GLOBAL AMR R&D HUB

Antimicrobial resistance research and development funding across One Health sectors

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Interim Secretariat Lead
Global AMR R&D Hub

6th Global Leaders Group on AMR Meeting, Feb 7-8th, 2023

Research & Development:
Crucial element in efforts to tackle AMR

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Research, Development & Innovation

….solutions to prevent, diagnose & treat infections & control the emergence and spread of AMR

- Surveillance
- Steward-ship
- **Research, Development & Innovation**
- Infection Prevention & Control
- Sustainable Financing
- Equitable access
- Supply chain security
- Advocacy

GLOBAL AMR R&D HUB

G20 GERMANY 2017
HAMBURG

A global partnership working to improve and enhance AMR R&D activities and policies across the One Health spectrum

Pillar 1:

Guide & support evidence based decision making

Pillar 2:

Enhance collaboration & coordination

Pillar 3:

Promote awareness, knowledge & visibility

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Established May 2018

17 Countries + EC + two Foundations

Australia, Canada, China, France, Germany, India, Italy, Japan, Netherlands, Norway, Spain, Switzerland, Sweden, Russia, Turkey, United Kingdom, United States, EC, Wellcome Trust, Bill & Melinda Gates Foundation

4 Observers

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

World Organisation for Animal Health
Founded as OIE

World Health Organization

OECD

Global AMR R&D Funding Landscape

Dynamic Dashboard - Public & Philanthropic investments across One Health sectors since 2017

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Investments in AMR R&D

- 224 funders
- 12,931 projects
- 10.19 billion USD
- 4 One Health sectors

Antibacterials in development

- 73 priority products^
- 17 products for TB
- 22 products for *C. diff*

* Information provided by WHO and the PEW Charitable Trusts
^ As prioritized by WHO and PEW

Incentives for antibacterial R&D

- 24 push incentives
- 7 pull incentives

What are we doing to fix the challenges hindering the development of, and access to, priority antibacterials for human health.

- What is the state of public & philanthropic funding for AMR R&D globally across One Health sectors?
- Is this funding being translated into the products that we need to mitigate AMR?
- Where are the gaps and opportunities?
- What are we doing to incentivise development of and access to priority antimicrobials?

Information presented in the three galleries of the Dynamic Dashboard as at January 18th 2023

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Global AMR R&D Funding Landscape

Dynamic Dashboard - Public & Philanthropic investments across One Health sectors since 2017

dashboard.globalamrhub.org/

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HOW MUCH?

10.19 billion USD

Total Amount – since 2017

12931 projects

~2 billion USD per year

WHO?

224 funders

45% 18% 14%

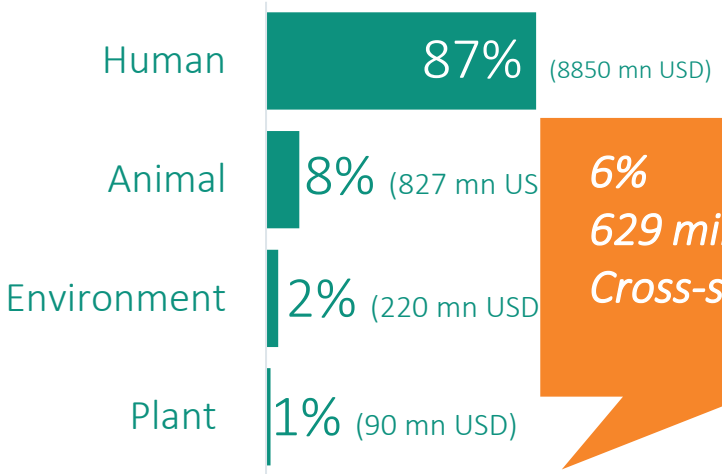
WHERE?

87% High income countries
8.87 billion USD

13% Low & middle income countries
1.35 billion USD

WHAT?

