



Microbial Rights and the Biocentric Transition of Antimicrobial Resistance

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A Just Transitions framework for equitable and sustainable mitigation of antimicrobial resistance

Project status

Ongoing

Programmes

[Global Convening Programmes](#)

Departments

[International](#)

Summary

Antimicrobial resistance (AMR) is a significant global concern, with 10 million annual deaths and US \$100 trillion projected cost to the global economy by 2050 if no action is taken.

Like climate change, AMR is a multi-sectoral, borderless problem that disproportionately affects the poorest, and requires collective action and coordinated efforts. Urgent, system-wide change is needed to avoid a future where antimicrobials do not work, and common infections become life-threatening. Current efforts focus on solutions developed in high-income settings, which neglect structural challenges, particularly for poor communities where the disease burden is highest.

We aim to develop a framework for Just Transitions toward equitable and sustainable solutions to mitigate AMR. Our proposal outlines strategies to engage diverse groups of stakeholders to devise fair policies and regulatory tools, and has the potential to transform approaches to tackling AMR. Synergies with Just Transitions for agriculture and climate will have wider planetary health benefits.

Overview



- ▶ WHO Pandemic Agreement
 - ▶ Clear recognition of the One Health Approach
 - ▶ Focus on equity and solidarity
 - ▶ Call for building and drawing on technological capabilities, particularly for disease surveillance
- ▶ Growing emphasis on (and agreement over) benefit sharing, but challenges of a fragmented regulatory landscape remains
- ▶ Proposed approach centred on Microbial Rights
 - ▶ Collective rights
 - ▶ More explicit engagement with epistemic justice and other epistemic goods
 - ▶ A more biocentric approach

A New Generation of Microbial Rights?

- ▶ IHR and Pandemic Agreement primarily focused on individual rights.
- ▶ Collective Rights: Rights that can only be exercised as part of a group (e.g. right to a clean and healthy environment) and which belong to the group, not to an individual.; Such rights arise as no individual is able to enjoy them alone.
- ▶ Enabling Rights: Create an environment in which existing human rights may be fulfilled (e.g. right not to live in extreme poverty).
- ▶ Entities as rights holders: Include non-human entities (e.g. natural environment), but may conflict with individual rights.
- ▶ Such rights may be controversial as to legal status and political acceptance.



A More Biocentric Approach?

International Health Regulation: Legal Framework

- ▶ An adequate legal framework in each country
 - ▶ Facilitate performance of IHR activities in a more efficient, effective or otherwise beneficial manner.
 - ▶ Institutionalize and strengthen the role of IHR capacities and operations within the State Party, as well as the ability to exercise certain rights contained in the Regulations.
- ▶ Strengthen national surveillance and response capacities.
- ▶ International certificate of vaccination or revaccination (against yellow fever).
- ▶ Increase public health security at ports, airports and ground crossings.
- ▶ Ship sanitation control and aircraft declaration.
- ▶ Purpose following 2005 revision: “to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade.”
- ▶ In response to the COVID-19 pandemic, the 78th World Health Assembly introduced amendments to the IHR in 2024.

Convention on Biological Diversity (CBD): Key Features

- ▶ The Convention on Biological Diversity (CBD) is an international legally-binding treaty with three main goals:
 - ▶ Conservation of biodiversity;
 - ▶ Sustainable use of biodiversity; and
 - ▶ Fair and equitable sharing of the benefits arising from the use of genetic resources.
- ▶ Overall objective: Encourage actions which will lead to a sustainable future.
- ▶ Scope:
 - ▶ Biodiversity at all levels (ecosystems, species and genetic resources) and its role in development (from science, politics and education to agriculture, business, culture, etc).
 - ▶ Biotechnology through the Cartagena Protocol on Biosafety.

Preparedness (PIP) Framework

8

Minister of Health, Indonesia and H5N1 virus sharing: link sharing to more equitable benefits



- ▶ Established following Indonesia's refusal to share samples of the avian influenza A (H5N1).
- ▶ Under the PIP Framework, researchers and manufacturers are contractually obligated to provide a percentage of vaccines, diagnostics or pharmaceuticals to the stock-pile of the WHO or otherwise grant reasonable access to such products in exchange for access to the biological specimens.
- ▶ The current PIP Framework is **strictly limited to H5N1 and other influenza viruses with human pandemic potential**, and hence will not even apply to seasonal influenza viruses.
- ▶ However, as a framework that is composed of contractually binding obligations, it applies effectively to both state and non-state actors alike.

PIP Framework (cont'd)

- ▶ Non-legally binding instrument adopted by the World Health Assembly (WHA) in 2011 to manage (pursuant to Article 3.1 of the PIP Framework) the sharing of H5N1 and other influenza viruses with human pandemic potential (or PIP Biological Materials, as defined under Article 4.1 of the PIP Framework), as well as benefits from the development of vaccines, diagnostics and antiviral medicines.
- ▶ The manner of sharing under the PIP Framework is essentially characterized by two sets of contractual terms set out as standard material transfer agreements (SMTAs).
 - ▶ The first set of contractual terms (say, Type 1 SMTA) governs the relationship between the WHO Member State providing the PIP Biological Materials and WHO.
 - ▶ The second set of contract terms (Type 2 SMTA) is concerned with the relationship between WHO and third parties, such as vaccine producers.

PIP Framework and the GISRS

- ▶ No clear legal connection between the PIP Framework and the NP, even though both are developed in response to the 'Avian flu' crisis.
- ▶ A degree of consensus among legal scholars that the PIP Biological Materials governed under Type 1 SMTA of the PIP Framework may be regarded as a specialized international ABS instrument under Article 4.4 of the Nagoya Protocol, and thereby fall outside the purview of the CBD or NP.
- ▶ Practically, the PIP Framework strengthens the GISRS, which remains the most developed and advanced of WHO's coordinated system of laboratories.
- ▶ As of January 2022, the GISRS includes 148 National Influenza Centres (NICs), seven WHO Collaborating Centres (CCs), four Essential Regulatory Laboratories, and 13 H5 Reference Laboratories.

Nagoya Protocol to the CBD

- ▶ At the tenth Conference of the Parties, held in Nagoya, Japan, in October 2010, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization was adopted.
- ▶ New international agreement with the aim of sharing the benefits arising from the utilization of genetic resources in a fair and equitable way, thereby contributing to the conservation and sustainable use of biodiversity.
- ▶ The Nagoya Protocol further builds on the access and benefit-sharing provisions of the CBD by creating greater legal certainty and transparency for both providers and users of genetic resources.
- ▶ **Genetic resources**, whether from plant, animal or micro-organisms, are used for a variety of purposes ranging from basic research to the development of products.
- ▶ In some cases, **traditional knowledge** associated with genetic resources that comes from indigenous and local communities (ILCs), provides valuable information to researchers regarding the particular properties and value of these resources and their potential use for the development of, for example, new medicines or cosmetics.
- ▶ **Users of genetic resources** include research and academic institutions, and private companies operating in various sectors such as pharmaceuticals, agriculture, horticulture, cosmetics and biotechnology.
- ▶ Currently, 133 Parties to the Nagoya Protocol.

Nagoya Protocol: Key Principles

- When a person or institution seeks access to genetic resources in a foreign country, it should obtain **the prior informed consent** (PIC) of the country in which the resource is located.
- Domestic-level benefit-sharing measures are to provide for the fair and equitable sharing of benefits arising from the utilisation of genetic resources **with the contracting party providing genetic resources**.
- **Sharing is subject to mutually agreed terms**, which is a prerequisite arrangement for access to the genetic resource and its use.
 - Material transfer agreements (MTAs)
- Conversely, countries when acting as providers of genetic resources, should provide **fair and non-arbitrary rules and procedures** for access to their genetic resources.

