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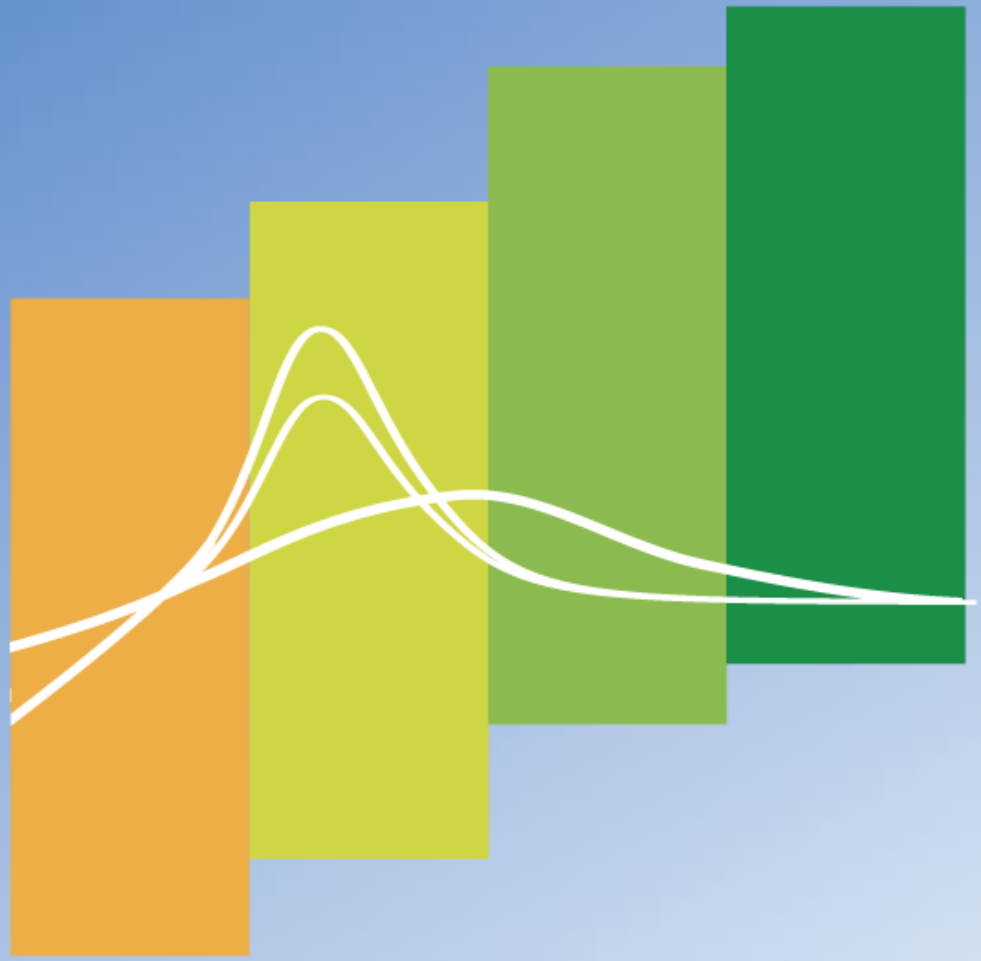
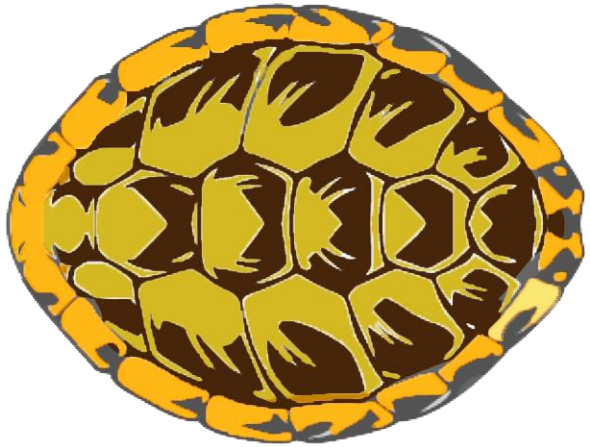