One Health sector

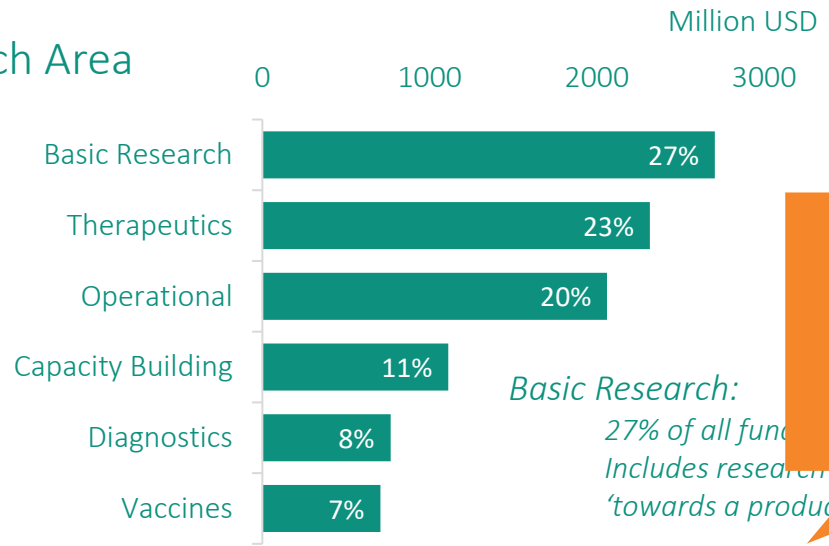


% of total funding volume

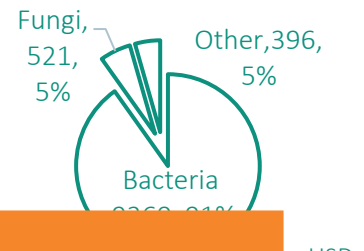
6%
629 million USD
Cross-sectoral research

WHAT?

Research Area



Basic Research:
27% of all fund
Includes researc
'towards a produc



Pathogens:
Bacteria – 90%
Fungi – 5%

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Animal Health AMR R&D
The funding landscape in LMICs

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IDRC · CRDI
International Development Research Centre
Centre de recherches pour le développement international

LOW AND MIDDLE INCOME COUNTRIES

KEY INSIGHTS:

1. Funding in animal health AMR R&D is highly concentrated

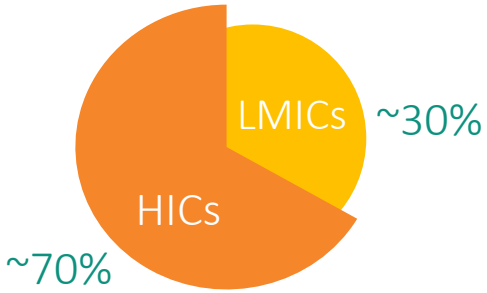
2. Relatively little funding goes directly to research institutions in LMICs — 4%

3. AMR R&D in aquaculture remains underfunded — 10%

% of total funding volume

GLOBAL

- 827 mn USD (8% of total)
- 1596 projects
- 120 funders



WHAT?

- Livestock 57% (471 mn USD)
- Poultry 32% (268 mn USD)
- Aquaculture 11% (93 mn USD)

Nov 2021

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Animal Health AMR R&D
Veterinary vaccines to reduce antibiotic use

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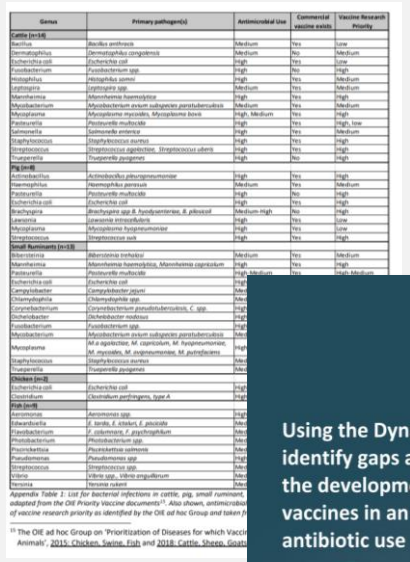
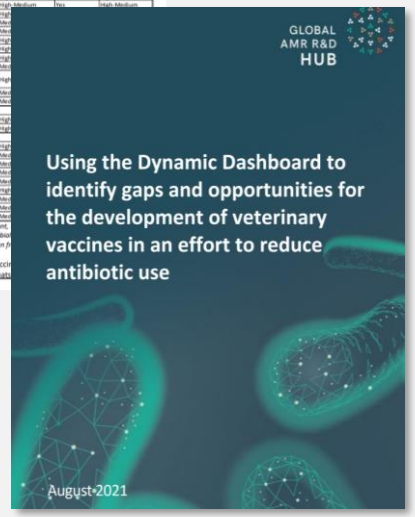
OIE (now WOAH) *ad hoc* Group on 'PRIORITISATION OF DISEASES FOR WHICH VACCINES COULD REDUCE ANTIMICROBIAL USE IN ANIMALS' -2015, 2018



World Organisation for Animal Health
Founded as OIE



Aug 2021

Mapped R&D funding for animal health vaccines in the Dynamic Dashboard against WOAH's 'Prioritization of diseases…' list – focus on bacterial diseases

KEY INSIGHTS:

1. ~50% of R&D funding for animal health vaccines targets prioritized bacterial infections in pig, poultry, cattle and fish
2. Not all bacterial pathogens covered within the individual animal groups
3. Cattle – funding for vaccine R&D is lacking for the majority of the bacterial pathogens

