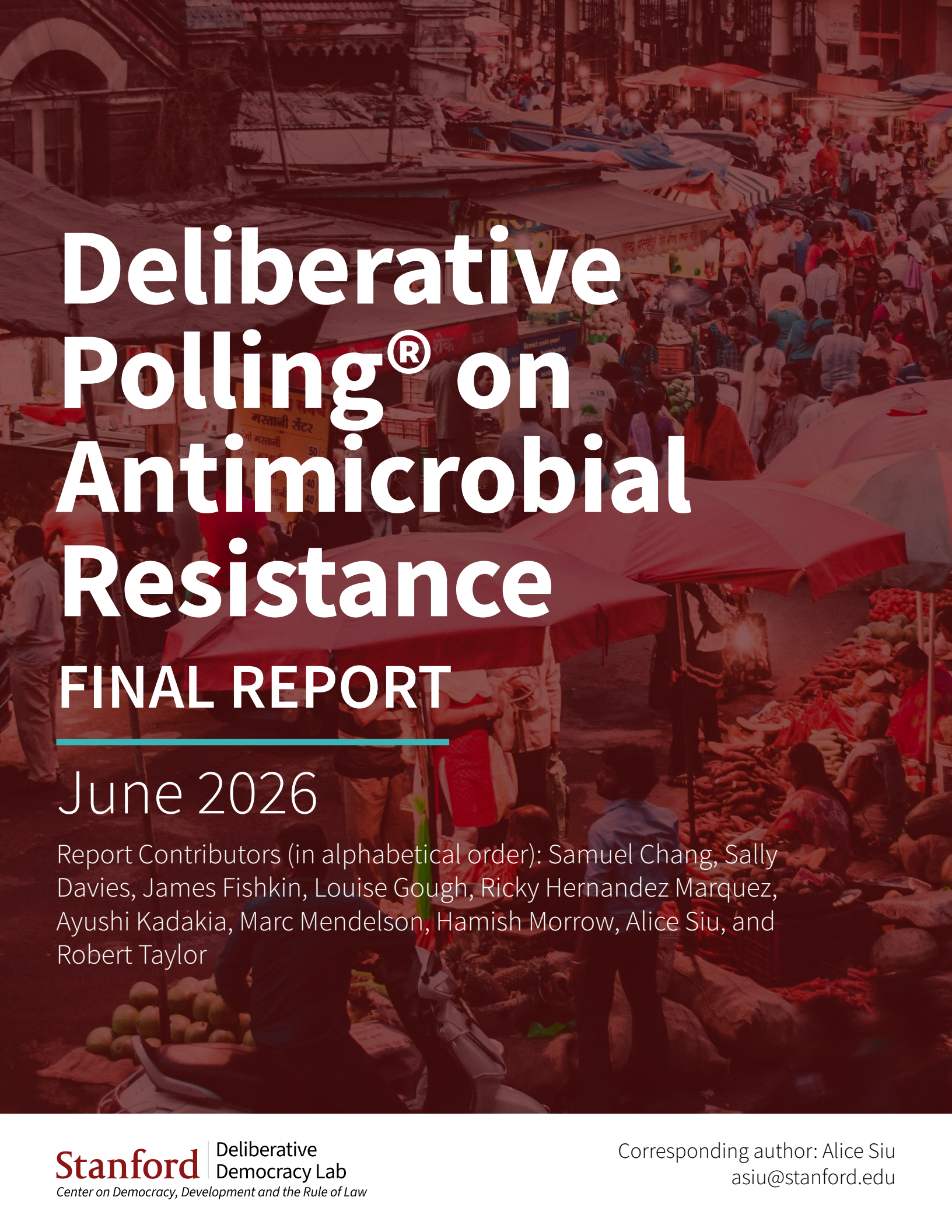




Deliberative Polling® on Antimicrobial Resistance

FINAL REPORT

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Introduction

In collaboration with The Trinity Challenge, the Stanford Deliberative Democracy lab conducted a Deliberative Poll on Antimicrobial Resistance (AMR) with a focus on antibiotics. This poll was conducted to understand the opinions of citizens in six selected middle-income countries (MICs) regarding key policy proposals aimed at combating AMR. In total, participants were asked to evaluate 45 policy proposals across the following areas: equity and access, stewardship, infection prevention, food security, awareness and education, targets, and surveillance. These proposals asked participants questions that considered a diverse set of potential solutions, ranging from whether hand hygiene and infection prevention should be

included in standard schooling curricula to whether informal antibiotic sellers should be regulated and monitored to dispense basic antibiotics.

1,280 participants from the six selected MICs— Brazil, Nigeria, Colombia, Tanzania, Indonesia, and India—participated in this deliberative event. Participants from each country engaged in separate deliberations with only members from their own country. In addition, 1,139 control group participants were selected. The control group participants did not participate in the deliberative exercise and were used as a baseline to assess the impact of the deliberations. In total we engaged with 2,419 participants.



Key Takeaways

- 1. Across-the-board proposals were well supported.** The average level of support after deliberation for all proposals combined for all countries was greater than 70%. The average level of support for a selected two-thirds of the proposals was greater than 90%.

 - 2. The largest increase in support was in countries that showed the lowest support pre-deliberation—Tanzania and Indonesia.** For example, Tanzanian participants' support for infection prevention proposals appeared to be most impacted by the deliberative polling process, with the percentage of supportive participants increasing by 14.26% on average post-deliberation.

 - 3. The most popular proposals were those related to infection prevention and awareness and education.** Each country had 2-7 proposals related to infection prevention in their top 10. Each country had 1-3 proposals related to awareness and education in their top 10.

 - 4. Participants were more informed post-deliberation.** Participants in four out of the six countries demonstrated an increase in their knowledge about antibiotics and AMR across all six of the questions meant to test their knowledge.

 - 5. The deliberative process led to increased support for 95% of proposals.** 43/45 proposals demonstrated a significant increase in their support overall, post-deliberation.

 - 6. Overall, participants were more confident in their political efficacy post-deliberation.** Post-deliberation participants in four out of the six countries increased their level of agreement with the following statements: "Public officials care a lot about what people like me think," "I have opinions about policy issues that are worth listening to," and "I have the ability to create change in my community."
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Considered Opinions

Top 10 proposals at post deliberation by country

Even if a participant's rating of a proposal does not change after deliberating, their post-deliberation ratings can give us a sense of their "considered" opinions, as participants have deliberated and weighed pros and cons to arrive at their position.

Overall, proposals related to infection prevention were heavily represented among the top 10 most popular proposals following deliberation across the 6 countries. Each country had 2-7 proposals related to infection prevention in their top 10.

Two infection-prevention proposals were rated particularly highly by 4 of the 6 countries. The proposals stating that everyone should have access to clean water and safe sanitation, and that governments should prioritize infection prevention tools to reduce the burden of infectious diseases

were ranked in the top 4 for India, Brazil, Colombia, and Indonesia. Notably these two proposals were not in the top 10 for Nigeria nor Tanzania.

The next most popular set of proposals among the 6 countries were proposals related to awareness and education; each country had 1-3 proposals related to this topic in their top 10.

Although ratings for the proposal that hand hygiene and infection prevention should be part of the standard curriculum in schools differed between the 6 countries, it was one of only 2 proposals that appeared in the top 10 list for 5 of the 6 countries. No proposal appeared in the top 10 list for all 6 countries.

Compared to participants from the other 4 countries, Nigerian and Tanzanian par-

Topic	Tanzania	Nigeria	India	Colombia	Brazil	Indonesia
Infection prevention	2	2	6	5	7	7
Awareness and education	1	1	3	2	2	2
Surveillance and monitoring	3	3	0	0	0	0
Targets for antibiotics	1	1	0	1	0	0
Making the best use of antibiotics	0	0	1	1	0	1
Access to antibiotics	3	2	0	0	0	0
Food security	0	1	0	1	1	0

ticipants seemed to be more interested in proposals related to surveillance and monitoring, and access to antibiotics.

Rank	Topic	Proposal
1	Targets for antibiotics	There should be a global target to stop the use of medically critical antibiotics in the food chain.
2	Access to antibiotics	Governments in low- and middle-income countries should increase access to antibiotics to support all farmers for their animals, including those who have little access to veterinarians.
3	Access to antibiotics	Governments should develop clear guidelines and support for controlled informal dispensing and monitoring of the most widely needed basic oral antibiotics without a doctor's or veterinarian's prescription.
4	Surveillance and monitoring	National surveillance programs should be in place to monitor - infection rates, bacterial types, antibiotic use, and antibiotic resistance – in humans, animals (including fish) and water systems.
5	Infection prevention	Specific government funding should go to healthcare facilities to ensure that all have access to clean water for hand hygiene.
6	Infection prevention	Immunization for WHO-recommended childhood vaccination should be scaled up towards universal/full coverage, to capture all children.
7	Access to antibiotics	Informal antibiotic sellers such as Patent and Proprietary Medicine Venders and informal drug shops should be regulated and monitored to dispense a limited number of basic oral antibiotics for specific infections under strict guidelines but still without a prescription.
8	Surveillance and monitoring	Data from point of care rapid diagnostic tests should be incorporated into routine national surveillance reporting.
9	Awareness and education	Awareness campaigns should focus on the risks and harms of taking unnecessary antibiotics on humans, food security, and the environment.
10	Surveillance and monitoring	Laboratory systems for measuring antibiotic resistance in bacteria for humans and animals should be integrated with shared One Health resources.

Rank	Topic	Proposal
1	Awareness and education	Hand hygiene and infection prevention should be part of the standard curriculum in schools from the start of schooling through to graduation.
2	Targets for antibiotics	There should be a global target to reduce human deaths from antibiotic resistance.
3	Surveillance and monitoring	Data from point of care rapid diagnostic tests should be incorporated into routine national surveillance reporting.
4	Infection prevention	Farms should ensure good infection prevention and biosecurity
5	Surveillance and monitoring	National surveillance programs should be in place to monitor - infection rates, bacterial types, antibiotic use, and antibiotic resistance – in humans, animals (including fish) and water systems.
6	Access to antibiotics	Informal antibiotic sellers such as Patent and Proprietary Medicine Venders and informal drug shops should be regulated and monitored to dispense a limited number of basic oral antibiotics for specific infections under strict guidelines but still without a prescription.
7	Infection prevention	Hospitals should be mandated to publish their hand hygiene rates annually.
8	Food security	Large-scale food suppliers – supermarkets, restaurant chains, intensive farming etc., – should be incentivized to promote the use of food produced without routine antibiotics.
9	Access to antibiotics	Governments should develop monitoring (and evaluation) mechanisms to include informal sales of antibiotics.
10	Surveillance and monitoring	Surveillance data should be reported nationally, regionally, and to the World Health Organization, Food and Agriculture Organisation, and the World Organisation for Animal Health.

Rank	Topic	Proposal
1	Infection prevention	Everyone should have access to clean water and safe sanitation (WASH) in their community and health system.
2	Awareness and education	Hand hygiene and infection prevention should be part of the standard curriculum in schools from the start of schooling through to graduation.
3	Infection prevention	National governments should prioritise infection prevention tools (clean water, safe sanitation and vaccination) to reduce the burden of infectious diseases.
4	Infection prevention	Specific government funding should go to healthcare facilities to ensure that all have access to clean water for hand hygiene.
5	Infection prevention	Immunization for WHO-recommended childhood vaccination should be scaled up towards universal/full coverage, to capture all children.
6	Awareness and education	Awareness campaigns should focus on the risks and harms of taking unnecessary antibiotics on humans, food security, and the environment.
7	Awareness and education	National governments should increase funding for awareness campaigns into vaccine hesitancy and improving understanding about people's behaviours relating to vaccination.
8	Infection prevention	Farms should ensure good infection prevention and biosecurity
9	Infection prevention	Hospital accreditation should be linked to infection prevention, such as using hand washing rates as a factor.
10	Making the best use of antibiotics	There should be national certification standards from the manufacture of antibiotics in all countries for safe waste/outflow disposal, with penalties if standards are not met.

Rank	Topic	Proposal
1	Infection prevention	Everyone should have access to clean water and safe sanitation (WASH) in their community and health system.
2	Infection prevention	National governments should prioritise infection prevention tools (clean water, safe sanitation and vaccination) to reduce the burden of infectious diseases.
3	Infection prevention	Specific government funding should go to healthcare facilities to ensure that all have access to clean water for hand hygiene.
4	Awareness and education	Hand hygiene and infection prevention should be part of the standard curriculum in schools from the start of schooling through to graduation.
5	Infection prevention	Immunization for WHO-recommended childhood vaccination should be scaled up towards universal/full coverage, to capture all children.
6	Awareness and education	Awareness campaigns should focus on the risks and harms of taking unnecessary antibiotics on humans, food security, and the environment.
7	Infection prevention	Farm workers should be taught hand hygiene
8	Making the best use of antibiotics	There should be national certification standards from the manufacture of antibiotics in all countries for safe waste/outflow disposal, with penalties if standards are not met.
9	Targets for antibiotics	There should be a global target to reduce human deaths from antibiotic resistance.
10	Food security	Group prevention therapy with antibiotics for sick animals should be under the management of a veterinarian or allied professional.

Rank	Topic	Proposal
1	Infection prevention	Farm workers should be taught hand hygiene
2	Infection prevention	Everyone should have access to clean water and safe sanitation (WASH) in their community and health system.
3	Infection prevention	Farms should ensure good infection prevention and biosecurity
4	Infection prevention	National governments should prioritise infection prevention tools (clean water, safe sanitation and vaccination) to reduce the burden of infectious diseases.
5	Infection prevention	Influenza vaccination should be incentivized for patient-facing healthcare workers.
6	Infection prevention	Immunization for WHO-recommended childhood vaccination should be scaled up towards universal/full coverage, to capture all children.
7	Infection prevention	An adult programme of vaccination should be created by national governments to ensure vaccination of vulnerable populations for influenza and pneumonia.
8	Awareness and education	National governments should increase funding for awareness campaigns into vaccine hesitancy and improving understanding about people's behaviours relating to vaccination.
9	Awareness and education	Hand hygiene and infection prevention should be part of the standard curriculum in schools from the start of schooling through to graduation.
10	Food security	Group prevention therapy with antibiotics for sick animals should be under the management of a veterinarian or allied professional.

Rank	Topic	Proposal
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2	Infection prevention	National governments should prioritise infection prevention tools (clean water, safe sanitation and vaccination) to reduce the burden of infectious diseases.
3	Infection prevention	Everyone should have access to clean water and safe sanitation (WASH) in their community and health system.
4	Infection prevention	Specific government funding should go to healthcare facilities to ensure that all have access to clean water for hand hygiene.
5	Making the best use of antibiotics	There should be national certification standards from the manufacture of antibiotics in all countries for safe waste/outflow disposal, with penalties if standards are not met.
6	Infection prevention	Immunization for WHO-recommended childhood vaccination should be scaled up towards universal/full coverage, to capture all children.
7	Infection prevention	Hospitals should be mandated to publish their hand hygiene rates annually.
8	Awareness and education	Food produced with the routine use of antibiotics should be identified by an international standard, such as a hazard-warning symbol or label.
9	Infection prevention	Farms should ensure good infection prevention and biosecurity
10	Awareness and education	Hand hygiene and infection prevention should be part of the standard curriculum in schools from the start of schooling through to graduation.



Background

Purpose

This Deliberative Polling experiment on Antimicrobial Resistance (AMR) serves a crucial dual purpose: educating the public about the complexities of AMR while empowering citizens to play an active role in identifying and shaping solutions to combat this growing threat. Deliberative Polling is a unique tool designed to gather informed opinions from a representative sample of the population, helping policymakers understand the public's opinion once individuals have had the opportunity to learn and reflect on critical issues. The experiment was conducted at the same time as the lead up to the UN General Assembly High-Level Meeting on antimicrobial resistance 2024 and provided the opportunity to see what the public thought about key issues.

AMR is a multifaceted problem affecting human health, animal welfare, food production, and the environment, making it a “One Health” issue. Bacteria, which are essential to both human life and the ecosystem, can become resistant to antibiotics through misuse and overuse of these drugs in both humans and animals. This resistance undermines the effectiveness of life-saving treat-

ments, leading to higher death rates from infections that were once easily treatable. The gravity of AMR is exemplified by the staggering number of deaths globally — over 1.3 million people die directly from infections resistant to antibiotics annually.

However, these statistics often fail to capture the public's attention, highlighting the need for new forms of engagement. This is where Deliberative Polling can make a meaningful impact. Through structured discussions, participants are not only educated about the causes and consequences of AMR—such as the misuse of antibiotics for viral infections like colds and flu—but are also encouraged to deliberate on potential solutions, such as informal dispensing, the role of governments and hospitals for infection prevention, and the need for global targets for reduction of AMR. The deliberation participants learn the risks of inappropriate antibiotic use in animal food production, the potential lack of sanitation systems in certain regions, and how poor medical practices contribute to the spread of resistant bacteria. In combination with discussion with diverse others in small groups and Q&A with expert panels, participants not

only become more aware of potential policy solutions, but also form their own opinions of the types of policy solutions that will work for decreasing AMR.

The participatory nature of Deliberative Polling is particularly vital in addressing AMR because it fosters a sense of shared understanding. AMR is not just a problem for doctors, scientists, or policymakers to solve; everyone, from consumers to farmers and investors, plays a role. By involving the public, some solutions that require significant public effort, such as improving hand hygiene, promoting vaccines, and limiting unnecessary antibiotic prescriptions, have widespread support and are understood at a community level. Importantly, this demo-

cratic process of engagement helps identify socially acceptable and practical interventions, creating policies that are more likely to succeed and be adopted by the broader population.

Further, the purpose of this six-country online Deliberative Polling experiment on AMR was to demonstrate the ability of this methodology to engage communities where the burden of AMR is greatest, using an AI-assisted deliberation technology on a topic that may not be top of mind with the general population. The success of this pilot demonstrated that not only were participants engaged throughout the process, but significant opinion changes occurred. And, more importantly, participants had thought-



ful discussions across the six countries. The plan is to host a global Deliberative Poll on AMR in the near future to truly lift up the critical nature of AMR and bring forth more informed citizens that can help shape the future policies needed to mitigate the global threat of antibiotic resistance.

What is Deliberative Polling?

Ordinary polls provide a snapshot of the public's impressions of sound bites and headlines. However, most citizens do not have the time or opportunity to become well informed about complex public policy issues. Deliberative Polling provides a neutral ground where citizens can address the question: what would a representative sample of the public think about policy issues if it were more informed and could weigh the pros and cons of different policy options under good conditions for thinking about them? Those good conditions include balanced briefing materials, moderated small-group discussions, questions that the small groups pose to panels of competing experts in plenary sessions, and an opportunity for each participant to express their opinions in confidential questionnaires both before and after the deliberation.

Pioneered by James Fishkin at Stanford University's Deliberative Democracy Lab, Deliberative Polls have been conducted more than 150 times in 50+ countries and jurisdictions. For example, in 2017, the Mongolian government convened a national sample of 669 citizens to conduct a Deliberative Poll, resulting in a constitutional amendment. In 2019, the Deliberative Democracy Lab and non-profit Helena convened a national sample of 500 Americans for 'America in One Room,' where Americans from across the

United States deliberated key policy issues ranging from healthcare and housing to immigration and electoral reform.

As a part of the Deliberative Polling process, an expert Advisory Committee vetted the briefing materials for the deliberations and the research group, composed of the Deliberative Democracy Lab and The Trinity Challenge, provided many of the experts for the plenary sessions. The process alternated small group discussions and plenary sessions where experts would answer questions agreed on in the small groups. The agenda was a series of 45 policy proposals covering the following topics: equity and access, awareness and education, stewardship, food security, infection prevention, global targets, and surveillance. The proposals came not only with background materials but also with pros and cons posing trade-offs that the participants might want to consider. Video versions of the briefing materials were also provided. The briefing materials and all proposal videos were produced in English and then translated to Portuguese, Spanish, Hindi, Indonesian, and Swahili. The user interface of the online platform was likewise translated to these languages.

The small group discussions were conducted on the AI-assisted Stanford Online Deliberation Platform which moderated the video

based discussions, controlled the queue for talking, nudged those who had not volunteered to talk, intervened if there was incivility, and moved the group through the agenda of policy proposals and their pros and cons. Near the end of each discussion, it also guided the groups in formulating key questions that they wished to pose to the panels of competing experts in the plenary sessions. The Stanford Online Deliberation Platform is a collaboration between the Crowdsourced Democracy Team, led by Ashish Goel, and the Deliberative Democracy Lab, both at Stanford University.

Methods and Recruitment

The six countries in this deliberative experiment were: Brazil, Colombia, Nigeria, Tanzania, Indonesia, and India. These countries were selected by the research group, composed of the Deliberative Democracy Lab and The Trinity Challenge, as representatives of MICs in the continents where AMR impact is highest: South America, Africa, and Asia. In each region, the research group selected two countries: a middle income country and lower/lower middle income country.

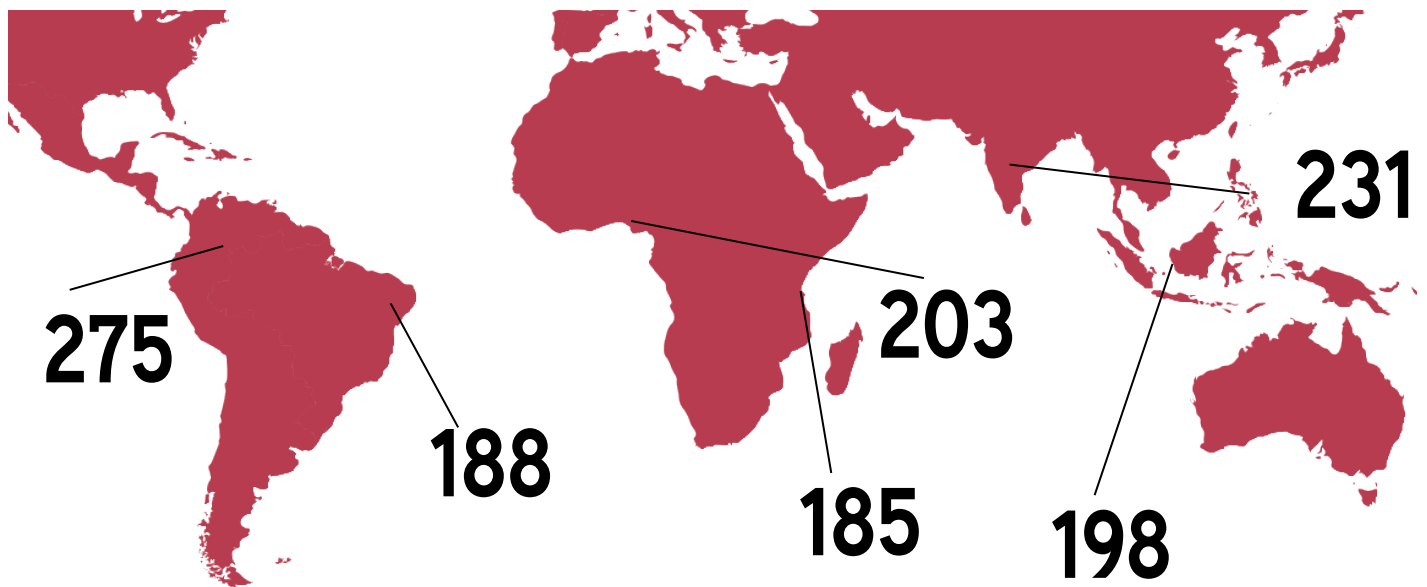
The recruitment in this experiment were conducted by three polling firms: YouGov, Random Dynamic Resources, and Alvara.

YouGov: YouGov is a global public opinion company that operates online panels in all regions of the world. In many countries, many of their panels have millions of panelists, which allow for greater ability to access a representative population sample. YouGov panels are opt-in and use proprietary weighting algorithms to ensure accurate representation. Stanford's Deliberative Democracy Lab has engaged with YouGov since the late 2000s for Deliberative Polling recruitment and has since worked together on over a dozen projects. For this experiment, YouGov recruited the nationally representative samples for India, Brazil, and Colombia.

Random Dynamic Resources: A leading survey organization in Sub-Saharan Africa and MENA. RDR employed address-based probability sampling in-person and by phone. It should be noted that, RDR, knowing the target population and the level of commitment required for this event, chose these methods to ensure a high turnout, even though they are more time and resource intensive. Stanford's Deliberative Democracy Lab has worked with RDR for the last few years on global projects in the SSA and MENA regions. For this experiment, RDR recruited the nationally representative samples for Nigeria and Tanzania.

Alvara Strategic: Alvara is a research and consulting company that specializes in conducting online surveys using probability-based sampling. Stanford's Deliberative Democracy Lab has worked with Alvara for the last few years on global projects in Indonesia. For this experiment, RDR recruited the nationally representative samples for Indonesia.