Nagoya Protocol: Benefits

- **Research exchanges:** a researcher from a provider country collaborates with research staff from the user country
- **Provision of equipment, improvement of infrastructure and sharing of technologies:** the user of genetic resources sets up laboratories or a drug manufacturing facility in the provider country
- **Payment of royalties:** royalties generated from the commercialization of a product based on genetic resources are shared between the provider and the user of genetic resources and associated traditional knowledge
- **Preferential access for the provider country** to any medicine derived from genetic resources and associated traditional knowledge: preferential rates to purchase medicine
- **Joint ownership of intellectual property rights (IPRs):** when the user and provider of genetic resources seek joint ownership of IPRs for patented products based on the genetic resource used



World Health Assembly adopts historic Pandemic Agreement to make the world more equitable and safer from future pandemics

20 May 2025 | News release | Geneva | Reading time: 3 min (803 words)

- Agreement's adoption follows three years of intensive negotiation launched due to gaps and inequities identified in national and global COVID-19 response.
- Agreement boosts global collaboration to ensure stronger, more equitable response to future pandemics.
- Next steps include negotiations on Pathogen Access and Benefits Sharing system.

Member States of the World Health Organization (WHO) today formally adopted by consensus the world's first

العربية 中文 Français Русский Español

Media Contacts



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World Health Organization
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WHO Pandemic Agreement on Equity & Solidarity (Article 3)

- ▶ Para 4: Equity as a goal, principle and outcome of pandemic prevention, preparedness and response, striving in this context for the **absence of unfair, avoidable or remediable differences** among and between individuals, communities and countries.
- ▶ Para 5: Solidarity with all people and countries in the context of health emergencies, as well as inclusivity, transparency and accountability, to achieve the common interest of **a more equitable and better prepared world** to prevent, respond to and recover from pandemics, **recognizing different levels of capacities and capabilities, particularly of developing countries**, including **landlocked** developing countries, as well as the **special circumstances** of small island developing States and of least developed countries, in relation to pandemic prevention, preparedness and response.

WHO Pandemic Agreement

- ▶ Puts the **Pathogen Access and Benefit Sharing (PABS) system** on firm legal footing.
- ▶ Response to inequities regarding vaccines, therapeutics and diagnostics during the COVID-19 pandemic.
- ▶ Recognises need for countries to share information about pathogens; in return, developing nations should have a share in pandemic vaccines, drugs, and diagnostics.
- ▶ Manufacturers committed to donating 10% of their production to distribute by WHO, with a target of offering another 10% at affordable prices.
- ▶ Details are to be worked out in an annex, which is expected to be completed by the time the World Health Assembly meets in 2026. This is also when the treaty is expected to be opened for signing and ratification.
- ▶ Agreement enters into force when signed by the 60th member state (Article 33).

WHO Pandemic Agreement

- ▶ Intertwined with transfer of technology that will allow countries to manufacture future pandemic products themselves.
- ▶ Article 4 (paragraph 5) states: "...cooperation for implementation, in particular through technical assistance, capacity-building, research collaboration, facilitating equitable access to relevant products and tools, technology transfer as **mutually agreed**, and financing in line with the provisions of the WHO Pandemic Agreement; and cooperation to support global, regional and national initiatives aimed at preventing public health emergencies of international concern, including pandemic emergencies, with particular consideration given to developing country Parties."
- ▶ Similar formulation for Articles 11 and 12 on technology transfer and cooperation.
- ▶ In a footnote to Article 4, "mutually agreed" has been defined as: "willingly undertaken and on mutually agreed terms, without prejudice to the rights and obligations of the Parties under other international agreements."
- ▶ Dispute settlement by agreement and through arbitration by the Permanent Court of Arbitration.

Inter-American Court
of Human Rights
recognizes the
Rights of Nature



MISSING MICROBES

Conclusion

- ▶ Prominence of microbes in public health surveillance but abstraction from environment
- ▶ Need to recognise and implement holistic benefit sharing, but challenges remain including:
 - ▶ Defining and tracking benefits
 - ▶ Distribution of benefits
 - ▶ Challenges linked to technology transfer
- ▶ Proposal of Microbial Rights seeks to build on the IHR, the WHO Pandemic Agreement and the CBD / NP
 - ▶ More explicit engagement with epistemic justice and other epistemic goods
 - ▶ Seeks to go beyond anthropocentrism toward biocentrism
 - ▶ Collective rights

Transitions' approach to mitigate antimicrobial resistance (AMR)

CHAIR: PROFESSOR PHAIK YEONG CHEAH, UNIVERSITY OF OXFORD

SPEAKERS: PHAIK YEONG CHEAH, TESS JOHNSON, SUSAN BULL, CALVIN HO

AABHL, 7TH DECEMBER 2025

Co-leads Sonia Lewycka and Phaik Yeong Cheah



A Just Transitions framework for equitable and sustainable mitigation of AMR

- British Academy-funded Global Convening Award
- 37 social science and humanities scholars
- Global north and Global south
- Interdisciplinary conversations
- Interactions with policymakers
- Knowledge Translation (engagement)
- Convenings and related research projects



NEWS

British Academy awards over £1.5 million for new Global Convening Programmes to support international collaborative research



 **The British Academy**



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Comment

[A Just Transitions framework for equitable and sustainable mitigation of antimicrobial resistance | The British Academy](#)

A just transition for antimicrobial resistance: planning for an equitable and sustainable future with antimicrobial resistance

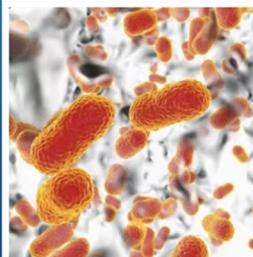


Antimicrobial resistance is among the most urgent global health challenges of our time, with an estimated 4.95 million deaths associated with resistant bacteria in 2019.¹⁻³ That microbes develop resistance to antimicrobials

gender inequality), which leave socioeconomically disadvantaged populations more vulnerable, including to antimicrobial resistance and regulatory responses.⁹ The uneven burden of drug-resistant infections, exposure to

Published Online
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[https://doi.org/10.1016/S0140-6736\(23\)01687-2](https://doi.org/10.1016/S0140-6736(23)01687-2)

<https://www.thelancet.com/action/showPdf?pii=S0140-6736%2823%2901687-2>



November 17, 2023

Antimicrobial resistance is a silent killer that leads to 5 million deaths a year. Solutions must include the poor

Marina Joubert, Stellenbosch University; Phaik Yeong Cheah, University of Oxford, and Sonia Lewycka, Oxford University Clinical Research Unit (OUCRU)

Antimicrobial resistance is an epidemic that kills close to 5 million people annually. The solutions are complex and must take into account the needs of the poor.

[Antimicrobial resistance is a silent killer that leads to 5 million deaths a year. Solutions must include the poor \(theconversation.com\)](#)



Global convening meetings



Dialogues on community engagement (Pretoria, 2024)



Workshop on gender inequity and caste and climate change (Bangalore, 2024)



Roundtable on nature-based solutions with co-benefits for addressing climate change and AMR (Vietnam, South Africa)



Forging a human rights response to AMR in Africa : the right to a healthy and environment (Pretoria, 2024)

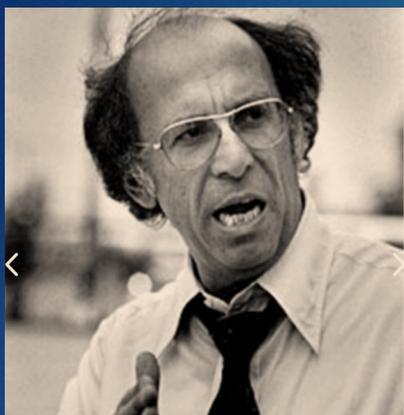
AMR in the Community: Mainstreaming Gender and Equity in National Action Plans and AMR Governance (London, 2025)



Symposium on unintended consequences: A social sciences stock take of two decades of AMR interventions (London, 2025)



What is a “Just Transition”?



The basis for Just Transition is the simple principle of equity.

