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G7 Compliance Report on Antimicrobial Resistance, 2021–2023

Prepared by ARMoR and the G7 Research Group

www.g7.utoronto.ca • g7@utoronto.ca • @g7_rg

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G7 Research Group
University of Toronto
6 Hoskin Avenue, Toronto Ontario M5S 1H6 Canada
g7@utoronto.ca +1-416-946-8953
www.g7.utoronto.ca www.g7g20.utoronto

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Introduction

This compliance report assesses actions taken by the G7 members to fulfil four priority commitments related to antimicrobial resistance (AMR) made at the 2021 Cornwall, 2022 Elmau, and 2023 Hiroshima summits. This report has been produced by ARMoR and the G7 Research Group.

Based at the University of Toronto and founded in 1987, the G7 Research Group is a global network of scholars, students and professionals and strives to be the leading independent source of information and analysis on the institutions, performance, issues and participants of the G7 summit and system of global governance. ARMoR, or the Alliance for Reducing Microbial Resistance, is a non-profit organisation working to combat the growing threat of AMR through research and advocacy efforts. ARMoR aims to drive policy change to secure a sustainable pipeline of new antimicrobials while also ensuring equitable access to these drugs across the globe.

To conduct these assessments, researchers rely on publicly available information, documentation and media reports of actions taken beginning the day after the summit and ending by the following summit. In the case of the commitment made at the 2023 Hiroshima Summit, the assessment only assesses actions taken between 22 May 2023, and June 12, 2024.

The G7 Research Group has been producing compliance reports since 1996, which are available on the G7 Information Centre at www.g7.utoronto.ca/compliance. These reports are offered to the general public and to policy makers, academics, civil society, the media and interested citizens around the world in an effort to make the work of the G7 more transparent and accessible, and to provide scientific data to enable meaningful analysis of the impact of this unique informal international institution.

Compliance assessments are produced entirely on an unfunded, voluntary basis. They are not directly supported financially from any source. Neither ARMoR nor the G7 Research Group received any funding to produce this compliance report. To ensure the accuracy, comprehensiveness and integrity of these reports, comments and suggestions are always welcome. Indeed, this is a living document, and the scores can be recalibrated if new material becomes available.

All feedback remains anonymous and is never attributed. Responsibility for this report's contents lies exclusively with the report's authors and the analysts of ARMoR and the G7 Research Group.

This report is the product of a team of energetic and hard-working analysts led by David McKinney, Aanika Dalal, and Sofya Lebedeva. It would also not be possible without the efforts of Professor John Kirton, director of the G7 Research Group, Brittaney Warren, director of compliance studies, and Madeline Koch, executive director. We are also indebted to the many people who provide feedback on our drafts, whose comments are carefully considered in the published report.

Research Team

Professor John Kirton, Director
Madeline Koch, Executive Director
Brittaney Warren, Director of Compliance Studies

Compliance Directors

Aanika Dalal
David McKinney
Sofya Lebedeva

Compliance Analysts

Neha Suresh
Garrett Ehinger
Leon Mayer
Mo Putera
Berke Çelik
Natalie Kiilu
Andreea Prisecaru

Summary

Table 1 lists the four commitments selected for monitoring, drawn from 2021, 2022 and 2023 summits.

Compliance is measured on a three-point scientific scale. A score of +1 (100%) indicates full compliance with a commitment, a score of 0 (50%) indicates partial compliance or a work in progress, and a score of −1 (0%) indicates non-compliance or a failure to comply or action taken that is counter to the commitment.

Overall, countries averaged 58% compliance over all four analyses. The United Kingdom had the highest levels of commitment across all four analyses, averaging 100%, followed by the European Union (88%) and then the United States (75%). Italy had the lowest average at 25%. Countries achieved the highest levels of commitment for the Push and Pull Incentives for Research and Development (2023) commitment with an average compliance of 75% and the lowest levels of compliance for the Multi-Ministerial Action (2021) commitment with an average of 38%.

Future Research and Reports

The information contained within this report provides G7 members and other stakeholders with an indication of the G7 members' compliance with four commitments on antimicrobial resistance made at the 2021 Cornwall Summit, the 2022 Elmau and the 2023 Hiroshima summits. As with previous compliance reports, this report has been produced as an invitation for others to provide additional or more complete information on G7 members' compliance. Comments are always welcomed and would be considered as part of an analytical reassessment. Please send your feedback to g7@utoronto.ca.

Table 1: Compliance with G7 Commitments on Antimicrobial Resistance, 2021-2023

	Commitment	Canada	France	Germany	Italy	Japan	United Kingdom	United States	European Union	Average	
1	2021-370: Building on past G7 and G20 commitments, we call on our Health, Finance, Environment and Foreign and Development Ministers to continue to take action to tackle antimicrobial resistance.	0	0	−1	−1	−1	+1	0	0	−0.25	38%
2	2022-181: Acknowledging the rapid rise in antimicrobial resistance (AMR) at the global scale, we reiterate that we will spare no efforts to continue addressing this silent pandemic.	0	0	+1	0	0	+1	0	+1	+0.38	69%
3	2022-187: [We will continue to]…incentivise the development of new antimicrobial treatments with a particular emphasis on pull incentives.	0	−1	0	−1	−1	+1	+1	+1	0.00	50%
4	2023-262: Recognizing the rapid escalation of AMR globally, we continue to commit to exploring and implementing push and pull incentives to accelerate R&D [research and development] of antimicrobials	0	0	0	0	+1	+1	+1	+1	+0.50	75%
Average		0	−0.25	0	−0.50	−0.25	+1.00	+0.50	+0.75	+0.16	58%
		50%	38%	50%	25%	38%	100%	75%	88%	58%	

Table 2: Compliance by G7 Member with Commitments on Antimicrobial Resistance, 2021-2023

Rank	Member	Score	Average
1	United Kingdom	+1.00	100%
2	European Union	+0.75	88%
3	United States	+0.50	75%
4	Canada	0	50%
	Germany		
6	France	−0.25	38%
	Japan		
8	Italy	−0.50	25%
	Average	+0.16	58%

Table 3: Compliance by G7 Commitment on Antimicrobial Resistance, 2021-2023

Rank	Issue	Score	Average
3	Push and Pull Incentives for Research and Development (2023)	+0.50	75%
4	Response to Rapid Rise of Antimicrobial Resistance (2022)	+0.38	69%
2	Incentives for New Treatments (2022)	0.00	50%
1	Multi-Ministerial Action (2021)	-0.25	38%

1. Multi-Ministerial Action (2021)

2021-370: Building upon past G7 and G20 commitments, we call on our Health, Finance, Environment and Foreign and Development Ministers to continue to take action to tackle antimicrobial resistance.

G7 Carbis Bay Health Declaration (Cornwall Summit, June 11-13, 2021)

Assessment

	No Compliance	Partial Compliance	Full Compliance
Canada		0	
France		0	
Germany	−1		
Italy	−1		
Japan	−1		
United Kingdom			+1
United States		0	
European Union		0	
Average		−0.25 (38%)	

Background

Antimicrobial resistance (AMR) is now a widely known global health issue which was responsible for 1.27 million deaths in 2019 according to the most prevalent study on AMR mortality.[1]

AMR was first mentioned in the G7 leaders 2014 Brussels Summit Declaration where leaders committed to developing a Global Action Plan on AMR in collaboration with the World Health Organization (WHO).[2] On 26 May 2015 the 68th World Health Assembly (WHA) adopted resolution WHA 68.7 on 26 May 2015 which adopted the proposed Global Action Plan on AMR and brought it into effect.[3] This Global Action Plan contained five key objectives: 1) to improve awareness and understanding of antimicrobial resistance through effective communication, education and training; 2) to strengthen the knowledge and evidence base through surveillance and research; 3) to reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures; 4) to optimise the use of antimicrobial medicines in human and animal health; and 5) to develop the economic case for sustainable investment that takes account of the needs of all countries and to increase investment in new medicines, diagnostic tools, vaccines and other interventions.[4]

At the 2015 Elmau Summit, leaders expanded upon their previous commitments in line with the Global Action Plan on AMR. Commitments included developing and operationalising National Action Plans and supporting other countries in developing their own National Action Plans, fostering the prudent use of antibiotics, engaging in stimulating basic research, research on epidemiology, infection prevention and control and the development of new antibiotics, alternative therapies, vaccines and

[1] Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis, The Lancet 4 February 2022. Date of Access: 12 January 2024 https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02724-0/fulltext

[2] G7 Brussels Leaders Declaration, 4 June 2014. Date of Access: 17 February 2024. https://www.g7.utoronto.ca//summit/2014brussels/declaration.html.

[3] Global action plan on antimicrobial resistance, 68th World Health Assembly, 26 May 2015. Date of Access: 17 February 2024. https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-spc-sel-glass/a68-r7-en.pdf?sfvrsn=fa7f3dde_2.

[4] Global action plan on antimicrobial resistance, WHO, 1 January 2016. Date of Access: 17 February 2024. https://www.who.int/publications/i/item/9789241509763.

diagnostics.[5] They "take note of the Independent Review on AMR." They also committed to tackling AMR with a One Health approach, encompassing human, animal and environmental health.

At the 2015 G20 Antalya Summit AMR was also mentioned for the first time in the G20 where leaders agreed that "attention should be given to global health risks, such as antimicrobial resistance" with it being considered under the "Issues for Further Action" section.[6] G7 members are also members of the G20.

At the 2016 Ise-Shima Summit, leaders reaffirmed that they would build "on the previous commitment of the G7 Elmau Summit and its subsequent Health Ministers" Meeting as well as the G7 Niigata Agriculture Ministers" Meeting … in line with the 2015 WHO Global Action Plan on AMR." They restated their commitments to a One Health approach and to preserving the effectiveness of antimicrobials. In addition, they added that they would "[endeavour to] improve access to effective antimicrobials through accelerated support in cooperation with other countries and private sector partners," "consider potential for new incentives to promote R&D [research and development] on AMR and call on the international community to take further action" and "examine efforts to promote globally harmonised clinical trials to support development of antimicrobials, diagnostics and other countermeasures." This commitment was mirrored at the 2016 G20 Hangzhou Summit.[7]

In 2016, the UN General Assembly held its first high-level meeting on AMR where a political declaration was made and leaders committed to "taking a broad, coordinated approach to address the root causes of AMR across multiple sectors, especially human health, animal health and agriculture."[8]

At the 2017 G20 Hamburg Summit, leaders stated that they would "aim to have implementation of our National Action Plans, based on a One-Health approach, well underway by the end of 2018" and restated their commitments to the prudent use of antibiotics, strengthening public awareness, infection prevention and control, improved R&D and access. They also called for a new international R&D Collaboration Hub, which later became the Global AMR R&D Hub.

At the 2018 G7 Charlevoix Summit, leaders committed to "prioritize and coordinate our global efforts to fight against antimicrobial resistance, in a 'one health' approach."[9]

The 2019 G7 Biarritz Summit and 2020 G7 Virtual Summit made no specific commitments on AMR.

At the 2021 G7 Cornwall Summit, leaders committed to "act now to strengthen the global health and health security system to be better prepared for future pandemics and to tackle long standing global health threats, including Antimicrobial Resistance."[10]

Commitment Features

At the 2021 Cornwall Summit on 11-13 June 2021, leaders committed to "building on past G7 and G20 commitments, we call on our Health, Finance, Environment and Foreign and Development

[5] Annex to the Leaders' Declaration, G7 Summit, 7-8 June 2015. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2015elmau/2015-G7-annex-en.html.
[6] G20 Leaders' Communiqué Antalya, Turkey, November 16, 2015. Date of Access: 17 January 2024. https://www.g20.utoronto.ca/2015/151116-communique.html
[7] G20 Leaders' Communiqué: Hangzhou Summit, September 5, 2016. Date of Access: 17 January 2024. https://www.g20.utoronto.ca/2016/160905-communique.html
[8] High-Level Meeting on Antimicrobial Resistance, United Nations, 21 September 2016. Date of Access: 17 January 2024 https://www.un.org/pga/71/2016/09/21/press-release-hl-meeting-on-antimicrobial-resistance/
[9] The Charlevoix G7 Summit Communiqué, La Malbaie, 9 June 2018. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2018charlevoix/communique.html
[10] Carbis Bay G7 Summit Communiqué: Our Shared Agenda for Global Action to Build Back Better, 13 June 2021, Date of access: 17 February 2024. https://www.g7.utoronto.ca/summit/2021cornwall/210613-communique.html.

Ministers to continue to take action to tackle antimicrobial resistance." This analysis covers the period between 14 June 2021 and 25 June 2022.

Definitions and Concepts

"Antimicrobial resistance (AMR)" is the phenomenon of bacteria, viruses, fungi and parasites no longer responding to antimicrobial medicines. As a result of drug resistance, antibiotics and other antimicrobial medicines become ineffective and infections become difficult or impossible to treat, increasing the risk of disease spread, severe illness, disability and death.

"Building" is defined as "to develop according to a systematic plan, by a definite process, or on a particular base." In this context, "Building on" past G7 and G20 commitments therefore means to work towards more expansive action based on previous commitments.

"Call on" is understood to mean to promote or motion others to associate with the mentioned requirement. In this context, this means that the G7 leaders motion their respective health, finance, environment and foreign and development ministries to take action on antimicrobial resistance.

"Continue to take action" means to either expand on existing initiatives or create new initiatives with the purpose of tackling antimicrobial resistance. It should not be interpreted to mean no new allocations are made.

To "tackle" is understood to mean to make determined efforts to deal with a problem or difficult task, in this case the issue of antimicrobial resistance. We interpret this as meaning that ministries must take strong actions in order to fully compile with this commitment.

General Interpretive Guidelines

This commitment requires that action to be taken by the five named ministries within each G7 member. Additionally, this action must be new or expanded beyond previous action that each member has taken. Examples of strong actions which could be taken to meet this commitment include creating and implementing new regulations and legislation; carrying out programs to tackle AMR, such as awareness campaigns, improvements to healthcare sanitation conditions or campaigns to reduce antibiotic usage in animal agriculture; funding new initiatives, such as push funding or pull incentives for the development of new antimicrobials; creating task forces or working groups with remits directly related to reducing AMR. Examples of weak action include attendance at meetings to discuss reducing AMR and official reaffirmations of the ministries position on tackling AMR.

Full compliance, or a score of +1, will be awarded to G7 members where several strong actions have been taken to tackle AMR by the health, finance, environment, foreign and development ministries, or their equivalents, either independently or jointly. Strong actions generally include policy, regulatory, legislative or financial actions. Several is defined as at least four.

Partial compliance, or a score of 0, will be awarded to G7 members where several weak actions have been taken to tackle AMR, or some strong action has been taken. For example, if two ministries take two strong actions, or if all five ministries take five weak actions, this will result in a score of 0. Weak action includes verbal reaffirmations of support, diplomatic efforts, attending meetings, or the like. Some is defined as two or three.

Non-compliance, or a score of −1, will be awarded to G7 members where action has been taken by fewer than two ministries.

Scoring Guidelines

−1	The G7 member, via its health, finance, environment, foreign and development ministries, has taken insufficient action to build on past G7 and G20 commitments to tackle antimicrobial resistance (AMR).
0	The G7 member has taken some strong action to tackle AMR via at least two of the five named ministries of health, finance, environment, foreign, and development ministries or has taken several weaker actions across more than two ministries, building on past G7 and G20 commitments.
+1	The G7 member has taken several strong actions to tackle AMR across all five named ministries of health, finance, environment, foreign, and development ministries, building on past G7 and G20 commitments.

