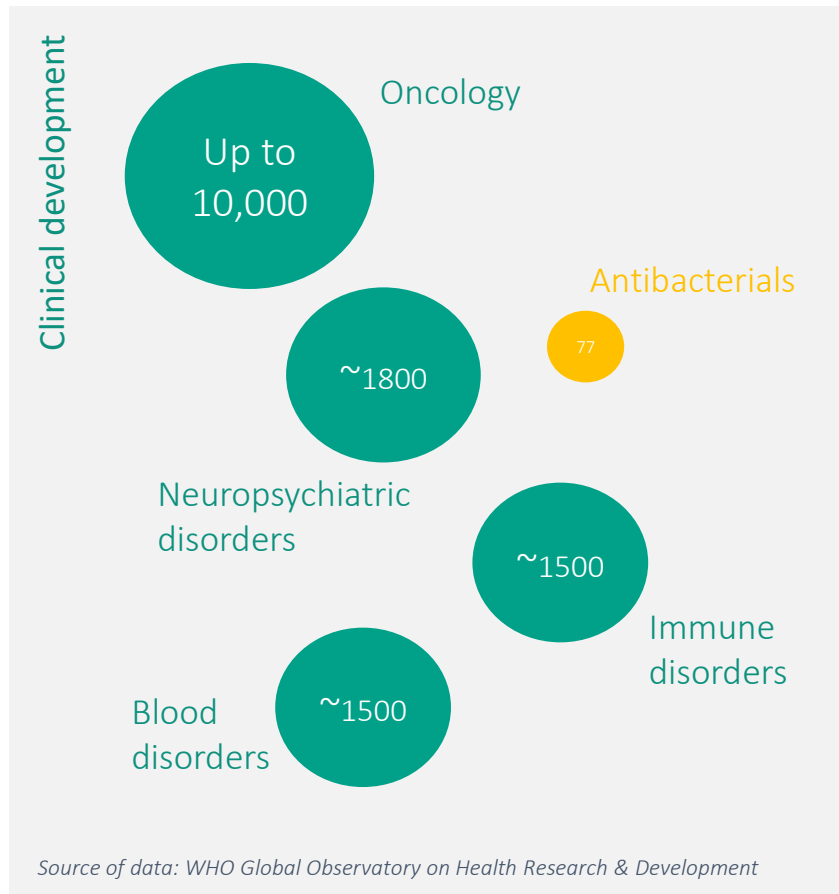
Development of a Sustainable Market for New, Resistance-  
Breaking Antibiotics

# MODERN MEDICINE COUNTS ON ANTIBIOTICS



Source: BBC Storyworks 'Race Against Resistance' – available on YouTube (September 2023)

# BUT WE ARE LOSING THE 'RACE AGAINST RESISTANCE' .....



*“Current pipeline is insufficient to address the challenge of AMR...”*  
-WHO

Source: 2021 Antibacterial agents in clinical and preclinical development: an overview and analysis. Geneva: World Health Organization; 2022 <https://www.who.int/publications/i/item/9789240047655>

# IT'S DIFFICULT TO DEVELOP ANTIBIOTICS



## R&D is expensive & time consuming

Scientifically challenging to find new & sustainable ways to tackle the most dangerous pathogens (often Gram-negative bacteria). Diverse pathogens involved.

Low success rates & up to 15 years from basic research to product & ~1.3 billion USD.



## Limited potential sales volume

Newly approved antibiotics are kept in RESERVE to reduce likelihood of resistance developing - only used for the most resistant infections limiting potential sales.



## Low return on investment

ROI on new 'reserve' antibiotics fails to cover the costs of their development, manufacturing and distribution.