Actual Recruitment Numbers



The numbers of participants in this six-country Deliberative Polling experiment and in the control group were right on target for this project's expectations. This project expected a total of 200 deliberators from each of the six countries and about the same numbers in the control group from each of the six countries. The actual turnout of this Deliberative Polling experiment was 1,280 deliberators and 1,139 control group participants. Compared to our expected turnout, the Deliberative Polling experiment had 80 more deliberation participants across the six countries.

Country	Number of participants (treatment)	Number of participants (control)
Tanzania	185	206
Nigeria	203	210
India	231	160
Brazil	188	178
Colombia	275	185
Indonesia	198	200

Participants

Basic Characteristics by Country

Gender

The gender breakdown was the following:

Gender - Control Group

	Tanzania	Nigeria	India	Colombia	Brazil	Indonesia
Male	51.8%	51.2%	69.4%	52.4%	49.4%	50.5%
Female	48.2%	48.8%	30.6%	47.6%	50.6%	49.5%

Gender - Treatment Group

	Tanzania	Nigeria	India	Colombia	Brazil	Indonesia
Male	46.7%	51.4%	67.5%	53.5%	48.7%	50.6%
Female	53.3%	48.6%	32.5%	46.6%	51.3%	49.4%

Age

The age breakdown was the following:

Age - Control Group

	Tanzania	Nigeria	India	Colombia	Brazil	Indonesia
18-24	21.4%	19.5%	32.3%	17.3%	18.0%	20.5%
25-34	31.8%	27.3%	33.5%	29.2%	25.3%	32.0%
35-44	13.5%	23.4%	18.4%	19.5%	22.5%	23.0%
45-54	6.8%	17.6%	10.1%	20.0%	16.3%	22.0%
55+	26.6%	12.2%	5.7%	14.1%	18.0%	2.5%

Age - Treatment Group

	Tanzania	Nigeria	India	Colombia	Brazil	Indonesia
18-24	17.2%	20.5%	32.0%	16.0%	16.4%	18.2%
25-34	31.1%	37.5%	32.9%	29.8%	26.5%	33.8%
35-44	31.1%	18.0%	19.5%	21.1%	21.2%	24.8%
45-54	20.6%	8.5%	10.0%	17.8%	17.5%	22.7%
55+	0.0%	15.5%	5.6%	15.3%	18.5%	0.5%

Education

The education breakdown was the following:

Highest Education Completed - Control Group

	Tanzania	Nigeria	India	Colombia	Brazil	Indonesia
Primary education or less	25.1%	–	7.1%	5.3%	37.5%	–
Secondary education	41.9%	24.0%	63.3%	59.0%	48.4%	59.3%
Post-secondary non-tertiary or vocational education	22.3%	28.2%	6.3%	–	4.1%	–
Some tertiary education or higher	10.6%	47.8%	23.3%	35.7%	10.0%	40.7%

Highest Education Completed - Treatment Group

	Tanzania	Nigeria	India	Colombia	Brazil	Indonesia
Primary education or less	17.4%	0.0%	6.3%	5.8%	33.2%	1.0%
Secondary education	47.9%	7.0%	64.4%	58.6%	51.5%	33.7%
Post-secondary non-tertiary or vocational education	23.4%	18.8%	6.3%	0.0%	4.8%	0.0%
Some tertiary education or higher	11.3%	74.2%	23.1%	35.6%	10.6%	65.3%

Urbanicity

The urbanicity breakdown was the following:

Urbanicity - Control Group

	Tanzania	Nigeria	India	Colombia	Brazil	Indonesia
Urban or suburban	79.0%	99.6%	77.0%	61.4%	75.5%	95.4%
Town, rural, or other	21.0%	0.4%	23.0%	38.6%	24.5%	4.6%

Urbanicity - Treatment Group

	Tanzania	Nigeria	India	Colombia	Brazil	Indonesia
Urban or suburban	95.9%	97.8%	88.7%	63.6%	69.2%	95.0%
Town, rural, or other	4.1%	2.2%	11.3%	36.4%	30.9%	5.0%

Note: We noticed a significant imbalance between the proportion of males and females in our sample of Indian participants, even after weighting. While this does not reflect the proportion in the broader population, we found that it may be a result of the proportion of Indian males and females who use social media. Thus, online recruitment efforts may have skewed the recruited sample proportions. According to the Datareportal 2024 report on digital behavior in India, 74.5% of Indian Facebook users are male compared to 25.5% female users, 67.2% of Indian Instagram users are male compared to 32.8% female users, and 85.6% of Indian Twitter users are male compared to 14.4% female users (Digital 2024: India)

Access to Antibiotics

This deliberative experiment is focused on middle-income countries (MICs) because there is a significant problem with access to antibiotics in these countries. In MICs, a critical issue surrounding antibiotics is not the development of new drugs, but the lack of access to existing, essential antibiotics. Almost 4 million people die each year from bacterial infections that are treatable with standard antibiotics like penicillin. This is due to limited availability, especially in rural areas, where healthcare infrastructure is weak, and formal supply chains for antibiotics are often disrupted.

The World Health Organization (WHO) categorizes antibiotics into three groups: ACCESS, WATCH, and RESERVE. The ACCESS group, which includes penicillin, consists of narrow-spectrum antibiotics that are the first line of treatment for common infections. These antibiotics are critical for addressing public health concerns in MICs, such as Rheumatic Fever and Syphilis, but are often unavailable.

The reasons for this unavailability are complex. Many of these older antibiotics

are off-patent, yielding low profit margins, which discourages production. Additionally, government priorities in MICs sometimes do not manage sufficient antibiotic procurement due to financial constraints. Healthcare access is another barrier, as many people live far from formal medical services and rely on informal sources for antibiotics, increasing the risk of substandard or falsified medicines.

Overuse of antibiotics is of equal concern in both high-income countries (HICs) and low- and middle-income countries (LMICs), though HICs can focus more exclusively on this issue while LMICs contend with multiple development priorities. Task-shifting models, where non-doctors like pharmacists can prescribe certain antibiotics, have been successfully implemented, such as in the UK. In LMICs, nurses often play a major role in healthcare delivery, as seen in tuberculosis and HIV programs. Increasing points of access to antibiotics through pharmacies or trained community healthcare workers could reduce deaths, particularly among children under five, who are highly vulnerable to treatable infections.



The challenge in LMICs lies in simultaneously increasing access to effective antibiotics while implementing stewardship programs to control overuse, whereas the challenge in HICs is curbing overuse. Solutions may involve better diagnostic tools and public awareness campaigns to balance access and conservation of antibiotics globally.

Deliberation Analysis



Proposal Analysis

Equity, Access, and Stewardship

Overall, participants from all countries generally agreed ‘highly’ with the proposals related to antibiotic stewardship both before and after deliberations, which covered:

- ensuring appropriate access to antibiotics for non-farmers and farmers alike;
- support for doctors, pharmacists, veterinarians, and informal antibiotic sellers to dispense antibiotics without a prescription;
- monitoring of informal sales of antibiotics;
- increasing access to quality-assured antibiotics;
- increasing the availability of point-of-care diagnostic tests;
- and incentivizing safe waste disposal from the manufacturing of antibiotics.

At no point did agreement for any proposal fall below 5.385 points on the 10-point scale (53.3% support).

Notably, Tanzanian participants generally rated the 14 proposals less favorably than participants of the other 5 countries before



deliberations. However, their support for 13 of the 14 proposals in this category increased by 0.596 to 2.049 points on the 10-point scale. This was a trend that was not observed for participants of any other country, who experienced fewer and less dramatic shifts in opinion.

In fact, the 2 largest shifts in opinion in this category occurred in the Tanzanian group for the proposals related to whether registered pharmacists and veterinarians should be allowed to dispense antibiotics without a prescription. Support for these proposals increased from an average agreement of 5.44 (41.3% support) to 7.59 (72.5% support), and from 5.67 (58.5% support) to

7.72 (81.7% support), respectively. Although less dramatic of a shift, Tanzanian participants also increased their support for clear guidelines and support for controlled informal dispensing of antibiotics without a prescription. Interestingly, there was no statistically significant shift in support for medicine vendors and informal drugs shops being regulated or limited in their ability to dispense antibiotics without a prescription; support here remained high at about 7.65 on the 10-point scale (76.8% support).

Before deliberations, Brazilian participants were less favorable towards the proposals about doctors, pharmacists, veterinarians, and informal antibiotic sellers being able to dispense antibiotics without a prescription compared to the other 5 countries. Brazilian participants became even more opposed to these proposals after deliberations, with support for clear guidelines and regulation for informal dispensing, pharmacists dispensing without a prescription, and veterinarians dispensing without a prescription decreasing by 0.72 to 1.05 points

on the 10-point scale. One possible reason for the decreased support was the concern Brazilian participants expressed about the lack of ongoing medical supervision that may occur through such informal antibiotic distribution. This concern is reflected by the following quote from a Brazilian participant: “That’s why I’m in favor of using antibiotics as such, always under medical supervision, not by a health professional, not by an informal salesperson or just by taking them at home without any real knowledge. I believe that this medical supervision is necessary even if you are hospitalized yourself, you were prescribed it by a doctor and you need to go back to him to tell him that you are experiencing other symptoms.”

Like Tanzanian participants, Brazilian participants had no statistically significant shift in support for medicine vendors and informal drugs shops being regulated or limited in their ability to dispense antibiotics without a prescription, which was at 6.97 agreement before deliberations (58.3% support).



Proposal	Measure	Pre						Post						Difference					
		BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ
Governments in low- and middle-income countries should ensure appropriate access to antibiotics for all citizens including those who have difficulty in accessing the health system.	Mean	9.37	8.87	8.69	8.21	8.04	7.77	9.06	9.09	8.84	8.25	8.40	8.81	-0.31	0.22*	0.15	0.04	0.36**	1.04***
	Oppose	0.3%	3.0%	2.3%	1.4%	1.7%	6.9%	1.6%	0.0%	0.6%	2.2%	0.0%	0.0%	1.4%	-3.0%	-1.7%	0.8%	-1.7%	-6.9%
	In the middle	3.6%	2.0%	4.8%	9.9%	1.6%	17.9%	3.9%	2.1%	1.4%	7.5%	1.6%	3.5%	0.3%	0.1%	-3.4%	-2.4%	-0.1%	-14.4%
	Support	95.0%	87.6%	89.5%	84.9%	96.7%	75.2%	93.3%	95.4%	96.8%	88.6%	98.4%	96.5%	-1.7%	7.8%	7.3%	3.7%	1.7%	21.3%
	DK/NA	1.1%	7.4%	3.4%	3.8%	0.0%	0.0%	1.2%	2.5%	1.2%	1.8%	0.0%	0.0%	0.1%	-4.9%	-2.2%	-2.1%	0.0%	0.0%
Governments in low- and middle-income countries should increase access to antibiotics to support all farmers for their animals, including those who have little access to veterinarians.	Mean	8.95	8.61	8.65	8.04	7.84	7.25	8.00	8.24	8.63	8.12	8.12	8.88	-0.95***	-0.36**	-0.02	0.08	0.27	1.63***
	Oppose	1.9%	1.9%	1.7%	2.9%	3.5%	19.6%	7.2%	6.1%	3.5%	3.2%	1.6%	0.8%	5.3%	4.2%	1.9%	0.3%	-1.8%	-18.8%
	In the middle	1.8%	7.3%	4.1%	9.7%	3.6%	11.6%	10.4%	6.3%	2.0%	8.6%	3.6%	4.5%	8.7%	-1.0%	-2.0%	-1.2%	0.0%	-7.1%
	Support	90.5%	82.3%	92.4%	84.4%	93.0%	68.8%	81.7%	84.4%	92.6%	86.5%	94.8%	94.7%	-8.8%	2.1%	0.2%	2.1%	1.8%	25.9%
	DK/NA	5.9%	8.6%	1.8%	2.9%	0.0%	0.0%	0.7%	3.3%	1.8%	1.8%	0.0%	0.0%	-5.2%	-5.3%	0.0%	-1.2%	0.0%	0.0%
Governments should develop clear guidelines and support for controlled informal dispensing and monitoring of the most widely needed basic oral antibiotics without a doctor's or veterinarian's prescription.	Mean	6.61	7.54	7.77	7.63	7.99	7.67	5.90	7.76	8.54	7.89	8.27	8.87	-0.72*	0.22	0.77***	0.25	0.28	1.20***
	Oppose	21.2%	11.2%	4.3%	6.6%	3.7%	13.1%	29.2%	10.2%	4.3%	4.0%	1.6%	0.6%	8.0%	-1.0%	-0.0%	-2.6%	-2.1%	-12.6%
	In the middle	12.6%	9.1%	12.0%	13.3%	3.9%	3.4%	13.1%	10.7%	4.3%	11.5%	3.9%	1.8%	0.5%	1.5%	-7.7%	-1.8%	0.0%	-1.6%
	Support	56.3%	72.6%	77.8%	77.2%	92.4%	83.4%	53.3%	76.0%	89.5%	83.4%	94.5%	97.6%	-3.1%	3.4%	11.7%	6.2%	2.1%	14.3%
	DK/NA	9.8%	7.1%	5.9%	2.9%	0.0%	0.1%	4.4%	3.2%	2.0%	1.1%	0.0%	0.0%	-5.4%	-3.9%	-4.0%	-1.8%	0.0%	-0.1%
Registered pharmacists should be able to dispense basic oral antibiotics over the counter for some community-acquired infections without a prescription.	Mean	6.19	7.01	7.32	7.20	7.58	5.44	5.38	5.93	7.30	7.48	7.30	7.59	-0.80**	-1.08***	-0.02	0.28	-0.28	2.15***
	Oppose	26.4%	16.0%	14.3%	9.9%	5.8%	34.2%	37.6%	28.8%	13.9%	7.8%	7.2%	2.2%	11.3%	12.8%	-0.5%	-2.1%	1.4%	-31.9%
	In the middle	11.5%	11.3%	8.0%	14.4%	7.0%	24.1%	13.6%	12.5%	10.4%	9.5%	11.9%	25.3%	2.1%	1.3%	2.4%	-4.9%	4.9%	1.2%
	Support	57.1%	67.9%	72.2%	72.1%	87.2%	41.3%	47.3%	54.6%	74.1%	81.5%	80.8%	72.5%	-9.7%	-13.3%	1.9%	9.4%	-6.3%	31.2%
	DK/NA	5.0%	4.8%	5.5%	3.5%	0.0%	0.5%	1.4%	4.1%	1.6%	1.1%	0.0%	0.0%	-3.6%	-0.8%	-3.8%	-2.4%	0.0%	-0.5%
Informal antibiotic sellers such as Patent and Proprietary Medicine Vendors and informal drug shops should be regulated and monitored to dispense a limited number of basic oral antibiotics for specific infections under strict guidelines but still without a prescription.	Mean	6.97	7.66	7.59	6.90	7.74	7.61	6.62	8.14	7.58	7.28	7.63	7.65	-0.35	0.48*	-0.01	0.38*	-0.10	0.04
	Oppose	16.5%	8.3%	7.3%	9.5%	4.3%	9.1%	21.2%	5.8%	7.4%	7.7%	5.9%	2.2%	4.7%	-2.4%	0.1%	-1.8%	1.6%	-6.9%
	In the middle	15.7%	9.2%	9.2%	20.2%	5.3%	11.2%	14.1%	9.7%	12.5%	14.1%	7.9%	21.0%	-1.7%	0.5%	3.3%	-6.1%	2.6%	9.9%
	Support	58.3%	75.3%	76.8%	65.8%	90.0%	79.8%	59.0%	80.9%	78.0%	77.1%	86.3%	76.8%	0.7%	5.6%	1.1%	11.2%	-3.7%	-3.0%
	DK/NA	9.5%	7.2%	6.7%	4.4%	0.4%	0.0%	5.7%	3.5%	2.2%	1.1%	0.0%	0.0%	-3.7%	-3.8%	-4.6%	-3.3%	-0.4%	0.0%
Veterinarian assistants or allied veterinary professionals should be allowed to dispense antibiotics to farmers for a limited number of infections in livestock without a prescription.	Mean	6.63	7.28	7.64	7.25	7.26	5.67	5.58	7.67	7.39	7.57	7.29	7.72	-1.05**	0.39	-0.24	0.32	0.03	2.05***
	Oppose	19.0%	9.6%	7.5%	8.5%	7.3%	31.0%	30.3%	7.7%	11.1%	5.6%	7.9%	3.6%	11.3%	-1.9%	3.6%	-2.9%	0.6%	-27.3%
	In the middle	15.0%	12.6%	8.9%	16.7%	8.8%	10.5%	15.1%	7.7%	6.1%	11.1%	11.1%	14.7%	0.1%	-4.8%	-2.8%	-5.6%	2.3%	4.2%
	Support	59.7%	65.4%	76.5%	70.3%	82.1%	58.5%	51.0%	77.9%	78.4%	81.3%	81.0%	81.7%	-8.8%	12.5%	1.9%	11.0%	-1.1%	23.1%
	DK/NA	6.4%	12.4%	7.2%	4.6%	1.8%	0.0%	3.6%	6.6%	4.5%	2.1%	0.0%	0.0%	-2.8%	-5.8%	-2.7%	-2.5%	-1.8%	0.0%
Governments should develop monitoring (and evaluation) mechanisms to include informal sales of antibiotics.	Mean	7.98	8.49	8.07	8.02	7.97	7.58	7.26	9.16	8.93	8.09	8.44	8.68	-0.72*	0.67***	0.86***	0.07	0.46**	1.09***
	Oppose	7.1%	4.2%	4.8%	4.7%	1.4%	7.7%	18.7%	0.4%	2.4%	2.5%	1.1%	2.7%	11.6%	-3.8%	-2.4%	-2.2%	-0.3%	-5.0%
	In the middle	6.7%	5.0%	6.6%	10.8%	6.4%	18.2%	9.9%	0.6%	2.1%	8.8%	2.6%	2.3%	3.1%	-4.5%	-4.6%	-2.0%	-3.8%	-15.9%
	Support	76.7%	89.3%	87.3%	82.0%	92.0%	72.1%	68.4%	97.3%	95.0%	87.6%	96.3%	95.0%	-8.4%	8.0%	7.6%	5.5%	4.3%	22.8%
	DK/NA	9.5%	1.5%	1.3%	2.5%	0.3%	1.9%	3.1%	1.7%	0.6%	1.1%	0.0%	0.0%	-6.4%	0.3%	-0.7%	-1.3%	-0.3%	-1.9%
Governments should report the volumes of sales from these informal sources annually to the Global Antibiotic Surveillance System (a global monitoring system set up by the World Health Organization).	Mean	8.66	8.25	8.53	7.80	8.01	7.45	8.19	8.97	8.91	8.06	8.34	8.57	-0.47*	0.72***	0.38**	0.25*	0.33*	1.13***
	Oppose	0.9%	4.1%	0.7%	4.6%	2.2%	5.3%	4.8%	1.3%	0.8%	1.3%	0.3%	1.1%	3.9%	-2.8%	0.0%	-3.2%	-1.9%	-4.2%
	In the middle	4.0%	7.2%	4.6%	12.4%	4.5%	15.7%	9.9%	2.6%	2.3%	9.9%	3.7%	4.4%	5.9%	-4.6%	-2.3%	-2.5%	-0.8%	-11.3%
	Support	83.3%	79.8%	91.4%	79.0%	93.4%	77.0%	83.2%	91.7%	96.1%	87.1%	95.4%	94.5%	-0.0%	11.9%	4.7%	8.1%	2.1%	17.5%
	DK/NA	11.8%	8.9%	3.3%	4.1%	0.0%	2.0%	2.1%	4.4%	0.8%	1.7%	0.6%	0.0%	-9.8%	-4.5%	-2.4%	-2.4%	0.6%	-2.0%
Governments should incentivise informal sellers to use only quality-assured antibiotics.	Mean	8.55	8.63	8.43	6.51	8.19	7.54	8.56	8.86	8.62	7.36	8.31	8.85	0.01	0.23	0.20	0.85***	0.12	1.30***
	Oppose	6.3%	6.7%	2.5%	17.4%	4.1%	11.3%	6.0%	4.5%	4.6%	8.1%	0.2%	2.8%	-0.3%	-2.2%	2.1%	-9.3%	-4.0%	-8.6%
	In the middle	7.1%	2.3%	4.6%	20.6%	3.5%	16.1%	6.5%	3.5%	6.3%	14.1%	1.4%	0.9%	-0.5%	1.2%	1.7%	-6.5%	-2.1%	-15.3%
	Support	83.1%	85.3%	89.7%	59.0%	92.4%	72.5%	85.7%	88.9%	89.0%	75.8%	98.1%	96.4%	2.6%	3.7%	-0.7%	16.8%	5.7%	23.8%
	DK/NA	3.5%	5.8%	3.3%	3.0%	0.0%	0.0%	1.8%	3.1%	0.2%	2.0%	0.3%	0.0%	-1.8%	-2.7%	-3.1%	-1.0%	0.3%	0.0%

Proposal	Measure	Pre						Post						Difference					
		BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ
An international initiative is needed to ensure affordable steady supply of quality-assured basic oral antibiotics in the low- and middle-income countries including local manufacturing.	Mean	8.32	8.58	8.41	7.87	7.81	7.52	8.49	9.02	8.85	8.09	8.30	8.57	0.18	0.44**	0.43***	0.22	0.49***	1.05***
	Oppose	3.0%	2.7%	2.9%	3.4%	1.1%	17.5%	3.6%	1.3%	1.4%	1.7%	0.8%	1.1%	0.5%	-1.4%	-1.5%	-1.7%	-0.3%	-16.4%
	In the middle	8.8%	3.2%	5.3%	11.6%	3.3%	10.9%	8.0%	2.5%	3.0%	9.2%	3.0%	2.8%	-0.7%	-0.7%	-2.4%	-2.5%	-0.3%	-8.1%
	Support	81.1%	86.9%	89.5%	82.7%	94.9%	71.6%	88.2%	91.7%	94.5%	88.0%	96.2%	96.0%	7.1%	4.8%	5.0%	5.3%	1.3%	24.4%
	DK/NA	7.1%	7.2%	2.4%	2.3%	0.6%	0.0%	0.2%	4.4%	1.2%	1.1%	0.0%	0.0%	-6.9%	-2.8%	-1.2%	-1.2%	-0.6%	0.0%
An international initiative is needed to ensure availability of proven/regulated point of care diagnostic tests to support appropriate antibiotic use in all countries.	Mean	8.46	8.57	8.32	7.77	7.89	8.14	8.81	8.91	8.90	8.11	8.39	8.73	0.35	0.34*	0.58***	0.33**	0.50***	0.60***
	Oppose	2.9%	2.3%	3.7%	4.2%	0.8%	4.9%	1.9%	3.3%	0.9%	1.4%	3.6%	0.9%	-1.0%	1.0%	-2.7%	-2.8%	2.8%	-4.0%
	In the middle	7.1%	5.2%	2.3%	10.4%	7.7%	1.4%	9.0%	3.5%	1.8%	8.8%	1.8%	2.0%	1.9%	-1.7%	-0.4%	-1.6%	-5.9%	0.6%
	Support	82.5%	87.1%	91.3%	83.1%	90.9%	93.7%	88.1%	90.5%	95.4%	88.7%	94.6%	96.6%	5.6%	3.4%	4.1%	5.6%	3.7%	2.9%
	DK/NA	7.4%	5.4%	2.8%	2.4%	0.6%	0.0%	0.9%	2.7%	1.9%	1.1%	0.0%	0.5%	-6.6%	-2.7%	-0.9%	-1.2%	-0.6%	0.5%
Governments should make currently available validated point of care, rapid diagnostic tests available at every primary health outlet.	Mean	9.15	8.86	8.48	8.23	8.22	7.84	9.08	9.00	8.77	8.29	8.62	8.43	-0.07	0.14	0.28*	0.07	0.39***	0.59**
	Oppose	0.6%	0.5%	2.1%	3.0%	0.7%	6.7%	1.2%	1.8%	3.5%	0.5%	0.4%	2.4%	0.6%	1.3%	1.4%	-2.5%	-0.2%	-4.3%
	In the middle	2.6%	3.6%	8.0%	8.2%	4.3%	16.6%	4.6%	1.7%	1.4%	8.4%	1.0%	2.2%	2.1%	-2.0%	-6.6%	0.3%	-3.2%	-14.4%
	Support	96.0%	89.6%	87.9%	87.0%	95.1%	76.7%	93.1%	94.0%	93.8%	89.6%	98.5%	95.4%	-2.9%	4.4%	5.8%	2.6%	3.4%	18.7%
	DK/NA	0.9%	6.2%	2.0%	1.8%	0.0%	0.0%	1.1%	2.6%	1.4%	1.5%	0.0%	0.1%	0.2%	-3.7%	-0.6%	-0.4%	0.0%	0.1%
Point of care rapid diagnostic tests need to be available and a part of care pathways, and should be reimbursed by the State or Medical Insurance Companies.	Mean	8.93	8.52	8.24	7.99	8.03	7.72	8.81	8.97	8.80	8.24	8.37	8.50	-0.12	0.46**	0.56***	0.25	0.34**	0.79***
	Oppose	3.4%	2.2%	2.3%	4.4%	1.7%	16.1%	0.6%	0.6%	2.8%	1.0%	0.6%	3.3%	-2.8%	-1.6%	0.5%	-3.4%	-1.0%	-12.8%
	In the middle	3.5%	5.7%	5.4%	7.5%	2.4%	8.1%	9.0%	3.9%	1.3%	9.5%	3.1%	1.2%	5.5%	-1.7%	-4.1%	1.9%	0.8%	-6.9%
	Support	88.3%	83.1%	85.8%	85.6%	96.0%	75.8%	87.7%	87.9%	94.5%	88.4%	96.3%	95.5%	-0.6%	4.9%	8.7%	2.8%	0.3%	19.7%
	DK/NA	4.8%	9.1%	6.5%	2.5%	0.0%	0.0%	2.7%	7.6%	1.4%	1.1%	0.0%	0.0%	-2.1%	-1.5%	-5.1%	-1.3%	0.0%	0.0%
There should be national certification standards from the manufacture of antibiotics in all countries for safe waste/outflow disposal, with penalties if standards are not met.	Mean	9.21	9.10	8.73	8.32	8.30	7.56	9.37	9.33	9.03	8.46	8.53	8.62	0.16	0.23**	0.29*	0.14	0.23	1.06***
	Oppose	1.2%	0.4%	1.5%	3.2%	0.6%	17.1%	0.2%	0.4%	2.3%	0.4%	0.0%	1.5%	-1.0%	0.0%	0.8%	-2.8%	-0.6%	-15.6%
	In the middle	1.1%	2.7%	5.4%	7.0%	5.1%	7.8%	3.0%	0.5%	2.5%	7.0%	0.6%	5.8%	1.9%	-2.2%	-2.9%	-0.0%	-4.5%	-2.0%
	Support	94.4%	91.1%	88.4%	87.9%	94.3%	73.9%	96.3%	97.0%	94.1%	91.4%	99.4%	92.7%	1.9%	5.9%	5.7%	3.5%	5.1%	18.9%
	DK/NA	3.3%	5.8%	4.7%	1.8%	0.0%	1.3%	0.4%	2.1%	1.1%	1.1%	0.0%	0.0%	-2.9%	-3.7%	-3.6%	-0.7%	0.0%	-1.3%

Infection Prevention

Participants were given a set of **eleven proposals meant to prevent the escalation of AMR through infection-prevention strategies.**

- National governments should prioritize infection prevention tools (clean water, safe sanitation, and vaccination) to reduce the burden of infectious diseases.
- Everyone should have access to clean water and safe sanitation (WASH) in their community and health system.
- Specific government funding should go to healthcare facilities to ensure that all have access to clean water for hand hygiene.
- Immunization for WHO-recommended childhood vaccination should be scaled up towards universal/full coverage, to capture all children.
- An adult programme of vaccination should be created by national governments to ensure vaccination of vulnerable populations for influenza and pneumonia.
- Influenza vaccination should be incentivized for patient-facing healthcare workers.
- Hospital accreditation should be linked to infection prevention, such as using hand washing rates as a factor.



