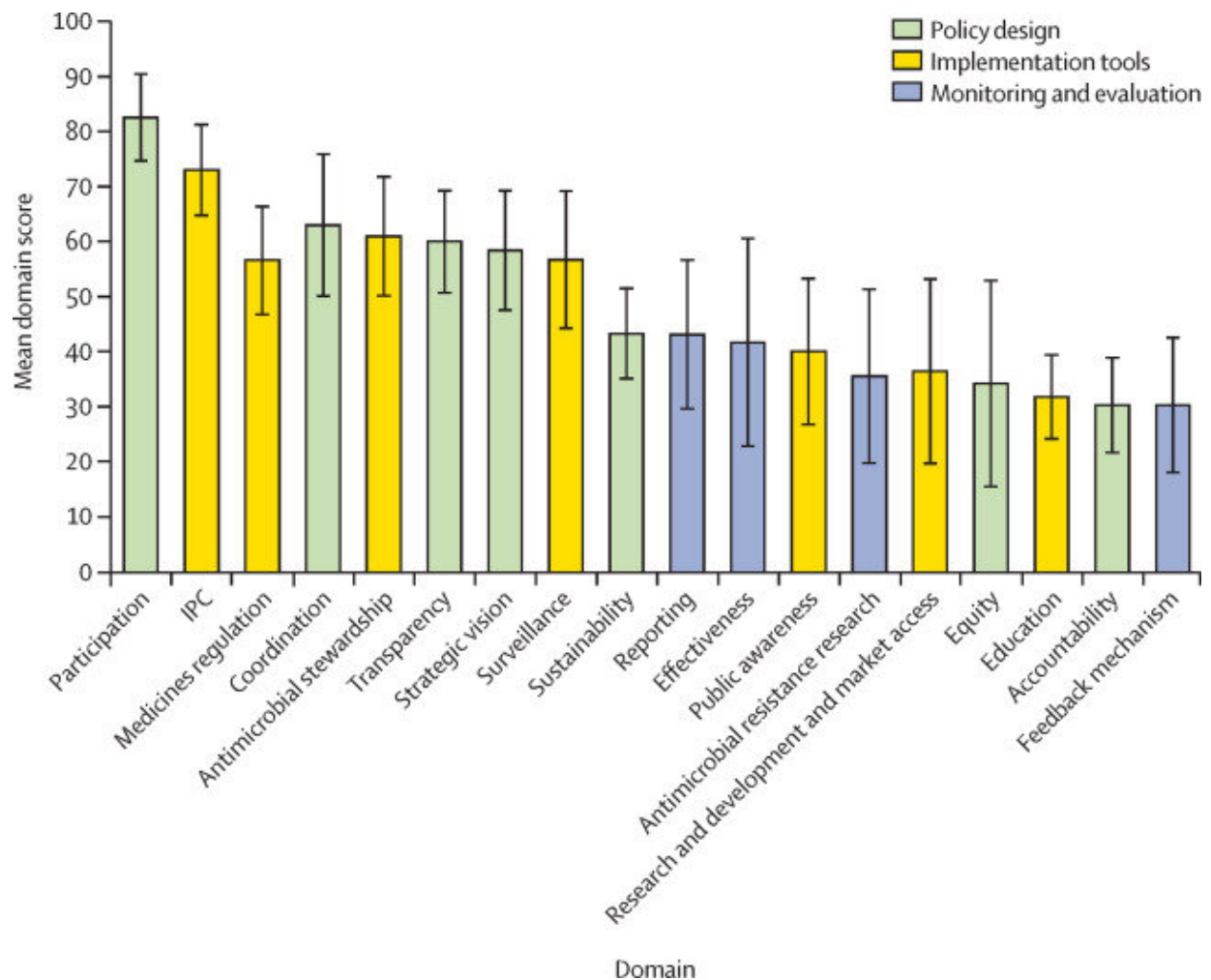


# Global response to antimicrobial resistance 'insufficient,' says new analysis

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Mean global domain score. Arranged by descending mean global domain score. Black bars represent SD. IPC=infection prevention and control. Credit: *The Lancet Infectious Diseases* (2023). DOI: 10.1016/S1473-3099(22)00796-4

Governments around the world must do more to tackle the growing threat of drug-resistant infections, new research suggests.