### Public Health Failure

Life saving drugs don't reach patients



### Market Failure

**15 out of 18** global pharmaceutical companies exited the field

Companies behind seven of the 18 antibiotics approved in last 10 years - have gone bankrupt

# 'PUSH' FUNDING HELPS.....

dashboard.globalamrhub.org

GLOBAL  
AMR R&D  
HUB

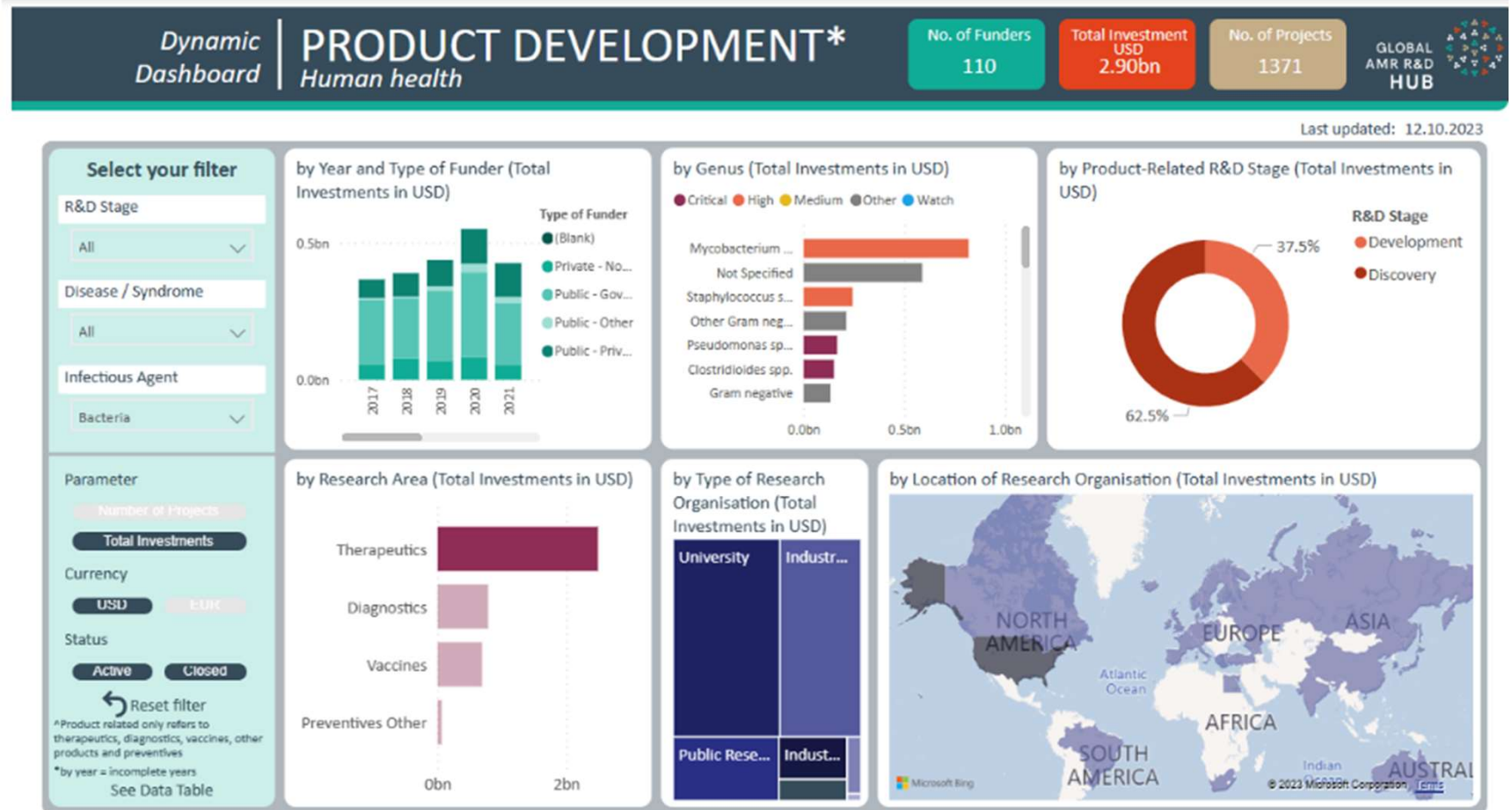


Dynamic  
Dashboard

Public &  
Philanthropic  
investments in  
AMR R&D since  
2017

Investment  
Gallery

PUSH funding =  
government or  
regulatory  
interventions which  
support R&D by  
directly lowering the  
costs of development