- Hospitals should be mandated to publish their hand hygiene rates annually.
- Farms should ensure good infection prevention and biosecurity
- Farming, including fish, should use vaccination
- Farm workers should be taught hand hygiene

These eleven proposals are centered around WASH (water, sanitation, and hygiene) and vaccination strategies for infection prevention. All of these proposals received majority support from each country's participants.

The first proposal is the most general and asks participants whether they support prioritizing infection prevention through a combined WASH and vaccination approach.

This proposal, post-deliberation, was well supported, with an average rating of 9.12 (96.4% support) across the six countries and the support of 98% or more of the participants from Nigeria (8.834), India (9.259), and Colombia (9.591). The lowest level of support for this proposal was still above 90%, with 91.6% of Indonesian participants expressing support, and one Indonesian participant going so far as to say that “the first national action must be to prepare infection prevention tools to reduce the burden of infectious diseases.” Tanzania was initially not as supportive of this proposal pre-deliberation with an average rating of 7.939 (76.1% support), but post-deliberation, Tanzanian support for this proposal increased to 8.581 (95.1% support). It is worth noting that Tanzanian participants’ support for infection prevention proposals appeared to be most impacted by the deliberative polling process, with the percentage of supportive participants increasing by 14.26% on average post-deliberation.

WASH specific proposals were also heavily supported, with the highest support being for everyone to have access to clean water and safe sanitation in their community

and health system. Post-deliberation, this proposal received an average rating of 9.267 (97% support). It also received the support of 100% of Nigerian participants, with one Nigerian participant stating that “the importance of clean water cannot be overemphasized” and that “the role of the National government (in ensuring clean water access) should be emphasized.” This proposal was also heavily supported by Brazilian participants who gave it an average rating of 9.732 (99.7% support). The least supported WASH-related proposal was for hospitals to be mandated to publish their hand hygiene rates annually (8.193, 81.1% support pre-deliberation and 8.426 87.9% support post-deliberation). Colombian participants expressed the lowest level of support for this proposal (7.857, 67.6%, support pre-deliberation and 7.873, 72.4% support post-deliberation).

Similarly, the vaccine-oriented proposals received high levels of support, with the highest level of support being for immunization for WHO-recommended childhood vaccination to be scaled up to full coverage (8.744, 88.4% support pre-deliberation and 9.084, 96.5% support post-deliberation).



In fact, every vaccine-oriented proposal received over 90% collective support, except for the proposal for farming, including fish farming, to use vaccination (8.112, 80.5% support post-deliberation). This proposal was least supported by Colombia (7.881, 65% support post-deliberation), which was the lowest percentage support any country's participants demonstrated for any of the infection prevention proposals. This proposal was also not especially well-supported by Brazilian participants (8.528, 77.3% support post-deliberation).

Overall, however, these results demonstrate a strong preference for infection prevention measures to be enacted across the six countries.

Proposal	Measure	Pre						Post						Difference					
		BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ
National governments should prioritise infection prevention tools (clean water, safe sanitation and vaccination) to reduce the burden of infectious diseases.	Mean	9.58	9.54	8.96	8.65	8.31	7.94	9.58	9.59	9.26	8.66	8.83	8.58	0.01	0.05	0.30**	0.02	0.53***	0.64***
	Oppose	0.6%	0.4%	1.6%	2.2%	2.0%	19.3%	0.2%	0.0%	0.0%	0.4%	0.2%	1.4%	-0.4%	-0.4%	-1.6%	-1.7%	-1.9%	-17.9%
	In the middle	3.1%	1.8%	3.1%	6.2%	1.6%	2.5%	4.6%	0.0%	2.0%	6.8%	1.0%	3.5%	1.5%	-1.8%	-1.1%	0.6%	-0.6%	1.0%
	Support	95.9%	96.6%	94.5%	90.2%	96.3%	76.1%	94.7%	98.6%	98.0%	91.6%	98.8%	95.1%	-1.1%	1.9%	3.5%	1.4%	2.5%	19.0%
	DK/NA	0.4%	1.2%	0.8%	1.4%	0.0%	2.2%	0.4%	1.4%	0.0%	1.1%	0.0%	0.0%	0.0%	0.2%	-0.8%	-0.3%	0.0%	-2.2%
Everyone should have access to clean water and safe sanitation (WASH) in their community and health system.	Mean	9.75	9.79	9.24	8.75	8.52	8.09	9.73	9.79	9.48	8.57	8.95	8.84	-0.02	0.01	0.24*	-0.18	0.43**	0.75***
	Oppose	0.0%	0.0%	0.9%	2.2%	3.5%	17.2%	0.0%	0.0%	0.9%	0.9%	0.0%	0.0%	0.0%	0.0%	0.1%	-1.3%	-3.5%	-17.2%
	In the middle	1.0%	0.7%	1.0%	4.8%	3.3%	1.6%	0.3%	0.0%	2.0%	7.1%	0.0%	1.6%	-0.7%	-0.7%	0.9%	2.3%	-3.3%	0.1%
	Support	98.6%	98.2%	98.1%	91.6%	92.2%	79.9%	99.7%	96.9%	97.1%	90.2%	100.0%	98.4%	1.1%	-1.3%	-1.0%	-1.4%	7.8%	18.5%
	DK/NA	0.4%	1.1%	0.0%	1.4%	1.0%	1.3%	0.0%	3.1%	0.0%	1.8%	0.0%	0.0%	-0.4%	2.0%	0.0%	0.3%	-1.0%	-1.3%
Specific government funding should go to healthcare facilities to ensure that all have access to clean water for hand hygiene.	Mean	9.46	9.49	9.06	8.60	8.59	7.93	9.39	9.54	9.22	8.56	8.86	8.56	-0.07	0.05	0.15	-0.04	0.27*	0.62**
	Oppose	0.0%	0.0%	1.4%	2.7%	0.0%	16.6%	0.0%	0.0%	1.9%	0.4%	0.8%	4.1%	0.0%	0.0%	0.5%	-2.3%	0.8%	-12.5%
	In the middle	0.4%	1.3%	4.1%	5.8%	1.3%	3.7%	6.1%	2.4%	2.8%	6.4%	0.6%	4.3%	5.7%	1.1%	-1.3%	0.6%	-0.7%	0.6%
	Support	99.1%	97.6%	94.0%	90.1%	98.7%	79.2%	93.6%	95.8%	95.2%	91.7%	98.6%	91.5%	-5.5%	-1.7%	1.2%	1.7%	-0.1%	12.3%
	DK/NA	0.4%	1.1%	0.5%	1.4%	0.0%	0.5%	0.2%	1.8%	0.1%	1.4%	0.0%	0.1%	-0.2%	0.6%	-0.4%	0.0%	0.0%	-0.4%
Immunization for WHO-recommended childhood vaccination should be scaled up towards universal/full coverage, to capture all children.	Mean	9.48	9.50	8.89	8.48	8.37	7.46	9.56	9.43	9.16	8.45	8.82	9.00	0.08	-0.07	0.27*	-0.03	0.45**	1.54***
	Oppose	0.9%	0.8%	0.7%	2.1%	2.4%	11.3%	0.5%	1.8%	1.1%	1.2%	0.0%	1.6%	-0.3%	1.0%	0.4%	-0.9%	-2.4%	-9.6%
	In the middle	1.7%	1.1%	6.0%	8.0%	0.7%	23.6%	0.6%	0.4%	0.0%	6.5%	1.3%	0.3%	-1.1%	-0.7%	-6.0%	-1.5%	0.6%	-23.3%
	Support	95.1%	91.9%	91.4%	88.0%	96.0%	64.6%	98.4%	94.5%	98.5%	91.2%	98.7%	97.9%	3.3%	2.7%	7.1%	3.2%	2.8%	33.3%
	DK/NA	2.4%	6.2%	1.8%	1.9%	1.0%	0.5%	0.4%	3.2%	0.4%	1.1%	0.0%	0.1%	-1.9%	-2.9%	-1.5%	-0.7%	-1.0%	-0.4%
An adult programme of vaccination should be created by national governments to ensure vaccination of vulnerable populations for influenza and pneumonia.	Mean	9.22	9.20	8.81	8.04	7.97	7.55	9.46	9.16	8.98	8.30	8.57	8.45	0.24	-0.04	0.17	0.26*	0.60***	0.90***
	Oppose	2.1%	1.8%	2.2%	3.9%	1.8%	6.0%	0.2%	3.9%	0.1%	0.9%	0.0%	1.3%	-1.9%	2.1%	-2.1%	-3.0%	-1.8%	-4.7%
	In the middle	4.1%	4.2%	5.4%	10.5%	1.5%	7.8%	2.6%	2.1%	2.9%	7.2%	0.0%	8.3%	-1.5%	-2.1%	-2.5%	-3.3%	-1.5%	0.5%
	Support	93.2%	90.8%	90.8%	83.1%	94.2%	84.7%	96.3%	90.9%	95.0%	90.2%	99.4%	90.4%	3.1%	0.1%	4.2%	7.1%	5.2%	5.7%
	DK/NA	0.7%	3.1%	1.6%	2.5%	2.5%	1.4%	0.9%	3.0%	2.0%	1.8%	0.6%	0.0%	0.2%	-0.1%	0.4%	-0.7%	-1.9%	-1.4%
Influenza vaccination should be incentivized for patient-facing healthcare workers.	Mean	9.49	8.98	8.61	8.22	7.76	7.69	9.57	9.14	8.87	8.21	8.29	8.33	0.08	0.16	0.26*	-0.02	0.53***	0.64**
	Oppose	0.6%	4.1%	1.5%	2.1%	1.2%	10.0%	0.0%	3.8%	3.3%	3.0%	0.0%	1.5%	-0.6%	-0.3%	1.9%	0.9%	-1.2%	-8.5%
	In the middle	1.3%	3.2%	3.5%	10.1%	6.0%	11.0%	3.5%	3.8%	2.9%	7.6%	6.6%	6.8%	2.2%	0.6%	-0.7%	-2.5%	0.6%	-4.2%
	Support	96.4%	91.8%	88.2%	84.6%	92.3%	78.2%	96.5%	90.1%	86.1%	88.3%	93.4%	91.7%	0.1%	-1.7%	-2.2%	3.8%	1.1%	13.5%
	DK/NA	1.6%	0.9%	6.8%	3.3%	0.5%	0.8%	0.0%	2.3%	7.7%	1.1%	0.0%	0.0%	-1.6%	1.4%	1.0%	-2.1%	-0.5%	-0.8%
Hospital accreditation should be linked to infection prevention, such as using hand washing rates as a factor.	Mean	8.88	9.11	8.69	8.39	8.11	8.17	9.07	9.02	9.05	8.25	8.54	8.54	0.18	-0.09	0.35**	-0.14	0.43***	0.37*
	Oppose	2.1%	2.3%	2.7%	2.2%	2.1%	6.1%	1.2%	1.8%	0.2%	2.7%	0.0%	1.0%	-0.9%	-0.5%	-2.5%	0.5%	-2.1%	-5.1%
	In the middle	5.8%	3.3%	3.5%	6.9%	2.7%	4.2%	4.9%	3.7%	0.5%	6.9%	1.6%	8.0%	-0.9%	0.3%	-3.0%	0.0%	-1.1%	3.8%
	Support	86.0%	91.2%	89.7%	88.8%	94.2%	89.6%	89.6%	91.3%	95.9%	88.8%	98.4%	91.0%	3.6%	0.1%	6.2%	-0.1%	4.2%	1.4%
	DK/NA	6.1%	3.2%	4.1%	2.1%	1.0%	0.0%	4.2%	3.2%	3.4%	1.6%	0.0%	0.0%	-1.9%	0.1%	-0.6%	-0.5%	-1.0%	0.0%
Hospitals should be mandated to publish their hand hygiene rates annually.	Mean	8.47	7.86	8.69	8.49	7.92	7.71	8.73	7.87	8.88	8.45	8.53	8.13	0.26	0.02	0.19	-0.05	0.62***	0.43*
	Oppose	4.1%	9.0%	2.4%	1.2%	1.4%	17.8%	3.3%	4.9%	1.0%	0.4%	0.3%	0.6%	-0.8%	-4.1%	-1.5%	-0.8%	-1.0%	-17.1%
	In the middle	9.2%	12.9%	5.3%	6.6%	7.7%	10.4%	10.7%	14.7%	2.7%	5.3%	0.6%	9.3%	1.5%	1.8%	-2.6%	-1.2%	-7.0%	-1.2%
	Support	79.7%	67.6%	88.9%	90.8%	90.7%	71.8%	84.4%	72.4%	95.8%	93.1%	96.1%	90.1%	4.7%	4.8%	6.9%	2.3%	5.4%	18.3%
	DK/NA	7.0%	10.5%	3.5%	1.4%	0.3%	0.0%	1.6%	8.0%	0.6%	1.1%	2.9%	0.0%	-5.4%	-2.5%	-2.9%	-0.3%	2.6%	0.0%
Farms should ensure good infection prevention and biosecurity	Mean	9.17	9.01	8.73	8.33	8.11	7.72	9.60	9.24	9.05	8.34	8.53	8.26	0.43***	0.23*	0.32**	0.00	0.42***	0.54*
	Oppose	0.6%	1.2%	1.1%	0.8%	1.0%	18.0%	0.0%	0.4%	1.6%	0.3%	0.0%	2.1%	-0.6%	-0.8%	0.5%	-0.5%	-1.0%	-15.9%
	In the middle	1.4%	4.5%	2.9%	7.6%	3.5%	7.8%	0.4%	2.2%	1.0%	8.0%	3.8%	8.9%	-1.0%	-2.3%	-1.9%	0.3%	0.3%	1.1%
	Support	96.0%	92.1%	92.8%	87.5%	95.5%	73.4%	97.8%	95.6%	96.0%	90.0%	96.2%	88.5%	1.9%	3.5%	3.2%	2.5%	0.7%	15.1%
	DK/NA	2.0%	2.2%	3.2%	4.1%	0.0%	0.7%	1.7%	1.8%	1.4%	1.8%	0.0%	0.5%	-0.3%	-0.4%	-1.8%	-2.4%	0.0%	-0.2%
Farming, including fish, should use vaccination	Mean	8.52	7.65	8.23	8.19	7.80	7.62	8.53	7.88	8.21	8.08	7.87	8.21	0.01	0.23	-0.02	-0.11	0.07	0.59**
	Oppose	3.7%	9.6%	6.8%	1.2%	1.2%	12.4%	2.0%	7.1%	7.3%	2.4%	3.0%	7.4%	-1.7%	-2.5%	0.5%	1.1%	1.8%	-5.0%
	In the middle	6.1%	6.2%	6.0%	8.1%	4.2%	7.7%	8.2%	13.3%	5.6%	8.3%	3.7%	5.5%	2.1%	7.1%	-0.4%	0.2%	-0.5%	-2.2%
	Support	71.8%	61.7%	79.6%	84.4%	93.2%	79.8%	77.3%	65.0%	82.2%	87.1%	90.1%	87.1%	5.5%	3.3%	2.5%	2.7%	-3.1%	7.4%
	DK/NA	18.4%	22.5%	7.6%	6.3%	1.4%	0.1%	12.4%	14.6%	4.9%	2.3%	3.2%	0.0%	-6.0%	-7.8%	-2.7%	-4.0%	1.8%	-0.1%

Proposal	Measure	Pre						Post						Difference					
		BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ
Farm workers should be taught hand hygiene	Mean	9.49	9.21	8.89	8.71	8.35	7.98	9.76	9.33	9.02	8.68	8.86	8.40	0.27**	0.12	0.13	-0.03	0.51***	0.42*
	Oppose	0.0%	3.0%	3.7%	1.2%	0.0%	19.0%	0.0%	2.3%	1.4%	0.4%	0.4%	2.0%	0.0%	-0.7%	-2.3%	-0.8%	0.4%	-17.1%
	In the middle	1.1%	3.0%	2.9%	4.8%	2.6%	4.0%	1.3%	2.1%	5.5%	5.4%	0.9%	8.7%	0.2%	-0.9%	2.6%	0.6%	-1.7%	4.7%
	Support	96.7%	92.9%	91.9%	91.0%	97.4%	76.8%	98.0%	94.5%	91.7%	93.0%	97.6%	89.3%	1.3%	1.6%	-0.1%	2.1%	0.2%	12.5%
	DK/NA	2.2%	1.1%	1.6%	3.0%	0.0%	0.2%	0.7%	1.2%	1.4%	1.1%	1.0%	0.1%	-1.4%	0.1%	-0.2%	-1.9%	1.0%	-0.2%

Food Security

Participants were given a set of six proposals about Food Security. **These proposals aim to discourage or prevent food production practices that jeopardize food security and contribute to the development of antibiotic-resistant bacteria.**

In some of the following proposals, the term ‘routine’ antibiotics is used. This refers to the use of antibiotics for animal growth promotion and wide-scale prevention of infection when there is no evidence of infection in the herd or flock.

- An identifying label should accompany food that is produced **without** the use of routine antibiotics
- Large-scale food suppliers – supermarkets, restaurant chains, intensive farming etc., – should be **incentivized** to promote the use of food produced without routine antibiotics.

- Large-scale food suppliers – supermarkets, restaurant chains, intensive farming etc., – should be **regulated** to promote the use of food produced without routine antibiotics.
- Governments should regulate farmers to establish infection prevention programs on farms (including vaccination) linked to an inspection program.
- Group prevention therapy with antibiotics for sick animals should be under the management of a veterinarian or allied professional.
- Governments should ban from food production systems the use of antibiotics that are critically important for humans.

All six proposals received majority support from the collective participants. The proposal that received the most support was for governments to regulate farmers





to establish infection prevention programs on farms. This proposal, post-deliberation, received an average rating of 8.661 (93.3% support) across the six countries and received the most support from participants in Nigeria (8.415, 97.8% post-deliberation). Pre-deliberation, Tanzanian participants demonstrated the lowest support for this proposal, giving it an average rating of 7.639 (66.2% support). However, post-deliberation, the support for this proposal changed significantly among Tanzanian participants, receiving an average rating of 8.485 (94.6% support).

The least supported food security proposal was for governments to ban from food production systems the use of antibiotics that are critically important for humans. Pre-de-

liberation this proposal received an average rating of 7.33 (69.3% support). Post-deliberation this increased to 7.816 (76.6% support). The increase in support primarily came from Tanzanian participants (6.668, 67.1% support pre-deliberation to 8.491, 91.3% support post-deliberation) and Indonesian participants (7.323, 66.4% support pre-deliberation to 7.922, 83.3% support post-deliberation). Brazilian participants, on the other hand, were not supportive of this proposal. Post-deliberation, Brazilian participants provided this proposal with an average rating of 6.464 with only 46.8% expressing support. **This is the least support any of the food security proposals received and the only instance where a proposal did not receive majority support from a country's participants.**

This may be explained by Brazilian participants' support for antibiotic therapy to be managed by veterinary professionals. This proposal was favored the most by Brazilian participants out of any of the six proposals receiving a post-deliberation rating of 9.425 (96.6% support), which suggests that they may simply prefer ensuring proper antibiotic use through management and oversight rather than outright bans. This assertion is further supported by comments made by Brazilian participants during deliberations such as: "I think there needs to be supervision, right?...because sometimes antibiotics are used when animals don't need them. I think that when there is a need, they should

be used and there should be supervision” and “I’m also in favor of the use of antibiotics in animals, right? As long as there’s this control, then I think that if everything is monitored properly, I’m in favor.”

Brazilian participants also appeared to demonstrate this preference when offered regulation and incentive-based approaches to ensure large-scale food providers promote food produced without routine antibiotics, Brazilian participants preferred the incentive approach (8.595, 80.4% support post-deliberation) to the regulation approach (7.349, 61.8% support post-deliberation).

Overall, however, each of these strategies received significant support across countries, with the veterinary management proposal receiving an average rating of 8.716 (92.2% support) post-deliberation and the incentive approach to promoting food produced without routine antibiotics only receiving slightly more support (8.243, 84.1% support post-deliberation) than the regulation approach (8.105, 82% support post-deliberation).