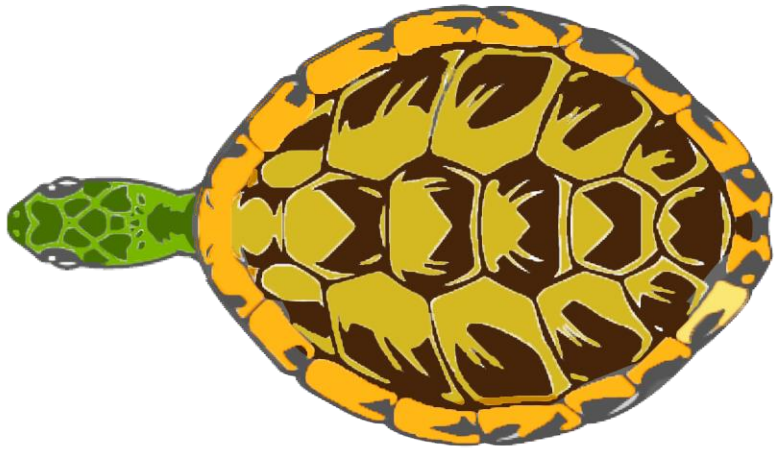
AMR Policy & Advocacy: Some Reflections

Satyajit Sarkar
International Vaccine Institute
15 JULY 2021

PUBLIC HEALTH SURVEILLANCE GROUP
BRIGHAM AND WOMEN'S HOSPITAL
BIG DATA INSTITUTE UNIVERSITY OF OXFORD
The Fleming Fund Regional Grants
UKaid from the British people

Battle Mantra of the Warrior Turtle





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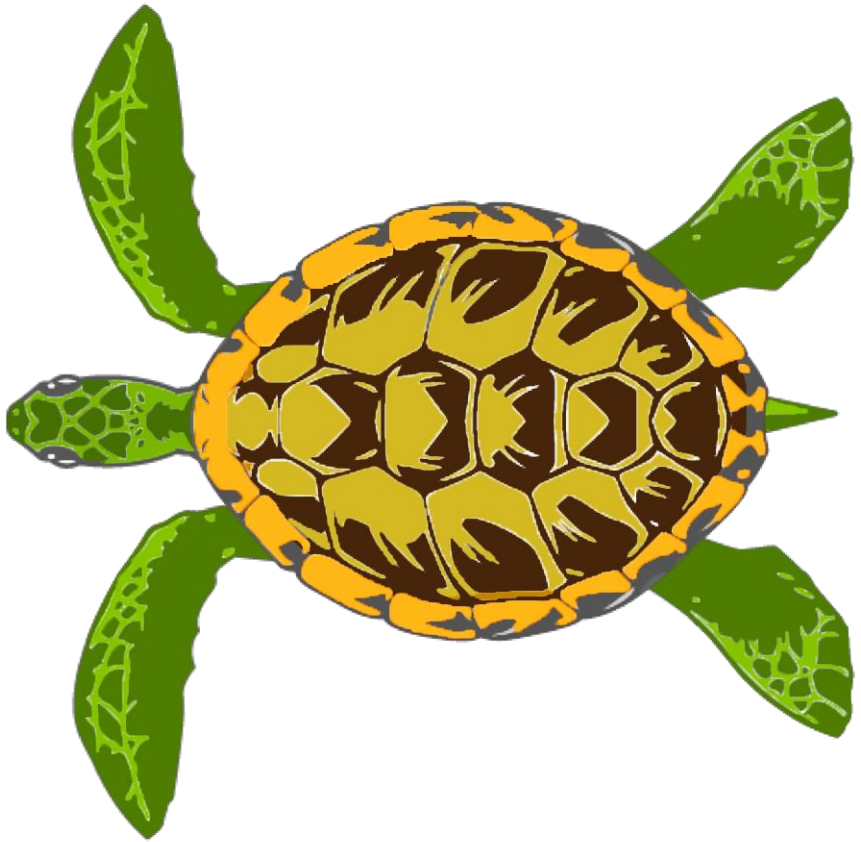

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AMR Policymaking: Points of Intersection and Departure