Canada: 0

Canada has partially complied with its commitment to continue to take actions to tackle antimicrobial resistance (AMR) through actions taken by its health, finance, environment, foreign and development ministries.

On 20 July 2021, Minister of Health Patty Hajdu, released a statement on the Antimicrobial Resistance Network Report. This report, funded by the Public Health Agency of Canada, aimed to explore governance models that unite diverse stakeholders in their work on AMR.[11]

On 6 September 2021, at the G20 Health Ministers' Meeting in Rome, G20 health ministers, including Canada, pledged cooperation and collaboration in tackling AMR.[12]

On 12 and 13 October 2021, Health Canada convened the "Best Brains Exchange" on AMR in order to discuss: Challenges with antimicrobial business model in Canada and their impact on AMR; Options for pull incentive models and how they are being implemented by international counterparts and how pull incentives models might be applied in the Canadian context. It was attended by the Canadian Institute of Health Research, Public Health Agency of Canada and Health Canada.[13]

On 18 October 2021 the Public Health Agency of Canada AMR Taskforce was officially launched, it aims to act as a coordinating body for accelerated AMR action in Canada, it will also have an external advisory group.[14]

On 29 October 2021 Canada reaffirmed its previous commitments to tackle AMR in the Joint G20 Finance and Health Ministers Meeting Communiqué.[15]

[11] Public Health Agency of Canada, Statement from the Minister of Health on the Antimicrobial Resistance (AMR) Network Report, Date of Access: 12 March 2024 https://www.canada.ca/en/public-health/news/2021/07/statement-from-the-minister-of-health-on-the-antimicrobial-resistance-amr-network-report.html

[12] G20 Ministerial Health Declaration Published, Department of Health and Social Care 6 September 2021. Date of Access: 7 February 2024. https://www.gov.uk/government/news/g20-ministerial-health-declaration-published

[13] Health Canada, Best Brains Exchange meeting on antimicrobial resistance, Date of Access 12 March 2024 https://www.canada.ca/en/health-canada/services/publications/drugs-health-products/best-brains-exchange-meeting-antimicrobial-resistance.html

[14] Health Canada, Best Brains Exchange meeting on antimicrobial resistance, Date of Access 12 March 2024 https://www.canada.ca/en/health-canada/services/publications/drugs-health-products/best-brains-exchange-meeting-antimicrobial-resistance.html

[15] Joint G20 Finance and Health Ministers Meeting Communique, US Department of the Treasury 29 October 2021. Date of Access: 20 February 2024. https://home.treasury.gov/news/press-releases/jy0444

On 18 November 2021, the Minister of Health, Jean-Yves Duclos, made a statement on AMR for World Antimicrobial Awareness Week where he specified that Canada had committed to spending CAD 28.6 million over five years on AMR, starting in 2021-22.[16]

On 21 November 2021, the Public Health Agency of Canada published its 2021 Veterinary Antimicrobial Sales highlights report.[17]

On 22 November 2021, Choosing Wisely Canada, a Health Canada funded campaign, launched a new set of tools and resources to encourage the judicious use of antibiotics.[18]

On 22 November 2021, Dr Theresa Tam, Chief Public Health Officer of Canada for the Public Health Agency of Canada made a statement on AMR for World Antimicrobial Awareness Week. It drew attention to the issue, the need to handle antibiotics with care and the One Health nature of AMR.[19]

On 13 December 2021, G7 finance ministers released a statement on actions to support antibiotic development in order to strengthen G7 preparedness against AMR. These actions included asking G7 finance and health officials to collaborate with relevant entities to continue dialogue over the matter. They also called on the Global AMR R&D Hub and the World Health Organization to support this work and prepare a progress update for the ministers in 2022. They also pledged to support efforts to revitalise AMR-related action at the G20.[20]

On 16 December 2021, in his mandate letter to Mark Holland, the new minister of health, Prime Minister Justin Trudeau included said the minister should "work with partners to take increased and expedited action to monitor, prevent and mitigate the serious and growing threat of antimicrobial resistance and preserve the effectiveness of the antimicrobials Canadians rely upon every day."[21]

On 7 March 2022 the report from the "Best Brains Exchange" on AMR was published, it recommended that Canada look at adopting a pull incentive to support development of new antimicrobials.[22]

[16] Public Health Agency of Canada, Message from the Minister of Health - World Antimicrobial Awareness Week, November 18 to 24, 2021, Date of Access 12 March 2024 https://www.canada.ca/en/public-health/news/2021/11/message-from-the-minister-of-health-world-antimicrobial-awareness-week-november-18-to-24-2021.html

[17] Public Health Agency of Canada, 2021 Veterinary Antimicrobial Sales Highlghts Report, 21 November 2021. Access Date: 18 March 2024 https://www.canada.ca/en/health-canada/services/publications/drugs-health-products/2021-veterinary-antimicrobial-sales-highlights-report.html

[18] Using Antibiotics Wisely, 22 November 2021. Access Date: 18 March 2024 https://choosingwiselycanada.org/using-antibiotics-wisely-2021/

[19] Public Health Agency of Canada, Statement from Dr. Theresa Tam, Chief Public Health Officer of Canada - World Antimicrobial Awareness Week 2021, Date of Access: 12 March 2024 https://www.canada.ca/en/public-health/news/2021/11/statement-from-dr-theresa-tam-chief-public-health-officer-of-canada-world-antimicrobial-awareness-week-2021.html

[20] G7 Finance Ministers' Statement on Actions to Support Antibiotic Development, HM Treasury 13 December 2021. Date of Access: 8 February 2024. https://www.gov.uk/government/publications/g7-finance-ministers-statement-on-actions-to-support-antibiotic-development

[21] Prime Minister of Canada, Minister of Health Mandate Letter, 16 December 2021: Access Date: 12 March 2024 https://www.pm.gc.ca/en/mandate-letters/2021/12/16/minister-health-mandate-letter

[22] Health Canada, Best Brains Exchange meeting on antimicrobial resistance, Date of Access 12 March 2024 https://www.canada.ca/en/health-canada/services/publications/drugs-health-products/best-brains-exchange-meeting-antimicrobial-resistance.html

On 31 March 2022 a report commissioned by the Public Health Agency of Canada on "Understanding Canadians" awareness, knowledge, attitudes and behaviours related to antimicrobial use and antimicrobial resistance" was published.[23]

On 4 April 2022 the Public Health Agency of Canada published its Canadian Antimicrobial Resistance Surveillance Systems Report 2021.[24]

On 1 June 2022 the Public Health Agency of Canada requested that the Council of Canadian Academies formed an expert panel to investigate "What economic pull incentives have the greatest potential for success in encouraging the market entry and sustained market availability of high-value antimicrobials for use in humans in Canada?" [25] This panel is aimed at putting forward recommendations for new pull incentive models which can support development of new antimicrobials.

In 2022 the Government of Canada launched the AMR2 Project, which totaled CAD 9.8 million in funding from 2022 to 2027, across six federal ministries (Agriculture and Agri-Food Canada, Environment and Climate Change Canada, Fisheries and Oceans Canada, Health Canada, Public Health Agency of Canada, National Research Centre, National Resources Canada, Canadian Food Inspection Agency, across the One Health spectrum. The project uses genomics-based approaches to understand how food production contributes to the development of AMR.[26]

Canada has partially complied with its commitment to continue to take actions to tackle antimicrobial resistance through actions taken by its health ministers, and by

the federal government to support its environment ministers. The health ministry has made significant action across a range of topics, including setting up an AMR taskforce, investigating pull incentives and giving significant amounts of funding to AMR. The environment ministry was involved with the AMR2 project. However, the ministries of finance, development and foreign affairs do not appear to have taken sufficient action to combat AMR in line with the commitment.

Therefore, Canada receives a score of 0.

Analyst: David McKinney

France: 0

France has partially complied with its commitment to continue to take actions to tackle antimicrobial resistance (AMR) through actions taken by its health, finance, environment, foreign and development ministries.

[23] Public Health Agency of Canada, Understanding Canadians' awareness, knowledge, attitudes and behaviours related to antimicrobial use and antimicrobial resistance, 31 March 2022. Access Date: 12 March 2024 https://publications.gc.ca/site/eng/9.910323/publication.html

[24] Public Health Agency of Canada, Canadian Antimicrobial Resistance Surveillance System Report 2021, 4 April 2022, Access Date: 12 March 2024 https://www.canada.ca/en/public-health/services/publications/drugs-health-products/canadian-antimicrobial-resistance-surveillance-system-report-2021.html

[25] CCA Appoints Expert Panel on Pull Incentives for High-Value Antimicrobials, Date of Access 10 March 2024 https://www.cca-reports.ca/cca-appoints-expert-panel-on-pull-incentives-for-high-value-antimicrobials/

[26] Genomics R&D Initiative, Antimicrobial Resistance (the AMR2 Project), Date of Access 12 March 2024 https://grdi.canada.ca/en/projects/antimicrobial-resistance-amr2-project

On 6 September 2021, at the G20 Health Ministers' Meeting in Rome, G20 health ministers, including France, pledged cooperation and collaboration in tackling AMR.[27]

On 29 October 2021 France reaffirmed its previous commitments to tackle AMR in the Joint G20 Finance and Health Ministers Meeting Communiqué.[28]

In November 2021, the French Health Ministry collaborated with the 'Food and Agriculture Organization on an Action Plan against Antimicrobial Resistance.[29] Annual overviews jointly published by various ministries, the Ministry of Health, worked to raise public awareness about AMR consumption and risks.

In November 2021, the Ministry of Labor, Solidarity and Health established the PROMISE Meta Network to monitor antimicrobial resistance (AMR) indicators and promote coordination between siloed experts.[30]

From the 18 to 24 of November 2021, as part of the World Week for the Proper Use of Antibiotics, the Ministry of Agriculture and Food Sovereignty launched the Écoantibio 2 communication campaign, targeting breeders, veterinarians, and pet owners, emphasising proper antibiotic use, biosecurity, vaccination, and animal welfare.[31] 'The Ministry of Labor, Solidarity and Health also announced a new ambitious 10-year interministerial strategy to foster collaboration and information sharing, underscoring its commitment to addressing AMR comprehensively for future years.[32]

On 13 December 2021, G7 finance ministers released a statement on actions to support antibiotic development in order to strengthen G7 preparedness against AMR. These actions included asking G7 finance and health officials to collaborate with relevant entities to continue dialogue over the matter. They also called on the Global AMR R&D Hub and the World Health Organization to support this work and prepare a progress update for the ministers in 2022. They also pledged to support efforts to revitalise AMR-related action at the G20.[33]

The Health Ministry also incrementally increased federal funding to the Health Ministry for combating AMR, which increased from less than EUR 600 million in 2014 to over EUR 1.19 billion in 2021.[34]

[27] G20 Ministerial Health Declaration Published, Department of Health and Social Care 6 September 2021. Date of Access: 7 February 2024. https://www.gov.uk/government/news/g20-ministerial-health-declaration-published
[28] Joint G20 Finance and Health Ministers Meeting Communique, US Department of the Treasury 29 October 2021. Date of Access: 20 February 2024. https://home.treasury.gov/news/press-releases/jy0444
[29] Food and Agricultural Organization of the United Nations November 2021. Date of Access: 8 February 2024. https://www.fao.org/documents/card/fr?details=cb5545fr
[30] Ministry of Labor, Solidarity and Health National STrategy for the Prevention of Infections and Antibiotic Resistance in Human Health 7 March 2022. Date of Access: 10 February 2024. https://sante.gouv.fr/actualites/presse/communiques-de-presse/article/antibioresistance-une-nouvelle-strategie-interministerielle-ambitieuse-a-10-ans
[31] Health Promotion Federation of France, Nouvelle Aquitane 18-24 November 2021. Date of Access: 06 February 2024. https://irepsna.org/campagne-de-prevention-les-antibiotiques-bien-se-soigner-cest-dabord-bien-les-utiliser/
[32] Public Health France Antimicrobial resistance: a new ambitious 10-year interministerial strategy 22 November 2022. Date of Access: 11 February 2024. https://sante.gouv.fr/actualites/presse/communiques-de-presse/article/antibioresistance-une-nouvelle-strategie-interministerielle-ambitieuse-a-10-ans
[33] G7 Finance Ministers' Statement on Actions to Support Antibiotic Development, HM Treasury 13 December 2021. Date of Access: 8 February 2024. https://www.gov.uk/government/publications/g7-finance-ministers-statement-on-actions-to-support-antibiotic-development
[34] Directorate of Information and Communication 14 Notebook on the French National Research Agency (ANR) November 2022. Date of Access: 13 February 2024. https://anr.fr/fileadmin/documents/2022/ANR_cahier_14_antibioresistance.pdf

On 23 February 2022, Julien Denormandie, the Minister of Agriculture and Food, issued a ministerial decree prohibiting, as of 22 April 2022, the importation and placing on the market in France of meat and products based on meat from animals that have received growth-promoting antibiotics.[35]

In March 2022, the Foreign Ministry hosted the "One Health" ministerial conference in conjunction with the Ministry of Agriculture and Food Sovereignty on antimicrobial resistance, bringing together health and veterinary authorities from EU Member States, along with international organisations and civil society representatives.[36]

On 7 March 2022, the Ministry of Labor, Solidarity, and Health published the ""2022-2025 National Strategy for the prevention of infections and antibiotic resistance in human health","[37] which emphasises the need to collaborate in the near future on infection prevention/control programs, appropriate antibiotic use, research actions, and healthcare professional training between the Health, Environment, and Finance ministries.

On 23 March 2022 the Minister of Agriculture and Food presented an ordinance adopting the provisions of the Public Health Code and the Rural and Maritime Fisheries Code to European Union law in the field of veterinary medicines and medicated feed. This law is intended to reduce AMR through improving infection prevention and usage of antimicrobials in agriculture.[38]

On 28 April 2022, the Minister of Agriculture and Food presented a bill ratifying Ordinance No. 2022-414 of March 23, 2022, adapting the provisions of the public health code and the rural and maritime fishing code to European Union law in the field of veterinary medicinal products and medicated feed. The main objective of this ordinance and the regulations from which it arises is to combat antimicrobial resistance in animal agriculture.[39]

France has partially complied with its commitment to continue to take actions to tackle antimicrobial resistance through actions taken across ministries. The ministries of health, finance and the environment took strong action or were supported by France to table AMR, such as through a national strategy. The ministry responsible for agriculture also took action on AMR. The foreign or development ministries did not take action on AMR.

Thus, France receives a score of 0.