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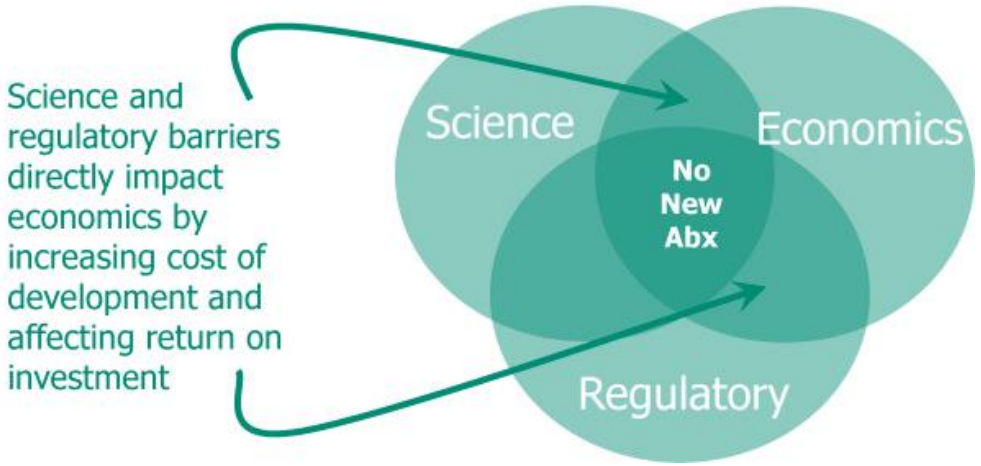
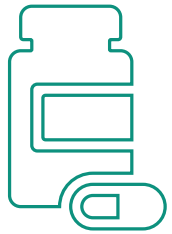
A sustainable and innovative ecosystem for developing priority antibacterials – progress to date?

May 2022

1. Science: low hanging fruit plucked
2. Economics: not a good investment
3. Regulatory: R&D too risky/expensive





Insufficient antibacterial PIPELINE to address public health needs

Abx = Antibiotics
Source: Spellberg B. doi: 10.1186/cc13948.

2021 antibacterial agents in clinical and preclinical development: an overview and analysis (who.int)

Bacterial vaccines in clinical and preclinical development 2021 (who.int)

Joint Progress Report to G7 Health and Finance Ministers 2022, Global AMR R&D Hub & WHO, May 2022
https://globalamrhub.org/news-events/news/incentivising-the-development-of-new-antibacterial-treatments-progress-report-by-the-global-amr-rd-hub-and-who/

‘Pull Incentives’ initiated by a number of countries

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Country /Sponsor	Model	Status	Stimulate R&D/ Innovation	Access Existing Abs	Access LMICs	Stewardship
UK	Subscription	**Active**	✓	✓	X	✓
SE	Subscription	**Active**	X	✓	X	-
USA	PASTEUR ACT	Not active	✓	X	Partial	✓
DE	Change in reimbursement for RESERVE Abs	**Active**	✓	✓	X	✓
FR	Price renegotiation for meds @ risk of shortages	**Active**	X	✓	X	X
WHO /SECURE	SECURE	Not active	X	✓	✓	✓
NA	Transfer Exclusivity Vouchers (TEEs)	Not active	✓	✓	X	✓
Japan	Revenue Guarantee	Not active	-	-	-	-

Joint Progress Report to G7 Health and Finance Ministers 2022, Global AMR R&D Hub & WHO, May 2022
https://globalamrhub.org/news-events/news/incentivising-the-development-of-new-antibacterial-treatments-progress-report-by-the-global-amr-rd-hub-and-who/

Five Joint Recommendations to the GLG on R&D and Access

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1. WHO should formalize a numerical target of “highly-impactful” antibacterial treatments (including innovative products as well as paediatric formulations and combinations of new and existing and antibiotics) for the next decade so that governments and philanthropic organizations, with the support of the Global AMR R&D Hub, can compare needed and expected investments to guide their long-term funding

2. Governments should close the funding gap for early-stage product development in order to replenish the clinical pipeline with much-needed innovative and “highly-impactful” projects

3. Governments should close the funding gap for clinical development, registration, manufacturing, post-approval trials and sustainable access in high-burden LMICs

4. Governments should implement pull incentives that bring private investors back into antibacterial R&D while ensuring equitable and sustainable access globally

5. Provided there are adequate funding and financing mechanisms in place, pharmaceutical companies should align their R&D programs to address unmet needs defined under the WHO Priority Pathogen List, and assure equitable and sustainable access to new and existing antibiotics

DRAFT

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THANK YOU

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https://globalamrhub.org
https://dashboard.globalamrhub.org/

Funding:

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Bundesministerium für Gesundheit