The Known, the Unknown, and the possibly Unknowable

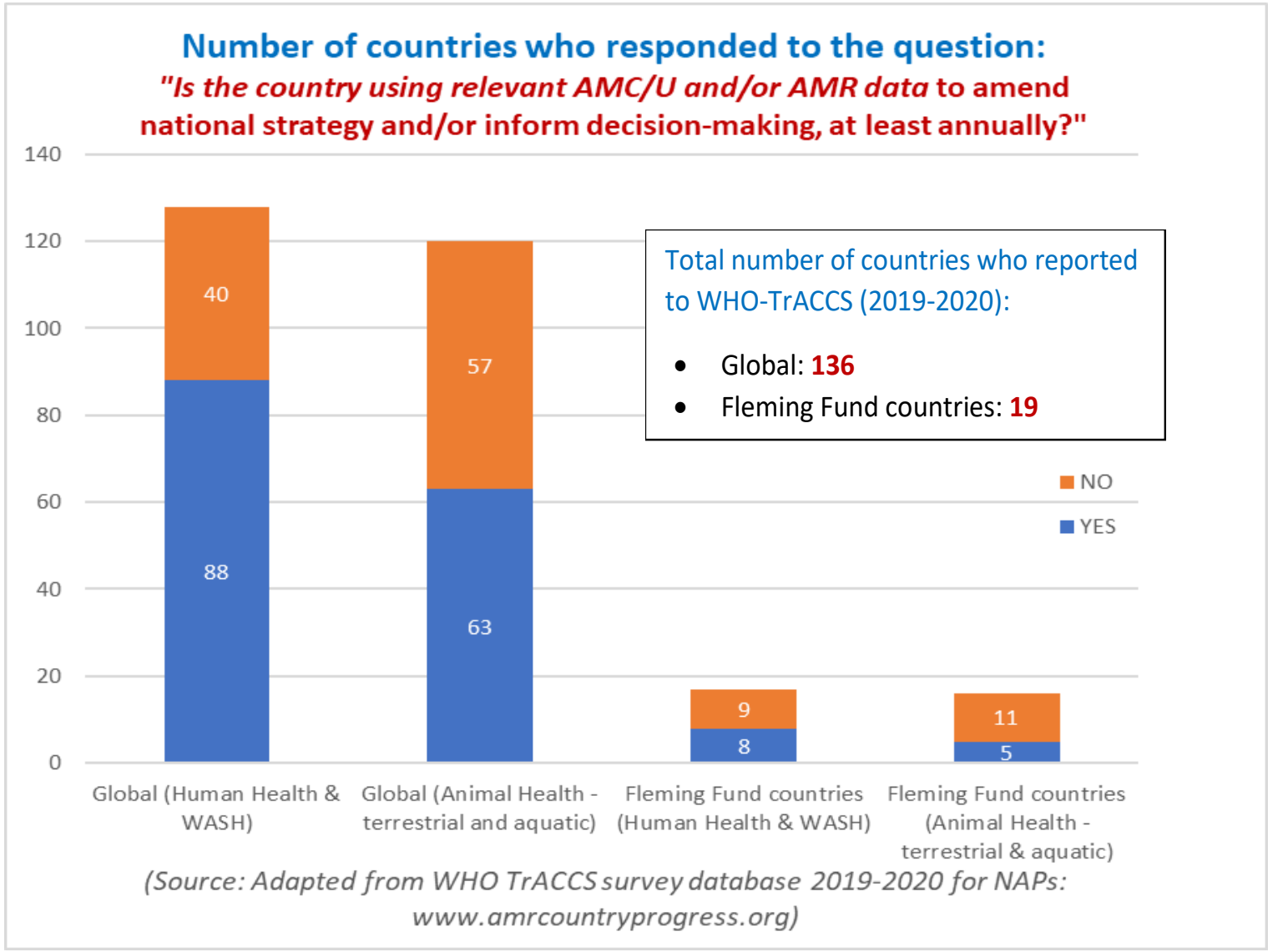
- Sources and pathways of transmission, and their relative contribution to AMR, are yet to be quantified -- needs reliable, timely, and quality data
- Burden of morbidity and mortality attributable to resistant infections is yet to be accurately estimated and will vary by setting and country contexts.