Tony Mazzocchi, Oil, Chemical and Atomic Workers (OCAW), 1970s

1970s: Framework developed by the trade union movement to encompass a range of social interventions needed to secure workers' rights and livelihoods when economies shift to sustainable production

1980s/1990s: Became embedded in the environmental justice movement

2013: International Labour Organisation Guidelines on Just Transition

2020: EU Just Transition Mechanism

2021: COP 2021 Just Transition declaration

2022: Vietnam, Indonesia Just Energy Transition Partnerships

Just Transition as a framework to navigate competing interests in policy responses

Just Transition is a [...] set of **principles, processes and practices** that build economic and political power [to generate change]
(Climate Just Alliance)

Reimagining work
for a just transition



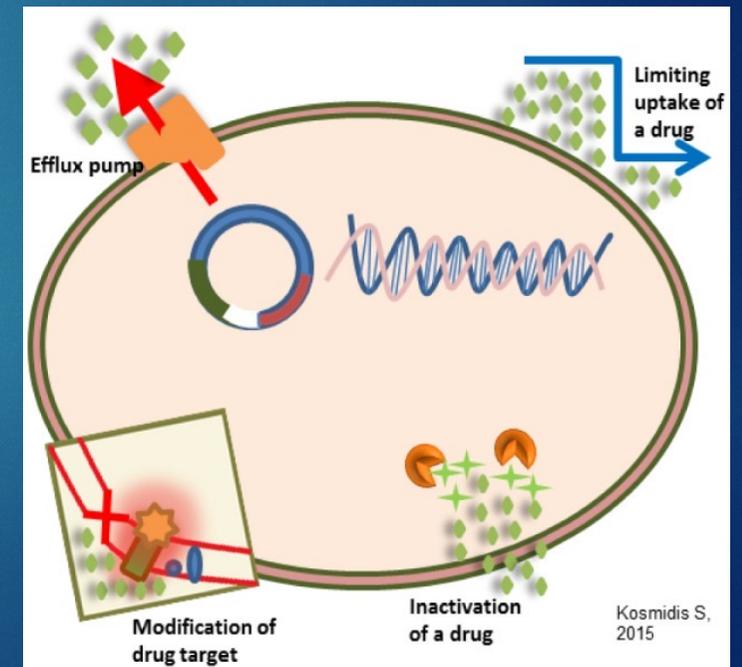
“A Just Transition means greening the economy in a way that is as **fair and inclusive** as possible to everyone concerned, creating decent work opportunities and **leaving no one behind**.”

A Just Transition involves **maximizing the social and economic opportunities** of climate action, while **minimizing and carefully managing any challenges**.” (International Labour Organisation, 2013)

What is antimicrobial resistance?

Antimicrobial resistance occurs when microbes evolve mechanisms that protect them from the effects of antimicrobials

Microbes – bacteria, parasites, viruses, fungus





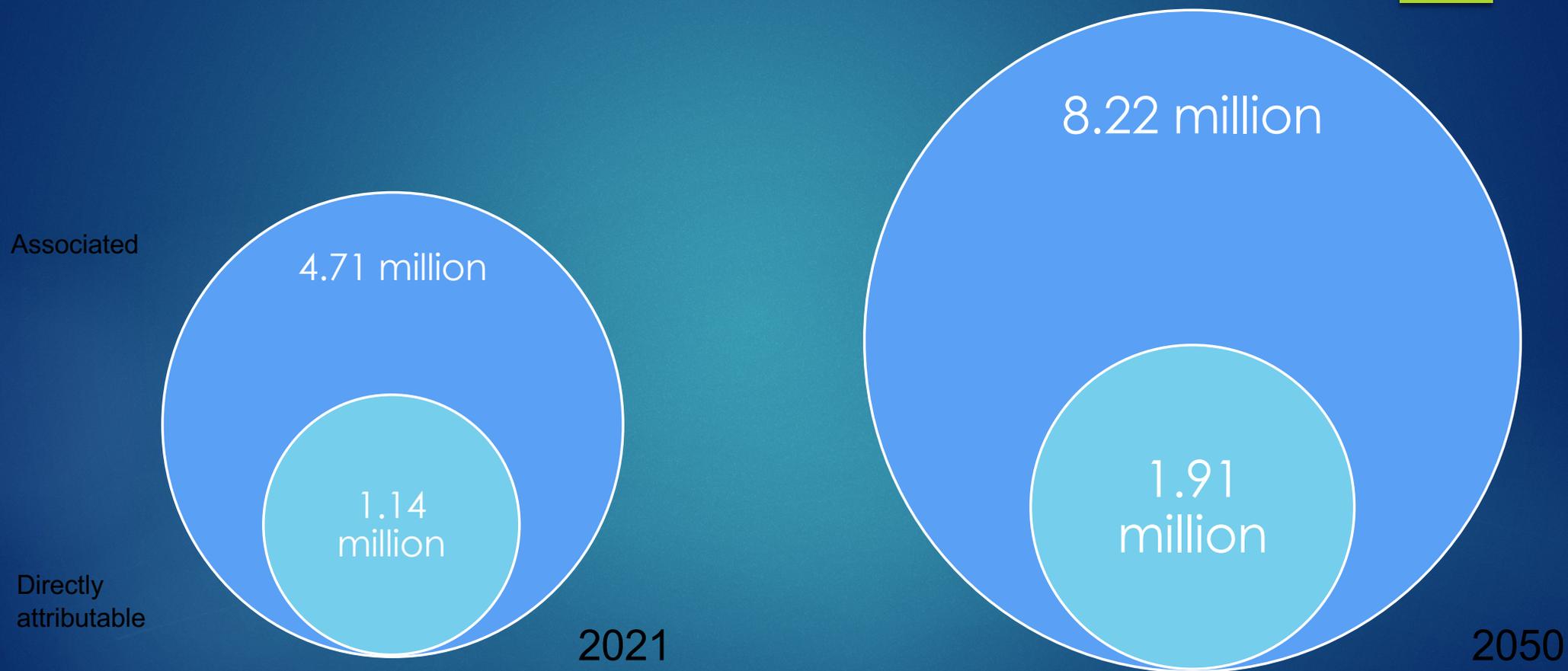
...I would like to sound one note of warning...

The time may come when penicillin can be bought by anyone in the shops. Then there is the danger that the ignorant man may easily underdose himself and by exposing his microbes to non-lethal quantities of the drug make them resistant.

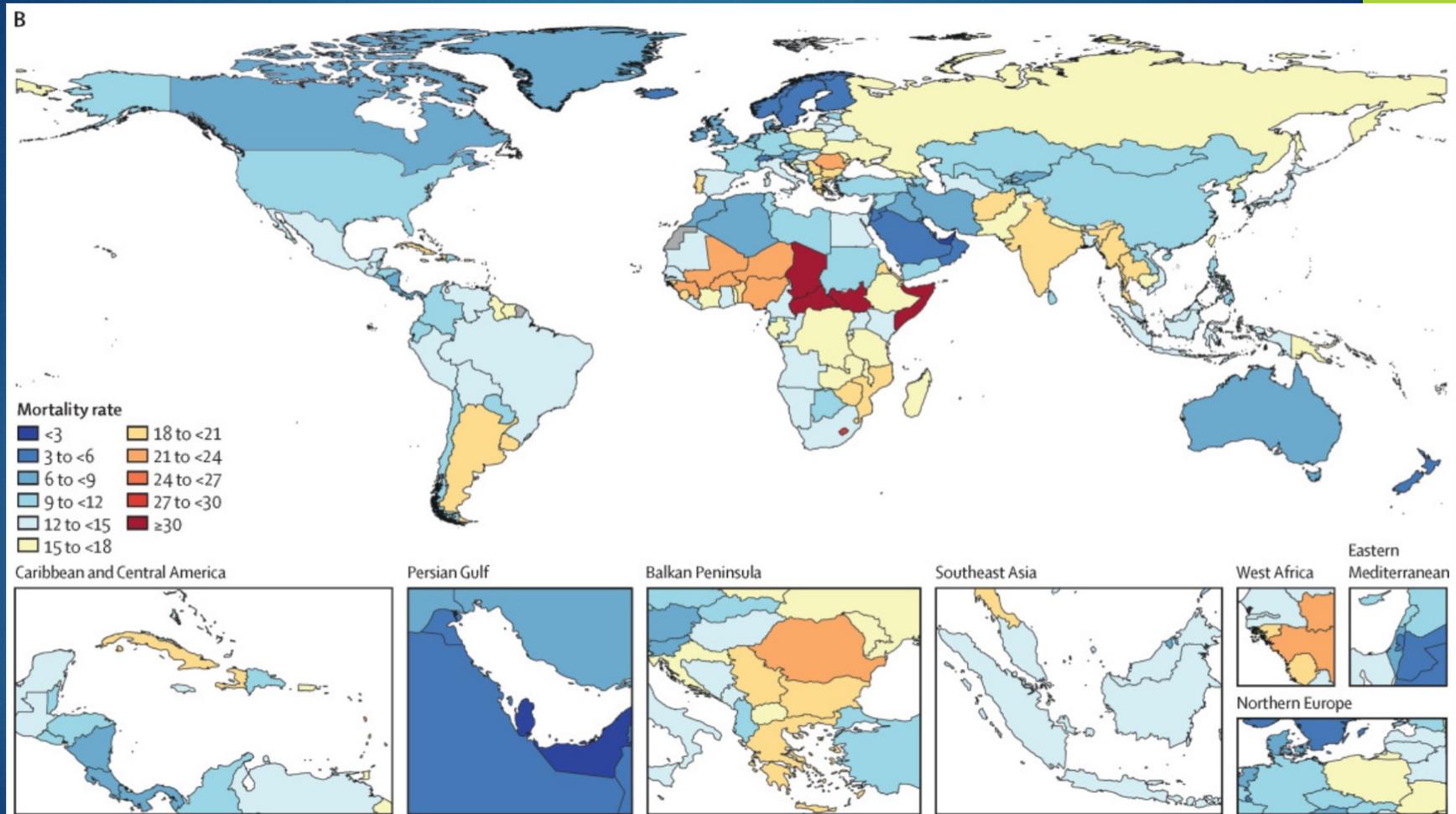
[...]