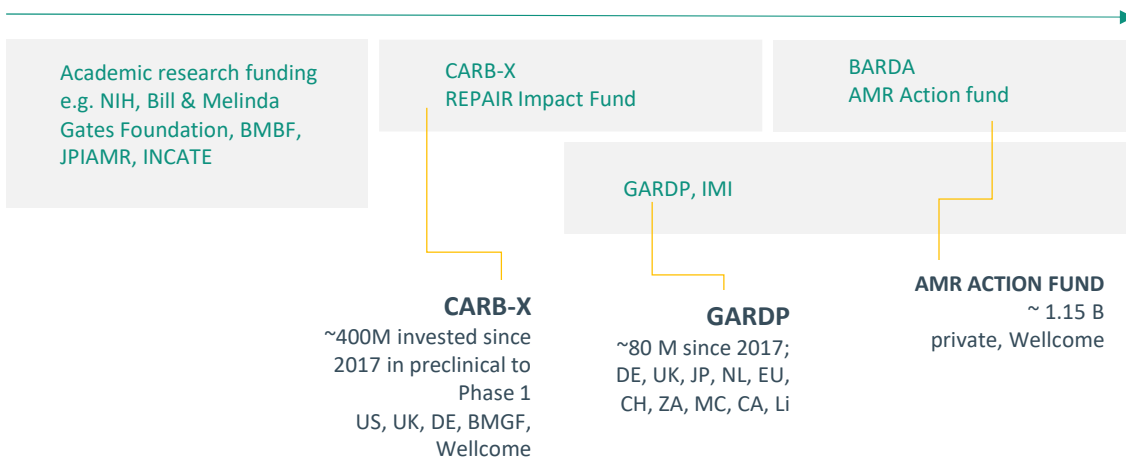
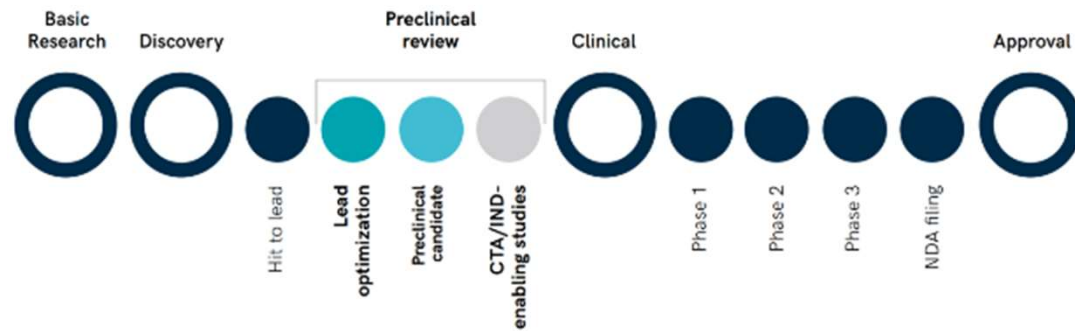


dashboard.globalamrhub.org

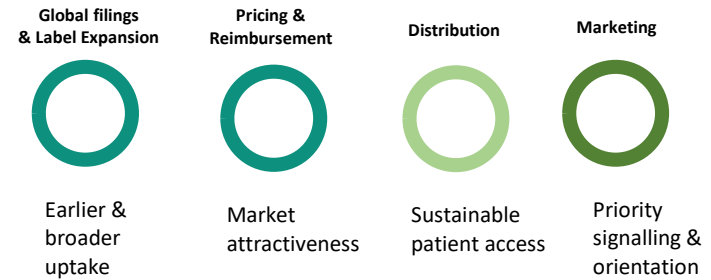
Suggested reference: Global AMR R&D Hub, 2020. Dynamic Dashboard: AMR R&D Investments Gallery. Last update date: 12.10.2023.