'Access versus Excess': Dilemmas Confronting LMICs

- Rising incomes and mobility
- High burden of infectious diseases
- Limited or delayed access to antibiotics
- Growth in consumer demand for livestock products
- Substandard and falsified drugs

… are together driving the emergence and spread of AMR.

Use of Data for Policymaking



Characterizing the AMR policy and planning 'problem'

CHARACTERISTICS OF 'WICKED PROBLEMS'

1. Difficult to clearly define the problem.
2. Have many interdependencies and are often multi-causal.
3. Attempts to address them often lead to unforeseen consequences
4. They are often not stable.
5. Usually do not have a clear solution.
6. They are socially complex.
7. Do not sit within the responsibility of any one organization.
8. Involves changing behavior.
9. Often characterized by chronic policy failure.

'Super-wicked Problems'

1. Time is running out
2. There is no central authority, or only a weak central authority, to manage the problem
3. The same actors causing the problem are attempting to solve it
4. The future is discounted radically so that contemporary solutions become less valuable

"Usually, wicked problems require more than a whole-of-government approach: solutions require involving many social stakeholders, particularly citizens."

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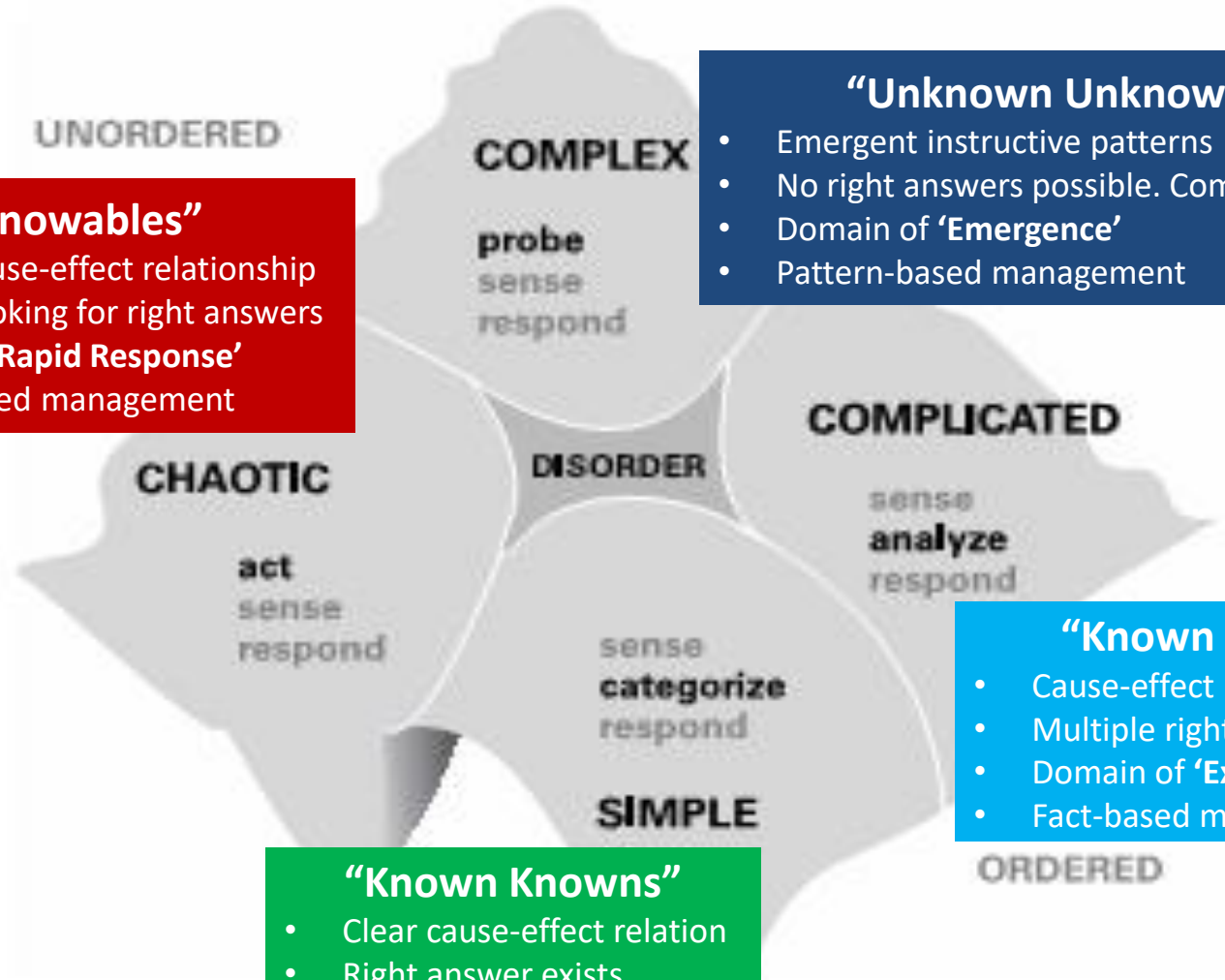
Unpacking the AMR problem: The Cynevin Framework for Leaders & Decision-Making