Analyst: Garrett Ehinger

[35] Ministry of Agriculture and Food, France prohibits the importation and placing on the market in France of meat and meat-based products from animals that have received antibiotics used to promote the growth or increase the yield of animals. 22 February 2022. Date of Access: 26 February 2024. https://agriculture.gouv.fr/la-france-interdit-limportation-et-la-mise-sur-le-marche-en-france-de-viandes-et-produits-base-des

[36] Ministry of Agriculture and Food Sovereignty One Health Ministerial Conference on Antimicrobial Resistance 16 March 2022. Date of Access: 10 February 2024. https://agriculture.gouv.fr/conference-ministerielle-une-seule-sante-sur-la-resistance-aux-antimicrobiens

[37] Ministry of Labor, Solidarity and Health National Strategy for the Prevention of Infections and Antibiotic Resistance in Human Health 7 March 2022. Date of Access: 10 February 2024. https://sante.gouv.fr/actualites/presse/communiques-de-presse/article/antibioresistance-une-nouvelle-strategie-interministerielle-ambitieuse-a-10-ans

[38] Council of Ministers, Minutes of the Council of Ministers of March 23, 2022. Date of Access 26 February 2024. https://www.gouvernement.fr/conseil-des-ministres/compte-rendu-du-conseil-des-ministres-du-23-03-2022

[39] Council of Ministers, Minutes of the Council of Ministers of April 28, 2022. Date of Access 26 February 2024. https://www.gouvernement.fr/conseil-des-ministres/compte-rendu-du-conseil-des-ministres-du-28-04-2022

Germany: −1

Germany has not complied with its commitment to continue to take actions to tackle antimicrobial resistance (AMR) through actions taken by its health, finance, environment, foreign and development ministries.

On 6 September 2021, at the G20 Health Ministers' Meeting in Rome, G20 health ministers, including Germany, pledged cooperation and collaboration in tackling AMR.

On 29 October 2021 Germany reaffirmed its previous commitments to tackle AMR in the Joint G20 Finance and Health Ministers Meeting Communiqué.

On 13 December 2021, G7 finance ministers released a statement on actions to support antibiotic development in order to strengthen G7 preparedness against AMR. These actions included asking G7 finance and health officials to collaborate with relevant entities to continue dialogue over the matter. They also called on the Global AMR R&D Hub and the World Health Organization (WHO) to support this work and prepare a progress update for the ministers in 2022. They also pledged to support efforts to revitalise AMR-related action at the G20.[40]

On 16 March 2022, the Ministry of Finance named the Federal Office of Consumer Protection and Food Safety as responsible for collecting data and reporting on AMR in the 2022 federal budget.[41]

In April 2022, the final report of the German antibiotics resistance strategy (DART 2020), was published by the German Ministry of Health.[42] In the report, Germany affirmed its commitment to a "One Health" approach and lists various successes, for example, the usage of antibiotics in veterinary medicine declined by 59% between 2011 and 2020 in Germany. For its follow-up strategy, the report highlights the importance of supporting research and innovation for diagnostics as well as therapeutics.

On 9 and 10 May 2022, the UNITE4TB (academia and industry united innovation and treatment for tuberculosis), a public-private partnership, gathered in Munich, Germany. The event was joined by representatives of the state of Bavaria as well as Germany-wide organisations.[43] Since 2021, the Federal Ministry of Education and Research has supported two German institutions as partners in UNITE4TB with 25 million euros to develop treatments against drug-resistant tuberculosis.[44]

On 13 May 2022, the German Network against Antimicrobial Resistance (DNAMR) was created. The network is supported by companies as well as the German Center for Infection Research which was launched by the Federal Ministry of Education and Research and has the goal to connect push with pull incentives and support research into novel antibiotics.[45]

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[40] G7 Finance Ministers' Statement on Actions to Support Antibiotic Development, HM Treasury 13 December 2021. Date of Access: 8 February 2024. https://www.gov.uk/government/publications/g7-finance-ministers-statement-on-actions-to-support-antibiotic-development

[41] 2022 German Federal Budget. Date of Access: 27.02.2024 https://www.bundeshaushalt.de/static/daten/2022/soll/BHH%202022%20gesamt.pdf

[42] DART 2020 - Abschlussbericht, Accessed: 28.02.2024. https://www.bundesgesundheitsministerium.de/service/publikationen/details/dart-2020-abschlussbericht

[43] UNITE4TB 2022 Annual Meeting, Accessed 28.02.2024. https://www.unite4tb.org/newsroom/unite4tb-2022-annual-meeting

[44] Incentivising the development of new antibacterial treatments 2023 - Progress Report by the Global AMR R&D Hub & WHO. Accessed 28.02.2024. https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-gcp-irc/incentivising-development-of-new-antibacterial-treatments-2023---progress-report.pdf?sfvrsn=72e4f738_3

[45] Antibiotika-Krise: Forschung und Privatwirtschaft arbeiten gemeinsam an Lösungen. 13.05.2022. Date of Access: 27.02.2024 https://dnamr.de/aktuelles-publikationen/details/antibiotika-krise-forschung-und-privatwirtschaft-arbeiten-gemeinsam-an-l%C3%B6sungen.html

On 19 and 20 May 2022, under the German G7 presidency, G7 health ministers met in Berlin to discuss how to protect people from future pandemics, fight AMR and climate change[46]. Germany's proposal to host an expert meeting in autumn 2022 on how to establish AMR surveillance systems was accepted. In their communiqué, the ministers committed to continue their contribution and collaboration through the WHO's Global Antimicrobial Resistance and Use Surveillance System (GLASS) and emphasised the importance of antibiotic stewardship. They reiterated their plan to continue to support initiatives such as CARB-X. They also, specifically highlighted the importance of pull incentives.[47]

Germany's ministries of finance and health took some action by assigning duties, releasing a report to tackle AMR, and leading an international discussion on surveillance. Its ministry responsible for education also took action on AMR. The ministries of environment, foreign affairs and development did not take action. Thus two relevant ministries took less than strong action on AMR.

Thus, Germany receives a score of −1.

Analyst: Leon Mayer

Italy: −1

Italy has not complied with its commitment to continue to take actions to tackle antimicrobial resistance (AMR) through actions taken by its health, finance, environment, foreign and development ministries.

On 6 September 2021, at the G20 Health Ministers' Meeting in Rome, G20 health ministers, including Italy, pledged cooperation and collaboration in tackling AMR.

On 29 October 2021 Italy reaffirmed its previous commitments to tackle AMR in the Joint G20 Finance and Health Ministers Meeting Communiqué.

On 13 December 2021, G7 finance ministers released a statement on actions to support antibiotic development in order to strengthen G7 preparedness against AMR. These actions included asking G7 finance and health officials to collaborate with relevant entities to continue dialogue over the matter. They also called on the Global AMR R&D Hub and the World Health Organization to support this work and prepare a progress update for the ministers in 2022. They also pledged to support efforts to revitalise AMR-related action at the G20.[48]

On 13 April 2022 the Ministry of Health published guidelines for the prudent use of antibiotics in the breeding of rabbits for meat in pursuit of Italy's commitment to tackle AMR.[49]

On 2 May 2022, the 2021 Tripartite AMR Country Self-Assessment Survey (TrACSS) was published. In this survey Italy reported to have sustained capacity in progressing with the development of its national action plan on AMR, monitoring the consumption and use of antimicrobials in human health,

[46] Germany's 2022 G7 Presidency. Accessed 28.02.2024. https://www.bundesgesundheitsministerium.de/en/g7-presidency-2022

[47] G7 Health Ministers' Communiqué. Accessed 28.02.2024 https://www.bundesgesundheitsministerium.de/fileadmin/Dateien/3_Downloads/G/G7/20220520_English_G7_Health_Ministers_Communique.pdf

[48] G7 Finance Ministers' Statement on Actions to Support Antibiotic Development, HM Treasury 13 December 2021. Date of Access: 8 February 2024. https://www.gov.uk/government/publications/g7-finance-ministers-statement-on-actions-to-support-antibiotic-development

[49] Uso Prudente Dell'antibiotico Nell'allevamento Del Coniglio Da Carne, Ministero della Salute 13 April 2022. Date of Access: 27 February 2024. https://www.salute.gov.it/portale/documentazione/p6_2_2.jsp?lingua=italiano&anno=2022&anno=2021&area=antibiotico-resistenza&btnCerca=

surveilling for AMR in animals and in food.[50] It reported demonstrated capacity in AMR awareness raising, delivering training on AMR in the veterinary sector, surveilling AMR in humans, and minimising the development and transmission of AMR in animal production. In its review of Italy's 2021 TrACSS, the Organisation for Economic Co-operation and Development noted that there is substantial room for further policy action by Italy including through making financial provisions for the implementation of the AMR action plan, enhancing training and education on AMR in human health, and improving biosecurity practices.[51]

Italy has not complied with its commitment to continue to take action to tackle antimicrobial resistance as only limited actions were taken by its Ministry of Health. Additionally, there is no evidence of relevant actions taken by its finance, environment, and foreign and development ministries during the compliance period.

Thus, Italy receives a score of −1.

Analyst: Natalie Kiilu

Japan: −1

Japan has not complied with its commitment to continue to take actions to tackle antimicrobial resistance (AMR) through actions taken by its health, finance, environment, foreign and development ministries.

On 6 September 2021, at the G20 Health Ministers' Meeting in Rome, G20 health ministers, including Japan, pledged cooperation and collaboration in tackling AMR.

On 29 October 2021 Japan reaffirmed its previous commitments to tackle AMR in the Joint G20 Finance and Health Ministers Meeting Communiqué.[52]

On 30 November 2021, the AMR Clinical Reference Center at the National Center for Global Health and Medicine Hospital (commissioned by the Ministry of Health, Labour and Welfare) renewed the website "Antimicrobial Resistance (AMR) One Health Platform," which has been available since October 2019, and established prefecture-specific websites (the "local version" of the One Health Platform).

On 13 December 2021, G7 finance ministers released a statement on actions to support antibiotic development in order to strengthen G7 preparedness against AMR. These actions included asking G7 finance and health officials to collaborate with relevant entities to continue dialogue over the matter. They also called on the Global AMR R&D Hub and the World Health Organization (WHO) to support this work and prepare a progress update for the ministers in 2022. They also pledged to support efforts to revitalise AMR-related action at the G20.[53]

On 17 February 2022, the Ministry of Health hosted the fourth Tokyo AMR One Health-Conference with support from the WHO Regional Office for the Western Pacific. The meeting was attended by

[50] Antimicrobial Resistance TrACSS Italy 2021 Country Profile, World Health Organisation 2 May 2022. Date of Access: 27 February 2024. https://www.who.int/publications/m/item/antimicrobial-resistance-tracss-ita-2021-country-profile
[51] Embracing a One Health Framework to Fight Antimicrobial Resistance, OECD. Date of Access: 27 February 2024. https://www.oecd.org/italy/One-Health-Framework-to-Fight-AMR-in-ITA.pdf
[52] Joint G20 Finance and Health Ministers Meeting Communique, US Department of the Treasury 29 October 2021. Date of Access: 20 February 2024. https://home.treasury.gov/news/press-releases/jy0444
[53] G7 Finance Ministers' Statement on Actions to Support Antibiotic Development, HM Treasury 13 December 2021. Date of Access: 8 February 2024. https://www.gov.uk/government/publications/g7-finance-ministers-statement-on-actions-to-support-antibiotic-development

experts and officials from ministries and partners with jurisdiction over health or agriculture in the Asia-Pacific region.

On 11 May 2022, the Ministry of Health enacted the Antibiotic Economic Security Promotion Act, which designated specific substances as "important/vital" and thus guaranteed bureaucratic pipelines for essential medical practices only to have access to these materials (some of which are antibiotics).

Japan has not complied with its commitment to continue to take action to tackle antimicrobial resistance as few actions were taken only by its Ministry of Health. There is no evidence of relevant actions taken by its Finance, Environment, and Foreign and Development ministries during the compliance period.

Thus, Japan receives a score of −1.

Analyst: Garrett Ehinger

United Kingdom: +1

The United Kingdom has fully complied with its commitment to continue to take action to tackle antimicrobial resistance (AMR) through actions taken by its health, finance, environment, foreign and development ministries.

On 15 July 2021, in recognition of the grave threat posed by AMR, the Department for Environment, Food and Rural Affairs reaffirmed its commitment in its 2021-2022 plan to implement the animal health actions contained in the UK's five-year AMR National Action Plan leveraging the veterinary pathogen surveillance programme.[54]

On 2 September 2021, the UK's chancellor of the exchequer and India's finance minister released a joint statement welcoming a new Fleming Fund partnership to promote India's implementation of its national action plan on AMR.[55] In another joint statement from the UK-China Health Dialogue, health ministers from both countries also agreed to cooperate on AMR through the UK-China public health agencies.[56]

On 6 September 2021, at the G20 Health Ministers' Meeting in Rome, Sajid Javid, the UK health secretary and other G20 health ministers pledged cooperation and collaboration in tackling AMR.[57]

On 29 October 2021 the UK reaffirmed its previous commitments to tackle AMR in the Joint G20 Finance and Health Ministers Meeting Communiqué.[58]

On 1 December 2021, the UK Health Security Agency (UKHSA), sponsored by the Department of Health and Social Care, signed a memorandum of understanding with the European Centre for Disease

[54] Department for Environment, Food and Rural Affairs Outcome Delivery Plan, Department for Environment, Food and Rural Affairs 15 July 2021. Date of Access: 9 February 2024. https://www.gov.uk/government/publications/department-for-environment-food-and-rural-affairs-outcome-delivery-plan

[55] UK-India 11th Economic and Financial Dialogue: Joint Statement, HM Treasury 2 September 2021. Date of Access: 12 February 2024. https://www.gov.uk/government/publications/uk-india-11th-economic-and-financial-dialogue-joint-statement

[56] Joint Statement From UK-China Health Dialogue, Department of Health and Social Care 26 November 2021. Date Accessed: 9 February 2024. https://www.gov.uk/government/news/joint-statement-from-uk-china-health-dialogue

[57] G20 Ministerial Health Declaration Published, Department of Health and Social Care 6 September 2021. Date of Access: 7 February 2024. https://www.gov.uk/government/news/g20-ministerial-health-declaration-published

[58] Joint G20 Finance and Health Ministers Meeting Communique, US Department of the Treasury 29 October 2021. Date of Access: 20 February 2024. https://home.treasury.gov/news/press-releases/jy0444

Prevention and Control which was aimed at strengthening collaboration between the two agencies in several areas of mutual interest, including AMR.[59]

On 14 December 2021, the Foreign, Commonwealth and Development Office reaffirmed the UK's commitment to continue implementing the Fleming Fund to support low- and middle-income countries (LMICs) in addressing AMR under a One Health approach in its position paper.[60]

On 17 November 2021, the UK and Swedish Missions to the United Nations in Geneva unveiled a new art exhibition on AMR to mark the start of World Antimicrobial Awareness Week.[61] During the unveiling, the UK's permanent representative to the UN reiterated the UK's commitments to AMR as a rising global threat.