# 'PUSH' FUNDING HELPS...major international & national programmes & global partnerships established to encourage antibiotic R&D

Image adapted from WHO, 2021 Antibacterial agents in clinical and preclinical development: an overview and analysis



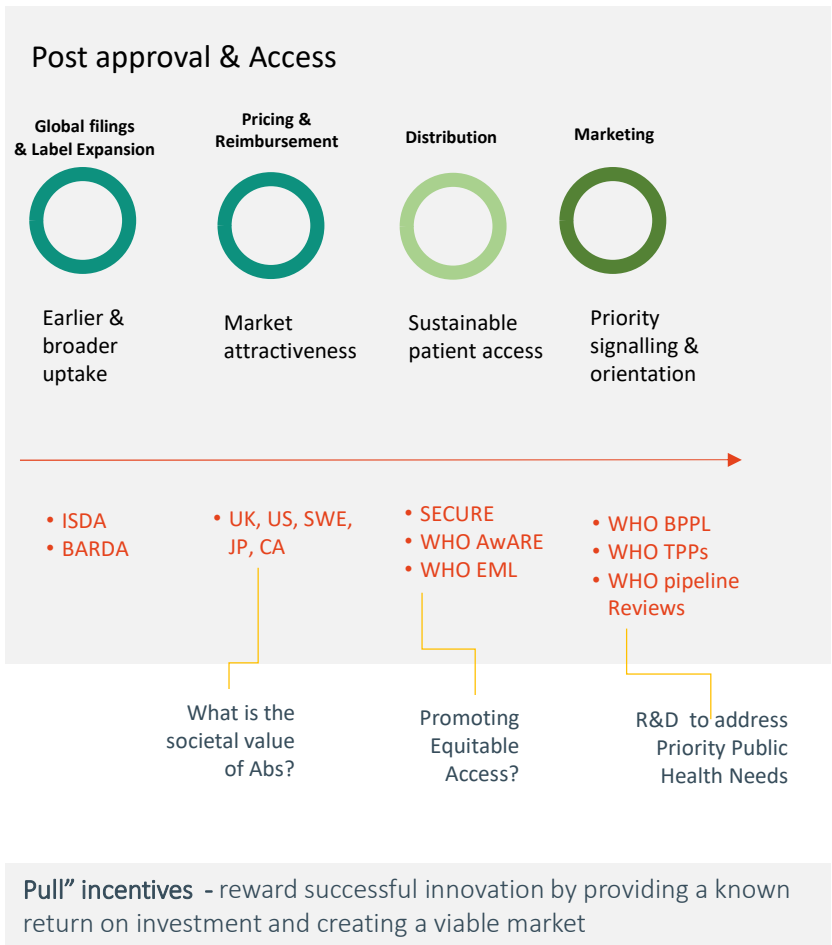
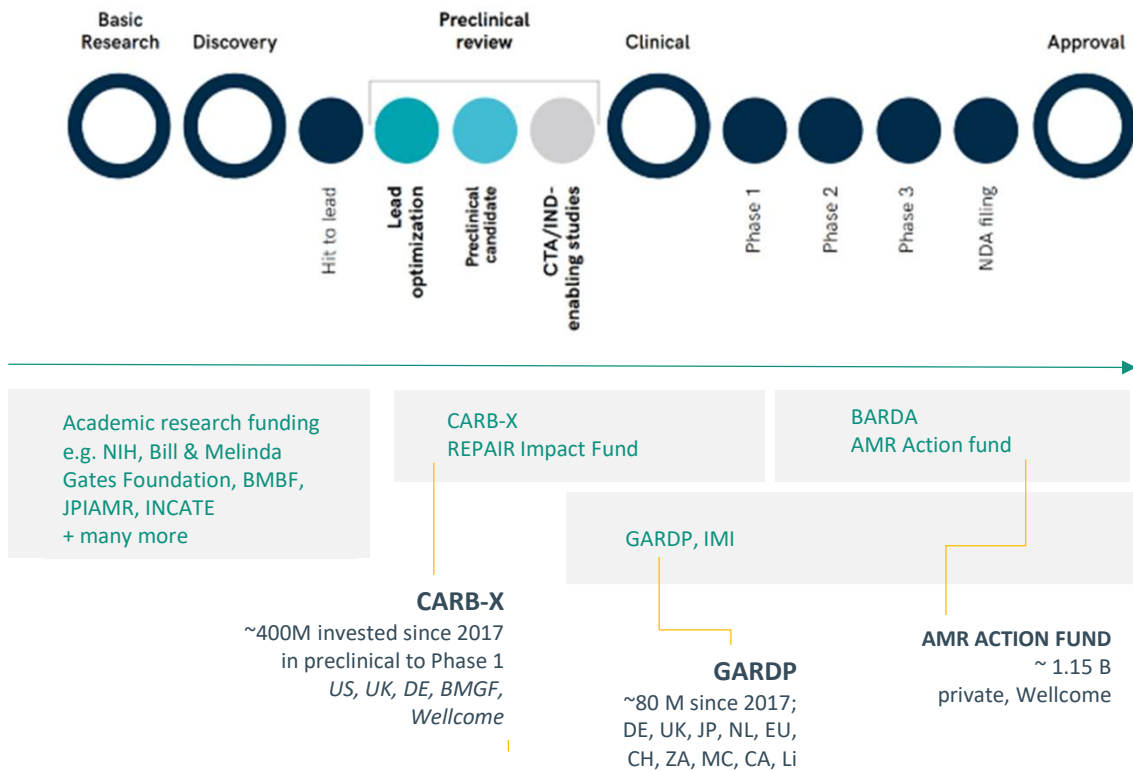
## Post approval & Access