"Unknowables"
- No clear cause-effect relationship
- No point looking for right answers
- Domain of **'Rapid Response'**
- Pattern-based management

"Unknown Unknowns"
- Emergent instructive patterns
- No right answers possible. Competing ideas
- Domain of **'Emergence'**
- Pattern-based management

"Known Unknowns"
- Cause-effect relation discoverable
- Multiple right answers possible
- Domain of **'Experts'**
- Fact-based management

"Known Knowns"
- Clear cause-effect relation
- Right answer exists
- Domain of **'Best Practice'**
- Fact-based management

Source : Snowden, D.J. and Boone, M.E. in *A Leader's Framework for Decision Making.* Harvard Business Review, Nov 2007.

Asks of AMR 'Strategic' or 'Technical' Policymakers

1. **"Where are we today?"**
2. **"Where do we need to go?"**
3. **"How do we get there?"**
4. **"What works?"**
5. **"What's it going to cost?"**

But It's Complicated

Emergence and spread of AMR is driven by human action/behaviors.

And there are closes linkages to issues of:

- Livelihoods
- Public trust in the (health) authorities

REQUIRED

- Reliable and up-to-date evidence
- In an easy-to-understand format
- That lends itself to weighing options

RADAAR's Objectives

Identify barriers/enablers to data sharing and analysis → Establish mechanisms to facilitate policy dialogue → Create a demand for policy-relevant data