On 13 December 2021, G7 finance ministers released a statement on actions to support antibiotic development in order to strengthen G7 preparedness against AMR. These actions included asking G7 finance and health officials to collaborate with relevant entities to continue dialogue over the matter. They also called on the Global AMR R&D Hub and the World Health Organization to support this work and prepare a progress update for the ministers in 2022. They also pledged to support efforts to revitalise AMR-related action at the G20.[62]

In December 2021, the UK and Australia signed a free trade agreement containing commitments to collaborate on efforts to combat AMR. These efforts include promoting guidance on the responsible use of antimicrobial agents in good husbandry and veterinary practices, and biosecurity.[63] The parties also committed to exchanging information, expertise, and experiences on combating AMR. Similarly, the UK-New Zealand free trade agreement includes commitments to cooperate on AMR as a global threat.[64]

On 24 February 2022 the Foreign Commonwealth and Development Office engaged in strategic dialogue with Malaysia, which resulted in commitments to increase cooperation in tackling AMR and collaboration between UK and Malaysian health experts on AMR.[65]

On 29 March 2022, the Chief Secretary to the Treasury (ie. the ministry for economic and finance), Simon Clarke, mentioned in a speech that the Shared Outcomes Funds, which received an additional

[59] UKHSA Signs Memorandum of Understanding with ECDC, Department of Health and Social Care 2 December 2021. Date of Access: 8 February 2024. https://www.gov.uk/government/news/ukhsa-signs-memorandum-of-understanding-with-ecdc

[60] Health Systems Strengthening For Global Health Security and Universal Health Coverage, Foreign, Commonwealth & Development Office 14 December 2021. Date of Access: 9 February 2024. https://www.gov.uk/government/publications/health-systems-strengthening-for-global-health-security-and-universal-health-coverage

[61] The Silent Pandemic: No Time To Wait, UK Mission to the WTO, UN and other International Organisations (Geneva) 17 November 2021. Date of Access: 7 February 2024. https://www.gov.uk/government/news/the-silent-pandemic-no-time-to-wait

[62] G7 Finance Ministers' Statement on Actions to Support Antibiotic Development, HM Treasury 13 December 2021. Date of Access: 8 February 2024. https://www.gov.uk/government/publications/g7-finance-ministers-statement-on-actions-to-support-antibiotic-development

[63] UK-Australia FTA Chapter 25: Animal Welfare and Antimicrobial Resistance, Department for Business and Trade and Department for International Trade 16 December 2021. Date of Access: 8 February 2021. https://assets.publishing.service.gov.uk/media/61b86a31d3bf7f055fce74e8/uk-australia-free-trade-agreement-fta-chapter-25-animal-welfare-and-antimicrobial-resistance.pdf

[64] UK-New Zealand FTA Chapter 5: Sanitary and Phytosanitary Measures, Department for Business and Trade and Department for International Trade 28 February 2022. Date of Access: 9 February 2024. https://www.gov.uk/government/publications/uk-new-zealand-fta-chapter-5-sanitary-and-phytosanitary-measures

[65] Malaysia-UK Strategic Dialogue 2022, Foreign, Commonwealth & Development Office 24 February 2022. Date of Access: 8 February 2024. https://www.gov.uk/government/publications/uk-malaysia-strategic-dialogue-2022

GBP200 million, would support projects that cut across multiple departments including a pilot national surveillance network tracking AMR.[66]

On 4 May 2022 UKHSA, sponsored by the Department of Health and Social Care, signed a memorandum of understanding with the Korea Disease Control and Prevention Agency to further deepen their technical collaboration in disease control and prevention including AMR.[67]

On 16 May 2022 the Departments of Health and Social Care and Environment, Food and Rural Affairs published an addendum setting out changes to the commitments laid out in the UK's five-year National Action Plan on AMR. These changes were intended to make the commitments more specific, measurable, achievable, realistic, and time-bound, and reflect lessons learned from the COVID-19 pandemic and the progress made in antibiotic prescription reduction in food-producing animals.[68] The addendum also included new commitments such as supporting the UK Special Envoy on AMR in her duties, formally joining the Transatlantic Taskforce on AMR, investing in systems that help stem the development of AMR in LMICs through UK Aid, and researching the impact of COVID-19 on antimicrobial usage, prescribing, and resistance, among others.

On 27 May 2022 the Department of Health and Social Care also signed a memorandum of understanding with Sweden regarding the life sciences recognising AMR as an early area of cooperation.[69]

Over the period between 2018 to 2022 the Foreign, Commonwealth and Development Office, through the Fleming Fund, invested over GBP40 million in tackling AMR in 14 Commonwealth countries and committed GBP2 million through the Commonwealth Partnerships for Antimicrobial Stewardship project.[70]

The UK government has continued to tackle AMR through several strong actions taken by its health, finance, environment, and foreign and development ministries.

Thus, the UK receives a score of +1.

Analyst: Natalie Kiilu

[66] The Quiet Revolution: Redefining the 'How' of Government Spending, HM Treasury 29 March 2022. Date of Access: 9 February 2024. https://www.gov.uk/government/speeches/the-quiet-revolution-redefining-the-how-of-government-spending

[67] UK Health Security Agency Signs Agreement with Korea Disease Control and Prevention Agency, UK Health Security Agency 4 May 2022. Date of Access: 8 February 2024. https://www.gov.uk/government/news/uk-health-security-agency-signs-agreement-with-korea-disease-control-and-prevention-agency

[68] Addendum to the UK 5-year Action Plan for Antimicrobial Resistance 2019 to 2024, Department of Health and Social Care and Department for Environment, Food & Rural Affairs 16 May 2022. Date of Access: 8 February 2024. https://www.gov.uk/government/publications/addendum-to-the-uk-5-year-action-plan-for-antimicrobial-resistance-2019-to-2024/tackling-antimicrobial-resistance-2019-to-2024-addendum-to-the-uks-5-year-national-action-plan

[69] Memorandum of Understanding Between the UK and Sweden Regarding Life Sciences, Department of Health and Social Care 27 May 2022. Date of Access: 8 February 2024. https://www.gov.uk/government/publications/memorandum-of-understanding-between-the-uk-and-sweden-regarding-life-sciences

[70] UK Commonwealth Chair-In-Office Report Addendum 2020 to 2022, Foreign, Commonwealth & Development Office 19 May 2022. Date of Access: 9 February 2024. https://www.gov.uk/government/publications/uk-commonwealth-chair-in-office-report-addendum-2020-to-2022

United States: 0

The United States has partially complied with its commitment to continue to take action to tackle antimicrobial resistance (AMR) through actions taken by its health, finance, environment, foreign and development ministries.

On 6 September 2021, at the G20 Health Ministers' Meeting in Rome, G20 health ministers, including the United States, pledged cooperation and collaboration in tackling AMR.[71]

On 6 October 2021, in letter to the secretary of the Department of Health and Human Services, the leaders of the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria (PACCARB) urged the secretary to support two instrumental bills (the Developing an Innovative Strategy for Antimicrobial Resistant Microorganisms Act and the Pioneering Antimicrobial Subscriptions to End Upsurging Resistance Act) that would support their mandate to combat AMR.[72]

On 18 October 2021 the Environmental Protection Agency (EPA) and Singapore held a Third Country Training program on AMR targeting government policymakers from Asian countries working on AMR policy in Southeast Asia.[73]

On 29 October 2021 the US reaffirmed its previous commitments to tackle AMR in the Joint G20 Finance and Health Ministers Meeting Communiqué.[74]

Between October and November 2021, the EPA proposed various pilot efforts to mitigate AMR including a pilot study to develop a national-scale, quantitative assessment of AMR within surface water.[75] It also called for the addition of geographically dispersed testing of surface waters to help relevant agencies assess and prevent waterborne risks associated with AMR pathogens as part of a pilot environmental effort for the existing National Antimicrobial Resistance Monitoring System (NARMS).[76]

President Joe Biden designated 18 November through 24 November 2021 as Antibiotic Awareness Week, urging every American to use antibiotics responsibly and raise awareness of the dangers of their misuse.[77] He also reaffirmed his administration's commitment to a strong public health response to antibiotic resistance through fulfilling the aims of the National Action Plan for Combating Antibiotic-Resistant Bacteria.

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[71] G20 Ministerial Health Declaration Published, Department of Health and Social Care 6 September 2021. Date of Access: 7 February 2024. https://www.gov.uk/government/news/g20-ministerial-health-declaration-published

[72] Incentives Legislation Letter, US Department of Health and Human Sciences 6 October 2021. Date of Access: 22 February 2024. https://www.hhs.gov/sites/default/files/paccarb-incentives-leg-letter-oct-6-2021.pdf

[73] The Environmental Component of Antimicrobial Resistance: General Background and USEPA Research, US Environmental Protection Agency 18 October 2021. Date of Access: 22 February 2024. https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=CESER&dirEntryId=353935

[74] Joint G20 Finance and Health Ministers Meeting Communique, US Department of the Treasury 29 October 2021. Date of Access: 20 February 2024. https://home.treasury.gov/news/press-releases/jy0444

[75] Linking NSRA to the National Antimicrobial Resistance Monitoring System (NARMS): A Pilot Environmental Effort 20 October 2021. Date of Access: 22 February 2024. https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=CESER&dirEntryId=353933

[76] Developing a Pilot Environmental Effort for National Antimicrobial Resistance Monitoring System (NARMS), US Environmental Protection Agency 4 November 2021. Date of Access: 22 February 2024. https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=CESER&dirEntryId=353935

[77] A Proclamation on Antibiotic Awareness Week, 2021, White House 17 November 2021. Date of Access: 20 February 2024. https://www.whitehouse.gov/briefing-room/presidential-actions/2021/11/17/a-proclamation-on-antibiotic-awareness-week-2021/

On 23 November 2021 the Food and Drug Administration (within the Department of Health and Human Services) approved Livtencity as the first treatment for post-transplant cytomegalovirus infection that is typically resistant to other drugs adding it to the list of other approved drugs relevant to AMR.[78]

On 13 December 2021, G7 finance ministers released a statement on actions to support antibiotic development in order to strengthen G7 preparedness against AMR. These actions included asking G7 finance and health officials to collaborate with relevant entities to continue dialogue over the matter. They also called on the Global AMR R&D Hub and the World Health Organization to support this work and prepare a progress update for the ministers in 2022. They also pledged to support efforts to revitalise AMR-related action at the G20.[79]

On 18 January 2022 the National Institute of Allergy and Infectious Diseases, within the Department of Health and Human Services, issued a 2022 Ominous Broad Agency Announcement that called for proposals under three research areas tackling AMR including the development of vaccines for AMR infections, the development of therapeutic candidates for AMR, and the development of in vitro diagnostics for AMR.[80]

In May 2022 G7 finance ministers and central bank governors reaffirmed their December 2021 commitments to support the ongoing work of the G7 Health, Agriculture and Climate Environment and Energy Tracks on AMR.[81]

The US ministries responsible for health and environment took at least one strong action to tackle AMR. Its finance minister made verbal reiterations of support for the commitment.

Thus, the US receives a score of 0.

Analyst: Natalie Kiilu

European Union: 0

The European Union has partially complied with its commitment to continue to take actions to tackle antimicrobial resistance (AMR) through actions taken by its health, finance, environment, foreign and development ministries.

Throughout 2020-2022 the EU commissioned the Transatlantic Taskforce on Antimicrobial Resistance (TATFAR) with conducting analysis and monitoring of antibiotics usage for EU member states, such as via reporting sales and use of antimicrobials per animal species, etc.[82]

[78] FDA Approves First Treatment for Common Type of Post-Transplant Infection that is Resistant to Other Drugs, Food and Drug Administration (FDA) 23 November 2021. Date of Access: 23 February 2024. https://www.fda.gov/news-events/press-announcements/fda-approves-first-treatment-common-type-post-transplant-infection-resistant-other-drugs

[79] G7 Finance Ministers' Statement on Actions to Support Antibiotic Development, HM Treasury 13 December 2021. Date of Access: 8 February 2024. https://www.gov.uk/government/publications/g7-finance-ministers-statement-on-actions-to-support-antibiotic-development

[80] 2022 NIAID Omnibus Broad Agency Announcement, System for Award Management (SAM) 18 January 2022. Date of Access: 21 February 2024. https://sam.gov/opp/cd3cedfdd42e4848a4c1a0aa8d65bcc7/view

[81] G7 Finance Ministers & Central Bank Governors Communiqué, US Department of the Treasury 20 May 2022. Date of Access: 20 February 2024. https://home.treasury.gov/news/press-releases/jy0797

[82] United States Centers for Disease Control and Prevention, Reporting of sales and use of antimicrobials per animal species by TATFAR members, 31 October 2023. Date of Access: 26 February 2024. https://www.cdc.gov/drugresistance/tatfar/links.html

In 2022, for the first time, all European Union/European Economic Area (EU/EEA) countries reported data to the European Antimicrobial Resistance Surveillance Network (EARS-Net) to be released in 2023.[83] This data showed an increase in the total number of AMR-related events and bacteria.

On 1 January 2021, new EU legislation on the monitoring and reporting of AMR in animals and food came into effect.[84] This legislation was largely the result of data gathered throughout 2020 that was part of the European Union Summary Report on Antimicrobial Resistance in zoonotic and indicator bacteria from humans, animals, and food." It updated technical specifications for harmonised AMR monitoring and reporting to include the monitoring of AMR in derived meat sampled at border control posts, the testing of new substances, and authorised new testing methods for E. coli and other bacteria.

On 24 March 2021, the EU-4-Health programme was adopted to reinforce crisis preparedness in the EU, with the aim of building stronger, more resilient and more accessible health systems especially in the face of AMR.[85] It was granted a EUR5.3 billion budget during the 2021-27 period, and had 10 objectives assigned to it, all of which directly sought to combat AMR issues.

On 21 April 2021, the EU updated its animal health law, which aimed to prevent and control zoonotic diseases within a context of AMR.[86] These changes included implementing various new regulations pertaining to model animal health certificates, non-EU animal product flow, obligation exemptions for aquaculture record keeping, and much more. These changes were aimed at streamlining pre-existing measures.

On 1 September 2021 the EU released a One Health AMR National Action Plan report that summarised the member states actions against AMR, and also listed the Commission's actions to assist Member States.[87]

On 6 September 2021, at the G20 Health Ministers' Meeting in Rome, G20 health ministers, including the European Union, pledged cooperation and collaboration in tackling AMR.[88]

On 14 and 15 September 2021, the European Commission hosted the conference of the Transatlantic Taskforce on Antimicrobial Resistance (TATFAR), to strengthen partnerships in the fight against AMR.[89] EU Commissioner for Health and Food Safety Stella Kyriakides opened the meeting, with

[83] European Centre for Disease Prevention and Control, Antimicrobial resistance in the EU/EEA (EARS-Net) - Annual epidemiological report for 2022 Surveillance report, 17 Nov 2023. Date of Access: 26 February 2024. https://www.ecdc.europa.eu/en/publications-data/surveillance-antimicrobial-resistance-europe-2022

[84] European Food Safety Authority Journal (EFSA), The European Union Summary Report on Antimicrobial Resistance in zoonotic and indicator bacteria from humans, animals and food in 2020/2021, 1 January 2021. Date of Access: 26 February 2024. https://efsa.onlinelibrary.wiley.com/doi/10.2903/j.efsa.2023.7867

[85] European Union Public Health, EU4 Health programme 2021-2027 – a vision for a healthier European Union, 24 March, 2021. Date of Access: 26 February 2024. https://health.ec.europa.eu/funding/eu4health-programme-2021-2027-vision-healthier-european-union_en

[86] European Union Law, The EU animal health law, 21 April 2021. Date of Access: 26 February 2024. https://eur-lex.europa.eu/EN/legal-content/summary/the-eu-animal-health-law.html

[87] European Commission General Publications, Overview report – Member States' One Health National Action Plans against Antimicrobial Resistance, 1 September 2021. Date of Access: 26 February 2024. https://health.ec.europa.eu/publications/overview-report-member-states-one-health-national-action-plans-against-antimicrobial-resistance_en

[88] G20 Ministerial Health Declaration Published, Department of Health and Social Care 6 September 2021. Date of Access: 7 February 2024. https://www.gov.uk/government/news/g20-ministerial-health-declaration-published

[89] European Commission Public Health, Transatlantic Taskforce Conference, 14 and 15 September 2021. Date of Access: 26 February 2024. https://health.ec.europa.eu/events/transatlantic-taskforce-conference_en

Lothar Wieler, President of the German Robert Koch Institute and member of the AMR Global Leaders Group, delivering a keynote address on current AMR issues.