*....in isolation and at the current scale, push funding is insufficient to meet R&D objectives and bring sufficient products to market.*

# BUT.....WE NEED POLICIES & INCENTIVES THAT REWARD R&D, BRING PRODUCTS TO MARKET & ENSURE EQUITABLE ACCESS

Image adapted from WHO, 2021 Antibacterial agents in clinical and preclinical development: an overview and analysis



See also the Dynamic Dashboard: Incentives Gallery & Funder Distributor Report  
[dashboard.globalamrhub.org](https://dashboard.globalamrhub.org)

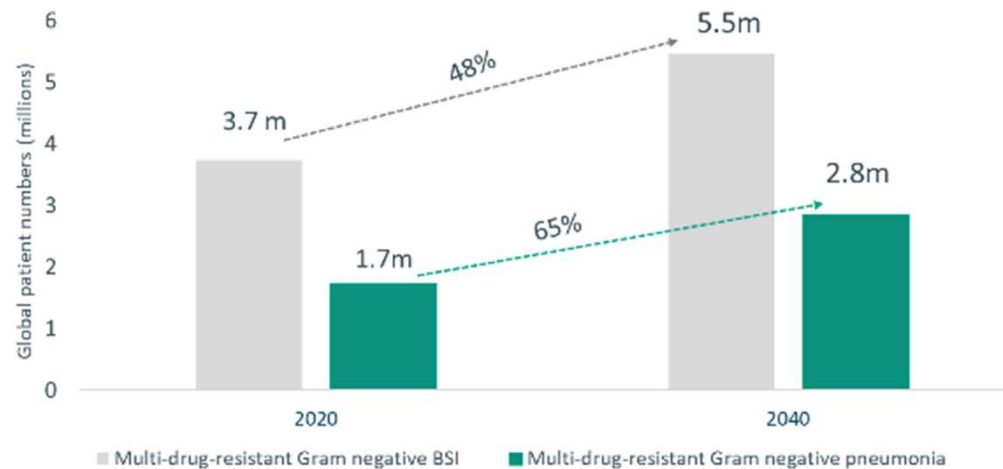
# WE WON'T BE ABLE TO ADDRESS THE MOST CRITICAL PRIORITY NEEDS IN AMR



Hub Expert Advisory Group Prioritized Antibiotics:

2x small molecule antibiotics with activity against MDR bacteria for treatment of:

- **BSI**
- **Pneumonia**



- By 2040, 8.3 million people in 80% of the world will face **multi-drug resistant blood stream infections or pneumonia** & a high need for new treatment options.
- **Burden of infections will increasingly fall on lower/middle and low income countries**



Estimating Global Patient Needs and Market Potential for Priority Health Technologies Addressing Antimicrobial Resistance

Available@  
[www.globalamrhub.org](http://www.globalamrhub.org)



# THE CURRENT MARKET & ACCESS MODELS DIMINISH ABILITY TO MEET NEED

Meeting priority needs results in weak financial rewards

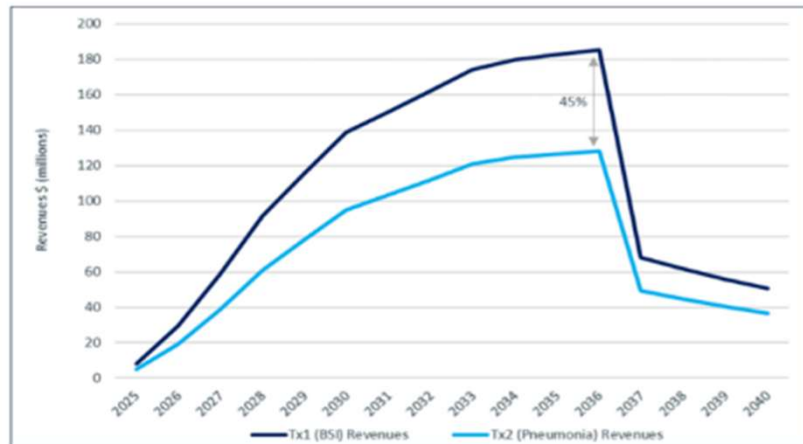
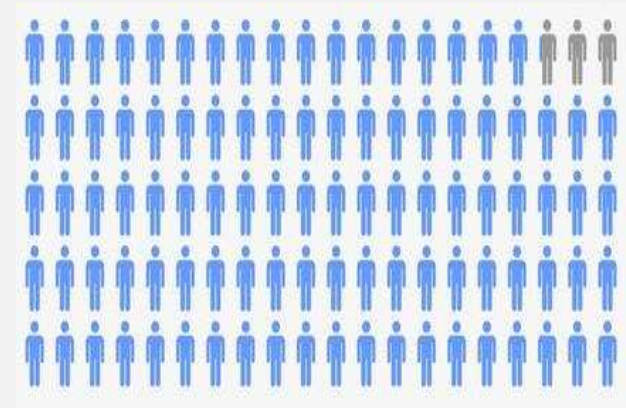


Figure A. Projected global revenues 2020-2040 for Tx1 & Tx2.

New antibiotics are not accessible in the parts of the world & at the scale where the need is dominant & growing most rapidly



In LMICS-LICS, 97–99% of relevant MDR patients are forecast NOT to receive the modelled new antibiotics in 2040

# RECOMMENDATIONS



## Encourage Alignment and Targeted Action on Financing Mechanisms, including Push and Pull Incentives

- Strengthen the AMR R&D ecosystem across the development pipeline through sustainable and predictable financing and resources to address the antibiotic R&D and access crisis, including commitment to further financing of public-private partnerships
- Build on country-level experience gained through implementation and evaluation of pull incentive pilot approaches and explore the possibility of formulating international collaborative mechanisms on pull incentives for antibacterial R&D, as appropriate.
- Ensure pull mechanisms are designed to stimulate R&D and reward innovation, and provide appropriate global and equitable access, including for low- and middle-income countries that experience the highest burden of resistance.

## Encourage the establishment of feasible targets for AMR research and development that are informed by public health needs

## Prioritize Equity and Global Access to Priority Antibacterials

# THANK YOU

lesley.ogilvie@dzif.de  
globalamrhub@dzif.de  
<https://globalamrhub.org>  
<https://dashboard.globalamrhub.org/>



@GlobalAMRHub

Funding:



Bundesministerium  
für Bildung  
und Forschung