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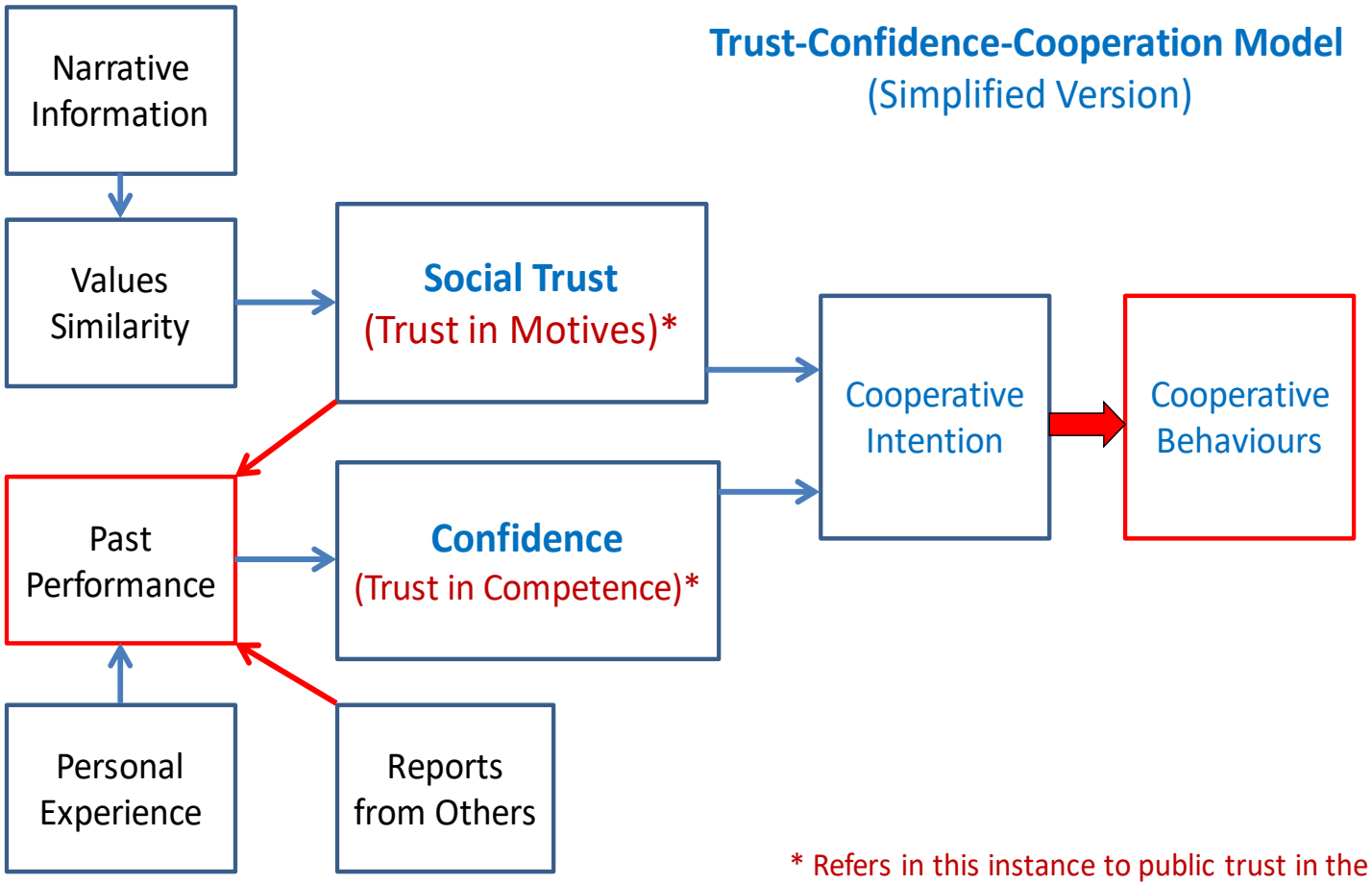
Unpacking 'Trust'



Trust-Confidence-Cooperation Model of Risk Communication
Source: Adapted from the simplified version of Siegrist et al.'s (2003, 2005) model as depicted in Twyman *et.al.* (2008, p 112)

PERCEIVED

MOTIVES
COMPETENCE
FAIRNESS

Building trust is a slow, complex, and long-term task.

Mechanically applying some operational guidelines or SOPs does not build trust.

Trust grows with the experience of *trustworthiness.*

Only one golden rule:

Talk Less, Listen More

AMR Advocacy & Communication: Incremental Steps or Quantum Leaps?

- Actions to address drug-resistant infections on the ground are simply not happening at the scale and urgency required.
- Groundswell of public and societal support needed to push and hold political leaders accountable.
- Current AMR communication and advocacy approaches need to be dramatically re-framed and scaled-up.

AMR:

In search of a 'secondhand smoke' moment?

Framing of the AMR Problem and Response

Differential Framing and Discourse of the AMR Problem	
Policy Frame	**Policy Focus and Intervention Characteristics**
1. A healthcare issue	Focus on the healthcare sector; promotion of early diagnosis and treatment through rational/prudent use of antimicrobials and antimicrobial stewardship.
2. A development issue	The high burden of infectious diseases and lack of awareness in LMICs drives overuse and misuse of antimicrobials. Universal and equitable access to quality antimicrobials seen as a right to health. Achievement of SDGs imperiled.
3. An innovation issue	Lack of new compounds and diagnostics. Market failure and lack of incentives for R&D in the pharmaceutical sector. Incentivization of R&D through new mechanisms
4. A security issue	AMR viewed as a threat to individual and national (health) security as a result of globalization and imperiling the global North. Focused on systematic surveillance, capacity building, and containment of AMR 'at source' (i.e. largely the global South)
5. A One Health issue	Developed in the context and as a response to rising incidences of zoonoses and the large-scale overuse/misuse of antibiotics in food animal production, requiring multi-sectoral engagement. Globally endorsed overarching approach for containing AMR. Despite operationalization challenges, improved coordination and collaboration between human, animal, and environmental sectors is the policy response emphasis.