Proposal	Measure	Pre						Post						Difference					
		BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ
An identifying label should accompany food that is produced without the use of routine antibiotics	Mean	8.67	8.83	8.19	7.39	7.73	8.02	9.08	9.19	8.42	7.87	8.26	8.50	0.41*	0.36**	0.23	0.48**	0.54***	0.48*
	Oppose	3.9%	3.0%	5.3%	5.7%	4.0%	6.1%	3.7%	1.3%	5.9%	3.1%	1.0%	2.5%	-0.1%	-1.7%	0.6%	-2.6%	-2.9%	-3.7%
	In the middle	8.8%	4.6%	7.4%	16.5%	3.0%	10.0%	2.8%	1.9%	3.9%	11.4%	6.8%	3.0%	-6.1%	-2.7%	-3.6%	-5.1%	3.8%	-7.0%
	Support	80.8%	82.9%	79.0%	71.2%	92.0%	77.6%	92.3%	93.6%	85.5%	83.5%	92.1%	94.5%	11.5%	10.8%	6.5%	12.3%	0.1%	16.9%
	DK/NA	6.5%	9.6%	8.2%	6.6%	1.0%	6.2%	1.2%	3.2%	4.7%	2.0%	0.0%	0.0%	-5.3%	-6.4%	-3.5%	-4.6%	-1.0%	-6.2%
Large-scale food suppliers – supermarkets, restaurant chains, intensive farming etc., – should be incentivized to promote the use of food produced without routine antibiotics.	Mean	8.37	8.44	8.19	6.95	7.56	7.76	8.60	8.74	8.14	7.26	8.16	8.56	0.22	0.30	-0.05	0.32	0.60***	0.80***
	Oppose	4.2%	3.9%	6.5%	9.2%	4.9%	6.8%	3.2%	3.3%	8.7%	5.3%	0.8%	3.1%	-1.0%	-0.6%	2.1%	-3.9%	-4.2%	-3.7%
	In the middle	8.7%	6.7%	4.9%	16.6%	6.5%	9.3%	7.9%	8.5%	6.0%	15.2%	6.3%	1.9%	-0.9%	1.8%	1.2%	-1.5%	-0.2%	-7.4%
	Support	74.9%	71.8%	81.9%	68.0%	87.9%	83.7%	80.4%	80.2%	82.7%	77.9%	91.0%	94.5%	5.5%	8.3%	0.8%	9.9%	3.0%	10.8%
	DK/NA	12.2%	17.5%	6.6%	6.1%	0.6%	0.2%	8.6%	8.0%	2.6%	1.6%	1.9%	0.5%	-3.7%	-9.6%	-4.0%	-4.5%	1.3%	0.3%
Large-scale food suppliers – supermarkets, restaurant chains, intensive farming etc., – should be regulated to promote the use of food produced without routine antibiotics.	Mean	7.48	8.37	7.95	7.76	7.68	7.46	7.35	8.61	8.16	7.89	7.97	8.44	-0.13	0.24	0.21	0.12	0.29	0.98***
	Oppose	12.3%	5.0%	9.7%	2.9%	5.1%	10.9%	12.5%	3.8%	9.0%	1.2%	0.6%	1.4%	0.3%	-1.2%	-0.8%	-1.7%	-4.5%	-9.5%
	In the middle	13.1%	8.8%	7.1%	13.6%	6.6%	12.1%	14.6%	7.9%	3.5%	12.0%	6.7%	9.1%	1.6%	-0.9%	-3.5%	-1.6%	0.1%	-3.0%
	Support	63.5%	70.7%	76.5%	79.0%	87.7%	75.3%	61.8%	79.6%	83.0%	85.3%	92.7%	89.5%	-1.8%	8.9%	6.5%	6.3%	5.0%	14.2%
	DK/NA	11.2%	15.6%	6.7%	4.5%	0.6%	1.8%	11.1%	8.7%	4.5%	1.5%	0.0%	0.0%	-0.1%	-6.9%	-2.2%	-3.0%	-0.6%	-1.8%
Governments should regulate farmers to establish infection prevention programs on farms (including vaccination) linked to an inspection program.	Mean	9.08	8.95	8.63	8.09	7.99	7.37	9.14	9.11	8.59	8.12	8.41	8.48	0.06	0.17	-0.03	0.04	0.43**	1.12***
	Oppose	1.7%	2.6%	0.6%	1.2%	1.7%	9.7%	1.2%	0.4%	2.6%	0.5%	0.6%	1.3%	-0.5%	-2.2%	2.0%	-0.8%	-1.1%	-8.4%
	In the middle	3.5%	4.1%	4.1%	8.6%	6.0%	22.6%	4.5%	3.2%	2.4%	7.4%	1.5%	4.0%	1.0%	-0.9%	-1.7%	-1.2%	-4.5%	-18.6%
	Support	87.2%	90.1%	93.0%	87.2%	92.3%	66.2%	90.1%	92.9%	93.5%	90.6%	97.8%	94.6%	2.9%	2.9%	0.5%	3.4%	5.6%	28.4%
	DK/NA	7.6%	3.2%	2.3%	2.9%	0.0%	1.5%	4.2%	3.5%	1.5%	1.5%	0.0%	0.1%	-3.4%	0.2%	-0.8%	-1.4%	0.0%	-1.4%
Group prevention therapy with antibiotics for sick animals should be under the management of a veterinarian or allied professional.	Mean	9.46	9.09	8.45	8.21	7.81	7.47	9.43	9.31	8.82	8.24	8.01	8.30	-0.03	0.23*	0.38**	0.04	0.20	0.83***
	Oppose	0.0%	0.3%	4.1%	0.8%	1.1%	9.7%	1.4%	0.9%	0.4%	0.8%	2.9%	3.2%	1.4%	0.6%	-3.7%	0.0%	1.8%	-6.5%
	In the middle	1.3%	3.2%	3.6%	9.9%	8.6%	20.1%	1.5%	2.3%	3.9%	8.2%	4.4%	3.8%	0.3%	-0.9%	0.2%	-1.6%	-4.2%	-16.3%
	Support	96.1%	90.5%	88.7%	86.4%	88.3%	69.2%	96.6%	94.2%	91.9%	89.8%	91.8%	93.0%	0.5%	3.7%	3.2%	3.4%	3.5%	23.9%
	DK/NA	2.6%	6.0%	3.5%	2.9%	2.0%	1.1%	0.4%	2.6%	3.8%	1.1%	1.0%	0.0%	-2.2%	-3.4%	0.3%	-1.8%	-1.0%	-1.1%
Governments should ban from food production systems the use of antibiotics that are critically important for humans.	Mean	6.28	8.01	7.95	7.32	7.31	6.67	6.46	8.40	7.84	7.92	7.37	8.49	0.18	0.39	-0.10	0.60***	0.06	1.82***
	Oppose	19.7%	8.2%	6.4%	6.2%	9.2%	13.8%	19.2%	8.0%	8.9%	1.0%	7.5%	2.6%	-0.6%	-0.3%	2.5%	-5.2%	-1.7%	-11.1%
	In the middle	17.8%	7.8%	9.5%	17.8%	4.6%	19.2%	17.8%	6.7%	4.5%	14.9%	11.3%	6.1%	-0.1%	-1.1%	-4.9%	-3.0%	6.7%	-13.1%
	Support	48.6%	71.3%	74.8%	66.4%	84.7%	67.1%	46.8%	78.3%	79.0%	83.0%	80.0%	91.3%	-1.8%	7.0%	4.3%	16.6%	-4.7%	24.2%
	DK/NA	13.9%	12.6%	9.3%	9.6%	1.6%	0.0%	16.3%	7.0%	7.5%	1.1%	1.3%	0.0%	2.4%	-5.6%	-1.8%	-8.4%	-0.3%	0.0%

Awareness and Education

Participants considered **four proposals that would increase public awareness and understanding of antibiotic resistance**. Support for these approaches was high before the deliberation and remained high afterwards. Before the deliberation, the proposals had an average rating across all six countries of between 8.4 (88.3% support) and 8.7 (91.1% support) on a scale of 0 to 10. There were minor but statistically significant increases in average support after the deliberation, raising the average rating across all six countries for these proposals to between 8.7 (91.1% support) and 9.0 (95.8% support).

The highest rated proposal across the six countries was one to incorporate hand hygiene and infection prevention education into the standard curriculum in schools from the start of schooling through graduation. One participant from India expressed their support for this proposal after noting that the most effective interventions will come from targeting “education institutes as well as social media” as education campaigns in these settings “can influence people very easily.” This proposal had an average rating of 9.0 (95.8% support) after the deliberation. Indonesian participants tended to be less supportive of the proposal for national governments to increase funding for vaccine awareness and understanding campaigns, providing an average rating of 8.0 (87.1%

support), compared to an 8.8 rating (95.2% support) across all six countries.



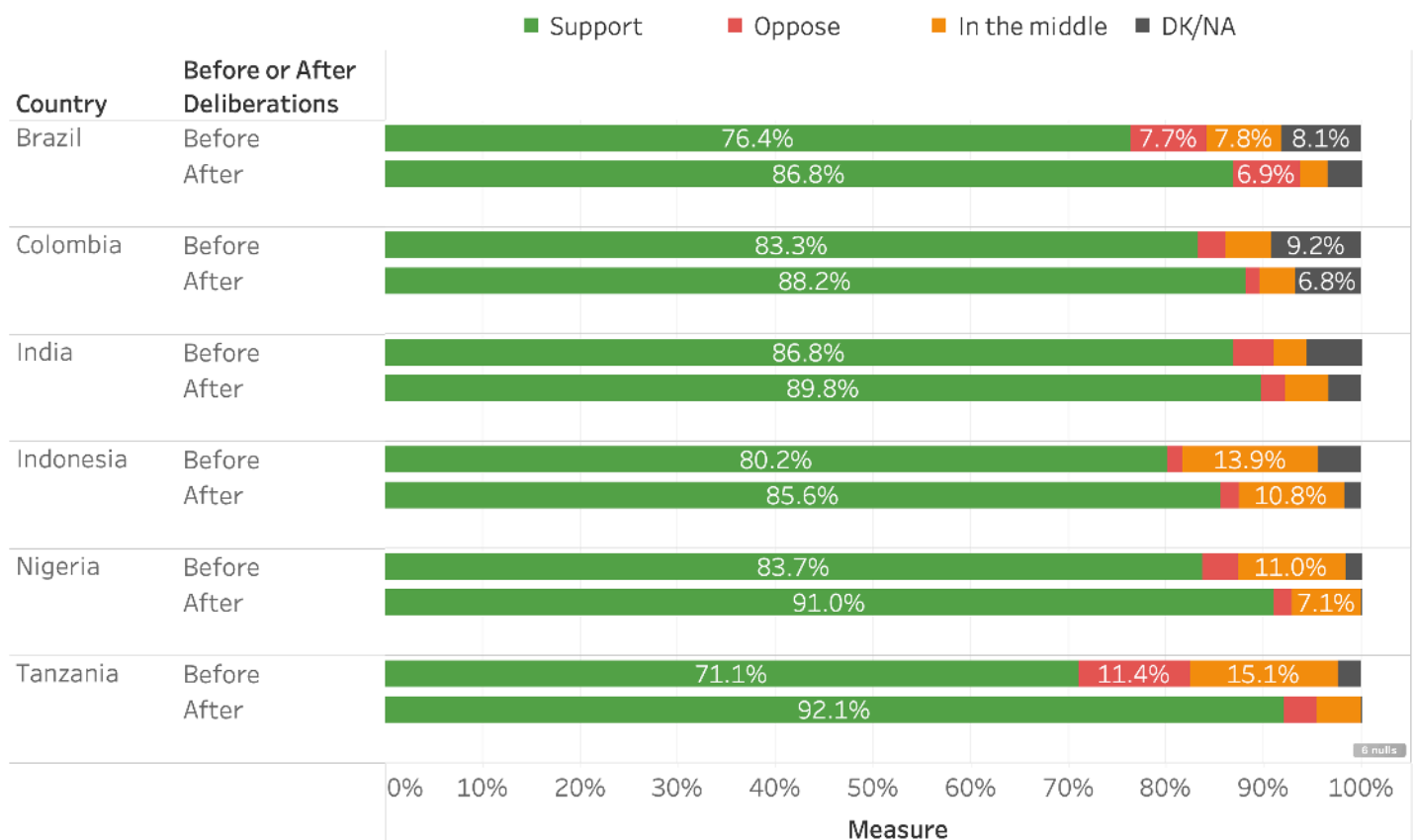
Proposal	Measure	Pre						Post						Difference					
		BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ
Food produced with the routine use of antibiotics should be identified by an international standard, such as a hazard-warnings symbol or label.	Mean	8.70	9.09	8.45	8.32	7.82	8.26	9.04	9.15	8.63	8.42	8.56	8.32	0.33	0.06	0.19	0.10	0.74***	0.05
	Oppose	3.0%	3.3%	3.2%	0.8%	2.6%	3.1%	1.8%	0.4%	2.6%	1.3%	1.6%	3.4%	-1.2%	-2.9%	-0.6%	0.5%	-1.0%	0.3%
	In the middle	4.0%	5.5%	4.8%	9.2%	3.2%	8.6%	4.1%	3.5%	5.3%	6.8%	0.9%	5.2%	0.1%	-2.0%	0.5%	-2.4%	-2.3%	-3.4%
	Support	86.9%	87.1%	88.0%	88.1%	94.2%	86.1%	90.4%	88.9%	89.3%	90.8%	97.1%	91.4%	3.6%	1.8%	1.3%	2.7%	2.9%	5.3%
	DK/NA	6.2%	4.1%	4.0%	1.9%	0.0%	2.2%	3.7%	7.2%	2.8%	1.1%	0.4%	0.0%	-2.5%	3.1%	-1.3%	-0.8%	0.4%	-2.2%
Hand hygiene and infection prevention should be part of the standard curriculum in schools from the start of schooling through to graduation.	Mean	9.35	9.12	8.82	8.29	8.37	8.21	9.43	9.46	9.31	8.32	8.52	8.45	0.08	0.34***	0.49***	0.03	0.14	0.24
	Oppose	2.3%	1.2%	0.8%	1.7%	0.3%	8.0%	0.7%	0.3%	0.4%	1.1%	0.6%	0.5%	-1.5%	-1.0%	-0.4%	-0.6%	0.2%	-7.5%
	In the middle	2.8%	3.8%	6.6%	8.4%	2.9%	8.3%	3.5%	1.7%	0.3%	7.6%	2.7%	4.0%	0.7%	-2.1%	-6.3%	-0.8%	-0.2%	-4.2%
	Support	93.4%	93.5%	89.8%	88.1%	96.7%	83.7%	95.5%	96.9%	99.0%	90.2%	96.7%	95.5%	2.1%	3.4%	9.2%	2.1%	-0.1%	11.7%
	DK/NA	1.6%	1.5%	2.8%	1.8%	0.0%	0.0%	0.3%	1.2%	0.3%	1.1%	0.0%	0.0%	-1.2%	-0.3%	-2.5%	-0.7%	0.0%	0.0%
Awareness campaigns should focus on the risks and harms of taking unnecessary antibiotics on humans, food security, and the environment.	Mean	9.20	9.05	8.70	7.82	8.08	7.97	9.31	9.36	9.13	8.13	8.59	8.18	0.11	0.31***	0.43***	0.32*	0.51**	0.21
	Oppose	1.6%	1.6%	1.4%	3.0%	3.5%	6.1%	1.7%	0.3%	0.0%	1.1%	0.0%	6.8%	0.1%	-1.3%	-1.4%	-1.9%	-3.5%	0.7%
	In the middle	6.1%	3.6%	5.6%	16.3%	1.7%	18.7%	1.9%	1.1%	2.1%	7.7%	2.5%	5.1%	-4.2%	-2.5%	-3.6%	-8.7%	0.8%	-13.7%
	Support	89.2%	90.5%	91.4%	76.5%	94.8%	75.2%	94.2%	95.4%	97.9%	89.7%	96.5%	88.1%	5.0%	4.8%	6.4%	13.2%	1.7%	12.9%
	DK/NA	3.1%	4.3%	1.5%	4.2%	0.0%	0.0%	2.2%	3.3%	0.1%	1.5%	1.0%	0.0%	-0.9%	-1.0%	-1.4%	-2.6%	1.0%	0.0%
National governments should increase funding for awareness campaigns into vaccine hesitancy and improving understanding about people's behaviours relating to vaccination.	Mean	8.95	8.95	8.62	7.84	8.05	7.89	9.44	9.19	9.11	7.97	8.53	8.41	0.49***	0.23*	0.48***	0.14	0.48***	0.53**
	Oppose	1.0%	1.5%	1.3%	3.3%	2.0%	5.4%	0.0%	0.3%	0.4%	2.0%	0.4%	1.8%	-1.0%	-1.2%	-0.9%	-1.3%	-1.6%	-3.6%
	In the middle	6.4%	5.9%	5.3%	10.8%	5.4%	7.8%	1.2%	1.6%	0.9%	9.1%	1.4%	4.6%	-5.2%	-4.3%	-4.4%	-1.8%	-4.0%	-3.2%
	Support	90.0%	88.4%	89.6%	82.3%	92.6%	86.8%	97.6%	95.2%	98.6%	87.1%	98.2%	93.6%	7.6%	6.8%	9.0%	4.9%	5.6%	6.9%
	DK/NA	2.6%	4.2%	3.8%	3.6%	0.0%	0.0%	1.2%	2.9%	0.1%	1.8%	0.0%	0.0%	-1.4%	-1.3%	-3.6%	-1.9%	0.0%	0.0%

Targets

On average, participants in the deliberation increased their support for proposals to build on existing global health targets to reduce the threat of antibiotic resistance. Support for these proposals across the six countries ranged from 7.9 (74.8% support) to 8.5 (85.2% support) on a scale of 0 to 10 before the deliberation and increased significantly, ranging from 8.3 (85.6% support) to 8.8 (94.3% support) after the deliberation.

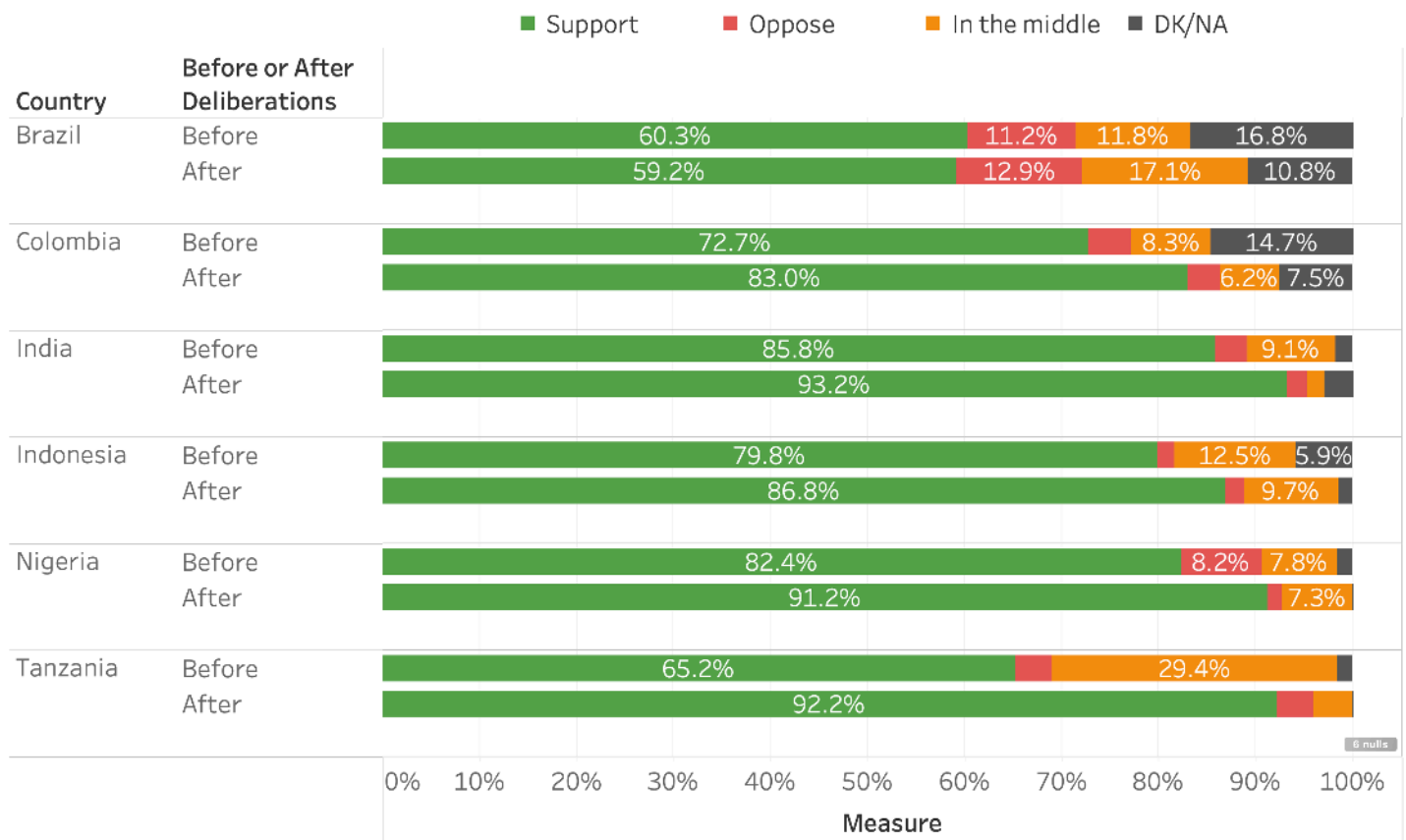
The proposal to include antibiotic resistance as a cause of death on all national death certificates to enable mortality data collection saw the largest significant average increase across the six countries, from 7.9 (80.8% support) to 8.5 (88.9% support). One Colombian participant even expressed surprise that this was not already standard practice and stated “that this (antibiotic resistance) should always be included as a cause of death on the death certificate because it helps with statistical analysis and so that more detailed research can be done to investigate which antibiotics generate the most resistance.”

“Antibiotic resistance should be included as a cause of death on all national death certificates to enable collection of data on mortality.”



The proposal to establish a global target to stop the use of medically critical antibiotics in the food chain also saw a significant increase from 7.9 (74.8% support) to 8.4 (84.5% support) after deliberation. Notably, post-deliberation support among Brazilian participants for this proposal, at 7.3 (59.2% support), was significantly lower than the cross-country average and did not change significantly from the pre-deliberation rating.

"There should be a global target to stop the use of medically critical antibiotics in the food chain."



Proposal	Measure	Pre						Post						Difference					
		BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ
There should be global targets to address bacterial resistance to antibiotics, just like global targets for climate.	Mean	8.90	8.87	8.40	7.94	7.80	7.77	8.88	9.16	8.86	8.19	8.30	8.50	-0.02	0.29*	0.47***	0.25**	0.50***	0.73***
	Oppose	0.9%	1.5%	1.3%	0.8%	2.9%	17.3%	4.9%	1.7%	1.1%	0.9%	0.6%	1.1%	4.0%	0.2%	-0.2%	0.1%	-2.2%	-16.1%
	In the middle	5.0%	5.5%	9.0%	11.0%	4.9%	5.8%	4.4%	3.0%	3.2%	8.6%	3.1%	5.0%	-0.7%	-2.5%	-5.8%	-2.5%	-1.8%	-0.8%
	Support	89.1%	83.1%	87.3%	83.7%	91.9%	75.3%	90.2%	90.4%	93.9%	89.4%	96.3%	93.9%	1.1%	7.3%	6.6%	5.8%	4.3%	18.6%
	DK/NA	5.0%	9.9%	2.4%	4.5%	0.3%	1.7%	0.5%	4.9%	1.8%	1.1%	0.0%	0.0%	-4.4%	-5.0%	-0.5%	-3.4%	-0.3%	-1.7%
There should be a global target to reduce human deaths from antibiotic resistance.	Mean	8.91	9.13	8.52	8.18	7.99	7.87	9.03	9.32	8.95	8.19	8.51	8.34	0.11	0.19*	0.43***	0.02	0.51**	0.47*
	Oppose	0.2%	2.5%	0.8%	2.0%	4.0%	8.2%	0.9%	0.0%	0.6%	1.0%	0.4%	2.8%	0.8%	-2.5%	-0.2%	-1.0%	-3.5%	-5.5%
	In the middle	7.4%	3.0%	9.1%	7.7%	3.3%	21.0%	4.0%	2.7%	3.4%	6.9%	1.5%	3.1%	-3.4%	-0.3%	-5.7%	-0.8%	-1.8%	-17.9%
	Support	84.7%	88.0%	86.7%	85.7%	92.8%	70.8%	94.3%	94.6%	94.7%	90.4%	98.1%	93.3%	9.7%	6.6%	8.0%	4.7%	5.3%	22.5%
	DK/NA	7.8%	6.4%	3.5%	4.6%	0.0%	0.0%	0.7%	2.7%	1.4%	1.8%	0.0%	0.9%	-7.1%	-3.8%	-2.1%	-2.9%	0.0%	0.9%
There should be a global target to stop the use of medically critical antibiotics in the food chain.	Mean	7.46	8.56	8.25	7.93	7.37	7.28	7.31	8.89	8.89	8.07	8.06	8.54	-0.15	0.33*	0.64***	0.14	0.69***	1.26***
	Oppose	11.2%	4.4%	3.3%	1.8%	8.2%	3.8%	12.9%	3.3%	2.1%	2.0%	1.5%	3.7%	1.7%	-1.1%	-1.3%	0.2%	-6.6%	-0.1%
	In the middle	11.8%	8.3%	9.1%	12.5%	7.8%	29.4%	17.1%	6.2%	1.8%	9.7%	7.3%	4.1%	5.3%	-2.1%	-7.4%	-2.8%	-0.6%	-25.3%
	Support	60.3%	72.7%	85.8%	79.8%	82.4%	65.2%	59.2%	83.0%	93.2%	86.8%	91.2%	92.2%	-1.1%	10.3%	7.4%	7.0%	8.8%	27.0%
	DK/NA	16.8%	14.7%	1.8%	5.9%	1.6%	1.6%	10.8%	7.5%	3.0%	1.5%	0.0%	0.0%	-6.0%	-7.1%	1.2%	-4.4%	-1.6%	-1.6%
There should be a global target to stop the use of antibiotics for growth promotion and infection prevention without veterinary advice	Mean	8.43	8.25	8.26	7.58	7.37	7.80	8.54	8.71	8.55	7.99	7.90	8.21	0.10	0.46**	0.29	0.41**	0.53**	0.41*
	Oppose	5.2%	7.8%	4.6%	7.2%	7.3%	3.3%	3.7%	4.1%	2.2%	2.3%	4.9%	1.2%	-1.4%	-3.7%	-2.5%	-4.9%	-2.5%	-2.1%
	In the middle	7.6%	7.2%	5.5%	12.0%	9.0%	12.2%	10.8%	4.2%	6.1%	12.8%	5.2%	8.6%	3.2%	-3.0%	0.6%	0.7%	-3.8%	-3.6%
	Support	81.3%	76.9%	83.1%	75.8%	83.6%	83.2%	80.2%	83.6%	88.9%	83.8%	87.1%	90.1%	-1.1%	6.7%	5.8%	8.0%	3.4%	7.0%
	DK/NA	5.9%	8.1%	6.8%	5.0%	0.0%	1.3%	5.2%	8.1%	2.8%	1.1%	2.9%	0.0%	-0.7%	0.0%	-3.9%	-3.8%	2.9%	-1.3%
Antibiotic resistance should be included as a cause of death on all national death certificates to enable collection of data on mortality.	Mean	8.05	8.67	8.32	7.74	7.41	7.01	8.62	9.14	8.63	7.98	8.02	8.52	0.56*	0.47**	0.30*	0.24	0.61***	1.52***
	Oppose	7.7%	2.8%	4.2%	1.5%	3.7%	11.4%	6.9%	1.4%	2.4%	1.9%	1.9%	3.3%	-0.8%	-1.4%	-1.8%	0.5%	-1.8%	-8.0%
	In the middle	7.8%	4.7%	3.4%	13.9%	11.0%	15.1%	2.8%	3.6%	4.5%	10.8%	7.1%	4.6%	-5.0%	-1.1%	1.1%	-3.1%	-3.9%	-10.6%
	Support	76.4%	83.3%	86.8%	80.2%	83.7%	71.1%	86.8%	88.2%	89.8%	85.6%	91.0%	92.1%	10.3%	4.9%	3.1%	5.4%	7.3%	21.1%
	DK/NA	8.1%	9.2%	5.7%	4.4%	1.7%	2.4%	3.6%	6.8%	3.3%	1.7%	0.0%	0.0%	-4.5%	-2.4%	-2.4%	-2.7%	-1.7%	-2.4%

Surveillance

Participants considered a range of proposals to establish or enhance systems to monitor infection rates, resistance of bacterial strains, antibiotic use, and other useful indicators. **They supported these proposals at high levels before and after the deliberation.** Average support for these five proposals across the six countries ranged from 8.3 (86.8% support) to 8.4 (87.8% support) pre-deliberation and showed minor but significant increases to a range of 8.6 (89.8% support) to 8.8 (91.4% support) post-deliberation.