On 15 September 2021, the TATFAR adopted a new draft plan that identified 18 actions for adopting medical countermeasures continuing collaboration through 2026 to increase member cooperation and coordination in fighting AMR.[90]

On 16 September 2021, the EU launched the new European Health Emergency Preparedness and Response Authority (HERA) with the stated aims of supporting research and innovation to develop new medical countermeasures, address market challenges and boost industrial capacity.[91] They also established the Directorate General of HERA with the mission to prevent, detect, and rapidly respond to AMR-related health emergencies.

On 29 October 2021 the EU reaffirmed its previous commitments to tackle AMR in the Joint G20 Finance and Health Ministers Meeting Communiqué.[92]

In February 2022, a temporary subgroup of the AMR One Health Network composed of the 27 EU 'member states' representatives was set up and tasked to formulate suggestions to the European Commission for AMR actions.[93] The subgroup delivered its report, providing the Commission with recommendations for priority actions and a toolbox with suggestions for concrete actions to help combat AMR.

On 24 February 2022, the European Commission provided for a series of initiatives to combat AMR, namely dealing with improving cross-border regulation and member state coordination, as well as revisions of existing authoritative bodies such as the European Centre for Disease Prevention and Control to better combat AMR.[94] They also elicited the "strategic approach to pharmaceuticals in the environment" to reduce antibiotic use and consumption.

On 24 March 2021, the European Commission enacted the "organic action plan" as part of the 2020 Farm to Fork Strategy, which aimed at reducing the overall EU sales of antimicrobials for farmed animals and in aquaculture by 50% by 2030.[95]

On 8 July 2022, the European Commission identified AMR as one of the top three priority health threats.[96]

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[90] United States Centers for Disease Control and Prevention, TATFAR Draft Plan Scope, 15 September 2021. Date of Access: 26 February 2024. https://www.cdc.gov/drugresistance/tatfar/scope.html

[91] Publications Office of the European Union, Study on bringing AMR medical countermeasures to the market, 16 September 2021. Date of Access: 26 February 2024. https://op.europa.eu/en/publication-detail/-/publication/51b2c82c-c21b-11ed-8912-01aa75ed71a1/language-en

[92] Joint G20 Finance and Health Ministers Meeting Communique, US Department of the Treasury 29 October 2021. Date of Access: 20 February 2024. https://home.treasury.gov/news/press-releases/jy0444

[93] European Commission Public Health, Final report - Subgroup established under the EU AMR One Health Network to formulate suggestions for AMR Actions, 5 September 2022. Date of Access: 26 February 2024. https://health.ec.europa.eu/publications/final-report-subgroup-established-under-eu-amr-one-health-network-formulate-suggestions-amr-actions_en

[94] European Commission, Antimicrobial resistance – recommendation for greater action, 24 February 2022. Date of Access: 26 February 2024. https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13322-Antimicrobial-resistance-recommendation-for-greater-action_en

[95] European Commission, Farm to Fork strategy for a fair, healthy and environmentally-friendly food system, 24 March 2021. Date of Access: 26 February 2024. https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en

[96] European Commission Public Health, HERA fact sheet - Health Union: Identifying top 3 priority health threats, 8 July 2022. Date of Access: 26 February 2024. https://health.ec.europa.eu/publications/hera-factsheet-health-union-identifying-top-3-priority-health-threats_en

On 18 October 2022, the European Commission found that EU member state action plans had too much variability in content and detail, were not equally in line with the One Health approach, and generally lacked necessary levels of development regarding operational, monitoring, budgeting, and evaluation parts.[97]

On 26 October 2022, the EU's Expert Panel on Effective Ways of Investing in Health adopted an opinion on managing antimicrobial resistance across the health system, and elicited a number of "practical strategies" to combat AMR, such as developing more rapid diagnostic kits.[98]

On 7 November 2022, the EU released the results from the Eurobarometer survey that measured the progress of AMR in Europe in 2022. They had found that Antibiotic usage had reached record low.[99]

On 14 December 2022, the EU commission released a final report from simulations and surveillance that identified and analysed options for action that may be considered feasible and effective to bring more AMR medical countermeasures to market through incentivising the research and development pipeline.[100]

The European Union has continued to tackle AMR through its equivalent of a health

ministry, taking several strong actions. It has taken some strong action through its equivalent of a ministry responsible for food and agriculture. No information was found on the EU's equivalent of finance, environment, foreign or development ministries. Actions taken include legislation or initiatives to directly combat AMR, such as through border regulation, direct funding to innovative research, frequent internal analysis and goal-setting, as well as holding member states accountable through committees and requiring reports.

Thus, the EU receives a 0.

Analyst: Garrett Ehinger

[97] Official Journal of the European Union, Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach, 18 October 2022. Date of Access: 26 February 2024. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023H0622%2801%29

[98] European Commission, Managing Antimicrobial Resistance across the health system, 26 October 2022. Date of Access: 26 February 2024. https://health.ec.europa.eu/publications/managing-antimicrobial-resistance-across-health-system-0_en

[99] European Union Eurobarometer, Antimicrobial Resistance Survey, 7 November 2022. Date of Access: 26 February 2024. https://europa.eu/eurobarometer/surveys/detail/2632

[100] Publications Office of the European Union, Study on bringing AMR medical countermeasures to the market, 16 September 2021. Date of Access: 26 February 2024. https://op.europa.eu/en/publication-detail/-/publication/51b2c82c-c21b-11ed-8912-01aa75ed71a1/language-en

2. Response to Rapid Rise of Antimicrobial Resistance (2022)

2022-181: "Acknowledging the rapid rise in antimicrobial resistance (AMR) at the global scale, we reiterate that we will spare no efforts to continue addressing this silent pandemic."

G7 Leaders Communiqué (Elmau Summit, June 26-28, 2022)

Assessment

	No Compliance	Partial Compliance	Full Compliance
Canada		0	
France		0	
Germany			+1
Italy		0	
Japan		0	
United Kingdom			+1
United States		0	
European Union			+1
Average		+0.38 (69%)	

Background

Antimicrobial resistance (AMR) is now a widely known global health issue which was responsible for 1.27 million deaths in 2019 according to the most prevalent study on AMR mortality.[101]

AMR was first mentioned in the G7 leaders 2014 Brussels Summit Declaration where leaders committed to developing a Global Action Plan on AMR in collaboration with the World Health Organization (WHO).[102] On 26 May 2015 the 68th World Health Assembly (WHA) adopted resolution WHA 68.7 on 26 May 2015 which adopted the proposed Global Action Plan on AMR and brought it into effect.[103] This Global Action Plan contained five key objectives: 1) to improve awareness and understanding of antimicrobial resistance through effective communication, education and training; 2) to strengthen the knowledge and evidence base through surveillance and research; 3) to reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures; 4) to optimise the use of antimicrobial medicines in human and animal health; and 5) to develop the economic case for sustainable investment that takes account of the needs of all countries and to increase investment in new medicines, diagnostic tools, vaccines and other interventions.[104]

At the 2015 Elmau Summit, leaders expanded upon their previous commitments in line with the Global Action Plan on AMR. Commitments included developing and operationalising National Action Plans and supporting other countries in developing their own National Action Plans, fostering the prudent use of antibiotics, engaging in stimulating basic research, research on epidemiology, infection prevention and control and the development of new antibiotics, alternative therapies, vaccines and

[101] Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis, The Lancet 4 February 2022. Date of Access: 12 January 2024 https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02724-0/fulltext
[102] G7 Brussels Leaders Declaration, 4 June 2014. Date of Access: 17 February 2024. https://www.g7.utoronto.ca//summit/2014brussels/declaration.html.
[103] Global action plan on antimicrobial resistance, 68th World Health Assembly, 26 May 2015. Date of Access: 17 February 2024. https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-spc-sel-glass/a68-r7-en.pdf.
[104] Global action plan on antimicrobial resistance, WHO, 1 January 2016. Date of Access: 17 February 2024. https://www.who.int/publications/i/item/9789241509763.

diagnostics.[105] They "take note of the Independent Review on AMR." They also committed to tackling AMR with a One Health approach, encompassing human, animal and environmental health.

At the 2016 Ise-Shima Summit, leaders reaffirmed that they would build "on the previous commitment of the G7 Elmau Summit and its subsequent Health Ministers" Meeting as well as the G7 Niigata Agriculture Ministers" Meeting … in line with the 2015 WHO Global Action Plan on AMR."[106] They restated their commitments to a One Health approach and to preserving the effectiveness of antimicrobials. In addition, they added that they would "[endeavour to] improve access to effective antimicrobials through accelerated support in cooperation with other countries and private sector partners," "consider potential for new incentives to promote R&D [research and development] on AMR and call on the international community to take further action" and "examine efforts to promote globally harmonised clinical trials to support development of antimicrobials, diagnostics and other countermeasures."[107]

At the 2018 Charlevoix Summit, leaders committed to "prioritize and coordinate our global efforts to fight against antimicrobial resistance, in a 'one health approach."[108]

The 2019 Biarritz Summit and 2020 Virtual Summit made no specific commitments on AMR.

At the 2021 Cornwall Summit, a separate "Health Declaration" was issued which stated "building on past G7 and G20 commitments, we call on our Health, Finance, Environment and Foreign and Development Ministers to continue to take action to tackle antimicrobial resistance."[109] Additionally, the G7 finance ministers issued a separate statement on "Actions to Support Antibiotic Development" in which they commit to expediting the implementation of existing strategies outlined in their national action plans and taking additional steps to preserve essential existing antibiotics and bring new drugs to the market.[110]

At the 2022 Elmau Summit, leaders stated that they would "spare no efforts to continue addressing this silent pandemic."[111] They specifically mentioned that they would promote the prudent and responsible use of antibiotics in humans and animals, improve awareness (of sepsis), surveillance systems and access, strengthening research and innovation for new antibiotics and incentives the development of new antimicrobial treatments (particularly through pull incentives).

Commitment Features

At the 2022 Elmau Summit on 26-28 June 2022, leaders committed to "acknowledging the rapid rise in antimicrobial resistance (AMR) at the global scale, we reiterate that we will spare no efforts to

[105] Annex to the Leaders' Declaration, G7 Summit, 7-8 June 2015. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2015elmau/2015-G7-annex-en.html.
[106] G7 Ise-Shima Vision for Global Health, May 27, 2016. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2016shima/health.html
[107] G7 Ise-Shima Leaders' Declaration, May 27, 2016. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2016shima/ise-shima-declaration-en.html
[108] The Charlevoix G7 Summit Communiqué, La Malbaie, 9 June 2018. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2018charlevoix/communique.html
[109] G7 Carbis Bay Health Declaration, June 13, 2021. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2021cornwall/210613-carbis-bay-health-declaration.html
[110] G7 Finance Ministers' Statement on Actions to Support Antibiotic Development, 2021. Date of Access: 17 February 2024. assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1040016/AMR_-_G7_Finance_Ministers_statement_on_supporting_antibiotic_development_-_final_-_13_Dec_2021.pdf
[111] G7 Leaders' Communiqué Elmau, June 28, 2022. Date of Access: 11 January 2024 https://www.g7.utoronto.ca/summit/2022elmau/220628-communique.html

continue addressing this silent pandemic." This analysis covers the period between 29 June 2022 and 18 May 2023.

Definitions and Concepts

"Antimicrobial resistance (AMR)" is the phenomenon of bacteria, viruses, fungi and parasites no longer responding to antimicrobial medicines. As a result of drug resistance, antibiotics and other antimicrobial medicines become ineffective and infections become difficult or impossible to treat, increasing the risk of disease spread, severe illness, disability and death.[112]

"Addressing" is taken as meaning to give attention to or deal with a matter or problem

"Spare no efforts" is taken as meaning that governments will do everything they possibly can to achieve the commitment. This phrasing underscores the importance of this issue to the G7 and requires strong action to be taken in order to be compliant with this commitment. This action can build on previous action, however, new action is required in order to be compliant.

"Silent pandemic" is a name colloquially used to refer to the pandemic of antimicrobial resistance.

"Reiterate" refers to previous commitments that have been established in the past. This commitment doesn't suggest new initiatives; however, new efforts in the area should be made.

General Interpretive Guidelines

Given this commitment does not identify specific actions to achieve the outcome of addressing AMR, for either partial or full compliance, this commitment takes guidance from the G7's past AMR commitments and from the WHO. The commitment implies that G7 members will continue to act on, and increase their efforts to meet existing commitments on AMR. Previous commitments have been defined at previous summits and through the 2015 WHO Global Action Plan on AMR. They include increasing awareness of AMR, improving prudent and responsible use of antimicrobials in humans and animals, improving surveillance of the emergence and prevalence of drug resistant microbes, improving global access to antimicrobials, strengthening the research and development ecosystem to encourage the development of new antimicrobials, and creating innovative financing mechanisms to support a sustainable market for new and existing antimicrobials.

More specifically, this report applies a breadth and depth analysis. For full compliance or a score of +1, several (four or more) strong actions must be taken by members across different intervention types (surveillance, prudent usage, research and development, improved access, awareness) aimed at addressing AMR. These actions must be taken across different areas. In addition, actions must be taken at the global level and not solely at a national or regional level.

In addition, "spare no efforts" suggests a strong depth element and the need for strong action in order to obtain full compliance with this commitment. Examples of strong action that a G7 member could take on AMR includes:

- Running programs designed to improve surveillance
- Running programs designed to improve awareness of antimicrobial resistance and responsible usage of antimicrobials, for healthcare professionals, veterinarians and/or the general public

[112] Antimicrobial Resistance, World Health Organization, 21 November 2023. Date of Access 17 February 2024. https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance

- Financing of international organisations aiming to develop and improve the accessibility to new and existing antimicrobials (e.g. Global Antibiotic Research and Development Partnership, Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator)
- Implementation of novel financing mechanisms to incentivise the development of new antimicrobials (in particular through "pull incentives")
- Adoption of new laws or regulations on the use of antimicrobials in either human or veterinary medicine
- Providing technical, financial and political support to initiatives aimed at reducing AMR
- Creation and financing of national review bodies or task forces on AMR
- Creating and financing a National Action Plan on AMR

Examples of weak action include:

- Attendance at major world events on AMR
- Reaffirming prior commitments to tackle AMR
- Creating or supporting national or international policy, regulation or legislation without implementing or taking action based on it.

Partial compliance, or a score of 0, will be awarded for some (three or more) actions (either strong or weak) across different interventions at either a national or international level, or four or more strong actions but only at a national level.

Non-compliance, or a score of −1, will be awarded if actions performed do not qualify as strong or weak, are two or fewer, are not on both a national and international level.

Scoring Guidelines

−1	The G7 member has taken two or fewer strong or weak actions to address antimicrobial resistance (AMR), or has taken actions only at a national level.
0	The G7 member has taken three or more strong or four or more weak actions to address different AMR at either a national or an international level or some at both levels.
+1	The G7 member has taken four or more strong actions against to address AMR at both a national and an international level.