*Sir Alexander Fleming
Nobel Lecture, December 11, 1945*

Global burden of bacterial AMR deaths



Unequal distribution of burden



Social, structural, economic, environmental drivers



Addressing antibiotic use: insights from social science around the world



Alice C. Tompson
Clare I.R. Chandler

Antimicrobial Resistance Centre,
London School of Hygiene & Tropical Medicine



© SHI - 10 FOTOS

Tompson and Chandler, 2021

Example: Over-the-counter antibiotics

- Restrict inappropriate consumption of antibiotics without medical guidance



- Restrict access to essential medicines where healthcare limited
- Exacerbate health

OPEN ACCESS Freely available online

 PLOS ONE

Impact of Over-the-Counter Restrictions on Antibiotic Consumption in Brazil and Mexico

Yared Santa-Ana-Tellez¹, Aukje K. Mantel-Teeuwisse¹, Anahi Dreser², Hubert G. M. Leufkens¹,
Veronika J. Wirtz^{2,3*}

Why Just Transitions for AMR? Ethical parallels between climate change and AMR

- ▶ Unequal burdens
- ▶ Mitigation plans may exacerbate existing inequalities
- ▶ Those least responsible may have to take on the worst burdens
- ▶ LMICs are less able to cope with the impact of AMR and climate change – economic burden, increased healthcare expenditure
- ▶ Both abstract, distant, (sometimes) not visible
- ▶ Not priority vs everyday problems
- ▶ Require collective action
- ▶ Important to consider justice and how we transition (to where?)
- ▶ Epistemic justice, distributive justice, procedural, reparative etc
- ▶ Both have language problems, call to action unclear

World AMR Awareness Week

18 - 24 November 2025



**Act Now: Protect Our
Present, Secure Our
Future.**

Both require responsive dialogues



Responsive Dialogues

Delivering Policies and Actions on AMR

Poomchaichote *et al.*
Antimicrobial Resistance & Infection Control (2024) 13:71
<https://doi.org/10.1186/s13756-024-01416-2>

Antimicrobial Resistance
and Infection Control

CORRESPONDENCE

Open Access



Embedding community and public voices in co-created solutions to mitigate antimicrobial resistance (AMR) in Thailand using the 'Responsive Dialogues' public engagement framework

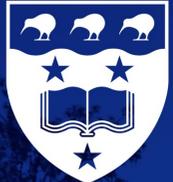
Tassawan Poomchaichote¹, Niyada Kiatying-Angsulee², Kanpong Boonthaworn¹, Bhensri Naemiratch¹, Supanat Ruangkajorn¹, Ravikanya Prapharsavat¹, Chaiwat Thirapantu³, Karnjariya Sukrung³, Direk Limmathurotsakul^{1,4,5}, Anne Osterrieder^{1,4*} and Phaik Yeong Cheah^{1,4}



Questions



- ▶ What are the strengths and limitations of the Just Transitions approach?
- ▶ What other conceptions of justice should we take into consideration in the Just Transitions framework for AMR?
- ▶ How should we translate these concepts into action?



Waipapa
Taumata Rau
**University
of Auckland**

Conceptualising AMR: justice, inclusivity and sustainability

7 Dec 2025

⇒ AABHL

⇒ Susan Bull

Motivating action for global, complex, superwicked problems...

- What knowledge and whose ways of knowing are shaping AMR policy, actions and research?
- What are the impacts of these exercises of epistemic power?

Biomedical framings to motivate action: stewardship

“AMR is a natural process that happens over time through genetic changes in pathogens. Its emergence and spread is accelerated by human activity, mainly the misuse and overuse of antimicrobials to treat, prevent or control infections in humans, animals and plants.”

World Health Organization. Antimicrobial resistance. 2023. <https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance>

“AMR primarily results from the use – especially overuse and inappropriate use – of antimicrobial drugs”

“Not only is the science underlying antimicrobial resistance clear – so too are the solutions.”

Kotahitanga – Uniting Aotearoa against infectious disease and antimicrobial resistance (2021)



Stewardship models: limitations

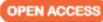
- **Neo-liberal economic drivers**
- Structural inequities
- Collective responsibility and action

The Antimicrobial Resistance Crisis: How Neoliberalism Helps Microbes Dodge Our Drugs

Ilinca A. Dutescu¹ 

International Journal of Health
Services
2021, Vol. 51(4) 521–530
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DOI: 10.1177/0020731420949823
journals.sagepub.com/home/joh


‘... often-ignored root causes driving inappropriate behaviours relating to antimicrobial use, such as the history of antimicrobial drug development, the effects of commodifying health-related services, and the rise of social inequalities ...’

ORIGINAL ARTICLE 

Antibiotic Economies: The Economisation of Antibiotic Use in Australia and Implications for the Mitigation of Antimicrobial Resistance

M. Davis¹  | A. Schermuly¹ | A. Rajkhowa² | K. Thursky² | N. Warren¹ | P. Flowers³

‘... economic transactions that are only partially under individual patient and prescriber control and shape antibiotic use ...’

HEALTH AND HEALTHCARE SYSTEMS

Pharmaceuticals are present in almost all the world's rivers, study finds

Feb 17, 2022



Addressing environmental drivers of AMR: New guidance for antimicrobial waste management

12 June 2025 13:00 – 14:30 CET

Control of pollution from antibiotic manufacturing as well as unused pharmaceuticals is a key part of safeguarding the longevity of antibiotics for all. Pollution contributes to antibiotic resistance and potentially undermines the effectiveness of medicines. Antibiotic pollution from manufacturing is largely unregulated and quality assurance criteria typically do not address environmental emissions. In health care facilities, there is often little consideration for how to safely and sustainably manage pharmaceutical waste. In order to address these gaps, WHO has recently published two new global guidance documents; on waste management for pharmaceutical manufacturing and on pharmaceutical waste in health care facilities.



- <https://www.weforum.org/stories/2022/02/pharmaceutical-pollution-health-drugs-rivers/>
- *Water pollution in Hyderabad, one of the centres of antibiotic manufacturing in India. Credit: Christian Baars/NDR*
- <https://www.thebureauinvestigates.com/stories/2020-02-07/india-to-ban-antibiotics-pollution-from-pharma-factories>
- WHO 2025

Unanticipated drivers of intensive antibiotic use...

