Professor Dame Sally Davies GCB DBE FRS FMedSci
UK's Special Envoy on Antimicrobial Resistance

Antimicrobial resistance (AMR) is a significant development challenge. It refers to the ability of infective bacteria/microbes to grow even in the presence of medicines designed to kill them (i.e. antibiotics). It has a substantial health and economic impact on developing countries and poses a threat to global health security. The impact on poverty reduction, food security, health, and well-being, and inequality reduction will be disproportionately felt by low and middle-income countries. Unaddressed, AMR is expected to cause 10 million deaths per year by 2050 (Wellcome Trust, 2016; Wellcome Trust, 2020). In 2017, the World Bank (WB) estimated that left unaddressed, by 2050, the impact of AMR could account for as much as 3.8 percent of annual gross domestic product (GDP) (World Bank, 2017), with much of the burden of this impact falling on low- and middle-income countries (LMICs).

In September 2024 the UN is due to host a High-Level Meeting on AMR in order to address this important issue. The meeting will focus on the theme of *"Investing in the present and securing our future together: Accelerating multi-sectoral global, regional and national actions to address Anti-microbial Resistance".* In anticipation of this meeting, Dame Sally Davies will be visiting the World Bank in March and we hope that you might be able to join us for a short session to listen to her assessment of the challenges on AMR and what is needed to address this urgent issue, including how the World Bank is engaging and what this should mean for us on the Board.

Dame Sally comes with a long history of engagement and expertise on AMR including as a former Chief Medical Officer to the UK Government. She advocates globally on AMR and is a leading figure in global health, having served as a member of the World Health Organisation (WHO) Executive Board 2014-2016, and as co-convener of the United Nations Inter-Agency Co-ordination Group (IACG) on AMR, which reported to the United Nations Secretary General in 2019.

Additional information from **her bio can be found here.**

Please see below the pdf presentation to the World Bank Board:

The Antibiotic Emergency

By

Professor Dame Sally Davies, UK Special Envoy on Antimicrobial Resistance

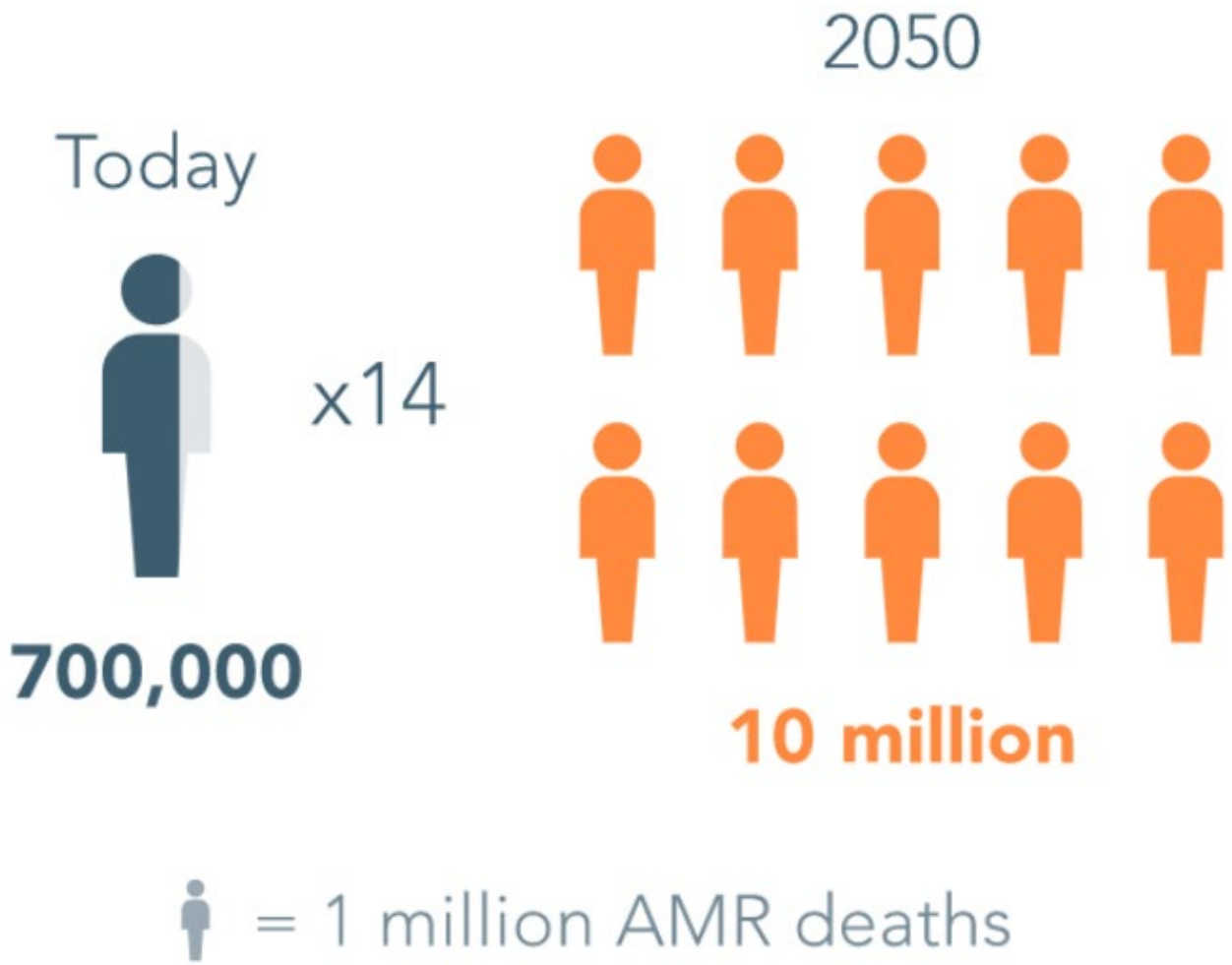