Canada: 0

Canada has partially complied with its commitment to address the pandemic of antimicrobial resistance (AMR).[113]

[113] Building momentum: Activities underway to address antimicrobial resistance in Canada: Compendium to the Pan-Canadian Action Plan on Antimicrobial Resistance, 22 June 2023. Date of Access: 17 February 2024. https://www.canada.ca/en/public-health/services/publications/drugs-health-products/pan-canadian-action-plan-antimicrobial-resistance/building-momentum-activities-underway-address-antimicrobial-resistance-canada.html#chapter2

On 5 October 2022 the Canadian Institutes of Health Research put out a CAD 1.2 million prize fund for "Evaluation of population-level interventions to reduce AMR" through the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR).[114]

On 17 October 2022 the Public Health Agency of Canada pledged CAD 300,000 to SECURE, a newly created initiative with the mission to expand access to essential, life-saving antibiotics for countries and populations in need, and ensuring their appropriate use.[115]

On 16 November 2022 in the G20 Bali Leaders' Declaration there was a specific "G20 call to action on antimicrobial resistance" which included improved surveillance, improved access to vaccines, therapeutics and diagnostics and improved infection prevention and control. Canada is a member of the G20 and used this platform to renew its commitment.[116]

On 18 November 2022 Minister of Health Jean-Yves Duclos made a statement for world antimicrobial awareness week stating that Canada would "take increased and expedited action on AMR."[117]

On 21 November 2022 the Public Health Agency of Canada published its "Canadian Integrated Program for Antimicrobial Resistance Surveillance: A 20-year tour" where it called for enhanced surveillance components, expansion of program team and stakeholder scope, advancements in data management and analysis and optimization of reporting and knowledge translation.[118]

On 21 November 2022 the National Research Council Canada released that they are working on performing research into alternatives to traditional antimicrobial treatment.[119]

On 24 November 2022 Dr Theresa Tam, Chief Public Health Officer, made a statement recognising World Antimicrobial Awareness Week.[120]

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[114] Research Net "Canadian Institutes of Health Research Operating Grant "Evaluation of population-level interventions to reduce AMR" 5 October 2022. Date of Access: 17 February 2024. https://www.researchnet-recherchenet.ca/rnr16/vwOpprtntyDtls.do?incArc=true&next=2&prog=3772&resultCount=25&terms=antimicrobial+resistance&type=EXACT&view=search&language=E

[115] Public Health Agency of Canada, Statement from the Minister of Health on Canada's Support for International Cooperation on Antimicrobial Resistance, 17 October 2022. Date of Access: 17 February 2024. https://www.canada.ca/en/public-health/news/2022/10/statement-from-the-minister-of-health-on-canadas-support-for-international-cooperation-on-antimicrobial-resistance.html

[116] G20 Bali Leaders' Declaration, November 16, 2022. Date of access 17 February 2024. https://www.g20.utoronto.ca/2022/221116-declaration.html

[117] Public Health Agency of Canada, Statement from the Minister of Health on World Antimicrobial Awareness Week, November 18 to 24, 2022, 18 November 2022. Date of Access: 26 February 2024.

[118] Public Health Agency of Canada, Canadian Integrated Program for Antimicrobial Resistance Surveillance: A 20-year tour, 21 November 2022. Date of Access: 17 February 2024. https://www.canada.ca/en/public-health/services/publications/drugs-health-products/canadian-integrated-program-antimicrobial-resistance-surveillance-20-year-tour.html

[119] National Research Council Canada, Persistence against antimicrobial resistance: NRC tackles global health threat, November 21, 2022. Date of access: 17 February 2024. https://nrc.canada.ca/en/stories/persistence-against-antimicrobial-resistance-nrc-tackles-global-health-threat

[120] Public Health Agency of Canada, Statement from Dr. Theresa Tam, Chief Public Health Officer of Canada World Antimicrobial Awareness Week, 18-24 November 2022. Date of Access: 17 February 2024. https://www.canada.ca/en/public-health/news/2022/11/statement-from-dr-theresa-tam-chief-public-health-officer-of-canada-world-antimicrobial-awareness-week-november-18-to-24-2022.html

On 28 November 2022 the Public Health Agency of Canada published its "Canadian Antimicrobial Resistance Surveillance System Report."[121]

On 11 January 2023 the Canadian Institutes of Health Research (CIHR) opened a funding call for an early career researcher on antimicrobial resistance with a CAD 300,000 CAD fund available.[122]

On 11 May 2023 the Public Health Agency of Canada committed CAD 6.3 million to the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X) to support them in developing new antibiotics.[123]

On 14 May 2023 G7 health ministers issued a communiqué which included committing to prudent and appropriate use of antimicrobials and exploring and implementing push and pull incentives that promote investment in research and development of antimicrobials.[124]

On 22 June 2023, outside of the compliance period of this commitment, the Public Health Agency of Canada issued its updated "Pan Canadian Action Plan on Antimicrobial Resistance" this plan covers aspects of Research and Innovation, Surveillance, Stewardship, Infection Prevention and Control and Leadership. It is reasonable to assume this was developed largely during the compliance period.[125]

Canada has partially complied with its commitment to address the pandemic of antimicrobial resistance. Canada has taken two strong international actions to fund the development of new antimicrobials through CARB-X, improvements in global access through SECURE. Domestically Canada has supported early career researchers in AMR through the CIHR, and research aimed at improving antimicrobial usage and prescribing practices through the JPIAMR. Thus, Canada has taken at least two strong actions, including globally, and action in one area (research) domestically, alongside verbal reiterations of support.

Thus, Canada receives a score of 0.

France: 0

France has partially complied with its commitment to address the pandemic of antimicrobial resistance (AMR).

On 14 November 2022, the National Research Agency (ANR) published an analysis on publications from antibiotic resistance projects funded from 2011-2021.[126]

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[121] Public Health Agency of Canada, Canadian Antimicrobial Resistance Surveillance System (CARSS) Report 2022. Date of Access: 17 February 2024. https://www.canada.ca/en/public-health/services/publications/drugs-health-products/canadian-antimicrobial-resistance-surveillance-system-report-2022.html

[122] Research Net, Canadian Institutes of Health Research Program, Spring 2023 Priority Announcement (Specific Research Areas) 11 January 2023. Date of Access: 17 February 2024. https://www.researchnet-recherchenet.ca/rnr16/vwOpprtntyDtls.do?prog=3806&view=currentOpps&org=CIHR&type=EXACT&resultCount=25&sort=program&next=1&all=1&masterList=true#a6

[123] Public Health Agency of Canada, Government of Canada makes important investments to fight antimicrobial resistance (AMR), 11 May 2023. Date of Access: February 17 2024. https://www.canada.ca/en/public-health/news/2023/05/government-of-canada-makes-important-investment-to-fight-antimicrobial-resistance-amr.html

[124] G7 Hiroshima Summit of 2023, G7 Nagasaki Health Ministers' Communiqué. Date of Access: 17 February 2024. https://www.mhlw.go.jp/content/10500000/001096403.pdf

[125] Public Health Agency of Canada, Pan-Canadian Action Plan on Antimicrobial Resistance, Date of Access: 26 Februaray 2024. https://www.canada.ca/en/public-health/services/publications/drugs-health-products/pan-canadian-action-plan-antimicrobial-resistance.html

[126] Directorate of Information and Communication 14 Notebook on the French National Research Agency (ANR) November 2022. Date of Access: 13 February 2024. https://anr.fr/fileadmin/documents/2022/ANR_cahier_14_antibioresistance.pdf

On 19 November 2022, the ANR published a report on the prevention of antibiotic resistance with a "One Health" approach.[127]

On 21 November 2022, the High Council for Food, Agriculture and Rural Areas (CGAAER) published a report which evaluated Ecoantibio 1 (2012-2016) and Ecoantibio 2 (2017-2022) and prepared for Ecoantibio 3.[128] Ecoantibio is France's national plan for reducing antibiotic risk in veterinary medicine.

A report written in April 2022 was made public in November 2022 that evaluated France's 2016 inter-ministry roadmap for controlling antibiotic resistance and provided recommendations for the future.[129]

In September of 2022, the Priority Research Programme (PPR) on antibiotic resistance opened a call for junior and senior researcher positions.[130]

On 16 November 2022 in the G20 Bali Leaders' Declaration there was a specific "G20 call to action on antimicrobial resistance" which included improved surveillance, improved access to vaccines, therapeutics and diagnostics and improved infection prevention and control. France is a member of the G20 and used this platform to renew its commitment.[131]

On 25 November 2022, France endorsed the Muscat Ministerial Manifesto on AMR, as part of the third global high-level conference on AMR, committing to 1) Reduce the total amount of antimicrobials used in food systems by at least 30-50% by 2030, stimulating national and global efforts 2).[132] Preserve critical antimicrobials for human medicine by ending the use of medically important antimicrobials as growth promoters in animals and 3) Ensure that by 2030, Access group antibiotics (a category of antibiotics that are accessible, safe and have a low risk of antimicrobial resistance) represent at least 60% of total antibiotic consumption in humans.

On 17 January 2023, the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) which is funded in part by the ANR, opened a EUR 19.1 million call for projects in AMR diagnostics and surveillance.[133]

On 15 February 2023, the National Authority for Health (HAS) adopted the Transparency Commission's evaluation principles relating to drugs eligibility for reimbursement.[134] These principles included an adapted evaluation framework for antibiotics targeting multi-resistant bacteria. The HAS

[127] Public Health France, Preventing Antibiotic Resistance: A One Health Approach, 19 November, 2022. Date of Access: 17 February 2024. https://www.santepubliquefrance.fr/maladies-et-traumatismes/infections-associees-aux-soins-et-resistance-aux-antibiotiques/resistance-aux-antibiotiques/documents/rapport-synthese/prevention-de-la-resistance-aux-antibiotiques-une-demarche-une-seule-sante

[128] Ministry of Agriculture and Food Sovereignty, Evaluation of the first two Ecoantibio plans and preparation of the third, 21 November 2022. Date of Access: 17 February 2024. https://agriculture.gouv.fr/evaluation-des-deux-premiers-plans-ecoantibio-et-preparation-du-troisieme

[129] Assessment and preparation of Updating the roadmap 2016 Interministerial Master's Degree antibiotic resistance. Date of Access: 17 February 2024. https://www.igas.gouv.fr/IMG/pdf/rapport_antibioresistance_.pdf

[130] Joint Programming Initiative on Antimicrobial Resistance, France is represented in JPIAMR by The French National Research funding Agency (ANR) and the French National Institute of Health and Medical Research (Inserm). Date of Access: 17 February 2024. https://www.jpiamr.eu/about/jpiamr-members/france/

[131] G20 Bali Leaders' Declaration, November 16, 2022. Date of access 17 February 2024. https://www.g20.utoronto.ca/2022/221116-declaration.html

[132] Third Global High-Level Ministerial Conference on Antimicrobial Resistance, Muscat Ministerial Manifesto on AMR, 24-25 November 2022. Date of Access: 17 February 2024. https://amrconference2022.om/MuscatManifesto.html

[133] JPIAMR, AMR Diagnostics and Surveillance 2023. Date of Access: 17 February 2024. https://www.jpiamr.eu/calls/diagnostics-surveillance-call-2023/

[134] French Health Authority, Doctrine of the Commission of the Transparency (TC) TC Evaluation Principles relating to medicinal products for the purpose of their access to reimbursement, 15 February 2023. Date of access: 17 February 2024. https://www.has-sante.fr/upload/docs/application/pdf/2021-03/doctrine_ct.pdf

also published a working document which included the commission's reflections on the evaluation of antibiotics for highly resistant bacteria.

On 9 March 2023, Public Health France launched a call for projects on surveillance and prevention of healthcare-associated infections and antibiotic resistance.[135]

France has partially complied with its commitment to address the pandemic of antimicrobial resistance. France has taken strong action to adopt new evaluation criteria for antibiotics targeting drug resistant infections, fund projects in AMR diagnostics and surveillance through JPIAMR, and launched a call for projects on surveillance and prevention of antibiotic resistance. France has also taken several weak actions including reaffirming its commitment to combat AMR through the G20 Bali Leaders' Declaration and endorsing the Muscat Ministerial Manifesto. France attended a global conference on AMR and endorsed its outcomes, but evidence of its specific contribution was not found.

Thus, France receives a score of 0.

Germany: +1

Germany has fully complied with its commitment to acknowledge and address the pandemic of antimicrobial resistance (AMR).

On 5 October 2022, the Ministries of Education and Research; Health, Food and Agriculture; Environment, Nature Conservation, Nuclear Safety, and Consumer Protection; Defense; and Economic Cooperation and Development published the One Health Research Agreement to direct research, which includes research into AMR.[136]

On 17 October 2022, the Ministry of Education and Research announced EUR 50 million to support the Global Antibiotic Research and Development Partnership for research and development of new antibiotics.[137]

On 16 November 2022 in the G20 Bali Leaders' Declaration there was a specific "G20 call to action on antimicrobial resistance" which included improved surveillance, improved access to vaccines, therapeutics and diagnostics and improved infection prevention and control. Germany is a member of the G20 and used this platform to renew its commitment.[138]

On 14 February 2023, the Ministry of Health drafted the Act to Combat Supply Shortages of Off-Patent Medicines and to Improve the Supply of Paediatric Medicines, which incentivises development of reserve antibiotics.[139]

[135] Public Health France, Call for projects for national missions for the surveillance and prevention of healthcare-associated infections and antibiotic resistance (mandate 01/10/23 – 30/09/28), 9 March 2023. Date of Access: 17 February 2024.
[136] Federal Ministry of Education and Research, One Health: Humans, animals and the environment – healthy together, 5 October 2022. Date of Access: 19 February 2024. https://www.bmbf.de/bmbf/de/forschung/gesundheit/globale-gesundheit/one-health/one-health_node.html
[137] Federal Ministry of Education and Research, Stark-Watzinger: 50 million euros for research into innovative antibiotics, 17 October 2022. Date of Access: 19 February 2024.
https://www.bmbf.de/bmbf/shareddocs/pressemitteilungen/de/2022/10/171022-GARDP.html
[138] G20 Bali Leaders' Declaration, November 16, 2022. Date of access 17 February 2024.
https://www.g20.utoronto.ca/2022/221116-declaration.html
[139] Federal Ministry of Health, Drug Supply Bottleneck Prevention and Supply Improvement Act (ALBVVG), 26 July 2023. Date of Access: 19 February 2024. https://www.bundesgesundheitsministerium.de/service/gesetze-und-verordnungen/detail/albvvg.html

On 5 April 2023, the Federal Cabinet approved DART 2030, the antibiotic resistance strategy developed by the Ministries of Food and Agriculture, Education and Research; Economic Cooperation and Development; and Environment.[140] It focuses on prevention, surveillance and monitoring, appropriate use of antibiotics, communication and cooperation, European and international cooperation, and research and development.

On 19 April 2023, the Ministry of Health announced a shortage for juices containing antibiotics for children, allowing authorisation of permits for using foreign medicines approved abroad.[141]

On 10 May 2023, the Ministry of Education and Research renewed its support of the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X), committing EUR 41 million for research and development.[142]

Germany has fully complied with its commitment to acknowledge and address the pandemic of antimicrobial resistance by committing funds to two global initiatives and taking domestic actions including national strategies and research.

Thus, Germany receives a score of +1.

Italy: 0

Italy has partially complied with its commitment to acknowledge and address the pandemic of antimicrobial resistance (AMR).