Source: Adapted from Wernli, D., Jørgensen, P. S., Morel, C. M., Carroll, S., Harbarth, S., Levrat, N., & Pittet, D. (2017). Mapping global policy discourse on antimicrobial resistance. BMJ global health, 2(2), e000378.

A conceptual re-framing of the AMR problem and response

Acknowledging and **Foregrounding**
the 'Access versus Excess" dilemma facing policymakers in LMICs

A Proposition

ESTABLISH:

1. **Attaining and Sustaining *'National Antimicrobial Security'***
   as the overarching **Strategic Goal** of **National Action Plans** (NAPs)

RECONFIGURE:

2. NAPs as a **Progressive Pathway** to achieving ***'National Antibiotic Security',***
   with a robust 'Theory of Change' and time-bound numerical targets.

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A conceptual re-framing: *Attaining and Sustaining 'National Antimicrobial Security'*

Working Definition

Every country **retains the continued ability** to treat infectious **diseases of the highest burden** with **effective** and **safe antimicrobials** in an **affordable** and **equitable manner** by **preventing the emergence and spread** of AMR, and thereby **reducing the impact** of infectious disease on the **human, animal, environmental, and economic health** of the country.

Starting when?
By when?
Till when?

Which diseases or pathogens have become, or are becoming, resistant to the antimicrobials currently available and being used in the country?

Which infectious diseases have the highest burden and economic impact on the country?

Which antimicrobials have become, or are in imminent danger, of becoming ineffective in the country due to resistance or sub-standard quality?

Access to which important antimicrobials is being denied due to costs or availability?

What impacts can and need to be reduced, by how much, and by when?

What are the antimicrobial consumption and usage levels and patterns (including professional and social behaviors and practices) that are driving the emergence and spread of AMR?

Do the benefits outweigh the costs?
Which sector needs the highest investments?
Investments in which sector will bring the maximum and quickest benefits? Are the required investments affordable?

ACCESS without EXCESS

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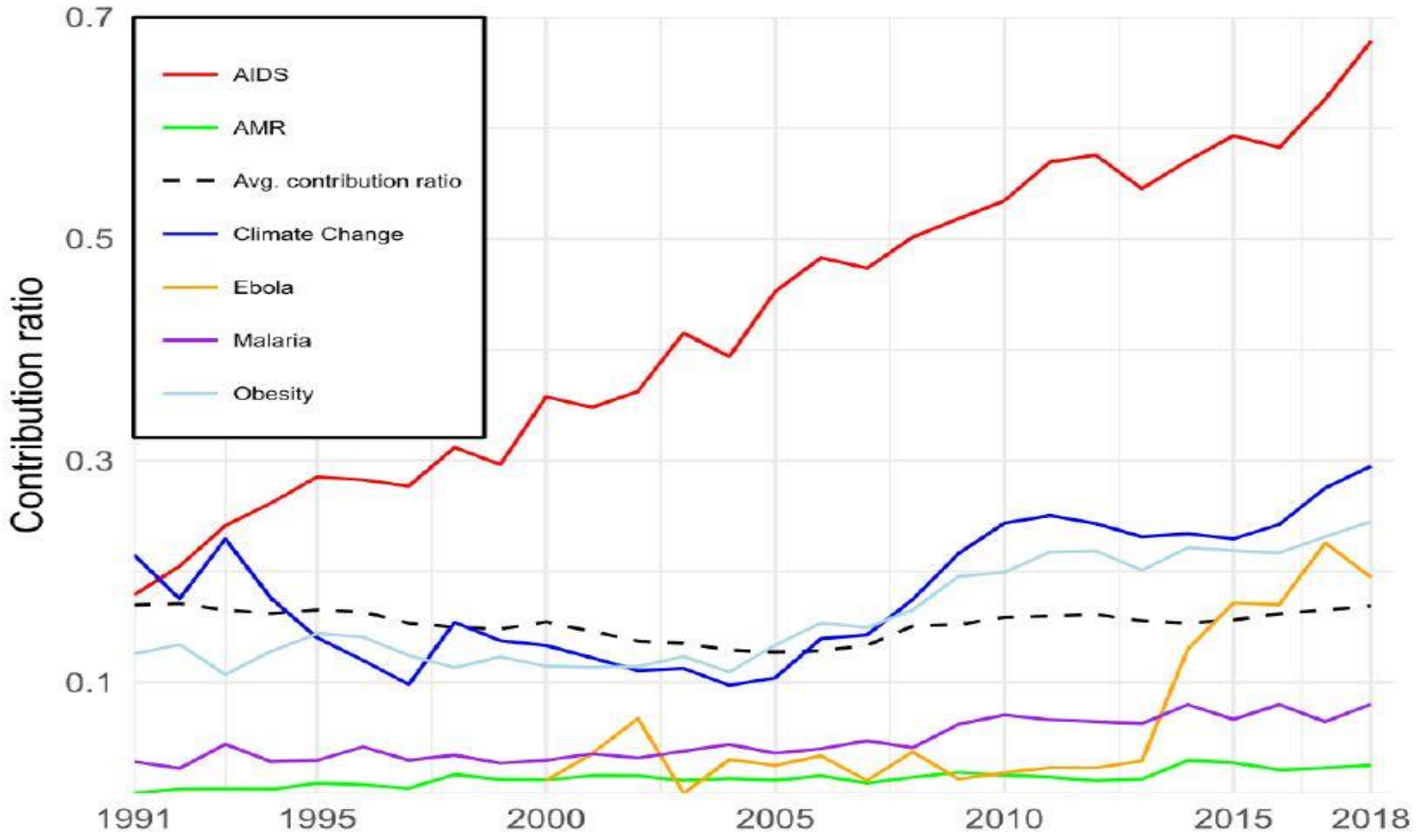
Linking the ‘Technical’ with the ‘Social’