China's 26-storey pig skyscraper ready to slaughter 1 million pigs a year

The world's biggest single-building pig farm has opened in Hubei province, but critics say it will increase the risk of larger animal disease outbreaks



📷 The 26-storey pig farm in Ezhou, Hubei province, is one of China's most modern pig-breeding operations



Antibiotics for human use

- **Informal markets**
- **Economic incentives ...**
 - **Usage targets**
 - **Payments for prescriptions (not consultations)**
- **Inequitable impacts of stewardship measures**
- **Resourcing surveillance, infection control and wastewater treatment**



Stewardship models: limitations

- **Neo-liberal economic drivers**
- **Structural inequities**
- **Collective responsibility and action**

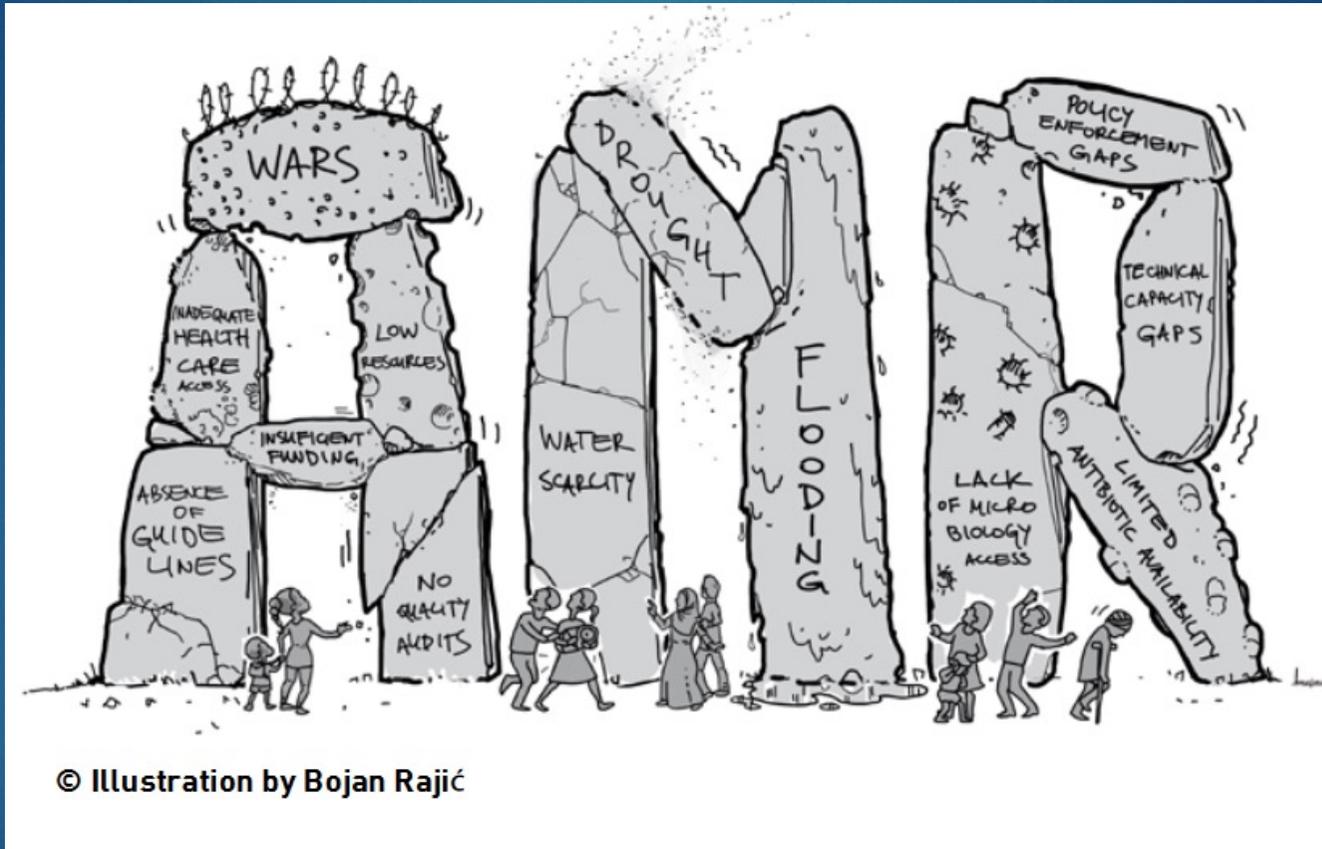
Structural inequities ...



‘Socioeconomic drivers of AMR in humans are complex...The emergence and spread of AMR relate to a mix of factors including gender, living situations, educational level, healthcare access, (poor) governance, human mobility, conflict, climate change, agriculture and pollution. Policy that understands these and the way they interact with one another will be more likely to achieve its aims.’

Anderson M, Ljungqvist G, van Kessel R, Saint V, Mossialos E. The socioeconomic drivers and impacts of Antimicrobial Resistance: Implications for policy and research. Copenhagen: European Observatory on Health Systems and Policies, WHO Regional Office for Europe; 2024.

Drivers of AMR in humanitarian settings ...

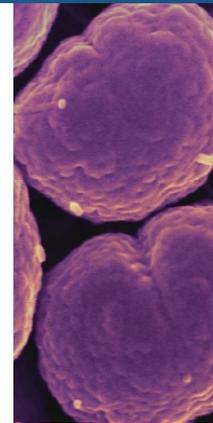


Kotahitanga

Uniting Aotearoa against infectious disease and antimicrobial resistance

A report from the Prime Minister's Chief Science Advisor,
Kaitohutohu Mātanga Pūtaiao Matua ki te Pirimia.

Full report



“Harms resulting from inaction in the face of these threats will disproportionately affect Māori and Pacific peoples, whose health outcomes are significantly worse compared with other peoples in Aotearoa New Zealand, an inequity that has long been noted but never resolved. We have an obligation to address these inequities...”

Explicit recognition ≠ effective response



Stewardship models: limitations

- **Neo-liberal economic drivers**
- **Structural inequities**
- **Collective responsibility and action**



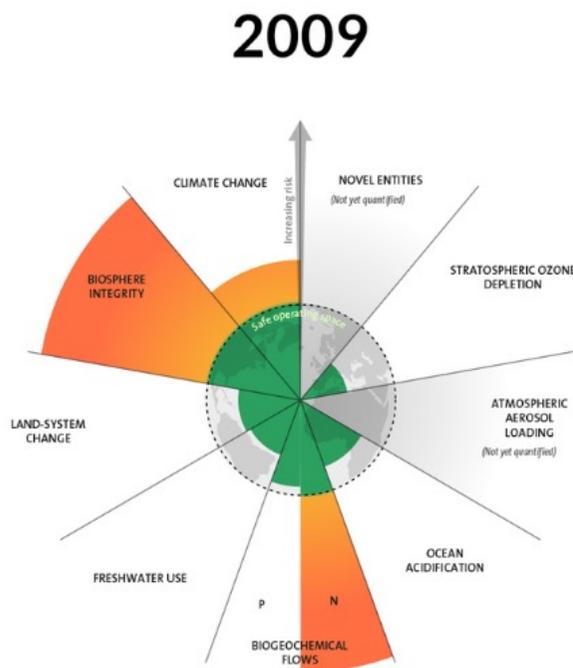
**AMR is often paradoxically
framed as a problem of
connectedness to be solved
by individualised action**



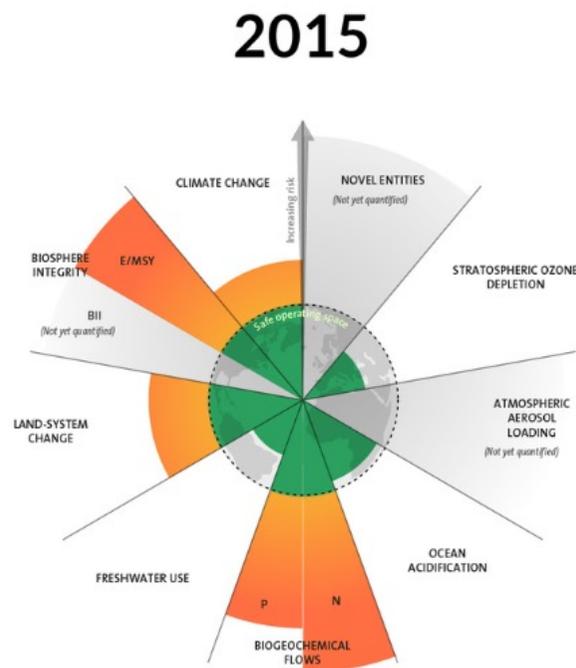
“Overall, awareness raising activities have achieved limited impact on general awareness and knowledge. Reasons for the weak impacts of behavioural interventions include: fragmentary support for public education; lack of clarity with regard to what the public can and should do; the assumption that knowledge of the AMR threat (fear and scarcity) will change behaviour in desired ways; over-reliance on discredited one-way or ‘deficit’ models of communication; and failure to reduce structural drivers of AMR that are beyond the control of the individual.”