Department of Health & Social Care

The Antibiotic Emergency

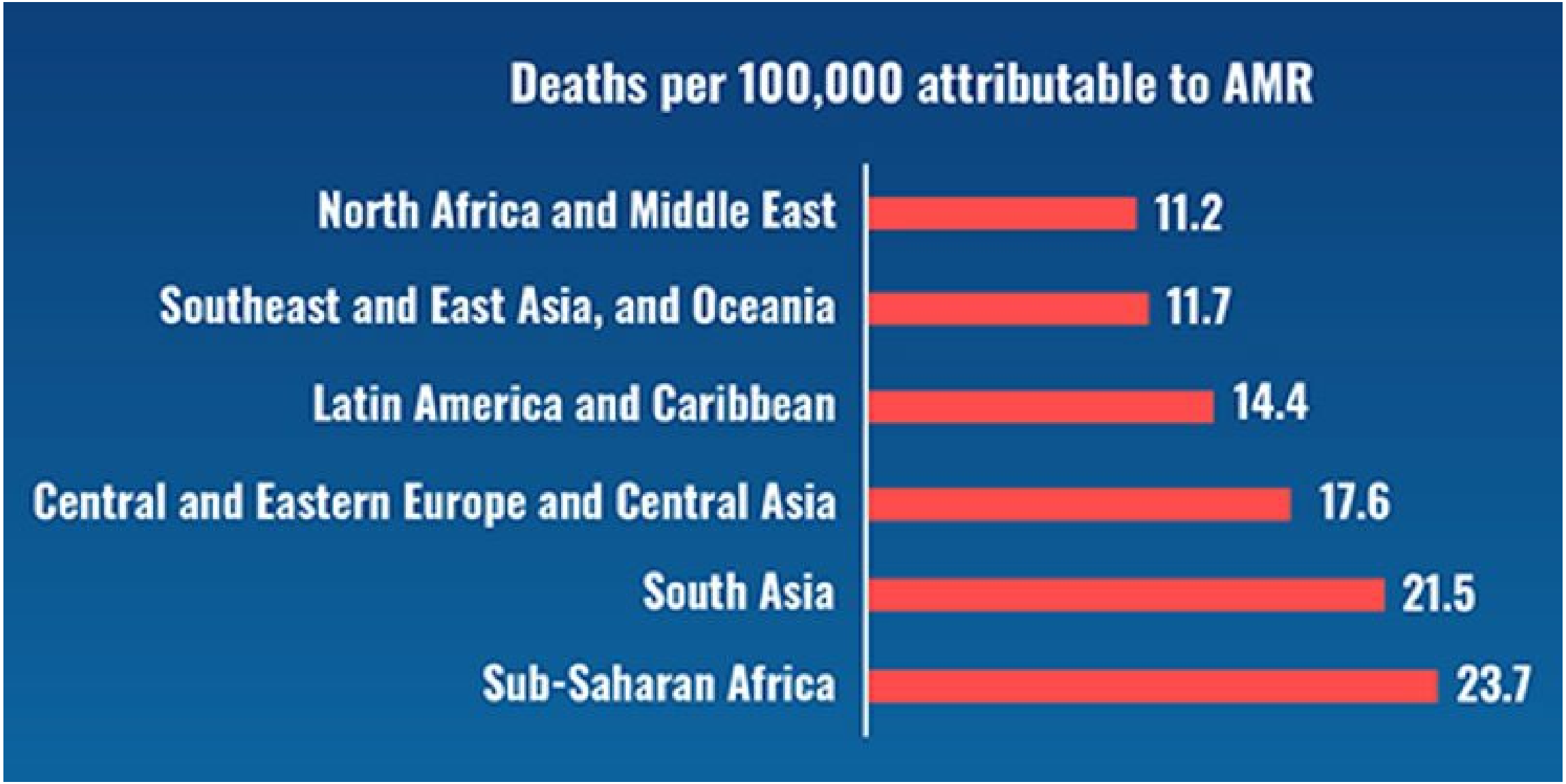
Professor Dame Sally Davies, UK Special Envoy on Antimicrobial Resistance