Support for these proposals was well expressed by one Brazilian participant who pointed out that implementation cost is less of a concern for programs that are targeted toward improving public health: “it says that one of the points against it is the amount that would be spent to carry out this surveillance. I don’t think the amount should be on the agenda because it is something related to our health...we do have to have surveillance and care about this, as it was said, there must be control both of the population and of the pharmaceutical industries on all sides.”

Notably, participants from Indonesia offered the lowest average ratings for the proposals and did not significantly change their ratings throughout the deliberation.



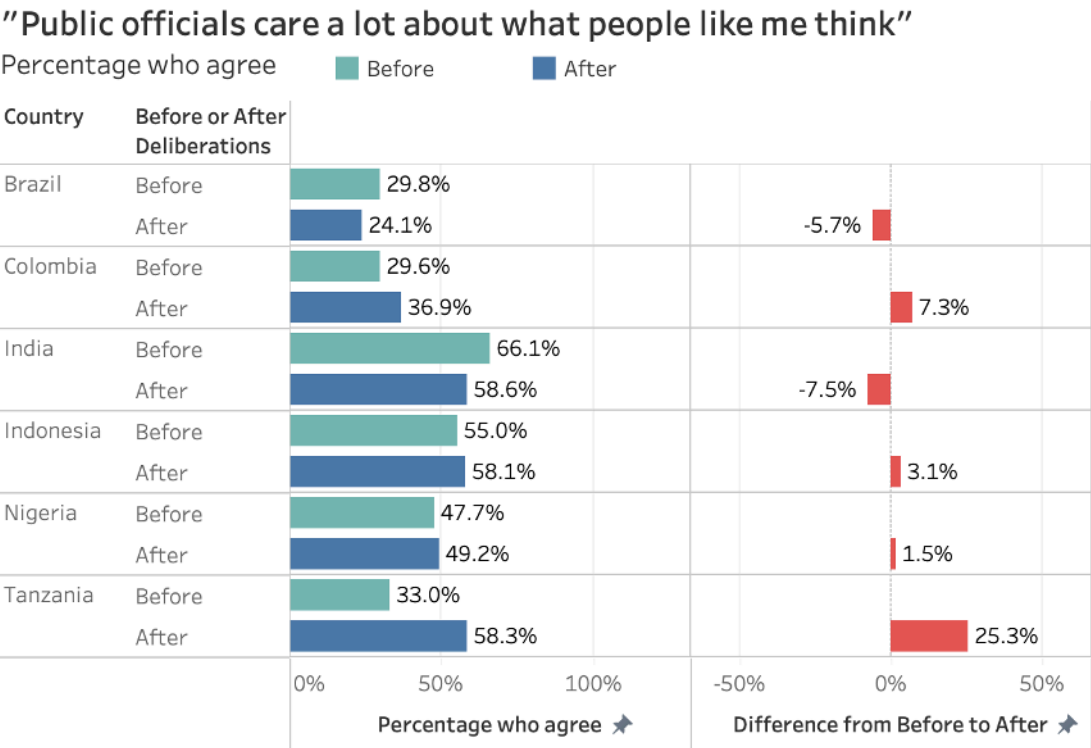
Proposal	Measure	Pre						Post						Difference					
		BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ	BR	CO	IN	ID	NG	TZ
National surveillance programs should be in place to monitor - infection rates, bacterial types, antibiotic use, and antibiotic resistance - in humans, animals (including fish) and water systems.	Mean	8.77	8.94	8.54	8.20	7.98	7.95	9.30	9.25	8.95	8.18	8.46	8.69	0.53***	0.31**	0.41***	-0.02	0.47***	0.73***
	Oppose	1.9%	0.4%	2.1%	0.3%	3.9%	5.5%	1.0%	0.3%	0.5%	1.0%	0.6%	1.7%	-0.9%	-0.1%	-1.6%	0.6%	-3.4%	-3.7%
	In the middle	5.2%	4.2%	3.2%	10.1%	2.6%	18.6%	3.9%	2.4%	1.1%	8.5%	0.2%	2.7%	-1.3%	-1.8%	-2.0%	-1.6%	-2.5%	-16.0%
	Support	90.5%	86.7%	93.2%	87.8%	93.4%	73.7%	89.5%	95.2%	96.9%	88.8%	99.3%	95.6%	-1.0%	8.5%	3.7%	1.1%	5.8%	21.8%
	DK/NA	2.4%	8.8%	1.6%	1.8%	0.0%	2.2%	5.5%	2.2%	1.5%	1.8%	0.0%	0.0%	3.1%	-6.6%	-0.1%	-0.1%	0.0%	-2.2%
International funding support should be available for surveillance in countries willing to invest in laboratory capacity, monitoring, and reporting and where systems are not yet available.	Mean	8.80	8.99	8.44	8.14	8.01	7.58	9.31	9.30	8.85	7.98	8.65	8.42	0.50**	0.31***	0.41**	-0.16	0.65***	0.85***
	Oppose	0.6%	0.8%	2.5%	1.6%	1.0%	16.6%	0.2%	1.2%	0.9%	2.7%	0.0%	2.0%	-0.4%	0.4%	-1.6%	1.1%	-1.0%	-14.6%
	In the middle	7.8%	3.5%	7.6%	9.7%	2.3%	8.9%	2.8%	1.1%	2.4%	10.2%	1.3%	6.4%	-5.0%	-2.4%	-5.2%	0.5%	-1.0%	-2.5%
	Support	83.3%	90.1%	87.6%	86.5%	96.6%	74.4%	94.3%	95.5%	96.5%	86.0%	97.7%	91.6%	11.0%	5.5%	8.9%	-0.5%	1.1%	17.1%
	DK/NA	8.3%	5.6%	2.3%	2.2%	0.0%	0.1%	2.7%	2.2%	0.2%	1.1%	1.0%	0.0%	-5.6%	-3.5%	-2.2%	-1.1%	1.0%	-0.1%
Surveillance data should be reported nationally, regionally, and to the World Health Organization, Food and Agriculture Organisation, and the World Organisation for Animal Health.	Mean	8.92	8.83	8.40	8.05	7.79	7.74	9.27	9.15	8.92	8.22	8.27	8.37	0.35*	0.32**	0.51***	0.18	0.48***	0.63***
	Oppose	0.0%	0.6%	2.9%	2.5%	3.1%	2.5%	0.2%	1.8%	1.1%	0.4%	0.0%	1.9%	0.2%	1.2%	-1.8%	-2.1%	-3.1%	-0.6%
	In the middle	4.7%	5.2%	4.8%	9.8%	6.1%	23.9%	1.6%	1.3%	1.3%	7.5%	2.6%	5.0%	-3.1%	-3.9%	-3.5%	-2.3%	-3.5%	-18.9%
	Support	86.9%	91.0%	87.8%	85.5%	90.9%	73.6%	95.3%	93.0%	97.0%	90.9%	96.5%	93.1%	8.4%	2.0%	9.1%	5.4%	5.6%	19.5%
	DK/NA	8.4%	3.3%	4.5%	2.2%	0.0%	0.0%	2.9%	3.9%	0.7%	1.1%	1.0%	0.0%	-5.5%	0.6%	-3.8%	-1.0%	1.0%	0.0%
Laboratory systems for measuring antibiotic resistance in bacteria for humans and animals should be integrated with shared One Health resources.	Mean	8.74	8.85	8.41	8.19	7.78	7.90	8.72	9.00	8.60	8.19	8.30	8.74	-0.03	0.15	0.19	-0.00	0.52***	0.84***
	Oppose	0.8%	0.6%	2.4%	1.6%	1.2%	5.8%	1.0%	1.2%	0.7%	1.7%	0.9%	4.2%	0.2%	0.5%	-1.7%	0.1%	-0.4%	-1.5%
	In the middle	3.8%	5.3%	6.0%	8.6%	4.3%	6.7%	6.9%	4.1%	4.2%	6.5%	1.5%	3.0%	3.2%	-1.3%	-1.8%	-2.1%	-2.8%	-3.7%
	Support	87.1%	73.1%	87.9%	87.6%	94.0%	87.3%	87.6%	82.3%	92.1%	90.1%	97.7%	91.4%	0.5%	9.2%	4.2%	2.5%	3.7%	4.1%
	DK/NA	8.4%	21.0%	3.7%	2.2%	0.5%	0.3%	4.5%	12.5%	2.9%	1.7%	0.0%	1.4%	-3.8%	-8.5%	-0.8%	-0.5%	-0.5%	1.1%
Data from point of care rapid diagnostic tests should be incorporated into routine national surveillance reporting.	Mean	8.88	8.60	8.40	8.11	7.70	7.77	9.00	9.00	8.62	8.24	8.33	8.65	0.12	0.39**	0.23	0.13	0.63***	0.88***
	Oppose	0.0%	2.2%	2.8%	2.0%	2.2%	5.0%	0.4%	1.5%	2.0%	0.9%	1.5%	2.0%	0.4%	-0.7%	-0.9%	-1.1%	-0.7%	-3.1%
	In the middle	6.7%	5.6%	4.1%	9.1%	2.9%	8.7%	6.3%	3.4%	2.3%	7.9%	2.7%	4.9%	-0.4%	-2.2%	-1.7%	-1.2%	-0.3%	-3.8%
	Support	89.5%	82.4%	85.9%	86.7%	92.6%	85.8%	90.4%	91.9%	92.8%	90.1%	95.8%	92.5%	0.8%	9.6%	6.9%	3.4%	3.2%	6.8%
	DK/NA	3.8%	9.8%	7.2%	2.3%	2.3%	0.5%	2.9%	3.2%	2.9%	1.1%	0.0%	0.6%	-0.9%	-6.7%	-4.3%	-1.1%	-2.3%	0.1%



Participants were asked to agree or disagree with seven statements about their perceived influence on public policy and their ability to create changes in their government.

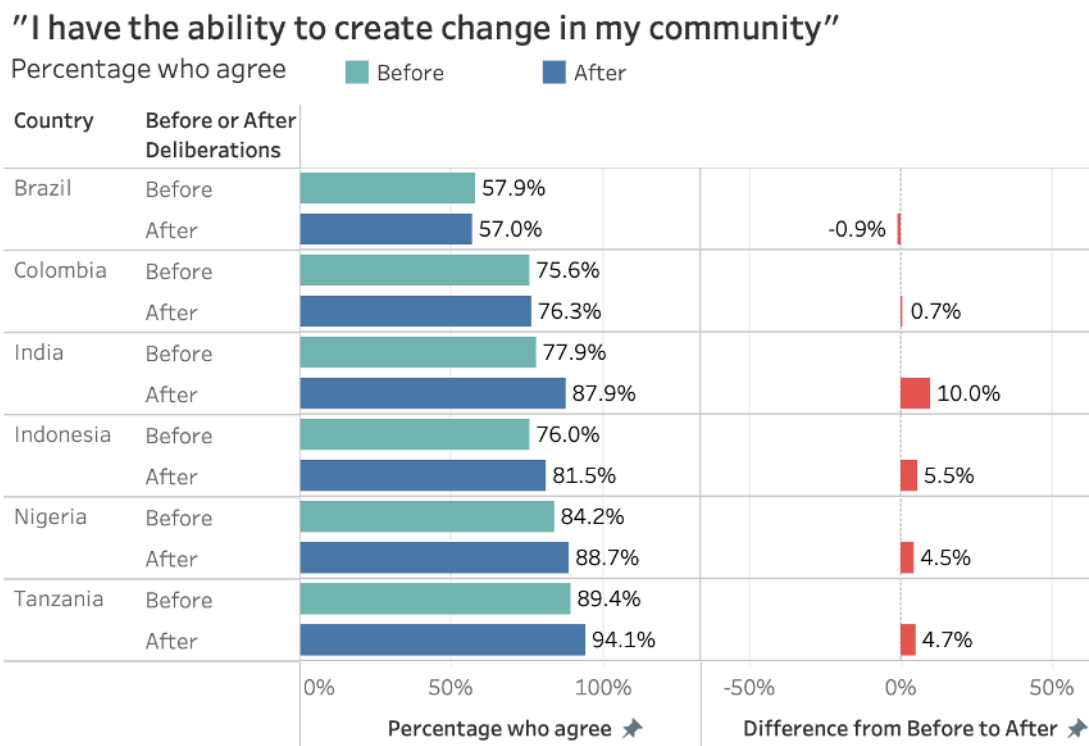
In general, after deliberation, there was an increase in agreement with statements such as “Public officials care a lot about what people like me think,” “I have opinions about policy issues that are worth listening to,” and “I have the ability to create change in my community.” This would imply that through deliberation, participants generally gained confidence in their policy opinions. Four out of six countries, Tanzania, Indonesia, Nigeria, and Colombia, saw an increase in agreement with all three statements. Participants from Brazil demonstrated a decrease in agreement for all three statements from 0.9 to 5.7 percentage points.

Before deliberations, for the proposal, “Public officials care a lot about what people like me think,” participants from Colombia, Brazil, and Tanzania expressed the least support at 29.6%



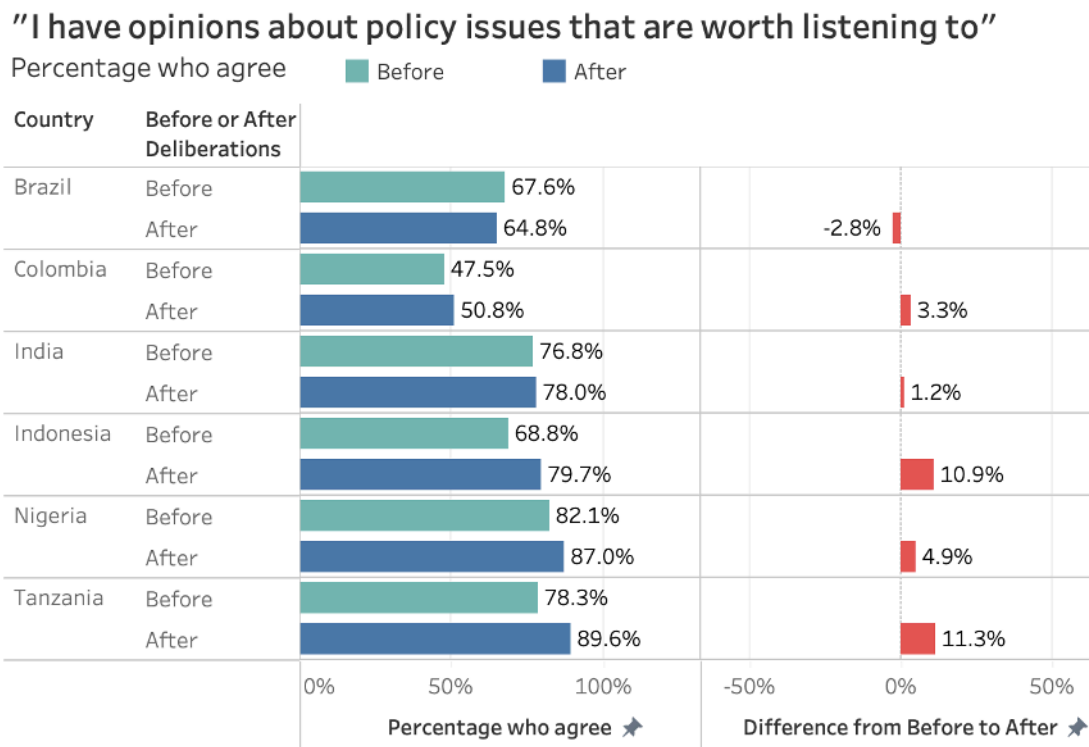
29.8%, and 33% respectively. Meanwhile, participants from Nigeria, Indonesia, India, and Nigeria expressed near or above majority support at 47.7%, 55.0%, and 66.1%, respectively. These levels of support remained largely consistent post-deliberation except for Tanzanian participants, who saw a significant increase in support of 25.3 percentage points, increasing from 33% to 58.3%.

Participants expressed more agreement with the statement, “I have the ability to create change in my community.” A majority in each of the six countries agreed with this statement, with all but Brazil ranging from 76% to 89.4% agreement. Brazil expressed the least agreement but still a majority at 57.9%. After deliberations, these percentages largely stayed the same, with Indian participants experiencing the largest shift, a 10 percentage point increase from 77.9% to 87.9%.



Participants from all six countries also mostly agreed with the statement that “I have opinions about policy issues that are worth listening to.” Agreement varied among the six countries, but the percentage who agreed was between 67.6% and 82.1% in all countries except Colombia. Colombian participants expressed the least agreement, at 47.5%. After deliberations, agreement with the statement largely remained the same, with the largest shift occurring for

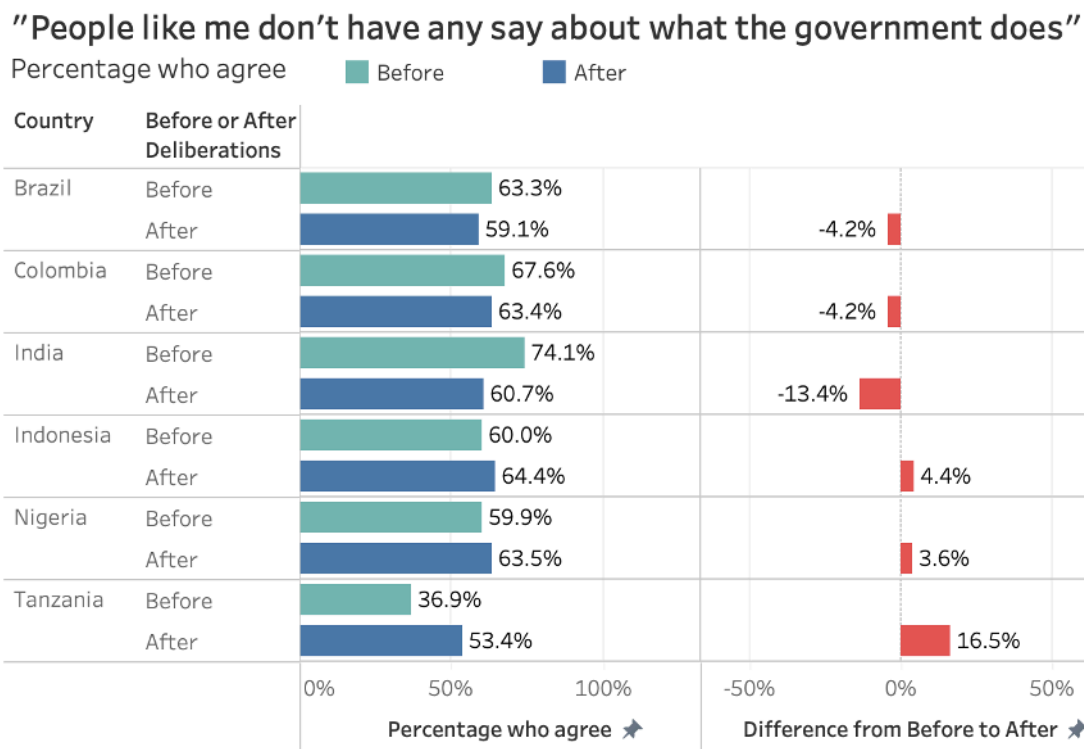
Tanzanian participants who saw an increase in agreement of 11.3 percentage points, from 78.3% to 89.6%.



Additionally, some questions asked participants how much they agreed with negatively worded statements such as, "People like me don't have any say about what the government does," and statements specific to the topics discussed in deliberation, such as, "People like me can't do much about antibiotic resistance," and "People like me can't do much about food security." India, Colombia, and Brazil had a drop in agreement for all three questions after deliberation, which implies that participants gained more faith in their individual impact on government policy. Two countries, Tanzania and Indonesia, had an increase in agreement for all three questions, ranging from 0.3%-16.5%.

This is unexpected as a majority of Tanzanian and Indonesian respondents seemed to agree with two seemingly contradictory statements. For example, after deliberation, 58.3% of Tanzanian respondents and 58.1% of Indonesian respondents agreed with the statement, "Public officials care a lot about what people like me think." Yet, 53.4% of Tanzanian respondents and 66.5% of Indonesian respondents selected that they agreed with the statement. "People like me don't have any say about what the government does".

A majority of participants in all countries but one agreed with the statement “People like me don’t have any say about what the government does.” All countries except Tanzania had agreement levels between 59.1% and 74.1%. Tanzanian participants expressed low levels of agreement, with only 36.9% agreeing with the statement. After deliberations, attitudes mostly stayed the same, but Tanzania and India experienced significant shifts in opposite directions. Tanzanian participants saw a 16.5 percentage point increase from 36.9% to 53.4%, whereas Indian participants saw 13.4 percentage point decrease, from 74.1% to 60.7%.



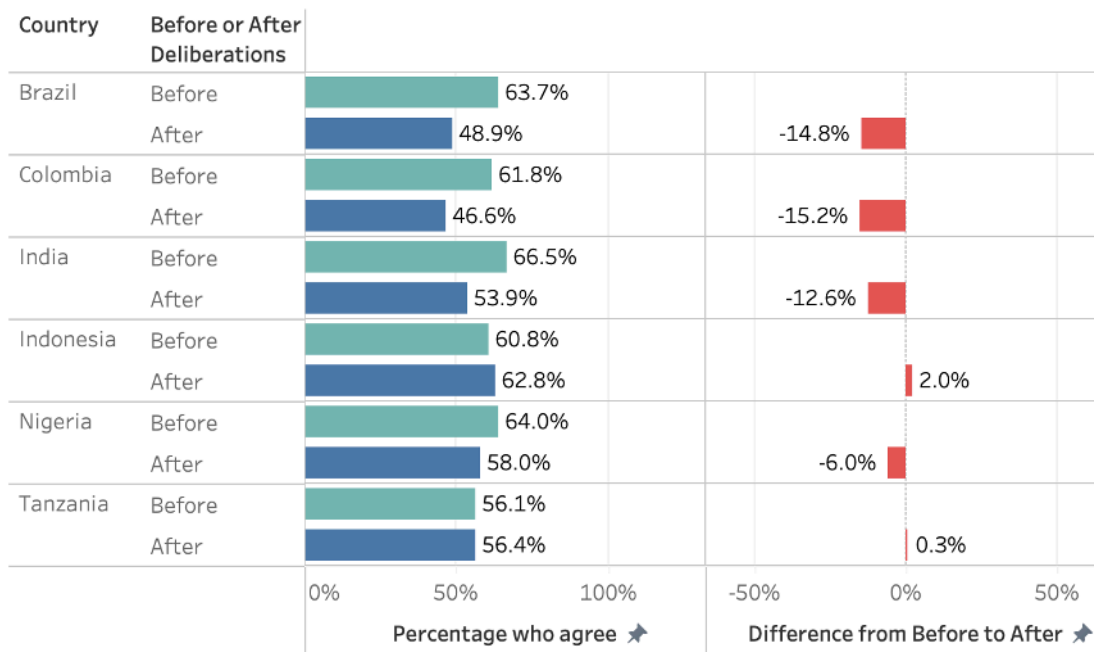
For the statement, “People like me can’t do much about antibiotic resistance,” all countries expressed majority-levels of agreement before deliberations. The percentage of participants who agreed with the statement ranged from 56.1% to 66.5%. After deliberations, attitudes generally decreased, particularly for India, Colombia, and Brazil. India decreased from 66.5% to 53.9% (-12.6 percentage points), Colombia decreased from 61.8% to 46.6% (-15.2 percentage points), and Brazil decreased from 63.7% to 48.9% (-14.8 percentage points). Tanzania, Nigeria, and Indonesia saw many more decreases in agreement.