Kirchhelle, Claas and Alas Portillo, Mirza and Davis, Mark David McGregor and Doron, Assa and Dreser, Anahi and Fortané, Nicolas Fortané and Haddad, Christian and Hinchliffe, Stephen and Kariuki, Samuel and Lewycka, Sonia and Molyneux, Sassy and Moreno Lozano, Cristina and Mutua, Edna and Okeke, Iruka and Zhang Betancourt, Mingyuan and Chandler, Clare I.R., (Un)intended Consequences: A Social Sciences Stocktake of a Decade of Global Action Plan-inspired Antimicrobial Governance (May 04, 2025). Available at SSRN: <https://ssrn.com/abstract=5272915> or <http://dx.doi.org/10.2139/ssrn.5272915>

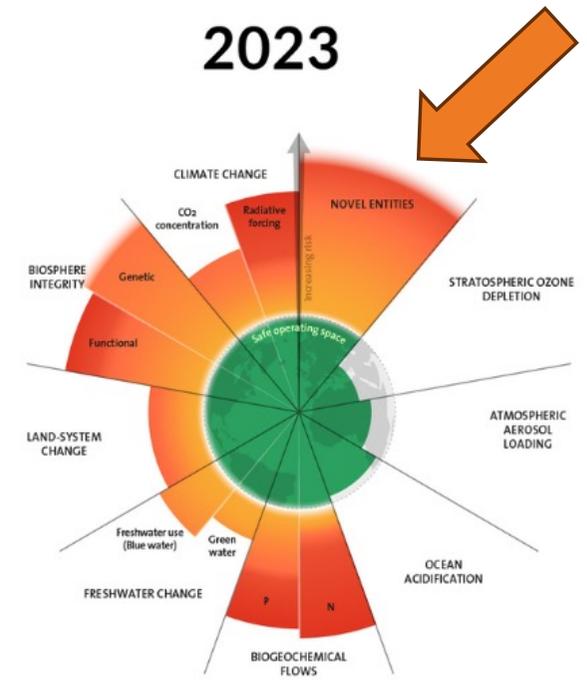
AMR in the context of planetary boundaries...



7 boundaries assessed,
3 crossed



7 boundaries assessed,
4 crossed

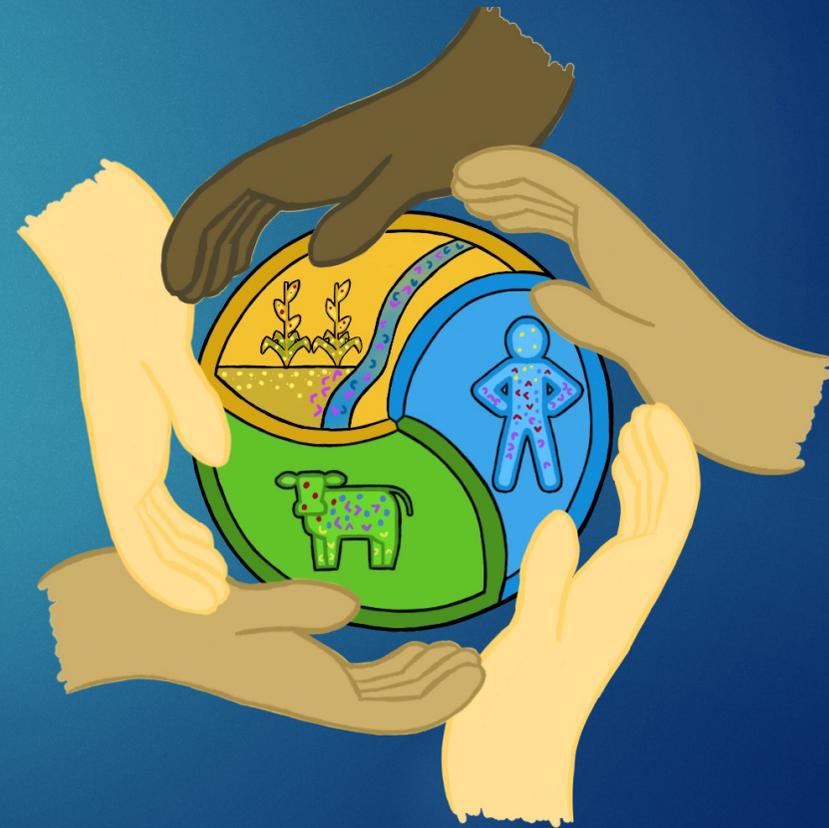


9 boundaries assessed,
6 crossed

Beyond breakpoint – reconceptualising AMR as a symptom of planetary stress

Claas Kirchhelle & Adam P. Roberts

Planetary boundaries range from climate change to biosphere integrity. They define the safe space for humanity. Ecosystem impacts on microbes are missing from a recent assessment showing six of nine boundaries are breached. Microbes represent enormous phylogenetic diversity and underpin multiple planetary systems. Here, we suggest that reconceiving AMR as a sign of ecosystem stress may enable us to steward our wider microbial commons, protecting planetary systems from being breached.



Participatory research with communities

How should we manage antimicrobial resistance (AMR) fairly?

Microbes and superbugs

Microbes (bacteria, viruses and fungi) live all around us in water, soil and the air, as well as in humans, animals and plants.



We need some microbes keep us alive and healthy, but others make us sick.

We use antimicrobials (such as hand sanitiser) to prevent infections, and antimicrobial medicines (such as antibiotics) to cure diseases caused by microbes.



Unfortunately, when we use antimicrobials, some microbes die, but others evolve defences against them. This is called antimicrobial resistance (AMR).

AMR is making medicines much less effective at treating disease – and for some 'superbugs' there are no longer any effective treatments.



Our Kaupapa – why are we doing this research?

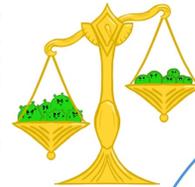
The challenge of AMR

We rely on antimicrobials to prevent and treat disease in humans, animals and plants. The current use, misuse and overuse of antimicrobials makes them less effective and needs to change.



This Kaupapa focuses on how we can address AMR fairly. Multiple complex and inequitable impacts of colonisation and structural racism drive inequities in rates of infectious disease and access to appropriate medicines for Māori. We know that the impacts of infectious disease and AMR differ unfairly between populations not just in Aotearoa, but also around the world.

We are looking at ways to make sure that approaches to managing AMR are fair for those facing the greatest burdens of infectious disease and AMR. We'd also like to hear your ideas about managing microbes and antimicrobials in ways that look after human health, animal health, and our environment.



Whanaungatanga and Partnership

We're seeking to connect with Māori communities so that our mahi is responsive to Mātauranga Māori and your experiences, views and priorities. We want to understand Māori views and concerns about AMR and discuss ideas about fair and sustainable strategies for managing AMR, which promote waiora, whānau, whanaungatanga and taiao. In partnership with IUE, we are dedicated to the active protection of mātauranga Māori and ensuring our mahi is guided and informed by Tikanga Māori. We recognise Māori rangatiratanga and seek to work in ways that uphold and advance it.

Why are we here?

To meet you and hear about your experiences with medicines for infectious diseases. We'd also like to hear your thoughts about managing microbes and antimicrobials.