14 March 2024

Projected AMR deaths by 2050

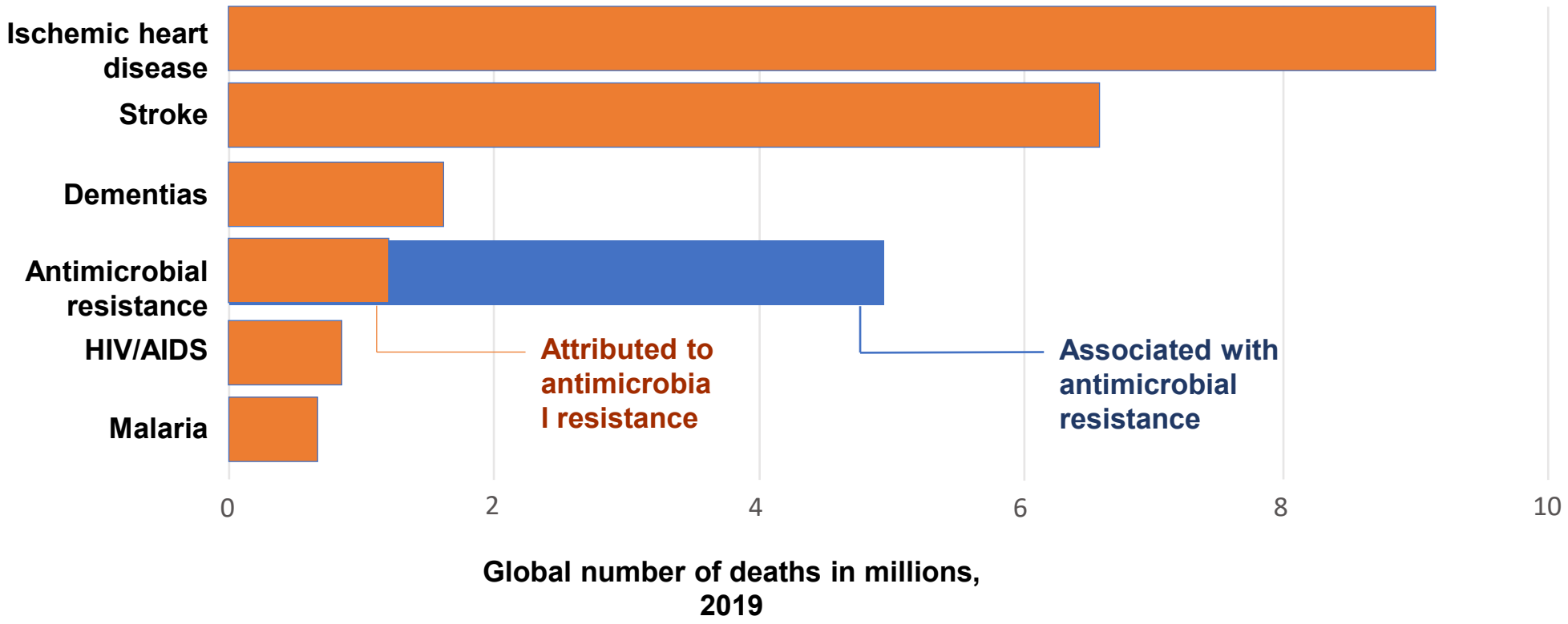


Deaths could increase rapidly if no action is taken. Image: AMR Action Fund


Deaths per 100,000 attributable to AMR
North Africa and Middle East
11.2
Southeast and East Asia, and Oceania
11.7
Latin America and Caribbean
14.4
Central and Eastern Europe and Central Asia
17.6
South Asia
21.5
Sub-Saharan Africa
23.7

GRAM

Global Research on Antimicrobial Resistance

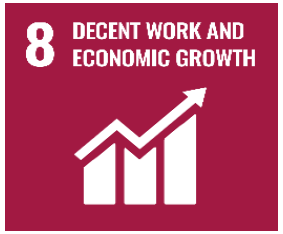


Global number of deaths in millions, 2019

Source: Institute of Health Metrics and Evaluation (2021)
The burden of antimicrobial resistance in G7 countries and globally www.healthdata.org/infographic/burden-antimicrobial-resistance-g7-countries-and-globally

AMR as a threat to the Sustainable Development Goals

- AMR strikes hardest on the poor; treatment of resistant infections more expensive, affecting health systems



- Cost of AMR is predicted to be US$100 trillion by 2050, driving an extra 28m people into poverty

- Untreatable infections in animals threatens sustainable food production for growing populations

- It is crucial to balance access & conservation of antimicrobials with innovation, to contain AMR