"People like me can't do much about antibiotic resistance"

Percentage who agree

Before

After



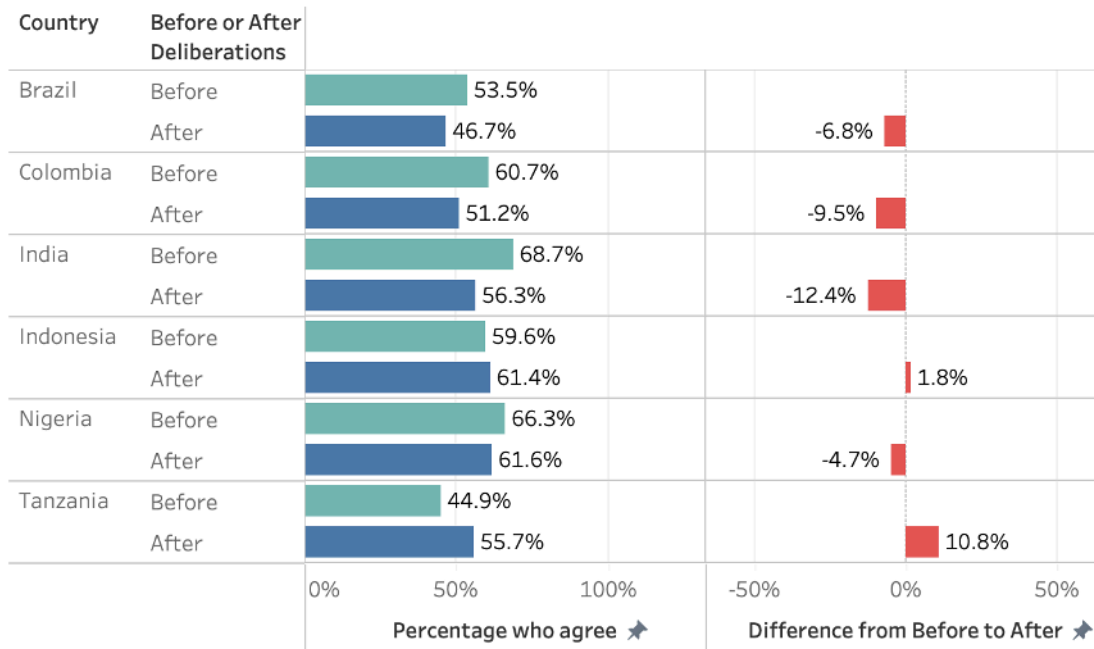
Participants from all countries except Tanzania and Brazil expressed majority agreement with the statement "People like me can't do much about food security," although they were not far behind. Agreement with this statement ranged from 44.9% to 68.7%. After deliberations, agreement with this statement generally decreased, but Tanzania and Indonesia saw some moderate increases in agreement. Despite the general decrease, agreement remained around 50% for Nigeria, India, and Colombia. India showed the largest decrease in agreement, a 12.4 percentage point decrease from 68.7% to 56.3%. Tanzania, on the other hand, saw a 10.8 percentage point increase from 44.9% to 55.7%.

"People like me can't do much about food security"

Percentage who agree

Before

After





Knowledge Gains

Participants were asked 6 questions about their knowledge on antibiotics and antibiotic resistance before and after the deliberation. The questions were:

1. What does antibiotic resistance mean?
2. When was the latest discovery of a new antibiotic class that has reached the market?
3. Which of the following statements are TRUE about antibiotics?
4. Which of the following is a way to prevent infection, in order to reduce antibiotic resistance?
5. What does the term 'superbug' mean?
6. Which of the following statements is a fact about antibiotic resistance?

Increases in correct responses indicate that participants gained knowledge about this topic throughout the deliberation. Four out of six countries, Nigeria, India, Colombia, and Indonesia, had an increase in the percentage of correct responses for all 6 questions. Participants from Brazil had an increase in correct responses for five questions, and a decrease in knowledge of 0.1% for one question, and participants from Tanzania also had an increase in knowledge for five questions and decrease in knowledge by 1.4% for one question.

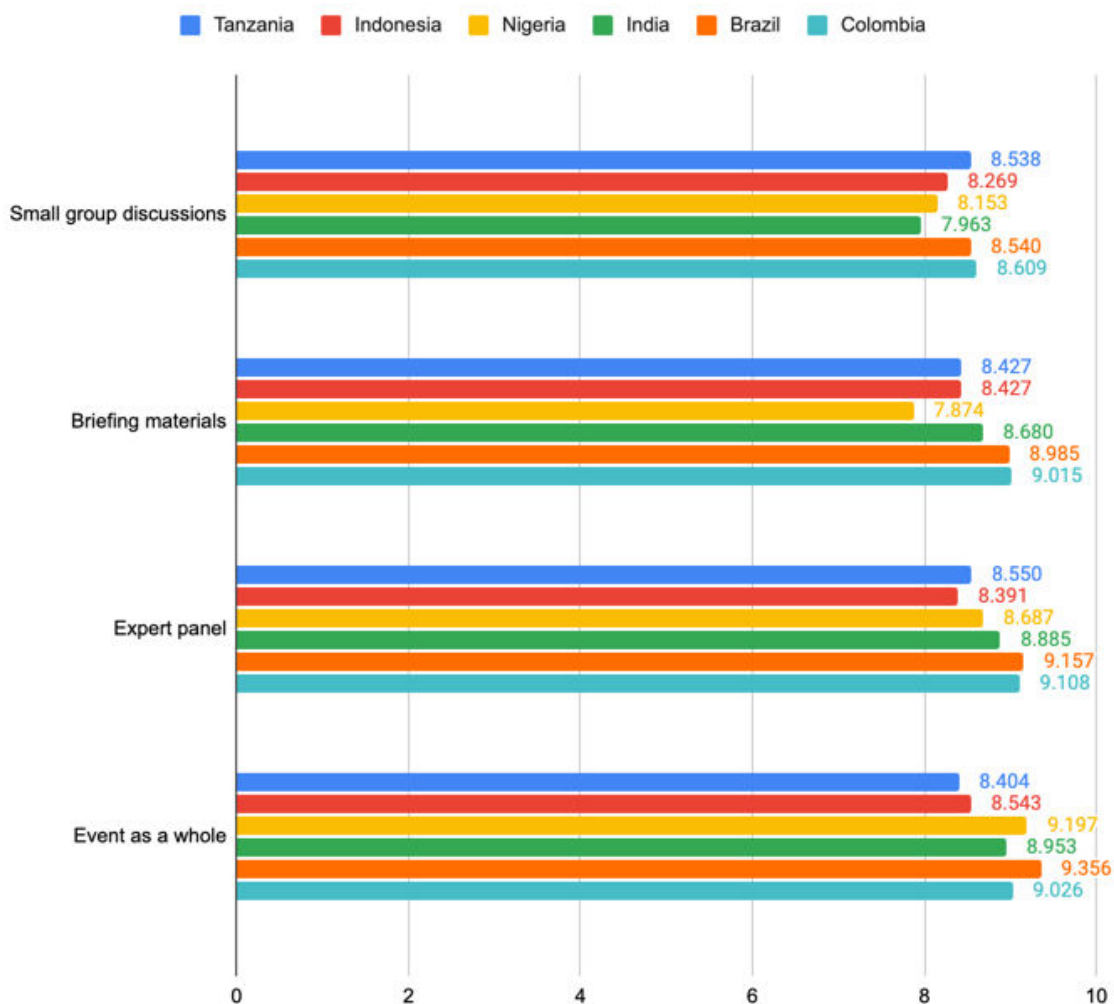
Indian, Colombian, and Indonesian participants had the largest increase in correct responses for the question that asked which is a way to prevent infection and reduce antibiotic resistance. The gains ranged from 11.8%-24.9%. Nigerians saw their largest increase in correct responses for the question asking what does a superbug mean, a significant 44.1% increase. Participants from Brazil had their highest increase in correct responses of 16.3% for the question asking which of the statements are true about antibiotics. Tanzanian participants had their highest increase in correct responses of 12.4% for the question asking which of the following statements is a fact about antibiotic resistance.

Nigerian participants had the largest average increase in correct responses across all 6 questions, of 30.6%. This was followed by India, where the average increase in correct responses was 17.5%. For Tanzania, Colombia, Brazil, and Indonesia, the average increase in correct responses ranged from 3.6% to 7.1%.

Event Evaluations

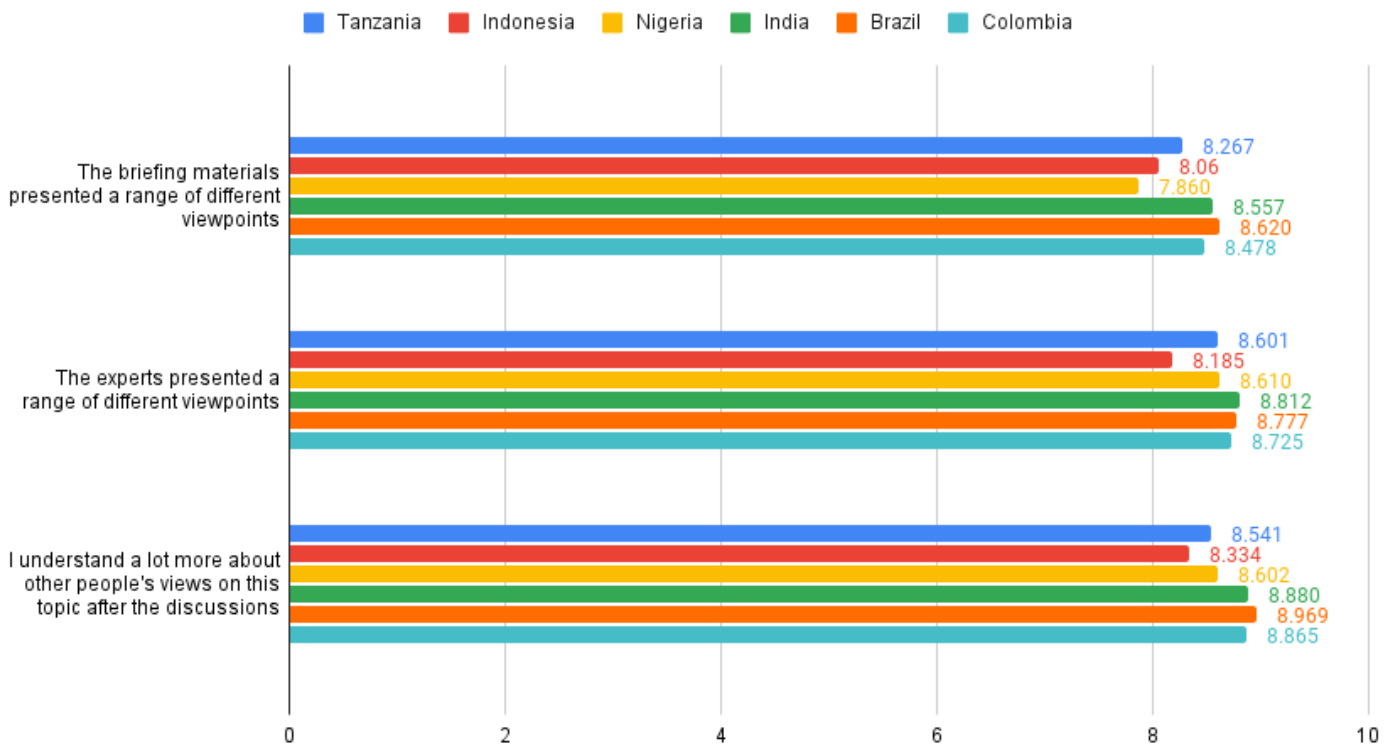
Participants were asked to evaluate various aspects of the event on a 0 to 10 scale, where 0 represents not valuable, and 10 indicates the component is most valuable. Participants from all countries rated several components very highly, with participants from Brazil having the most positive average rating across all 4 questions shown in the chart below, of 9.01, and participants from Indonesia having the lowest average rating across the following 4 questions of 8.4.

How valuable was the...?



Participants were also asked to rate their level of agreement with a series of statements, with 0 being ‘strongly disagree’, and 10 being ‘strongly agree’. Participants believed that the deliberation session was effective in exposing them to perspectives outside of their own. On average, across all countries, participants rated the ability of the briefing materials to provide a range of different viewpoints at 8.307, the ability of the experts in providing different viewpoints at 8.618, and their general understanding of others’ viewpoints after the session at 8.699.

On a scale of 0-10, how much do you agree with the following statements?



Additionally, participants had low levels of agreement with the statements that “The deliberation platform sometimes tried to influence the group’s opinions” and “I felt pressured to agree with others’ ideas or arguments.” The average rating across all countries for the first statement was 5.283, and the average rating across all countries for the second statement was 4.356. Brazil and Colombia had the lowest averages for these statements, with Brazilian participants rating these two statements at 2.172, and Colombian participants rating these statements at 2.329.

Demographic Differences

Gender



Brazil

Prior to deliberation, women rated 6 out of 45 proposals significantly higher than men did on average. These differences tended to be substantively different as well, with an average difference of 0.87 (on a scale of 0 to 10) for these 12 proposals. The largest difference in support was for the proposal, “Large-scale food suppliers – supermarkets, restaurant chains, intensive farming etc., – should be regulated to promote the use of food produced without routine antibiotics.” On average, both women and men favored this proposal, with women offering an average rating of 8.1 (74.5% support) and men offering an average rating of 6.8 (52% support).

After deliberation, there were significant differences between women and men for average ratings for eight proposals, though

not necessarily for the same ones. For instance, prior to deliberation, there was not a statistically significant gap between women and men in their average support for the proposal, “Laboratory systems for measuring antibiotic resistance in bacteria for humans and animals should be integrated with shared One Health resources.” After deliberation, there was a significant gap of close to 1.1 (on a scale of 0 to 10), though both women and men still supported the proposal. Overall, the significant differences for the eight proposals averaged 1.01, with women rating the proposals higher.

Colombia

Prior to deliberation, women and men had significant differences in their average ratings for only one proposal. Both women and men supported the proposal, “Farm workers should be taught hand hygiene” but

women had a higher average rating of close to 0.59.

After deliberation, women and men tended to be closer together in their support for proposals. There were no significant differences between them.

India

Before deliberation, women from India rated the proposal, “Everyone should have access to clean water and safe sanitation (WASH) in their community and health system” more highly than men by an average of 0.52. After deliberation, women and men did not differ significantly on that proposal but did so for the proposal, “Immunization for WHO-recommended childhood vaccination should be scaled up towards universal/full coverage, to capture all children” by about 0.48, which both groups gave a mean rating of over 9 (on a scale of 0 to 10).

Indonesia

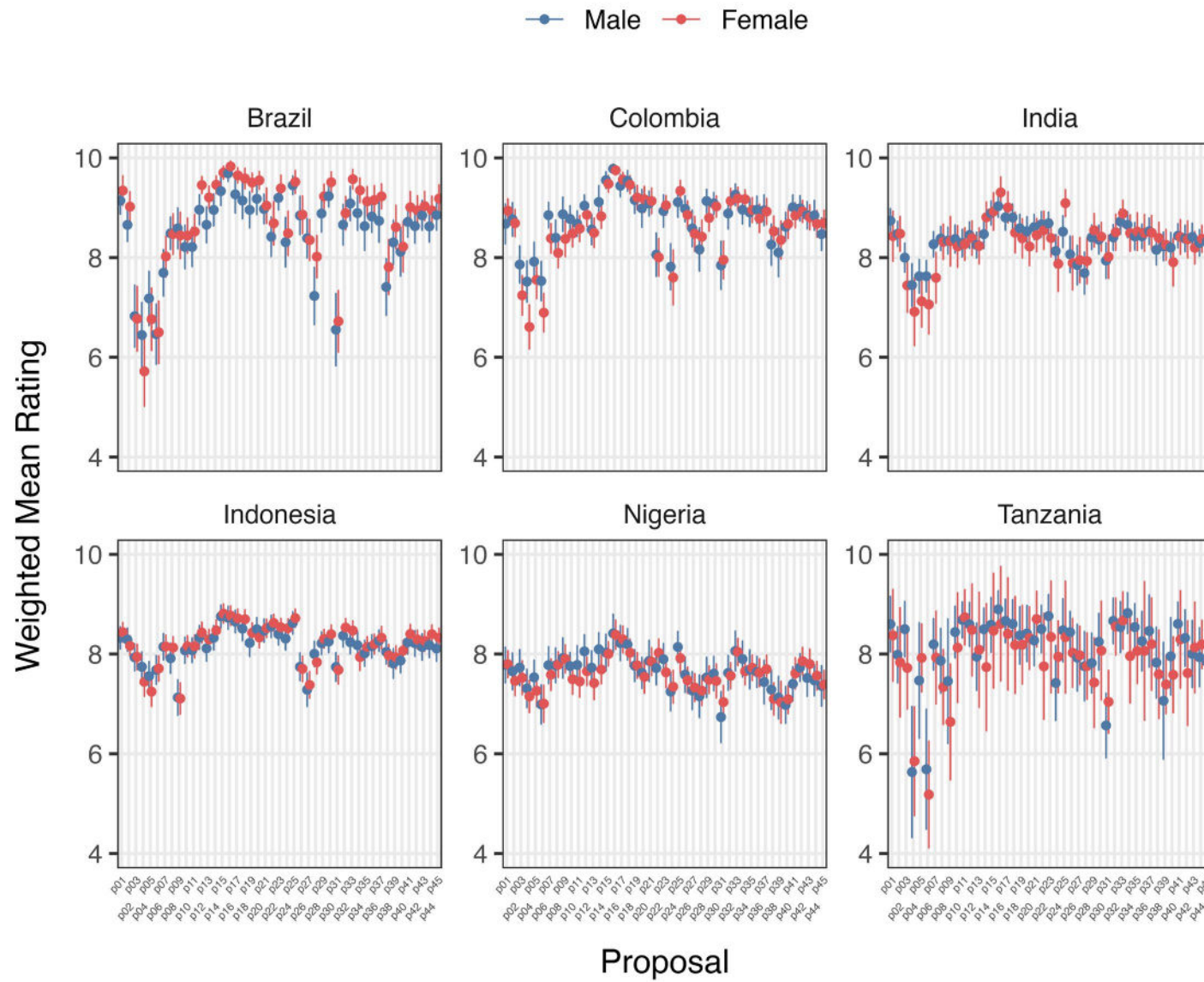
Prior to deliberation, there were no statistically significant differences in the average proposal ratings of women and men. Following deliberation, women rated a number of proposals more highly than men, though the differences were only statistically significant for two proposals. Women rated “Everyone should have access to clean water and safe sanitation (WASH) in their community and health system” and “Hospital accreditation should be linked to infection prevention, such as using hand

washing rates as a factor” by about 0.6 points higher than men, though both women and men supported the proposals on average at 7.9 or higher (on a scale of 0 to 10).

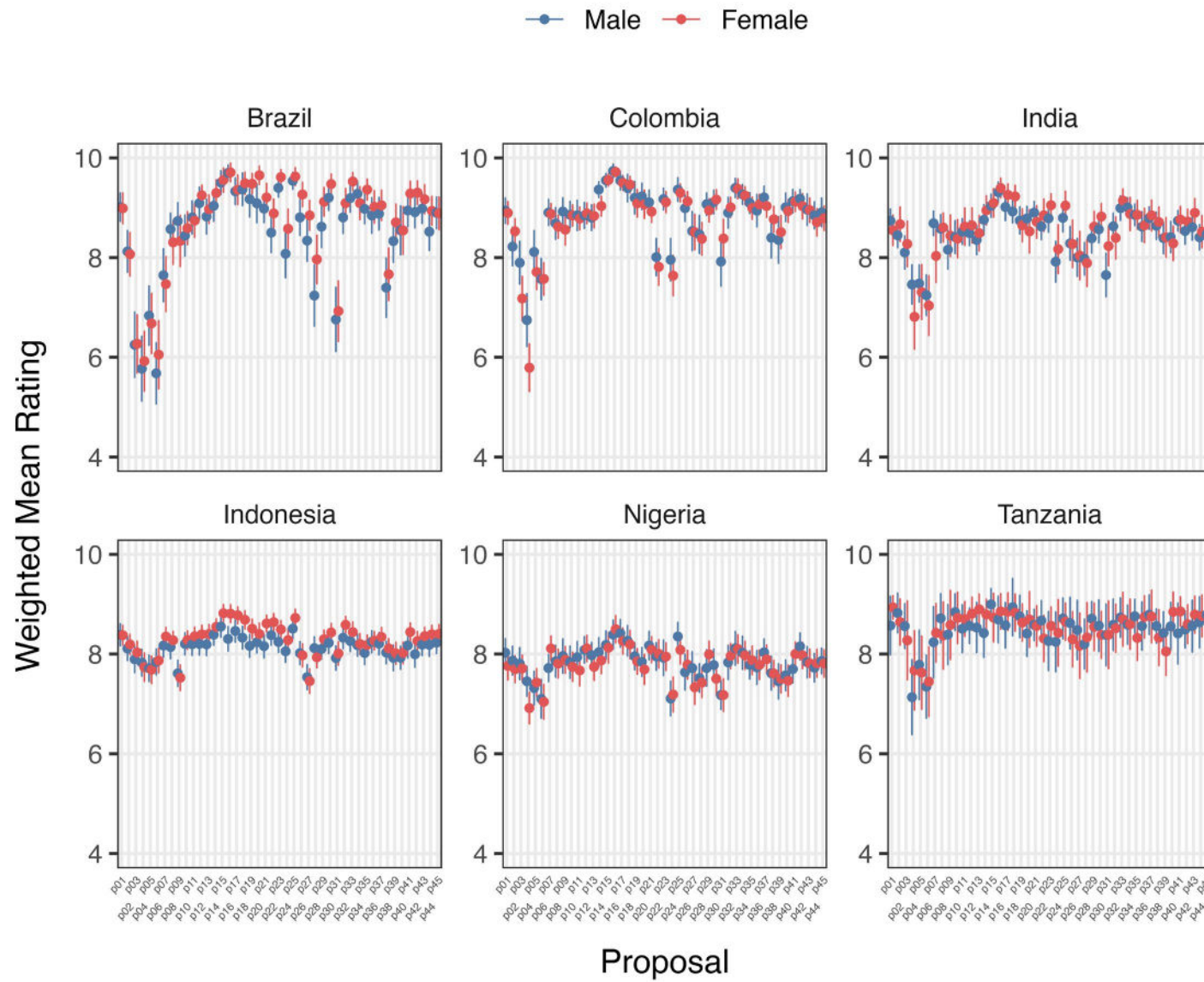
Nigeria and Tanzania

Gender was not a significant factor in the average proposal rating before or after deliberation for Nigeria and Tanzania. While women and men gave different average ratings for various proposals, the differences were not statistically significant. Participants from both countries tended to support the proposals before and after deliberation.

Weighted Means of Proposal Ratings by Gender before Deliberation



Weighted Means of Proposal Ratings by Gender after Deliberation



Age



Brazil

Before deliberation, age was a statistically significant factor for 5 out of 45 proposals, with an additional year of age predicting an increase of between 0.017 and 0.043 in mean proposal rating. After deliberation, age was a statistically significant factor for 7 out of 45 proposals, with an additional year of age predicting an increase of between 0.017 and 0.03 in mean rating, though not necessarily for the same proposals as before deliberation. Notably, all four proposals dealing with making the best use of antibiotics were among the seven proposals that had increased mean ratings associated with increases in age. While the average incremental increases by additional year were small, the cumulative differences between the youngest and oldest participants were more substantively important.

Colombia

Among Colombian participants prior to deliberation, age was a significant predictor of mean ratings for 11 out of 45 proposals with an additional year of age associated with an

increase of between 0.017 and 0.054 in mean rating. After deliberation, age was associated with increases between .021 and .035 for each additional year of age for five proposals, including three related to setting targets for antibiotics: “There should be global targets to address bacterial resistance to antibiotics, just like global targets for climate,” “There should be a global target to reduce human deaths from antibiotic resistance,” and “There should be a global target to stop the use of medically critical antibiotics in the food chain.”