On 11 June 2022, "Italian Guidelines on Diagnosis and Management of Infections Caused by Multidrug-resistant Organisms," commissioned by the Ministry of Health, provided recommendations for the diagnosis and optimal management of multidrug resistant infections, with a focus on targeted antibiotic therapy.[143]

On 18 November 2022, the Italian Medicines Agency (AIFA) published "Recommendations on targeted therapy of resistant Infections."[144]

On 16 November 2022 in the G20 Bali Leaders' Declaration there was a specific "G20 call to action on antimicrobial resistance" which included improved surveillance, improved access to vaccines,

[140] German Federal Government, Federal Cabinet – Results, 5 April 2023. Date of Access: 19 February 2024. https://www.bundesregierung.de/breg-de/suche/bundeskabinett-ergebnisse-2183254

[141] Federal Ministry of Justice, Ministry of Health Notice by Dr. Lars Nickel, 19 April 2024. Date of Access: 19 February 2024. https://www.bfarm.de/SharedDocs/Downloads/DE/Arzneimittel/Zulassung/amInformationen/Lieferengpaesse/bekanntmachung_79_5_antibiotika.pdf?__blob=publicationFile

[142] Federal Ministry of Education and Research, Stark-Watzinger: We urgently need new approaches to the prevention, diagnosis and treatment of superbugs, 10 April 2023. Date of Access: 19 February 2024. https://www.bmbf.de/bmbf/shareddocs/pressemitteilungen/de/2023/05/100523-CARBX-Antibiotika.html#searchFacets

[143] National Center for Biotechnology Information, National Library of Medicine, Diagnosis and management of infections caused by multidrug-resistant bacteria: guideline endorsed by the Italian Society of Infection and Tropical Diseases (SIMIT), the Italian Society of Anti-Infective Therapy (SITA), the Italian Group for Antimicrobial Stewardship (GISA), the Italian Association of Clinical Microbiologists (AMCLI) and the Italian Society of Microbiology (SIM), 11 June 2022. Date of Access: 19 February 2024. https://pubmed.ncbi.nlm.nih.gov/35697179/

[144] Italian Medicines Agency, AIFA publishes Recommendations on targeted therapy of resistant Infections, 18 November 2022. Date of Access: 19 February 2024. https://www.aifa.gov.it/en/-/aifa-pubblica-le-raccomandazioni-sulla-terapia-mirata-delle-infezioni-resistenti

therapeutics and diagnostics and improved infection prevention and control. Italy is a member of the G20 and used this platform to renew its commitment.[145]

On 28 November 2022, the Ministry of Health published the report, "Fourth report on sales of veterinary medicines containing antibiotic substances in Italy".[146]

On 25 November 2022, Italy endorsed the Muscat Ministerial Manifesto on AMR, as part of the third global high-level conference on AMR, committing to 1) Reduce the total amount of antimicrobials used in food systems by at least 30-50% by 2030, stimulating national and global efforts 2) Preserve critical antimicrobials for human medicine by ending the use of medically important antimicrobials as growth promoters in animals and 3) Ensure that by 2030, Access group antibiotics (a category of antibiotics that are accessible, safe and have a low risk of antimicrobial resistance) represent at least 60% of total antibiotic consumption in humans.[147]

On 30 November 2022, the Italian government formally approved the Second National Action Plan on Antimicrobial Resistance 2022–2025 (Piano Nazionale di Contrasto all'Antibiotico-Resistenza 2022–2025 – PNCAR).[148] This plan defines six general objectives to reduce the incidence and impact of antibiotic-resistant infections: 1) reinforcing the One Health approach through the development of coordinated national surveillance of AMR and antibiotic use, preventing the spread of AMR in the environment; 2) strengthening Healthcare Associated Infections (HCAI) prevention and surveillance in hospitals and community settings; 3) promoting the appropriate use of antibiotics and to reduce the frequency of infections caused by resistant microorganisms among humans and animals; 4) fostering innovation and research on the prevention, diagnosis and treatment of antibiotic-resistant infections; 5) strengthening national cooperation and Italy's participation in international initiatives in combating AMR; 6) improving public awareness and promoting training of health and environmental professionals on countering AMR.

This plan was also supplemented by Article 1, paragraph 529, of Law no. 197. This legislation authorised the expenditure of EUR 40 million for each of the years 2023, 2024 and 2025 to implement the measures and interventions envisaged in the NAP on AMR 2022-2025.[149]

In April 2023, the Ministry of Health published the report, "Antibiotic use in Italy 2021". It provides data and analysis on the trend in consumption and expenditure of antibiotics for human use in Italy.[150]

On 5 May 2023 the Ministry of Health, in collaboration with the Istituto Superiore di Sanità (ISS), participated in World Hand Hygiene Day. One of the main objectives of this campaign was to

[145] G20 Bali Leaders' Declaration, November 16, 2022. Date of access 17 February 2024. https://www.g20.utoronto.ca/2022/221116-declaration.html

[146] Italian Ministry of Health, Sales data of veterinary medicinal products containing antibiotic substances. Results of the ESVAC project - year 2021, 28 November 2022. Date of Access: 19 February 2024. https://www.salute.gov.it/portale/documentazione/p6_2_2_1.jsp?lingua=italiano&id=3281

[147] Third Global High-level Ministerial Conference on Antimicrobial Resistance (AMR), The Muscat Ministerial Manifesto on AMR, 24-25 November 2022. Date of Access: 19 February 2024. https://amrconference2022.om/assets/images/Final%20Version%20Muscat%20Manifesto%20AMR%20with%20Annex.pdf

[148] Ministry of Health, Second National Action Plan on Antimicrobial Resistance 2022–2025, 30 November 2022. Date of Access: 19 February 2024. https://www.salute.gov.it/imgs/C_17_pubblicazioni_3294_allegato.pdf

[149] Progress Report by the Global AMR R&D Hub & WHO, Incentivising the development of new antibacterial treatments, 30 November 2022. Date of Access: 19 February 2024. https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-gcp-irc/incentivising-development-of-new-antibacterial-treatments-2023---progress-report.pdf

[150] Italian Medicines Agency, AIFA publishes the Report "The use of antibiotics in Italy - 2021", April 2023. Date of Access: 19 February 2024. https://www.aifa.gov.it/en/-/aifa-pubblica-il-rapporto-l-uso-degli-antibiotici-in-italia-2021-

"promote the collaboration of the population and organisations towards the common goal of minimising the risk of infections and antimicrobial resistance in healthcare."[151]

Italy took two strong actions by creating and financing a new National Action Plan and actively collaborated with the World Health Organization to raise awareness. It also took weaker actions, including releasing guidelines and recommendations for the appropriate treatment of resistant infections, attending a high-level international conference on AMR, and endorsing its outcomes (with no evidence of its specific contribution).

Thus, Italy receives a score of 0.

Japan: 0

Japan has partially complied with its commitment to acknowledge and address the pandemic of antimicrobial resistance (AMR).

On 31 August 2022, Health and Global Policy Institute (HGPI), the Embassy of Denmark in Tokyo, the Denmark Ministry of Health, the Japan Ministry of Health, Labour and Welfare, and the AMR Alliance Japan held an expert meeting on "Combating Together against Silent Pandemic: AMR."[152]

On 16 November 2022 in the G20 Bali Leaders' Declaration there was a specific "G20 call to action on antimicrobial resistance" which included improved surveillance, improved access to vaccines, therapeutics and diagnostics and improved infection prevention and control.[153] Japan is a member of the G20 and used this platform to renew its commitment.

In December 2022, a commitment of JPY 1.1 billion was announced in Japan's 2023 fiscal year budget for a 'support program to secure antibiotics' targeting antimicrobial agents for drug resistant bacteria that pose a public health threat.[154] The program is limited to highly effective products that have been approved and launched domestically.

In January 2023, Japan announced a plan to ensure stable domestic supplies of priority antibiotics. Support will be provided to companies for establishing national Active Pharmaceutical Ingredient manufacturing and storage facilities for four β-lactam antibiotics.[155]

On 21-22 February 2023, the Asia-Europe Foundation, AMR Clinical Reference Center, and the Ministry of Foreign Affairs of Japan co-coordinated the high-level conference "Universal Health Coverage (UHC) in an Era of Antimicrobial Resistance (AMR) and Pandemics."[156] The purpose of

[151] Italian Ministry of Health, May 5, 2023, World Hand Hygiene Day, May 5, 2023, Date of Access: 22 February 2024. https://www.salute.gov.it/portale/fumo/dettaglioNotizieFumo.jsp?lingua=italiano&menu=notizie&p=dalministero&id=6237
[152] Japan AMR Alliance Event Report, Denmark-Japan Expert Roundtable "Combating Together against Silent Pandemic: AMR," August 31, 2022. Date of Access: 19 February 2024. https://www.amralliancejapan.org/en/2022/10/news2406/
[153] G20 Bali Leaders' Declaration, November 16, 2022. Date of access 17 February 2024. https://www.g20.utoronto.ca/2022/221116-declaration.html
[154] Progress Report by the Global AMR R&D Hub & WHO, Incentivising the development of new antibacterial treatments, 30 November 2022. Date of Access: 19 February 2024. https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-gcp-irc/incentivising-development-of-new-antibacterial-treatments-2023---progress-report.pdf
[155] Progress Report by the Global AMR R&D Hub & WHO, Incentivising the development of new antibacterial treatments, 30 November 2022. Date of Access: 19 February 2024. https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-gcp-irc/incentivising-development-of-new-antibacterial-treatments-2023---progress-report.pdf
[156] Ministry of Foreign Affairs, Universal Health Coverage (UHC) in an Era of Antimicrobial Resistance (AMR) and Pandemics, 22 February 2023. Date of Access: 19 February 2024. https://asef.org/projects/2023-uhc-in-an-era-of-amr-and-pandemics-conference/

this conference was to facilitate dialogue between governments and other stakeholders on practical ways to integrate a concern for AMR into UHC. Accordingly, the conference discussed sustainable actions on AMR using the health system approach, actionable AMR strategies that address the need to support high-quality science and provide incentives to develop and produce new antimicrobials, and the links between mitigating AMR under UHC and pandemic preparedness.

On 7 April 2023, Japan published its National Action Plan on Antimicrobial Resistance (AMR) 2023-2027.[157] This plan defined six main goals: 1) improve public awareness and understanding, and promote education and training of professionals; 2) continuously monitor antimicrobial resistance and use of antimicrobials, and appropriately, and understand the signs of change and spread of antimicrobial resistance; 3) prevent the spread of antimicrobial-resistant organisms by implementing appropriate infection prevention and control; 4) promote appropriate use of antimicrobials in the fields of healthcare, livestock and aquaculture; 5) promote research on antimicrobial resistance and foster research and development to secure the means to prevent, diagnose and treat the antimicrobial-resistant infections; 6) enhance global multidisciplinary countermeasures against antimicrobial resistance.

Japan has taken strong action to finance an initial pull incentive to secure access to antibiotics and it released a national action plan. Japan has also taken several weaker actions, announcing plans to help improve the stable supply of certain high priority antimicrobials and reaffirming its commitment to combat AMR through the G20 Bali Leaders' Declaration. Japan has cooperated internationally with the Asia-Europe Foundation. Japan has therefore taken two strong actions and several weaker ones including internationally.

Thus, Japan receives a score of 0.

United Kingdom: +1

The UK has fully complied with its commitment to acknowledge and address the pandemic of antimicrobial resistance.

On 30 June 2022, the Department of Health and Social Care Responsibility announced GBP 4.5 million investment made by the government's Global AMR Innovation Fund to support the Global Antibiotic Research and Development Partnership to develop new treatments for drug-resistant infections identified by the World Health Organization as the greatest threat to global health and development.[158]

On 5 July 2022 the UK government made a GBP 19.2 million investment in the cross-departmental project team behind Pathogen Surveillance in Agriculture, Food and the Environment (PATH-SAFE), a major programme of pathogen surveillance.[159]

In July 2022, the UK government awarded Shionogi and Pfizer subscription style contracts which promised these companies a fixed annual fee for access to specific antimicrobials, based primarily on a health technology assessment of their value to the National Health Service, instead of the volumes

[157] The Government of Japan, National Action Plan on Antimicrobial Resistance (AMR) for 2023-2027, 7 April 2023. Date of Access: 19 February 2024. https://www.mhlw.go.jp/content/10900000/001096228.pdf

[158] Government of UK Department of Health and Social Care, New treatments to tackle pandemic of drug-resistant infections, 30 June 2022. Date of Access: 19 February 2024. https://www.gov.uk/government/news/new-treatments-to-tackle-pandemic-of-drug-resistant-infections

[159] Food Standards Agency, £19.2 million for cross-government surveillance project to protect public health, 5 July 2022. Date of Access: 19 February 2024. https://www.food.gov.uk/news-alerts/news/ps192-million-for-cross-government-surveillance-project-to-protect-public-health

used.[160] These contracts were awarded as a part of a pilot programme testing subscription models as novel financing mechanisms to incentivise the development of new antimicrobials.

On 28 July 2022 the UK government published "Contingency plan for managing certain animal related endemic zoonotic disease incidents in England."[161] This report describes how the Department for Environment Food and Rural Affairs will manage incidents of certain endemic zoonotic diseases that occur in England. The report complements and supports the contingency plan for managing animal-related endemic zoonotic disease incidents when those incidents involve relevant antimicrobial resistant bacteria.

In November 2022, the UK government issued a call for evidence for their current national action plan in order to inform the development of the next five-year national action plan, which will run from 2024 until 2029.[162]

On 16 November 2022 in the G20 Bali Leaders' Declaration there was a specific "G20 call to action on antimicrobial resistance" which included improved surveillance, improved access to vaccines, therapeutics and diagnostics and improved infection prevention and control. The UK is a member of the G20 and used this platform to renew its commitment.[163]

On 18 November 2022, Innovate UK and the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) opened a GBP 16,000,000 initiative to fund transnational research consortia to develop innovative strategies, tools, technologies and methods for diagnostics and surveillance of antimicrobial resistance.[164]

On 21 November 2022, the UK government published 'Lessons learnt from the UK project to test new models for evaluating and purchasing antimicrobials' following consultation with key stakeholders.[165]

On 25 November 2022, the UK endorsed the Muscat Ministerial Manifesto on AMR, as part of the third global high-level conference, committing to 1) Reduce the total amount of antimicrobials used in food systems by at least 30-50% by 2030, stimulating national and global efforts 2) Preserve critical antimicrobials for human medicine by ending the use of medically important antimicrobials as growth promoters in animals and 3) Ensure that by 2030, Access group antibiotics (a category of antibiotics that are accessible, safe and have a low risk of antimicrobial resistance) represent at least 60% of total

[160] NHS England, NHS lands breakthrough in global battle against superbugs, 15 June 2022. Date of Access: 19 February 2024. https://www.england.nhs.uk/2022/06/nhs-lands-breakthrough-in-global-battle-against-superbugs/

[161] Department of Environment, Food, and Rural Affairs, Contingency plan for managing certain animal related endemic zoonotic disease incidents, 29 June 2021. Date of Access: 19 February 2024. https://www.gov.uk/government/publications/contingency-plan-for-managing-certain-animal-related-endemic-zoonotic-disease-incidents

[162] Department of Health and Social Care, Antimicrobial resistance national action plan: call for evidence, 16 August 2023. Date of Access: 19 February 2024. https://www.gov.uk/government/calls-for-evidence/antimicrobial-resistance-national-action-plan-call-for-evidence/antimicrobial-resistance-national-action-plan-call-for-evidence

[163] G20 Bali Leaders' Declaration, November 16, 2022. Date of access 17 February 2024. https://www.g20.utoronto.ca/2022/221116-declaration.html

[164] UK Research and Innovation, Diagnostics and surveillance of antimicrobial resistance (JPIAMR), 18 November 2022. Date of Access: 19 February 2024.