Ko wai au

Tēnā koutou katoa
He Tangata Tiriti ahau
Ko Motukorea te maunga
Ko Waitemātā te moana
Ko Tamaki Makaurau te whenua tupu
Ko Susan Bull toku ingoa
Tēnā tātou katoa



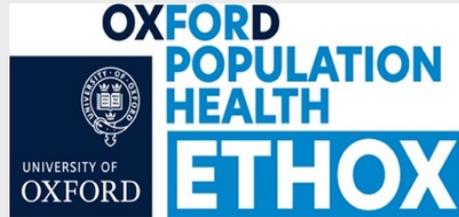
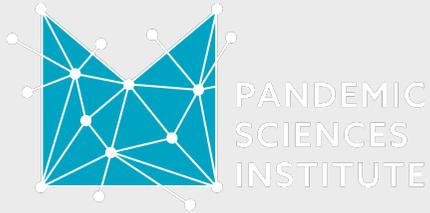
Our kairangahau whānau is global but we share the same rangahau kaupapa - microbes! The medicines we take when microbes make us sick are becoming less effective and we're looking at fair ways to manage AMR and approaches to live more sustainably with microbes.



Thank you!

Susan.bull@auckland.ac.nz





A Just Transition for Antimicrobial Resistance:

The Need for More Forms and a Broader Scope of Justice

Dr Tess Johnson, University of Oxford

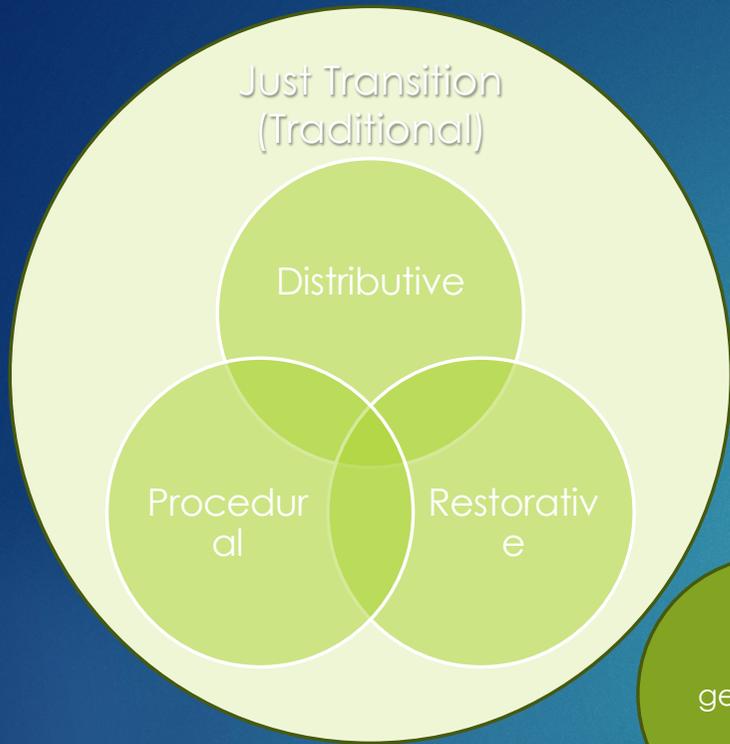
tess.johnson@ethox.ox.ac.uk

On behalf of: Natalie Tegama, Lovro Savic, Susan Bull, Caesar Atuire

Conceptions of Justice



- ▶ A 'just transition' approach has been proposed to help ensure that our transition to a future with a reduced burden of AMR is equitable and fair
- ▶ 'Just transition' in the climate literature typically includes three conceptions of justice:
 - ▶ Distributive
 - ▶ Procedural
 - ▶ Restorative
- ▶ More is needed to account for various injustices that may arise during an AMR transition....



But what about these forms of justice....

Epistemic

Structural

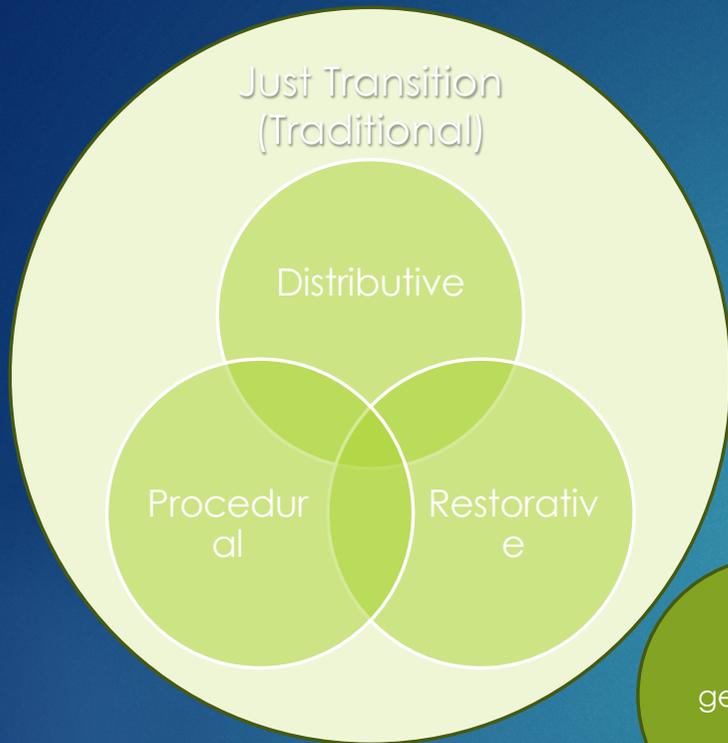
Ubuntu

More-than-human

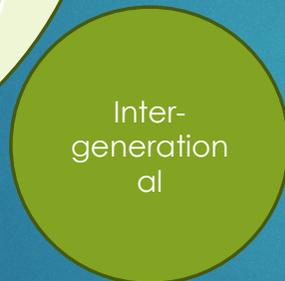
Intergenerational

... and more





But what about these forms of justice....