India

Prior to deliberation, age was not a significant predictor of mean proposal rating for any proposals. After deliberation, for 4 out of 45 proposals, an increase of year in age was associated with increases in mean proposal ratings ranging from 0.016 to 0.031. Three of the proposals dealt with awareness and education: “Hand hygiene and infection prevention should be part of the standard curriculum in schools from the start of schooling through to graduation,” “Awareness campaigns should focus on the risks and

harms of taking unnecessary antibiotics on humans, food security, and the environment,” and “National governments should increase funding for awareness campaigns into vaccine hesitancy and improving understanding about people’s behaviours relating to vaccination.”

Indonesia

Before deliberation, age was a statistically significant factor among Indonesian participants for only one proposal, “Governments in low- and middle-income countries should ensure appropriate access to antibiotics for all citizens including those who have difficulty in accessing the health system.” A year increase in age was associated with a 0.034 decrease in mean rating. Age was not a statistically significant factor in mean proposal rating after deliberation.

Nigeria

Age was not a statistically significant factor in mean proposal rating among Nigerian participants before or after deliberation.

Tanzania

Before deliberation, age was not a statistically significant factor in mean proposal rating. However, after deliberation, it was significant for 15 out of 45 proposals with an increase in year of age associated with an increase of between 0.033 and 0.093 in mean proposal rating.

Education



Participants answered questions about their education level. Their responses were grouped into three categories: high school completion or below, post-secondary education (including non-tertiary education and short-cycle tertiary education, typically equating to vocational or trade school), and bachelor's degree or equivalent and higher. The role that education played in proposal ratings varied by country. In Brazil, higher levels of education played into higher proposal ratings in some cases. For participants from Colombia, India, and Tanzania, level of education was not a major differentiating factor in their ratings of proposals. For Indonesian participants, education was not much of a factor by the end of the deliberation, while Nigeria presented a mixed picture with higher education being statistically significantly associated with higher ratings for almost half of the proposals before deliberation and a mixture of higher and lower ratings for a handful of proposals after deliberation.

Brazil

Prior to deliberation, higher levels of education were statistically significantly as-

sociated with higher average ratings for 7 out of 45 proposals. For three proposals, the differences in average ratings were significant for participants with post-secondary education as compared to those with high school education or less. For the remaining four proposals, the differences in average ratings were significant for participants with college education or higher as compared to those with high school education or less. The average differences ranged from 0.68 to 1.71 on a scale of 0 to 10.

After deliberation, higher levels of education were statistically significantly associated with higher average ratings for 15 out of 45 proposals. For four of these proposals, having some form of post-secondary education was associated with higher ratings on average compared to those with a high school education or lower, with differences ranging from 0.3 to 1.48 on a scale of 0 to 10. For ten other proposals, having a college education or higher was associated with higher ratings on average compared to those with a high

school education or lower, with differences ranging from 0.59 to 1.89 on a scale of 0 to 10. Finally, for the proposal, “Governments should develop monitoring (and evaluation) mechanisms to include informal sales of antibiotics,” the ratings of participants with post-secondary education were 2.38 points higher on average compared to those with a high school education or lower, while the ratings of participants with a college education or beyond were 1.58 points higher on average compared to participants with a high school education or lower.

Colombia

For Colombian participants, higher levels of education were not associated with higher average ratings for any of the proposals before deliberation.

However, following deliberation, having a college education or higher was statistically significantly associated on average with a lower rating than having a high school education or lower for two proposals: “Governments in low- and middle-income countries should increase access to antibiotics to support all farmers for their animals, including those who have little access to veterinarians,” by 0.65 points and “Antibiotic resistance should be included as a cause of death on all national death certificates to enable collection of data on mortality” by 0.63 points on a scale of 0 to 10.

India

For participants from India, higher levels of education were not associated with higher average ratings for any of the proposals before deliberation.

After deliberation, having a college education or higher was statistically significantly associated on average with a higher rating than having a high school education or lower by 0.82 points on average for the proposal, “Large-scale food suppliers – supermarkets, restaurant chains, intensive farming etc., – should be regulated to promote the use of food produced without routine antibiotics.”

Indonesia

For Indonesia, higher level of education was statistically significantly associated with higher average ratings for 9 out of 45 proposals before deliberation. These differences were statistically significant for participants with college education or higher when compared to participants with high school education or lower. The differences ranged from 0.56 to 0.97 (on a 0 to 10 scale).

After deliberation, having a college education or higher was statistically significantly associated on average with a higher rating than having a high school education or lower for four proposals with differences ranging from 0.6 to 0.64.

Nigeria

Before deliberation, education was statistically significantly associated with higher average ratings for almost half of the proposals (22 out of 45). In eight of these cases, college education or advanced degrees were associated with high average ratings compared to those with high school education or lower, while in the remaining fourteen cases, post-secondary education and college or advanced degrees were both associated with higher average ratings compared to those with high school education or lower. The differences ranged from 0.876 to 2.65 (on a 0 to 10 scale), indicating that they were substantive.

After deliberation, higher level of education was statistically significantly associated with higher average ratings for only one proposal, “Informal antibiotic sellers such as Patent and Proprietary Medicine Venders and informal drug shops should be regulated and monitored to dispense a limited number of basic oral antibiotics for specific infections under strict guidelines but still without a prescription.” Participants with college or advance degrees rated this proposal 1.18 points higher on average than participants with a high school education or lower.

For four other proposals after deliberation, post-secondary education was statistically significantly associated on average with lower ratings compared to high school education and lower with differences ranging

from 0.62 to 0.79. Finally, higher level of education was statistically significantly associated on average with lower ratings for the proposal, “Influenza vaccination should be incentivized for patient-facing healthcare workers.” Participants with post-secondary education tended to rate this proposal lower than participants with high school education or less by 1.0 points on average, while participants with college or advance degrees rated it lower than participants with high school education or less by 1.1 points on average.

Tanzania

Prior to deliberation, education was statistically significantly associated with a higher rating for only one proposal. “Governments should develop clear guidelines and support for controlled informal dispensing and monitoring of the most widely needed basic oral antibiotics without a doctor’s or veterinarian’s prescription.” Participants with college education or advanced degrees rated this proposal 1.69 points higher on average than those with high school education or lower.

After deliberation, higher level of education was not statistically significantly associated with a higher rating for any of the proposals.

Urban vs. Rural Residents



The survey asked participants about the urbanicity of their living environment. Responses of “urban” or “suburban” were recoded into an “urban” category, while responses of “town,” “rural,” or “other,” were recoded into a “rural” category.

Brazil and Colombia

Urbanicity was not associated with statistically significant differences in urban and rural participants’ average ratings of proposals in Brazil and Colombia before or after deliberation.

India

Prior to deliberation, rural participants rated 3 out of 45 proposals higher on average than urban participants. The differences ranged from 0.90 to 1.25 on a 0 to 10 scale.

After deliberation, rural participants rated 7 out of 45 proposals higher on average than urban participants. The differences ranged from 0.67 to 1.12, or an average of 0.88 on a 0 to 10 scale. These proposals were different than the set of three proposals with differences pre-deliberation.

Indonesia

Urbanicity was not associated with statistically significant differences in urban and rural participants’ average ratings of proposals in Indonesia before or after deliberation.

Nigeria

Before deliberation, Nigerian participants from rural areas rated 10 out of 45 proposals higher on average than urban residents, with average differences ranging from 1.06 to 2.24. Rural residents also rated two proposals an average of 2.2 points lower than urban residents on a 0 to 10 scale. The two proposals were, “Large-scale food suppliers – supermarkets, restaurant chains, intensive farming etc., – should be regulated to promote the use of food produced without routine antibiotics” and “Surveillance data should be reported nationally, regionally, and to the World Health Organization, Food and Agriculture Organisation, and the World Organisation for Animal Health.”

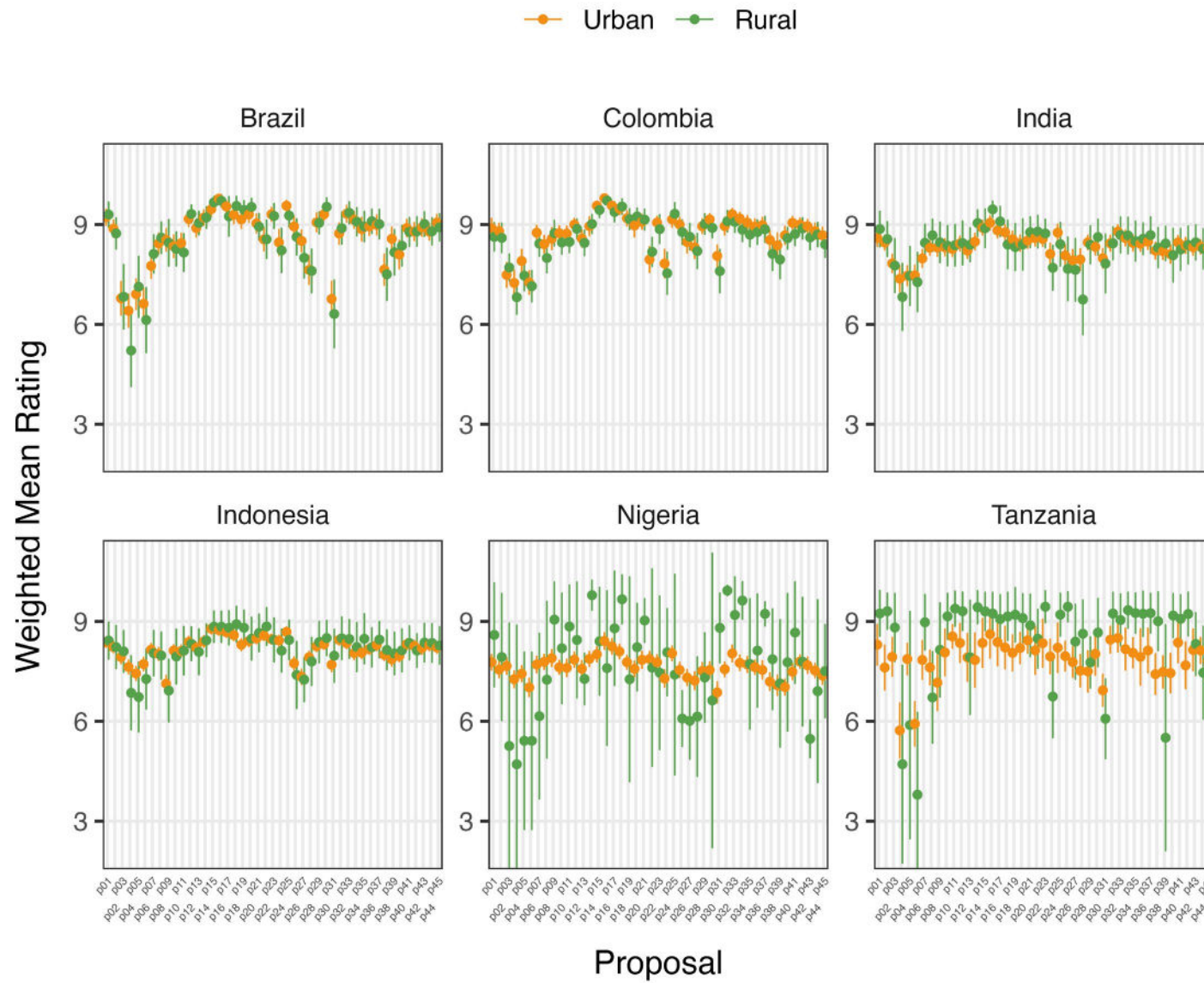
After deliberation, rural participants rated 11 out of 45 proposals higher on average than urban residents with differences ranging

from 0.97 to 1.7. There was some overlap with the ten proposals from before deliberation but not a clear pattern. For one proposal, “Governments should incentivise informal sellers to use only quality-assured antibiotics,” rural residents provided a 1.56-point lower rating on average than urban residents.

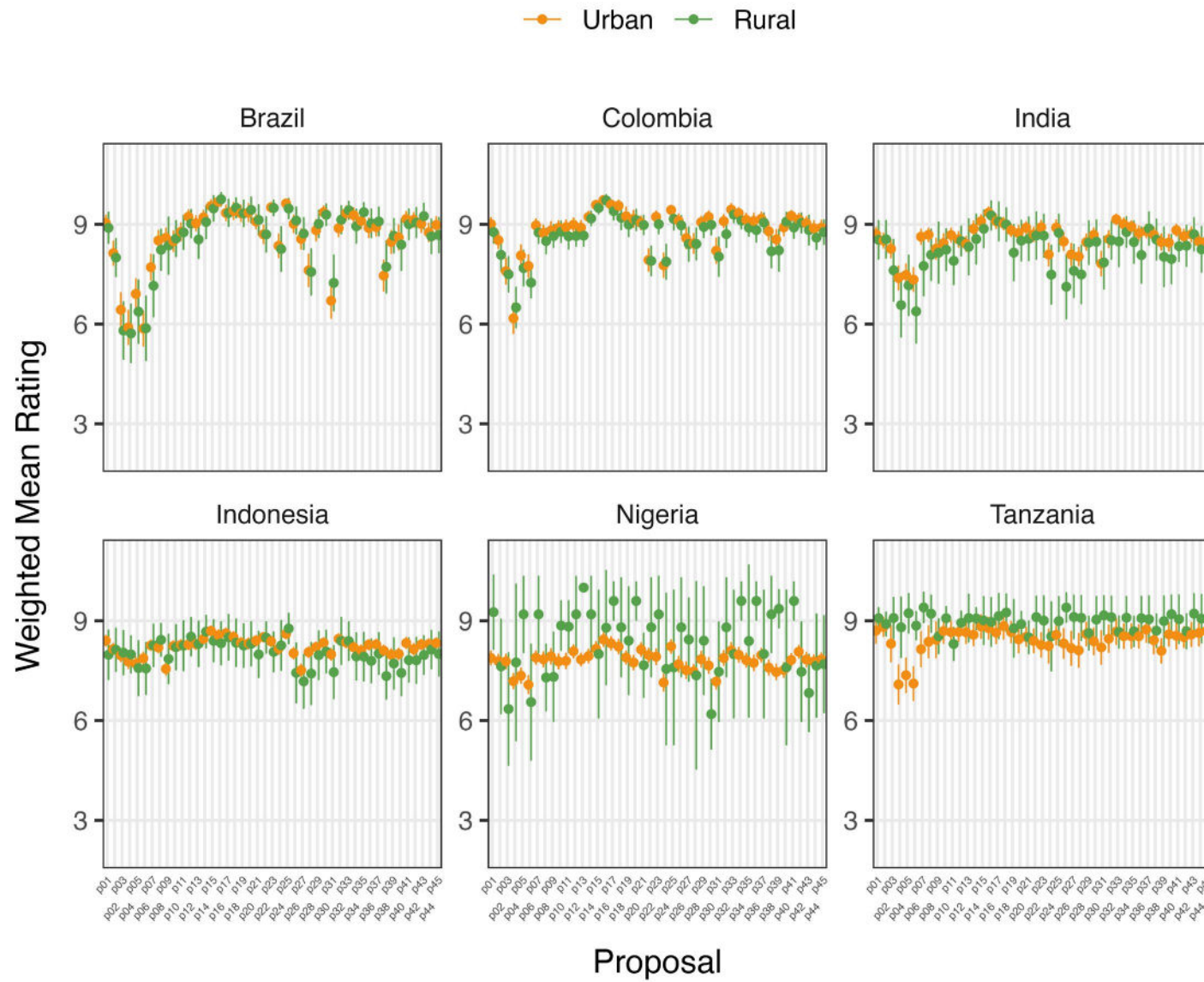
Tanzania

Prior to deliberation, urbanicity appeared to be an important distinguishing factor for Tanzania. Rural residents rated 16 out of 45 proposals significantly lower on average than urban residents. Average differences ranged from 1.76 to as large as 2.6 points lower for rural residents, indicated large substantive differences.

However, after deliberation, rural residents only rated two different proposals lower on average than urban residents, with a 1.27 lower rating for the proposal, “Hand hygiene and infection prevention should be part of the standard curriculum in schools from the start of schooling through to graduation” and a 1.62 lower rating for the proposal, “National governments should increase funding for awareness campaigns into vaccine hesitancy and improving understanding about people’s behaviours relating to vaccination.”



Weighted Means of Proposal Ratings by Urbanicity after Deliberation



Impact of Deliberation

Control vs. Participant Group Demographic Comparison

Comparisons along several demographic characteristics by country before deliberation revealed that the control and participant groups were well balanced by age and gender across all six countries. Indonesia and Nigeria's participant groups tended to be more highly educated than their control groups. India and Tanzania's participant groups were somewhat more urban than their control groups.

Control vs. Participant Groups: Analysis of Attitudinal Representativeness

Brazil, Colombia, and India were well balanced between the control and treatment groups in their ratings of the proposals prior to deliberation. For Indonesia, participant group ratings were statistically significantly lower on average than control group ratings for 17 out of 45 proposals prior to deliberation. For Nigeria participant group ratings were significantly higher than control group ratings for 33 out of 45 proposals before deliberation. In contrast, Tanzania participant group ratings were significantly lower on average for 31 out of 45 proposals before deliberation.

Comparison of Changes in the Participant and Control Groups: Difference in Differences

By examining the differences between the participant group changes and the control group changes post-deliberation and pre-deliberation, we can infer the impact of the deliberation on participants' attitudes towards the proposals. As the table below shows, there are significant differences in differences for:

- 1 proposal for Brazil,
- 12 proposals for Colombia,
- 7 proposals for India,
- 2 proposals for Indonesia,
- 16 proposals for Nigeria, and
- 9 proposals for Tanzania.

In all but one case, the deliberation resulted in higher proposals ratings. Given that so many proposals were highly rated prior to deliberation, there might have been ceiling effects that prevented them from going significantly higher, thus limiting the impact of the deliberation on changes in proposal ratings. For example, participants that viewed proposals positively before the deliberation may have had their views confirmed through deliberation and did not significantly change their survey ratings of proposals.

Statistically Significant Difference-in-Differences Estimates for All Countries

Country	Proposal	Term	Estimate	Std. Error	Statistic	p-value
Brazil	p23	Group:Time	0.454	0.218	2.087	0.037
Colombia	p04	Group:Time	-0.969	0.472	-2.055	0.040
Colombia	p07	Group:Time	1.046	0.271	3.859	0.000
Colombia	p08	Group:Time	0.733	0.329	2.228	0.026
Colombia	p10	Group:Time	0.653	0.267	2.444	0.015
Colombia	p12	Group:Time	0.617	0.236	2.620	0.009
Colombia	p13	Group:Time	0.587	0.280	2.100	0.036
Colombia	p26	Group:Time	0.635	0.250	2.535	0.011
Colombia	p29	Group:Time	0.519	0.244	2.124	0.034
Colombia	p32	Group:Time	0.762	0.275	2.766	0.006
Colombia	p34	Group:Time	0.461	0.222	2.082	0.038
Colombia	p39	Group:Time	0.879	0.443	1.987	0.047
Colombia	p43	Group:Time	0.563	0.280	2.011	0.045
India	p03	Group:Time	1.123	0.401	2.799	0.005
India	p07	Group:Time	1.069	0.347	3.078	0.002
India	p10	Group:Time	0.773	0.365	2.119	0.034
India	p11	Group:Time	0.817	0.317	2.581	0.010
India	p13	Group:Time	0.799	0.323	2.474	0.014
India	p33	Group:Time	0.562	0.281	1.997	0.046
India	p36	Group:Time	0.638	0.325	1.961	0.050

Statistically Significant Difference-in-Differences Estimates for All Countries

Country	Proposal	Term	Estimate	Std. Error	Statistic	p-value
Indonesia	p09	Group:Time	0.723	0.299	2.421	0.016
Indonesia	p19	Group:Time	0.487	0.227	2.145	0.032
Nigeria	p10	Group:Time	0.642	0.289	2.219	0.027
Nigeria	p15	Group:Time	0.752	0.291	2.586	0.010
Nigeria	p16	Group:Time	0.739	0.315	2.341	0.019
Nigeria	p18	Group:Time	0.658	0.285	2.308	0.021
Nigeria	p19	Group:Time	0.825	0.264	3.122	0.002
Nigeria	p20	Group:Time	0.697	0.302	2.305	0.021
Nigeria	p22	Group:Time	1.036	0.292	3.544	0.000
Nigeria	p25	Group:Time	0.681	0.280	2.433	0.015
Nigeria	p26	Group:Time	0.734	0.314	2.336	0.020
Nigeria	p27	Group:Time	0.714	0.323	2.211	0.027
Nigeria	p32	Group:Time	0.831	0.294	2.827	0.005
Nigeria	p34	Group:Time	0.607	0.308	1.970	0.049
Nigeria	p35	Group:Time	0.706	0.296	2.387	0.017
Nigeria	p36	Group:Time	0.728	0.303	2.402	0.017
Nigeria	p42	Group:Time	0.685	0.264	2.596	0.010
Nigeria	p43	Group:Time	0.651	0.319	2.039	0.042
Tanzania	p01	Group:Time	1.500	0.589	2.549	0.011
Tanzania	p02	Group:Time	1.570	0.667	2.355	0.019

Country	Proposal	Term	Estimate	Std. Error	Statistic	p-value
Tanzania	p03	Group:Time	1.739	0.658	2.642	0.008
Tanzania	p07	Group:Time	1.653	0.665	2.488	0.013
Tanzania	p11	Group:Time	1.380	0.415	3.328	0.001
Tanzania	p16	Group:Time	1.351	0.652	2.071	0.039
Tanzania	p18	Group:Time	2.026	0.594	3.412	0.001
Tanzania	p23	Group:Time	1.318	0.659	2.000	0.046
Tanzania	p40	Group:Time	1.180	0.601	1.962	0.050

Appendices



Proposals List

- p1 Governments in low- and middle-income countries should ensure appropriate access to antibiotics for all citizens including those who have difficulty in accessing the health system.
- p2 Governments in low- and middle-income countries should increase access to antibiotics to support all farmers for their animals, including those who have little access to veterinarians.
- p3 Governments should develop clear guidelines and support for controlled informal dispensing and monitoring of the most widely needed basic oral antibiotics without a doctor's or veterinarian's prescription.
- p4 Registered pharmacists should be able to dispense basic oral antibiotics over the counter for some community-acquired infections without a prescription.
- p5 Informal antibiotic sellers such as Patent and Proprietary Medicine Venders and informal drug shops should be regulated and monitored to dispense a limited number of basic oral antibiotics for specific infections under strict guidelines but still without a prescription.
- p6 Veterinarian assistants or allied veterinary professionals should be allowed to dispense antibiotics to farmers for a limited number of infections in livestock without a prescription.
- p7 Governments should develop monitoring (and evaluation) mechanisms to include informal sales of antibiotics.
- p8 Governments should report the volumes of sales from these informal sources annually to the Global Antibiotic Surveillance System (a global monitoring system set up by the World Health Organization).
- p9 Governments should incentivise informal sellers to use only quality-assured antibiotics.
- p10 An international initiative is needed to ensure affordable steady supply of quality-assured basic oral antibiotics in the low- and middle-income countries including local manufacturing.
- p11 An international initiative is needed to ensure availability of proven/regulated point of care diagnostic tests to support appropriate antibiotic use in all countries.
- p12 Governments should make currently available validated point of care, rapid diagnostic tests available at every primary health outlet.
- p13 Point of care rapid diagnostic tests need to be available and a part of care pathways, and should be reimbursed by the State or Medical Insurance Companies.
- p14 There should be national certification standards from the manufacture of antibiotics in all countries for safe waste/outflow disposal, with penalties if standards are not met.
- p15 National governments should prioritise infection prevention tools (clean water, safe sanitation and vaccination) to reduce the burden of infectious diseases.
- p16 Everyone should have access to clean water and safe sanitation (WASH) in their community and health system.
- p17 Specific government funding should go to healthcare facilities to ensure that all have access to clean water for hand hygiene.

p18	Immunization for WHO-recommended childhood vaccination should be scaled up towards universal/full coverage, to capture all children.
p19	An adult programme of vaccination should be created by national governments to ensure vaccination of vulnerable populations for influenza and pneumonia.
p20	Influenza vaccination should be incentivized for patient-facing healthcare workers.
p21	Hospital accreditation should be linked to infection prevention, such as using hand washing rates as a factor.
p22	Hospitals should be mandated to publish their hand hygiene rates annually.
p23	Farms should ensure good infection prevention and biosecurity
p24	Farming, including fish, should use vaccination
p25	Farm workers should be taught hand hygiene
p26	An identifying label should accompany food that is produced without the use of routine antibiotics
p27	Large-scale food suppliers – supermarkets, restaurant chains, intensive farming etc., – should be incentivized to promote the use of food produced without routine antibiotics.
p28	Large-scale food suppliers – supermarkets, restaurant chains, intensive farming etc., – should be regulated to promote the use of food produced without routine antibiotics.
p29	Governments should regulate farmers to establish infection prevention programs on farms (including vaccination) linked to an inspection program.
p30	Group prevention therapy with antibiotics for sick animals should be under the management of a veterinarian or allied professional.
p31	Governments should ban from food production systems the use of antibiotics that are critically important for humans.
p32	Food produced with the routine use of antibiotics should be identified by an international standard, such as a hazard-warning symbol or label.
p33	Hand hygiene and infection prevention should be part of the standard curriculum in schools from the start of schooling through to graduation.
p34	Awareness campaigns should focus on the risks and harms of taking unnecessary antibiotics on humans, food security, and the environment.
p35	National governments should increase funding for awareness campaigns into vaccine hesitancy and improving understanding about people's behaviours relating to vaccination.
p36	There should be global targets to address bacterial resistance to antibiotics, just like global targets for climate.
p37	There should be a global target to reduce human deaths from antibiotic resistance.
p38	There should be a global target to stop the use of medically critical antibiotics in the food chain.