Contribution and ratio of social science versus science in The Web of Science



Source: Frid-Nielsen, S. S., Rubin, O., & Baekkeskov, E. (2019). The state of social science research on antimicrobial resistance. *Social Science & Medicine*, *242*, 112596.

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Surveillance Re-Imagined: ‘Joined-up’ Data Collection and Analysis

Annual Average Number of AMR Publications		Share of Social Science articles in the Social Sciences Citation Index
2000 - 2009	**2010 - 2017**	**1956 - 2018**
7,200	16,300	**1,311**

Source: *Frid-Nielsen, S. S., Rubin, O., & Baekkeskov, E. (2019). The state of social science research on antimicrobial resistance. Social Science & Medicine, 242, 112596.*

Emergence and spread of AMR is driven by human action/behaviors. AMR prevention and control will require strong linkages between epi-surveillance and socio-behavioral data:

- Intricate and complex link with livelihoods
- Prescribing habits, consumer/patient demands, farming practices
- The ‘Political Economy’ of AMR

Emerging Imperative (?)

Consider: A sentinel AMR Socio-Behavioural Surveillance System

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Policy, Advocacy, Communication, and Social Mobilization (ACSM) Coalitions

DISEASE/ISSUE	COALITION	Lead Agencies
Polio Eradication	Global Polio Eradication Initiative	WHO, UNICEF, CDC, Rotary International + thousands of in-country Partners
HIV/AIDS	World AIDS Campaign	UNAIDS + thousands of CSOs/NGOs
Tuberculosis	Stop TB Partnership	Stop TB Partnership Sectt + thousands of CSOs/NGOs
Avian Influenza	One Health Partnership (emerged)	FAO-WHO-OIE + UNICEF + hundreds of CSOs/NGOs
Covid19/Ebola	RCCE Collective Service	WHO, UNICEF, IFRC, GOARN + dozens of in-country Partners
AMR	**???**	**(ReACT? Tripartite? Others?)**

So, when it comes to ‘data’, remember…

“Not everything that can be counted counts,
and not everything that counts can be counted.”

(Attributed to multiple sources)

It just needs to be policy-relevant.

Thank you

Satyajit Sarkar
RADAAR, International Vaccine Institute
satyajit.sarkar@ivi.int