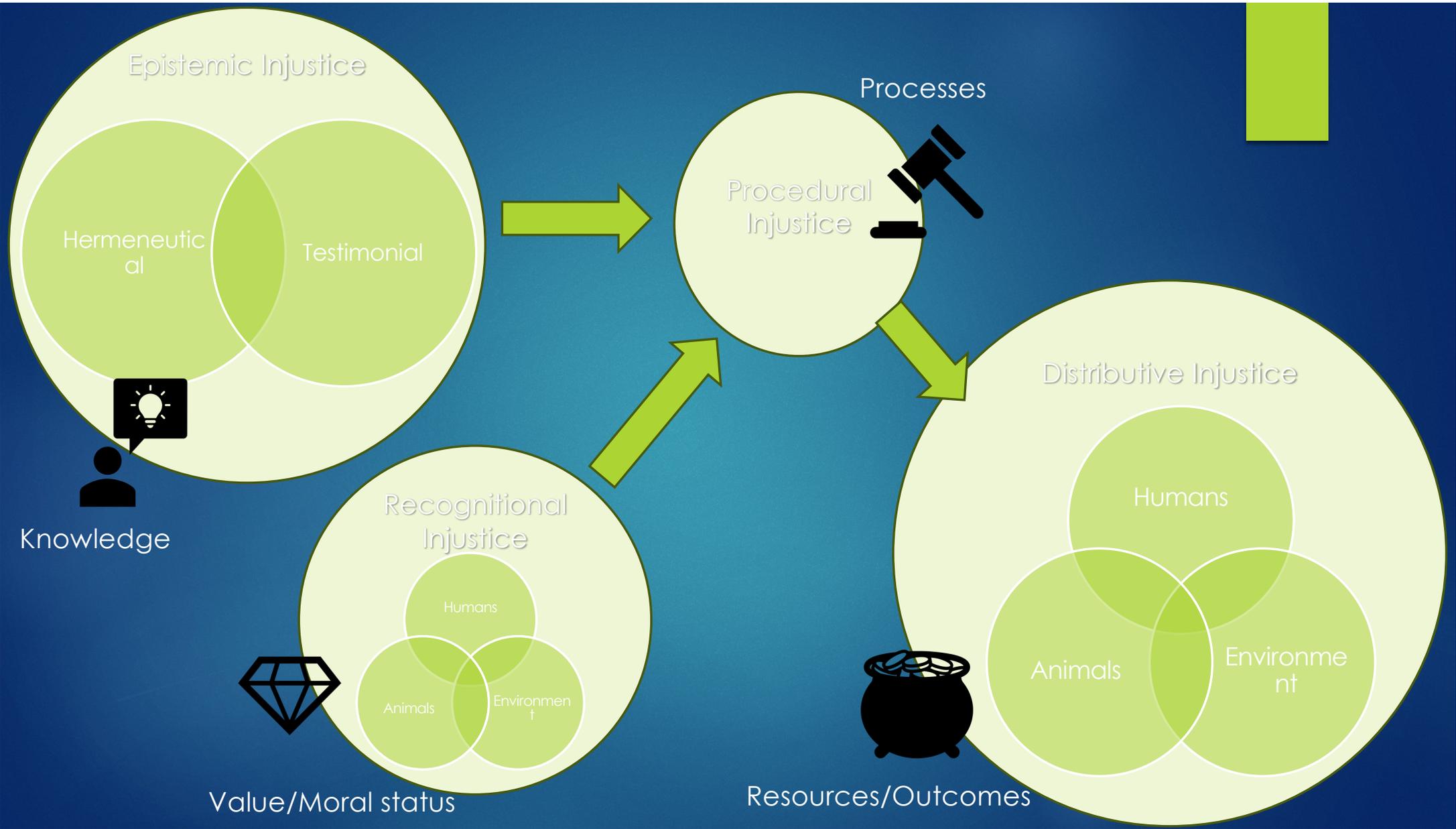
... and more

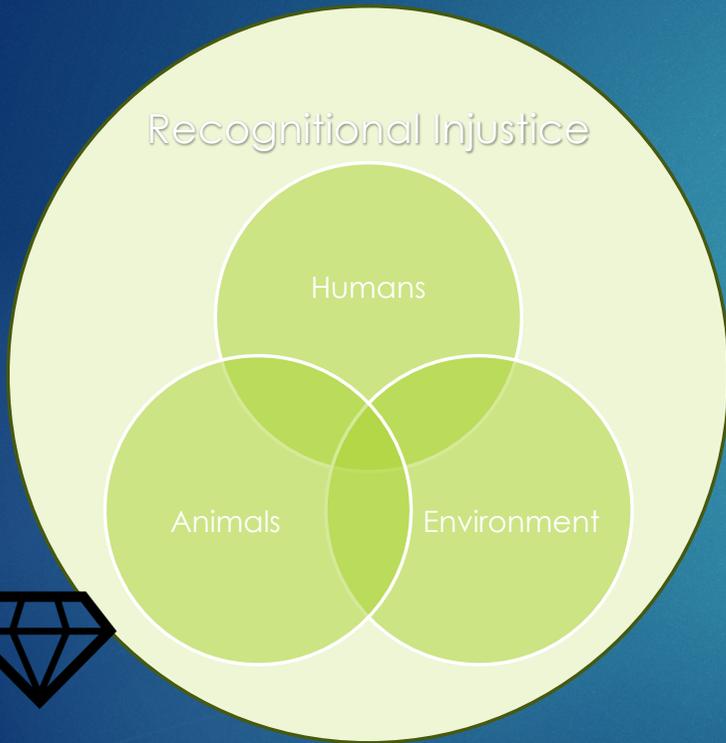
Case 1: Informal Antibiotic Access in Kibera

- Nubians in Kenya have difficulty getting legal recognition
- National ID is needed for access to healthcare
- Historical oppression has led to inequitable access to antibiotics and other healthcare in Kibera informal settlement
- Raises issues of structural and Ubuntu justice

Case 2: Prescriptions for Maasai Livestock Farming

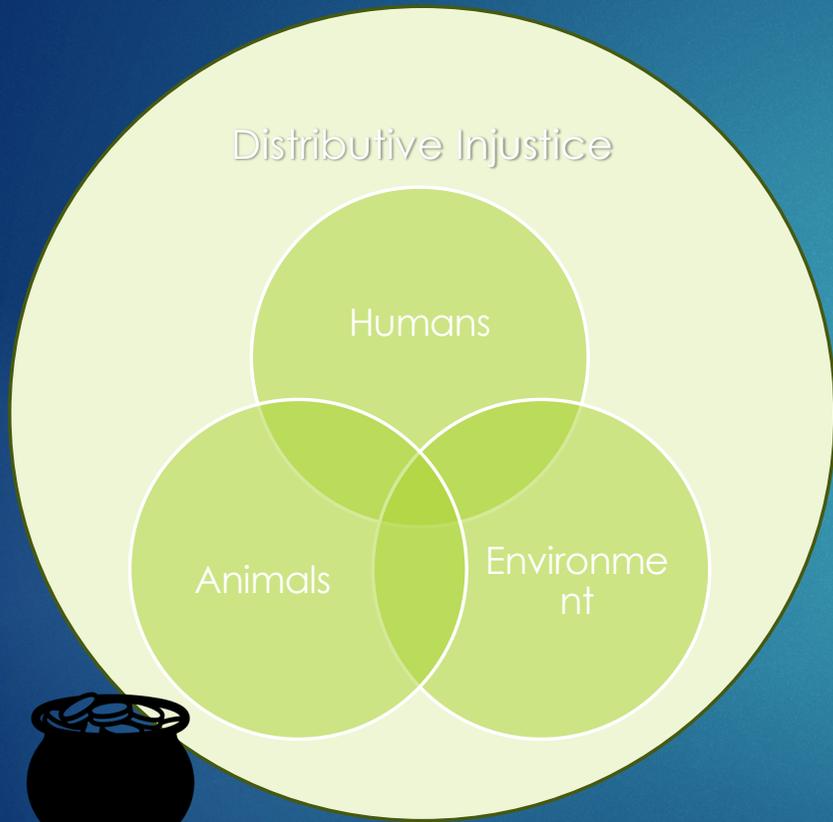
- Maasai pastoralists raise livestock in rural Kenya
- Antibiotic use is based on traditional practice
- Animals can suffer from inappropriate antibiotic use
- Maasai knowledge is not valued by veterinarians
- Raises issues of distributive, epistemic and more-than-human





Value/Moral status

-  Ubuntu
-  Vincularidad
-  Mahayana-Buddhist



Intergenerational



Social/Structural

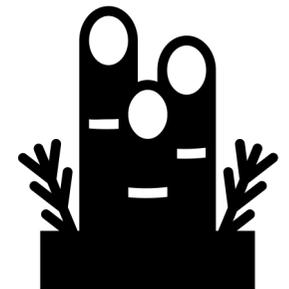
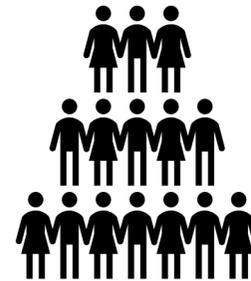
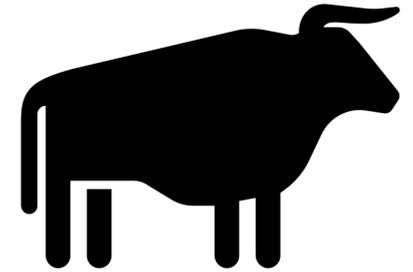


More-than-Human

Resources/Outcomes

Conclusions on Justice

- ▶ A 'just transition' approach must be broadened in both the forms of justice it includes, and its scope.
- ▶ To avoid the injustices raised in our case studies, more emphasis is particularly needed on:
 - ▶ Ubuntu/other community-level conceptions of justice
 - ▶ Epistemic (particularly testimonial) conceptions of justice
 - ▶ Justice applied in an intergenerational and more-than-human scope



Questions for Discussion

- ▶ Are there any types or examples of injustice not covered by the concepts we explore here?
- ▶ Are there any reasons why any of the above conceptions of justice might be inappropriately applied to questions surrounding AMR?