- p39 There should be a global target to stop the use of antibiotics for growth promotion and infection prevention without veterinary advice
- p40 Antibiotic resistance should be included as a cause of death on all national death certificates to enable collection of data on mortality.
- p41 National surveillance programs should be in place to monitor - infection rates, bacterial types, antibiotic use, and antibiotic resistance – in humans, animals (including fish) and water systems.
- p42 International funding support should be available for surveillance in countries willing to invest in laboratory capacity, monitoring, and reporting and where systems are not yet available.
- p43 Surveillance data should be reported nationally, regionally, and to the World Health Organization, Food and Agriculture Organisation, and the World Organisation for Animal Health.
- p44 Laboratory systems for measuring antibiotic resistance in bacteria for humans and animals should be integrated with shared One Health resources.
- p45 Data from point of care rapid diagnostic tests should be incorporated into routine national surveillance reporting.

Control vs. Participant Group Demographic Comparison

Country	Demographic	Statistic	p-value	Control n	Participant n
Brazil	Age	-0.057	0.954	178	188
Brazil	Gender	0.009	0.924	178	188
Brazil	Education	0.681	0.501	178	188
Brazil	Urbanicity	1.121	0.290	178	188
Colombia	Age	0.174	0.862	185	275
Colombia	Gender	0.046	0.830	185	275
Colombia	Education	0.001	0.980	185	275
Colombia	Urbanicity	0.143	0.706	185	275
India	Age	-0.006	0.995	160	231
India	Gender	0.082	0.775	160	231
India	Education	0.003	0.997	160	231
India	Urbanicity	5.605	0.018	160	231
Indonesia	Age	-0.201	0.841	200	198
Indonesia	Gender	0.003	0.955	200	198
Indonesia	Education	22.512	0.000	199	197
Indonesia	Urbanicity	0.037	0.847	200	198
Nigeria	Age	-0.803	0.423	210	203
Nigeria	Gender	0.005	0.943	210	203
Nigeria	Education	7.53	0.001	207	202
Nigeria	Urbanicity	2.652	0.104	210	203
Tanzania	Age	-1.144	0.253	206	185
Tanzania	Gender	0.187	0.666	206	185
Tanzania	Education	0.054	0.900	201	185
Tanzania	Urbanicity	12.622	0.000	202	185

Control vs. Participant Groups: Analysis of Attitudinal Representativeness

Country	Proposal	Control n	Participant n	Control Mean	Participant Mean	Statistic	p-value	Adjusted p
Brazil	p01	178	188	9.23	9.462	-1.482	0.139	0.287
Brazil	p02	178	188	8.869	8.955	-0.447	0.655	0.808
Brazil	p03	178	188	7.162	6.884	0.793	0.428	0.612
Brazil	p04	178	188	6.158	6.544	-1.042	0.298	0.473
Brazil	p05	178	188	7.207	7.052	0.49	0.624	0.788
Brazil	p06	178	188	6.407	6.693	-0.793	0.429	0.612
Brazil	p07	178	188	7.919	7.815	0.369	0.712	0.851
Brazil	p08	178	188	8.469	8.744	-1.328	0.185	0.34
Brazil	p09	178	188	8.337	8.742	-1.588	0.113	0.247
Brazil	p10	178	188	8.343	8.486	-0.625	0.532	0.711
Brazil	p11	178	188	8.328	8.569	-1.05	0.295	0.471
Brazil	p12	178	188	9.318	9.188	0.898	0.37	0.558
Brazil	p13	178	188	8.949	9.028	-0.468	0.64	0.798
Brazil	p14	178	188	9.264	9.311	-0.349	0.727	0.858
Brazil	p15	178	188	9.568	9.647	-0.726	0.469	0.639
Brazil	p16	178	188	9.808	9.786	0.301	0.763	0.882
Brazil	p17	178	188	9.631	9.604	0.235	0.814	0.916
Brazil	p18	178	188	9.384	9.524	-0.899	0.369	0.558
Brazil	p19	178	188	9.386	9.333	0.365	0.715	0.851
Brazil	p20	178	188	9.394	9.5	-0.765	0.445	0.629
Brazil	p21	178	188	9.186	9.112	0.434	0.664	0.815
Brazil	p22	178	188	8.865	8.852	0.059	0.953	0.984
Brazil	p23	178	188	9.491	9.387	0.777	0.438	0.622
Brazil	p24	178	188	8.563	8.584	-0.084	0.933	0.977
Brazil	p25	178	188	9.52	9.538	-0.148	0.882	0.97
Brazil	p26	178	188	9.042	8.966	0.38	0.704	0.845
Brazil	p27	178	188	8.481	8.454	0.102	0.919	0.977
Brazil	p28	178	188	7.974	7.525	1.425	0.155	0.304
Brazil	p29	178	188	9.198	9.193	0.028	0.978	0.992
Brazil	p30	178	188	9.351	9.486	-1.037	0.301	0.475
Brazil	p31	178	188	7.247	6.477	2.023	0.044	0.116
Brazil	p32	178	188	9.036	8.988	0.263	0.792	0.906
Brazil	p33	178	188	9.44	9.44	-0.002	0.999	1

Country	Proposal	Control n	Participant n	Control Mean	Participant Mean	Statistic	p-value	Adjusted p
Brazil	p34	178	188	9.224	9.3	-0.466	0.641	0.798
Brazil	p35	178	188	9.08	9.033	0.242	0.809	0.914
Brazil	p36	178	188	9.219	9.074	0.874	0.383	0.571
Brazil	p37	178	188	9.285	9.08	1.187	0.236	0.403
Brazil	p38	178	188	7.975	7.742	0.736	0.462	0.636
Brazil	p39	178	188	8.795	8.682	0.501	0.617	0.782
Brazil	p40	178	188	8.524	8.415	0.417	0.677	0.827
Brazil	p41	178	188	9.099	8.978	0.745	0.457	0.636
Brazil	p42	178	188	8.964	8.948	0.094	0.926	0.977
Brazil	p43	178	188	9.121	9.073	0.301	0.763	0.882
Brazil	p44	178	188	9.073	8.905	0.972	0.332	0.512
Brazil	p45	178	188	9.198	9.116	0.535	0.593	0.766
Colombia	p01	185	275	8.797	8.996	-1.143	0.254	0.426
Colombia	p02	185	275	8.916	8.715	1.201	0.231	0.399
Colombia	p03	185	275	7.415	7.516	-0.387	0.699	0.843
Colombia	p04	185	275	6.983	6.996	-0.044	0.965	0.987
Colombia	p05	185	275	7.809	7.682	0.524	0.601	0.769
Colombia	p06	185	275	7.186	7.181	0.019	0.985	0.993
Colombia	p07	185	275	8.797	8.478	1.826	0.069	0.166
Colombia	p08	185	275	8.347	8.265	0.405	0.686	0.83
Colombia	p09	185	275	8.807	8.582	1.127	0.261	0.432
Colombia	p10	185	275	8.712	8.606	0.612	0.541	0.719
Colombia	p11	185	275	8.709	8.521	1.087	0.278	0.455
Colombia	p12	185	275	9.078	8.885	1.429	0.154	0.303
Colombia	p13	185	275	8.594	8.652	-0.334	0.738	0.867
Colombia	p14	185	275	8.966	9.065	-0.669	0.504	0.683
Colombia	p15	185	275	9.486	9.52	-0.296	0.767	0.882
Colombia	p16	185	275	9.723	9.787	-1.001	0.317	0.495
Colombia	p17	185	275	9.568	9.581	-0.145	0.885	0.97
Colombia	p18	185	275	9.525	9.525	0	1	1
Colombia	p19	185	275	9.238	9.23	0.053	0.958	0.984
Colombia	p20	185	275	9.17	9.151	0.116	0.908	0.977
Colombia	p21	185	275	9.211	9.199	0.101	0.919	0.977

Country	Proposal	Control n	Participant n	Control Mean	Participant Mean	Statistic	p-value	Adjusted p
Colombia	p22	185	275	8.452	7.908	2.343	0.02	0.059
Colombia	p23	185	275	9.05	9.063	-0.094	0.925	0.977
Colombia	p24	185	275	7.814	7.742	0.246	0.806	0.914
Colombia	p25	185	275	9.244	9.311	-0.47	0.639	0.798
Colombia	p26	185	275	9.135	8.755	2.417	0.016	0.051
Colombia	p27	185	275	8.679	8.457	1.059	0.29	0.471
Colombia	p28	185	275	8.415	8.403	0.059	0.953	0.984
Colombia	p29	185	275	9.12	8.865	1.706	0.089	0.207
Colombia	p30	185	275	8.989	9.099	-0.796	0.426	0.612
Colombia	p31	185	275	7.904	7.884	0.076	0.939	0.979
Colombia	p32	185	275	9.235	9.011	1.665	0.097	0.217
Colombia	p33	185	275	9.374	9.158	1.68	0.094	0.212
Colombia	p34	185	275	9.201	9.098	0.81	0.418	0.607
Colombia	p35	185	275	8.983	8.996	-0.084	0.933	0.977
Colombia	p36	185	275	9.006	8.881	0.747	0.456	0.636
Colombia	p37	185	275	8.943	9.085	-0.903	0.367	0.558
Colombia	p38	185	275	8.47	8.533	-0.299	0.765	0.882
Colombia	p39	185	275	8.462	8.44	0.098	0.922	0.977
Colombia	p40	185	275	8.729	8.6	0.666	0.506	0.683
Colombia	p41	185	275	9.029	8.984	0.299	0.765	0.882
Colombia	p42	185	275	9	9.077	-0.555	0.579	0.759
Colombia	p43	185	275	8.988	8.903	0.542	0.588	0.766
Colombia	p44	185	275	8.794	8.819	-0.14	0.889	0.97
Colombia	p45	185	275	8.653	8.66	-0.038	0.97	0.988
India	p01	160	231	8.558	8.827	-1.492	0.137	0.284
India	p02	160	231	8.189	8.726	-2.823	0.005	0.021
India	p03	160	231	7.955	7.715	1.002	0.317	0.495
India	p04	160	231	7.297	7.441	-0.528	0.598	0.769
India	p05	160	231	7.316	7.61	-1.156	0.249	0.422
India	p06	160	231	7.182	7.53	-1.377	0.169	0.317
India	p07	160	231	8.057	8.173	-0.555	0.579	0.759
India	p08	160	231	8.195	8.453	-1.448	0.149	0.298
India	p09	160	231	8.19	8.538	-1.685	0.093	0.212

Country	Proposal	Control n	Participant n	Control Mean	Participant Mean	Statistic	p-value	Adjusted p
India	p10	160	231	8.323	8.48	-0.859	0.391	0.577
India	p11	160	231	8.449	8.371	0.458	0.647	0.802
India	p12	160	231	8.5	8.533	-0.203	0.84	0.929
India	p13	160	231	8.447	8.324	0.733	0.464	0.636
India	p14	160	231	8.516	8.698	-1.055	0.292	0.471
India	p15	160	231	8.885	9.017	-0.827	0.409	0.597
India	p16	160	231	9	9.229	-1.448	0.149	0.298
India	p17	160	231	8.747	8.991	-1.392	0.165	0.315
India	p18	160	231	8.633	8.886	-1.446	0.149	0.298
India	p19	160	231	8.327	8.779	-2.465	0.014	0.046
India	p20	160	231	8.338	8.598	-1.374	0.171	0.317
India	p21	160	231	8.365	8.641	-1.63	0.104	0.229
India	p22	160	231	8.51	8.644	-0.737	0.462	0.636
India	p23	160	231	8.484	8.76	-1.688	0.092	0.212
India	p24	160	231	7.762	8.128	-1.535	0.126	0.265
India	p25	160	231	8.646	8.819	-0.986	0.325	0.504
India	p26	160	231	7.953	8.215	-1.145	0.253	0.426
India	p27	160	231	7.799	8.102	-1.282	0.201	0.352
India	p28	160	231	7.716	7.898	-0.739	0.46	0.636
India	p29	160	231	8.245	8.542	-1.729	0.085	0.201
India	p30	160	231	8.431	8.5	-0.409	0.683	0.83
India	p31	160	231	7.912	7.849	0.254	0.8	0.911
India	p32	160	231	8.461	8.518	-0.348	0.728	0.858
India	p33	160	231	8.777	8.796	-0.12	0.905	0.977
India	p34	160	231	8.545	8.789	-1.414	0.158	0.308
India	p35	160	231	8.358	8.655	-1.635	0.103	0.229
India	p36	160	231	8.539	8.531	0.052	0.959	0.984
India	p37	160	231	8.455	8.575	-0.633	0.527	0.709
India	p38	160	231	8.123	8.354	-1.103	0.271	0.446
India	p39	160	231	8.006	8.293	-1.287	0.199	0.352
India	p40	160	231	7.832	8.361	-2.537	0.012	0.041
India	p41	160	231	8.293	8.507	-1.19	0.235	0.403
India	p42	160	231	8.201	8.482	-1.546	0.123	0.261

Country	Proposal	Control n	Participant n	Control Mean	Participant Mean	Statistic	p-value	Adjusted p
India	p43	160	231	8.25	8.456	-1.128	0.26	0.432
India	p44	160	231	8.196	8.302	-0.579	0.563	0.745
India	p45	160	231	8.238	8.335	-0.515	0.607	0.773
Indonesia	p01	200	198	8.53	8.204	2.222	0.027	0.076
Indonesia	p02	200	198	8.388	8.021	2.311	0.021	0.062
Indonesia	p03	200	198	8.219	7.661	3.061	0.002	0.011
Indonesia	p04	200	198	7.909	7.13	3.719	0	0.002
Indonesia	p05	200	198	7.855	6.853	4.872	0	0
Indonesia	p06	200	198	8.057	7.222	4.31	0	0
Indonesia	p07	200	198	8.236	7.969	1.503	0.134	0.28
Indonesia	p08	200	198	8.25	7.791	2.514	0.012	0.042
Indonesia	p09	200	198	7.69	6.547	4.97	0	0
Indonesia	p10	200	198	8.327	7.912	2.575	0.01	0.039
Indonesia	p11	200	198	8.411	7.809	3.663	0	0.002
Indonesia	p12	200	198	8.497	8.231	1.709	0.088	0.207
Indonesia	p13	200	198	8.382	8	2.37	0.018	0.056
Indonesia	p14	200	198	8.452	8.308	0.878	0.38	0.571
Indonesia	p15	200	198	8.894	8.602	1.935	0.054	0.139
Indonesia	p16	200	198	8.726	8.73	-0.024	0.981	0.992
Indonesia	p17	200	198	8.754	8.566	1.278	0.202	0.352
Indonesia	p18	200	198	8.709	8.497	1.376	0.17	0.317
Indonesia	p19	200	198	8.601	8.062	3.325	0.001	0.005
Indonesia	p20	200	198	8.585	8.223	2.313	0.021	0.062
Indonesia	p21	200	198	8.575	8.39	1.284	0.2	0.352
Indonesia	p22	200	198	8.665	8.485	1.28	0.201	0.352
Indonesia	p23	200	198	8.566	8.346	1.566	0.118	0.256
Indonesia	p24	200	198	8.602	8.219	2.569	0.011	0.039
Indonesia	p25	200	198	8.621	8.699	-0.539	0.59	0.766
Indonesia	p26	200	198	8.032	7.438	3.149	0.002	0.008
Indonesia	p27	200	198	7.689	6.973	3.475	0.001	0.004
Indonesia	p28	200	198	8.061	7.742	1.851	0.065	0.161
Indonesia	p29	200	198	8.402	8.114	1.993	0.047	0.123
Indonesia	p30	200	198	8.425	8.234	1.333	0.183	0.339

Country	Proposal	Control n	Participant n	Control Mean	Participant Mean	Statistic	p-value	Adjusted p
Indonesia	p31	200	198	8.062	7.387	3.458	0.001	0.004
Indonesia	p32	200	198	8.551	8.338	1.46	0.145	0.297
Indonesia	p33	200	198	8.422	8.292	0.864	0.388	0.576
Indonesia	p34	200	198	8.308	7.826	2.656	0.008	0.032
Indonesia	p35	200	198	8.317	7.885	2.737	0.007	0.026
Indonesia	p36	200	198	8.396	7.995	2.675	0.008	0.031
Indonesia	p37	200	198	8.416	8.216	1.317	0.189	0.344
Indonesia	p38	200	198	8.077	7.942	0.837	0.403	0.592
Indonesia	p39	200	198	8.137	7.676	2.595	0.01	0.037
Indonesia	p40	200	198	8.169	7.811	2.278	0.023	0.066
Indonesia	p41	200	198	8.422	8.215	1.395	0.164	0.315
Indonesia	p42	200	198	8.355	8.16	1.289	0.198	0.352
Indonesia	p43	200	198	8.34	8.092	1.552	0.121	0.26
Indonesia	p44	200	198	8.372	8.216	1.05	0.294	0.471
Indonesia	p45	200	198	8.32	8.124	1.288	0.199	0.352
Nigeria	p01	210	203	7.608	8.158	-3.078	0.002	0.01
Nigeria	p02	210	203	7.364	8.005	-3.618	0	0.002
Nigeria	p03	210	203	7.268	7.97	-3.53	0	0.003
Nigeria	p04	210	203	6.895	7.724	-4.041	0	0.001
Nigeria	p05	210	203	7.25	7.851	-3.194	0.002	0.007
Nigeria	p06	210	203	6.781	7.411	-2.962	0.003	0.014
Nigeria	p07	210	203	7.558	7.98	-2.371	0.018	0.056
Nigeria	p08	210	203	7.584	7.901	-1.871	0.062	0.155
Nigeria	p09	210	203	7.795	8.227	-2.536	0.012	0.041
Nigeria	p10	210	203	7.55	7.881	-1.973	0.049	0.128
Nigeria	p11	210	203	7.373	7.975	-3.349	0.001	0.005
Nigeria	p12	210	203	7.622	8.286	-3.955	0	0.001
Nigeria	p13	210	203	7.216	7.975	-4.227	0	0
Nigeria	p14	210	203	7.524	8.31	-4.529	0	0
Nigeria	p15	210	203	7.699	8.345	-3.677	0	0.002
Nigeria	p16	210	203	8.351	8.673	-1.824	0.069	0.166
Nigeria	p17	210	203	8.033	8.655	-3.907	0	0.001
Nigeria	p18	210	203	7.928	8.302	-2.201	0.028	0.078

Country	Proposal	Control n	Participant n	Control Mean	Participant Mean	Statistic	p-value	Adjusted p
Nigeria	p19	210	203	7.584	8	-2.434	0.015	0.05
Nigeria	p20	210	203	7.629	7.851	-1.38	0.168	0.317
Nigeria	p21	210	203	7.856	8.188	-1.92	0.056	0.142
Nigeria	p22	210	203	7.962	8	-0.213	0.831	0.926
Nigeria	p23	210	203	7.5	8.207	-3.952	0	0.001
Nigeria	p24	210	203	6.77	7.76	-4.897	0	0
Nigeria	p25	210	203	7.867	8.404	-3.034	0.003	0.011
Nigeria	p26	210	203	7.433	7.837	-2.412	0.016	0.051
Nigeria	p27	210	203	7.053	7.627	-3.147	0.002	0.008
Nigeria	p28	210	203	6.986	7.667	-3.484	0.001	0.004
Nigeria	p29	210	203	7.274	8.015	-4.216	0	0
Nigeria	p30	210	203	7.385	7.915	-2.935	0.004	0.015
Nigeria	p31	210	203	6.626	7.41	-3.528	0	0.003
Nigeria	p32	210	203	7.337	7.921	-3.348	0.001	0.005
Nigeria	p33	210	203	7.833	8.379	-3.295	0.001	0.005
Nigeria	p34	210	203	7.59	8.276	-4.375	0	0
Nigeria	p35	210	203	7.519	8.084	-3.411	0.001	0.004
Nigeria	p36	210	203	7.469	7.837	-2.124	0.034	0.093
Nigeria	p37	210	203	7.21	8.153	-5.106	0	0
Nigeria	p38	210	203	7.082	7.495	-2.028	0.043	0.115
Nigeria	p39	210	203	6.883	7.419	-2.463	0.014	0.046
Nigeria	p40	210	203	6.805	7.62	-4.332	0	0
Nigeria	p41	210	203	7.172	8.054	-5.132	0	0
Nigeria	p42	210	203	7.595	8.069	-2.88	0.004	0.017
Nigeria	p43	210	203	7.584	8.005	-2.319	0.021	0.062
Nigeria	p44	210	203	7.428	7.841	-2.494	0.013	0.044
Nigeria	p45	210	203	7.177	7.79	-3.535	0	0.003
Tanzania	p01	206	185	9.146	8.173	5.318	0	0
Tanzania	p02	206	185	8.771	7.876	4.201	0	0
Tanzania	p03	206	185	7.965	8.027	-0.226	0.821	0.92
Tanzania	p04	206	185	6.736	6.071	1.843	0.066	0.162
Tanzania	p05	206	185	7.692	7.73	-0.137	0.891	0.97
Tanzania	p06	206	185	5.827	6.168	-0.923	0.357	0.547

Country	Proposal	Control n	Participant n	Control Mean	Participant Mean	Statistic	p-value	Adjusted p
Tanzania	p07	206	185	8.5	8.039	1.901	0.058	0.146
Tanzania	p08	206	185	8.292	7.549	2.984	0.003	0.013
Tanzania	p09	206	185	7.765	7.827	-0.21	0.834	0.926
Tanzania	p10	206	185	9.02	8.038	5.236	0	0
Tanzania	p11	206	185	9.064	8.097	5.329	0	0
Tanzania	p12	206	185	9.01	7.995	5.173	0	0
Tanzania	p13	206	185	8.626	8.032	2.886	0.004	0.017
Tanzania	p14	206	185	8.777	7.956	4.082	0	0.001
Tanzania	p15	206	185	8.99	8.272	3.656	0	0.002
Tanzania	p16	206	185	9.185	8.357	4.483	0	0
Tanzania	p17	206	185	8.941	8.103	4.155	0	0
Tanzania	p18	206	185	9.108	7.842	5.928	0	0
Tanzania	p19	206	185	8.789	7.95	3.867	0	0.001
Tanzania	p20	206	185	8.852	7.579	5.6	0	0
Tanzania	p21	206	185	8.736	8.059	3.303	0.001	0.005
Tanzania	p22	206	185	8.754	8.027	3.47	0.001	0.004
Tanzania	p23	206	185	9.025	7.989	5.15	0	0
Tanzania	p24	206	185	8.354	7.503	3.391	0.001	0.004
Tanzania	p25	206	185	8.762	8.295	2.308	0.022	0.062
Tanzania	p26	206	185	8.387	8.065	1.441	0.15	0.299
Tanzania	p27	206	185	8.128	7.743	1.631	0.104	0.229
Tanzania	p28	206	185	8.106	7.558	2.214	0.027	0.076
Tanzania	p29	206	185	8.168	7.541	2.499	0.013	0.043
Tanzania	p30	206	185	8.541	7.636	3.863	0	0.001
Tanzania	p31	206	185	7.608	7.114	1.78	0.076	0.181
Tanzania	p32	206	185	8.803	8.12	3.397	0.001	0.004
Tanzania	p33	206	185	8.932	8.151	3.902	0	0.001
Tanzania	p34	206	185	8.877	8.2	3.414	0.001	0.004
Tanzania	p35	206	185	8.545	8.049	2.352	0.019	0.058
Tanzania	p36	206	185	8.562	8.017	2.56	0.011	0.039
Tanzania	p37	206	185	8.835	8.13	3.406	0.001	0.004
Tanzania	p38	206	185	8.277	7.566	3.088	0.002	0.01
Tanzania	p39	206	185	7.819	7.797	0.09	0.928	0.977

Country	Proposal	Control n	Participant n	Control Mean	Participant Mean	Statistic	p-value	Adjusted p
Tanzania	p40	206	185	8.547	7.115	5.966	0	0
Tanzania	p41	206	185	8.824	7.918	4.386	0	0
Tanzania	p42	206	185	8.467	7.908	2.552	0.011	0.039
Tanzania	p43	206	185	8.747	7.876	4.387	0	0
Tanzania	p44	206	185	8.264	7.725	2.191	0.029	0.079
Tanzania	p45	206	185	8.454	7.875	2.641	0.009	0.033

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