- Antimicrobials are fundamental components of all health systems

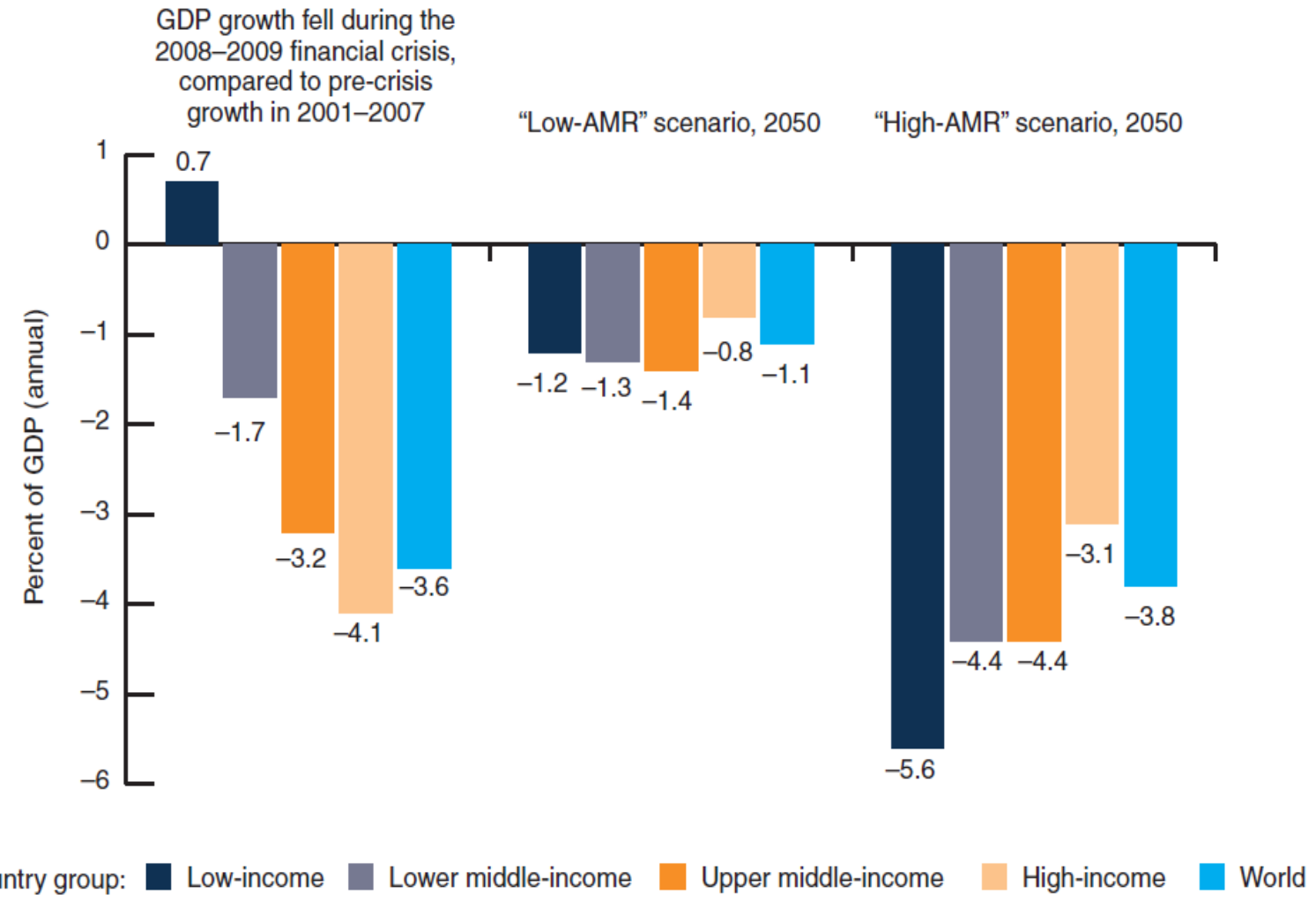
- Inappropriate antimicrobial use in aquaculture could lead to an inability to treat disease in fish and shellfish

- Antibiotic residues from multiple sources contaminate water; Clean water & effective sanitation reduce infections

- Inappropriate antimicrobial use in agriculture could lead to an inability to treat disease in animals & contaminate the environment

A threat to the global economy and productivity

AMR could reduce GDP substantially—but unlike in the recent financial crisis, the damage could last longer and affect low-income countries the most
(annual costs as % of GDP)



World Bank Group (2017) *Drug-Resistant Infections: a Threat to Our Economic Future*. World Bank: Washington D.C.

Green Finance Institute

UK nature-related risk analysis

AMR as third highest estimated impact on UK economy and financial system up to 2050

Mainly Domestic

1. Air pollution from wildfires
2. Algal blooms in water ecosystems
4. Biodiversity access and mental health
6. Direct damage from wildfire
7. Freshwater pollution
10. Flooding due to deforestation and soil damage
15. Risks to tourism from nature damage
25. Housing asset risks due to policy and legal changes

Mainly International

5. Deforestation and ecosystem tipping points
9. Global food security repercussions
12. Multiple breadbasket failure
14. Ocean acidification
22. Global food supply chain interruptions and civil unrest