National action plans to tackle the threat from [antimicrobial resistance](#) (AMR), which occurs when bacteria, viruses, fungi and parasites stop responding to medicines designed to treat them, were developed by more than 100 countries.

The plans focus on designing policies to curb AMR and devising tools to implement the policies—but they do not adequately factor in monitoring and evaluation.

The new research, carried out by experts at the universities of Leeds, Edinburgh and Hamburg, is the first large-scale analysis of these plans. They were designed after encouragement from the World Health Organization, which has declared AMR one of the top 10 public health threats facing humanity.

Lead author Jay Patel, undergraduate dental student in the University of Leeds' School of Dentistry, said, "Our analysis showed that countries were highly focused on designing AMR policies, and thinking about what tools would be required to implement those, but they generally did not consider how they would monitor and evaluate the impact of those efforts."

"This suggests that the international response may be inadequate to meet the scale and severity of AMR. This is particularly concerning in low and [middle-income countries](#), where action plan activities often lack sustainable funding—relying instead on funds from foreign donors and philanthropies."

"The available evidence also suggests that simply developing a [national action plan](#) may not necessarily mean a country is more prepared to

respond to the threat of AMR."

"Our study shows that the global response to AMR, and preparedness for the predicted challenges of AMR, require improvement in all locations around the world."

The research team says governments across the world must strengthen their responses to AMR.

## **What is antimicrobial resistance?**

AMR refers to changes in microbes, particularly bacteria, that cause the drugs used to treat infections to become less effective. AMR has emerged as a defining challenge for global public health in the 21st century. In 2019 alone, AMR was a factor in 4.95 million deaths worldwide—more than half of deaths due to bacterial infections.

Without action, AMR could render many routine antibiotics ineffective, claiming tens of millions of lives annually.

In 2017, the World Health Organization encouraged member states to develop national action plans stipulating how countries would tackle AMR. More than 100 countries have produced action plans, with several being implemented—but there had been no global analysis of the contents of these plans.

Published in *The Lancet Infectious Diseases*, this new research is the first to comprehensively assess international AMR efforts and national action plans and generate comparable quantitative results across countries and regions.

The 114 action plans, which were created in 2020-21, were evaluated against 54 elements, such as education, stewardship, and accountability,

and each awarded a score out of 100. A mean score out of 100 for each country's plan was then taken from these results.

## The findings

The study found that across all plans, there was a greater focus on policy design and implementation tools, but efforts to monitor and evaluate activities are generally poorly-considered.

Of all areas evaluated, accountability and feedback mechanisms were the joint-lowest scoring, followed by education.

Training and professional education across human health, veterinary, and agricultural sectors were insufficient in many countries, with several lacking a sustainable workforce strategy to deliver antimicrobial stewardship policies.

Countries scored well on participation, demonstrating a shared awareness that AMR can only be successfully addressed through engagement with multiple sectors spanning human, animal and environmental health. Infection prevention and control was frequently recognized as a critical objective.

Norway's response was the highest scoring with 85, followed by the U.S. with 84 and the UK with 83. The lowest scoring countries were Ukraine and Sierra Leone with 29 points each, and Barbados and Micronesia with 28 points.

**More information:** Jay Patel et al, Measuring the global response to antimicrobial resistance, 2020–21: a systematic governance analysis of 114 countries, *The Lancet Infectious Diseases* (2023). [DOI: 10.1016/S1473-3099\(22\)00796-4](https://doi.org/10.1016/S1473-3099(22)00796-4)

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