Domestic and International

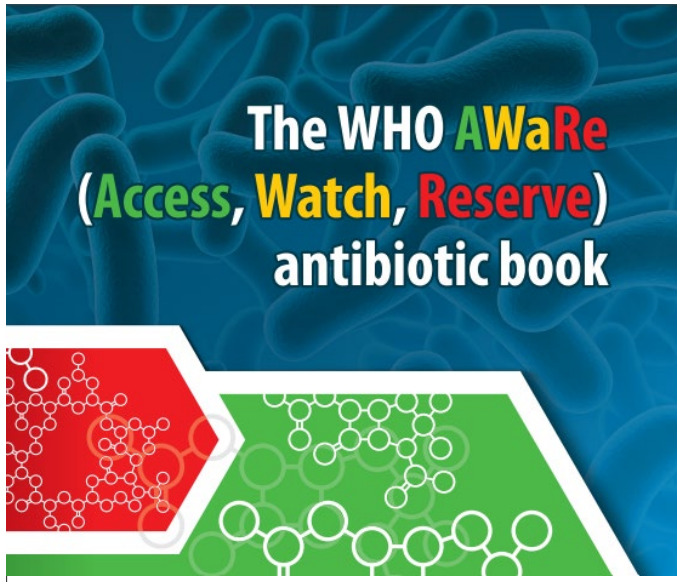
3. Anti-microbial resistance
8. [illegible] outbreak
11. Loss of pollination service
13. North Sea fishery collapse
16. Aquaculture major pest or pathogen outbreak
17. Sitka spruce pest outbreak
18. Soil health decline
19. Zoonotic disease (humans)
20. Livestock disease
21. Acceleration of strict net zero and nature protection policies
23. Business impacts due to UK-only biodiversity policies
24. Reputational risk and depository redistribution
26. Corporate litigation cases
27. Government litigation cases

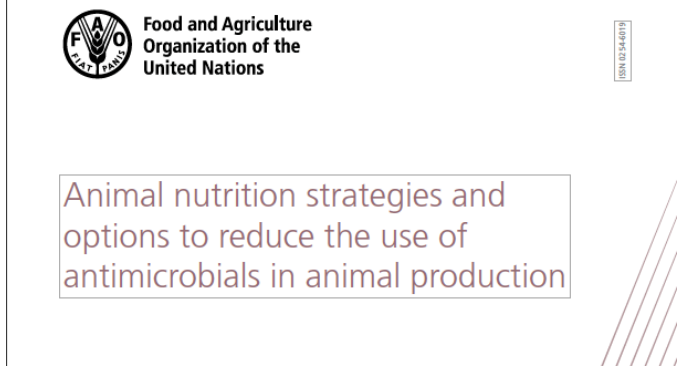
Green Finance Institute (2024) *UK Nature-Related Risk Analysis Update*. Green Finance Institute:

AMR High-Level Meeting – ideal outcomes

Global access to essential antibiotics

Current multilateral guidelines inform targets





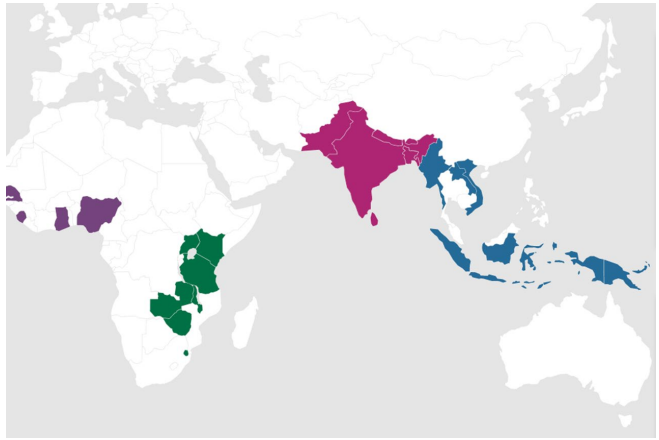
Science panel to inform future targets

New UN accountability framework

UK Contribution to HLM

The Fleming Fund

Fleming Fund Phase II - £210m to build surveillance capacity across 24 countries in Africa and Asia



THE WORLD BANK

Economic Study on impact of AMR across food production and human productivity

RAND EUROPE

CGD

Access partnership for African states

World Organisation for Animal Health
Founded as OIE