[165] National Institute for Health and Care Excellence Report from external workshops, Lessons Learnt from the UK Project to test new models for evaluating and purchasing antimicrobials, 21 November 2022. Date of Access: 19 February 2024. https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.nice.org.uk%2FMedia%2FDefault%2FAbout%2Fwhat-we-do%2FLife-sciences%2Fmodels-for-the-evaluation-and-purchase-of-antimicrobials%2FAMR-lessons-learnt.docx&wdOrigin=BROWSELINK

antibiotic consumption in humans.[166] These globally agreed targets will be key to protecting the effectiveness of antimicrobials and curbing the development of antimicrobial resistance around the world, as well as reducing environmental pollution, in turn reducing the spread of AMR.

On 22 May 2023, the UK government announced up to GBP 39 million cash injection for antimicrobial resistance research through the Global AMR Innovation Fund.[167] This funding includes up to GBP 25 million to support the early development of new antibiotics, vaccines, rapid diagnostics and other products to combat life-threatening drug-resistant infections.

The United Kingdom has fully complied with its commitment by taking four strong actions, including funding, national action plans, research support, and international cooperation.

Thus, the UK receives a score of +1.

United States: 0

The United States has partially complied with its commitment to acknowledge and address the pandemic of antimicrobial resistance (AMR).

On 30 June 2022, the Food and Drug Administration's (FDA) Center for Veterinary Medicine released a status update on Phase I of its five-year action plan for Supporting Antimicrobial Stewardship in Veterinary Settings.[168] They also released a report to describe some of the data that FDA and federal partners collect regarding antimicrobial sales, use, and resistance in U.S. animal agriculture and the related food chain.

On 5 July 2022, the FDA announced the 2022 Public Meeting of the National Antimicrobial Resistance Monitoring System in cooperation with the US Centers for Disease Control and Prevention (CDC) and the Department of Agriculture's Food Safety and Inspection Service, its partners in the National Antimicrobial Resistance.[169] The meeting took place virtually on 21-22 September 2022.

On 30 August 2022, the CDC and FDA co-sponsored a public virtual workshop called "Drug Development Considerations for the Prevention of Healthcare-Associated Infections (HAIs)."[170]

On 20 April 2023, the Assistant Secretary for Planning and Evaluation (ASPE) published a report titled, "Optimising Clinical Guidelines to Address Antimicrobial-Resistant Infections: A Conceptual Framework Reflecting Stakeholder Perspectives."[171]

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[166] Third Global High-level Ministerial Conference on Antimicrobial Resistance (AMR), The Muscat Ministerial Manifesto on AMR, 24-25 November 2022. Date of Access: 19 February 2024. https://amrconference2022.om/assets/images/Final%20Version%20Muscat%20Manifesto%20AMR%20with%20Annex.pdf

[167] Department of Health and Social Care, £39 million for AMR research as UK launches Global Health Framework, 22 May 2023. Date of Access: 19 February 2024. https://www.gov.uk/government/news/39-million-for-amr-research-as-uk-launches-global-health-framework

[168] US FDA Center for Veterinary Medicine, FDA Delivers Progress Update on 5-Year Veterinary Stewardship Plan, Publishes Report about Antimicrobial Sales, Use, and Resistance Data in Animal Agriculture, 30 June 2022. Date of Access: 19 February 2024. https://www.fda.gov/animal-veterinary/cvm-updates/fda-delivers-progress-update-5-year-veterinary-stewardship-plan-publishes-report-about-antimicrobial

[169] US FDA, FDA Announces 2022 Public Meeting of the National Antimicrobial Resistance Monitoring System, 5 July 2022. Date of Access: 19 February 2024. https://www.fda.gov/animal-veterinary/cvm-updates/fda-announces-2022-public-meeting-national-antimicrobial-resistance-monitoring-system

[170] US CDC, Action in Health Care to Fight Antimicrobial Resistance, 30 August 2022. Date of Access: 19 February 2023. https://www.cdc.gov/drugresistance/solutions-initiative/healthcare.html

[171] US Department of Health and Human Services, Optimising Clinical Guidelines to Address Antimicrobial-Resistant Infections: A Conceptual Framework Reflecting Stakeholder Perspectives, 20 April 2023. Date of Access: 19 February 2024. https://aspe.hhs.gov/reports/framework-optimizing-amr-guidelines

On 9 March 2023, the President's Budget Request for fiscal year 2024 included USD 9 billion in mandatory funding to encourage the development of innovative antimicrobial drugs, by establishing a novel payment mechanism to delink volume of sales from revenue for newly approved antimicrobial drugs and biological products that address a critical unmet need.[172]

This budget request also included USD 11.581 billion in discretionary budget authority for the CDC. Within the USD 11.581 billion, the CDC budget request allocated for USD 212 million (a USD 15 million increase from the previous years) to go towards its antimicrobial resistance initiatives.[173] This initiative invests in national infrastructure to detect, respond, contain, and prevent resistant infections across healthcare settings, communities, the food supply, and the environment. It also supports activities in nearly 30 high-burden countries to improve antibiotic and antifungal use, track resistance, and implement infection prevention and control activities.[174]

On 16 November 2022 in the G20 Bali Leaders' Declaration there was a specific "G20 call to action on antimicrobial resistance" which included improved surveillance, improved access to vaccines, therapeutics and diagnostics and improved infection prevention and control. The US is a member of the G20 and used this platform to renew its commitment.[175]

On 23 December 2022, the Eastern Research Group published the report, "Analysis Of Market Challenges for Antimicrobial Drug Development in the United States." The report was prepared under contract to the ASPE Office.[176]

On 24 March 2023, the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria published "Preparing for the Next Pandemic in the Era of Antimicrobial Resistance.."[177] This report provided recommendations to develop novel antimicrobials, vaccines, diagnostics, and threat agnostic platform technologies focused on resistant bacterial and fungal pathogens.

On 27 April 2023, the PASTEUR Act was reintroduced to Congress.[178] The Pasteur Act would authorise the Department of Health and Human Services to enter into subscription contracts for critical-need antimicrobials. The current proposed value of these contracts ranges from USD 750 million to USD 3 billion over 5 to 10 years, with total funding of USD 11 billion over 10 years. The size of the contracts will be determined based on whether the antimicrobial has a novel mechanism of action and/or whether it targets a World Health Organization priority pathogen.

[172] US Department of Health and Human Services, President's Budget Request 2024, 9 March 2023. Date of Access: 19 February 2023. https://www.hhs.gov/sites/default/files/fy-2024-budget-in-brief.pdf
[173] US CDC, FY 2024 Congressional Justification, 9 March 2023. Date of Access: 19 February 2024. https://www.cdc.gov/budget/fy2024/congressional-justification.html
[174] US CDC, What CDC Is Doing: Investments & Action, 15 December 2023. Date of Access: 19 February 2024. https://www.cdc.gov/drugresistance/solutions-initiative/index.html
[175] G20 Bali Leaders' Declaration, November 16, 2022. Date of access 17 February 2024. https://www.g20.utoronto.ca/2022/221116-declaration.html
[176] Eastern Research Group (ERG), Analysis Of Market Challenges For Antimicrobial Drug Development In The United States, 23 December 2023. Date of Access: 19 February 2024. https://aspe.hhs.gov/sites/default/files/documents/4585438337d955ce3de8ae4e1edeae21/antimicrobial-drugs-market-challenges.pdf
[177] Presidential Advisory Council on Combating Antibiotic Resistant Bacteria, Preparing for the Next Pandemic in the Era of Antimicrobial Resistance, 24 March 2023. Date of Access: 19 February 2024. https://www.hhs.gov/sites/default/files/paccarb-pandemic-preparedness-report.pdf
[178] Michael Bennet Senate website, Bipartisan/Bicameral Legislation Would Support Development of Innovative Antibiotics to Treat Resistant Infections and Improve Appropriate Antibiotic Use, 24 March 2023. Date of Access: 19 February 2024. https://www.bennet.senate.gov/public/index.cfm/2023/4/bennet-young-bipartisan-house-colleagues-reintroduce-bipartisan-pasteur-act-to-fight-antimicrobial-resistance

The United States has partially complied with its commitment by taking two strong actions domestically that address several areas of AMR in its budget request and through introducing an Act to congress. It also released reports. It did not take action internationally.

Thus, the United States receives a score of 0.

European Union: +1

The European Union has fully complied with its commitment to acknowledge and address the pandemic of antimicrobial resistance (AMR).

On 12 July 2022, the European Health Emergency Preparedness and Response Authority (HERA) identified threats resulting from antimicrobial resistance as one of their top three priority health threats.[179]

On 5 September 2022, the temporary subgroup of the AMR One Health Network composed of the 27 Member States' representatives delivered its report, providing the Commission with recommendations for priority actions and a toolbox with suggestions for concrete actions to help combat AMR.[180]

On 30 September 2022, HERA published the "HERA AMR Feasibility Study on Stockpiling."[181] It discussed identifying antimocrobials with critical need for undisrupted access, analysed supply chain vulnerabilities, reviewed existing stockpiling systems at the EU and global level, and identified and assessed options for stockpiling antimicrobials at the EU level.

On 21 November 2022, the European Commission financed the EU4Health Programme. EUR 358.4 million was budgeted for "Crises Preparedness" of which EUR 500,000 was budgeted towards "Integrated surveillance systems on antimicrobial resistance and antimicrobial use."[182]

On 13 March 2023, HERA published a study on "Bringing AMR medical countermeasures to the market." The study reviewed various pull incentive schemes including a revenue guarantee model, market entry rewards, milestone-base rewards, and combination of market entry rewards with revenue guarantee model. It also included various legal and practical considerations for what implementation of such models could look like at the EU level.[183]

[179] EU Commission Health and Emergency Preparedness and Response Authority (HERA), HERA fact sheet - HEALTH UNION: Identifying top 3 priority health threats, 27 April 2023. Date of Access: https://health.ec.europa.eu/publications/hera-factsheet-health-union-identifying-top-3-priority-health-threats_en

[180] European Union Commission, Final report - Subgroup established under the EU AMR One Health Network to formulate suggestions for AMR Actions, 5 September 2022. Date of Access: 19 February 2024. https://health.ec.europa.eu/latest-updates/final-report-subgroup-established-under-eu-amr-one-health-network-formulate-suggestions-amr-actions-2022-09-05_en

[181] European Health Emergency Preparedness and Response Authority, HERA AMR feasibility study on stockpiling, 30 September 2022. Date of Access: 19 February 2024. https://op.europa.eu/en/publication-detail/-/publication/712bbfff-801e-11ed-9887-01aa75ed71a1

[182] European Commission, Annex to the Commission Implementing Decision on the financing of the Programme for the Union's action in the field of health and the adoption of the work programme for 2023, 21 November 2022. Date of Access: 19 February 2024. https://www.salute.gov.it/imgs/C_17_notizie_6078_0_file.pdf

[183] Publications Office of the European Union, Study on bringing AMR medical countermeasures to the market, 13 March 2023. Date of Access: 19 February 2024. https://op.europa.eu/en/publication-detail/-/publication/51b2c82c-c21b-11ed-8912-01aa75ed71a1/language-en/format-PDF/source-282306182

On 26 April 2023, the European Commission adopted a proposal for new directive and a new regulation, which revise and replace the existing general pharmaceutical legislation.[184] This included the adoption of a proposal for a Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach.[185] The objectives for this proposal were to: 1) strengthen One Health national action plans on AMR; 2) reinforce surveillance and monitoring of AMR and antimicrobial consumption; 3) strengthen infection prevention and control; 4) strengthen antimicrobial stewardship and prudent use of antimicrobials; (5) recommend targets for AMR and antimicrobial consumption in human health; 6) improve awareness, education and training; 7) foster research & development, and incentives for innovation and access to antimicrobials and other AMR medical countermeasures; 8) increase cooperation; and 9) enhance global actions.

On 11 May 2023, HERA, the World Health Organization (WHO), and the Global Antibiotic Research and Development Partnership (GARDP) participated in the first Project Steering Committee meeting. HERA provided the WHO and GARDP with EUR 8 million to ensure sustainable access to AMR treatments, promote responsible use and affordability, and drive research for the search for new antimicrobials.[186]

The European Union has fully complied with its commitment through taking strong action by funding international organisations and a regional project supporting AMR surveillance, and revising EU legislation that aimed to strengthen more than one aspect of AMR, such as surveillance and prevention. It took weaker action including reports.

Thus, the European Union receives a score of +1.

[184] European Commission, Reform of the EU pharmaceutical legislation, 26 April 2023. Date of Access: 19 February 2024. https://health.ec.europa.eu/medicinal-products/pharmaceutical-strategy-europe/reform-eu-pharmaceutical-legislation_en

[185] European Commission Directorate for Health and Food Safety, Commission proposal for a Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach, 26 April 2023. Date of Access: 19 February 2024. https://health.ec.europa.eu/publications/commission-proposal-council-recommendation-stepping-eu-actions-combat-antimicrobial-resistance-one_en

[186] Global Antibiotic Research and Development Partnership, HERA, WHO and GARDP join forces to counter the growing threat of antimicrobial resistance, 19 May 2023. Date of Access: 19 February 2024. https://gardp.org/hera-who-and-gardp-join-forces-to-counter-the-growing-threat-of-antimicrobial-resistance/

3. Incentives for New Treatments (2022)

2022-187: [We will continue to]…incentivise the development of new antimicrobial treatments with a particular emphasis on pull incentives.

G7 Leaders Communiqué (Elmau Summit, June 26-28, 2022)

Assessment

	No Compliance	Partial Compliance	Full Compliance
Canada		0	
France	−1		
Germany		0	
Italy	−1		
Japan	−1		
United Kingdom			+1
United States			+1
European Union			+1
Average		0.00 (50%)	

Background

Antimicrobial resistance (AMR) is now a widely known global health issue which was responsible for 1.27 million deaths in 2019 according to the most prevalent study on AMR mortality.[187] It is now well understood that the market for antimicrobial drugs is poorly suited to developing new drugs to help combat AMR and therefore various proposals for remedying this have been under discussion for several years at the G7.

AMR was first mentioned in the G7 leaders 2014 Brussels Summit Declaration where leaders committed to developing a Global Action Plan on AMR in collaboration with the World Health Organization (WHO).[188] On 26 May 2015 the 68th World Health Assembly (WHA) adopted resolution WHA 68.7 on 26 May 2015 which adopted the proposed Global Action Plan on AMR and brought it into effect.[189] This Global Action Plan contained five" key objectives: 1) to improve awareness and understanding of antimicrobial resistance through effective communication, education and training; 2) to strengthen the knowledge and evidence base through surveillance and research; 3) to reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures; 4) to optimise the use of antimicrobial medicines in human and animal health; and 5) to develop the economic case for sustainable investment that takes account of the needs of all countries and to increase investment in new medicines, diagnostic tools, vaccines and other interventions".[190] The fifth objective included a call for member states to begin "piloting of innovative ideas for financing research and development and for the adoption of new market models to encourage investment and ensure access to new antimicrobial products."

[187] Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis, The Lancet 4 February 2022. Date of Access: 12 January 2024 https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02724-0/fulltext
[188] G7 Brussels Leaders Declaration, 4 June 2014. Date of Access: 17 February 2024. https://www.g7.utoronto.ca//summit/2014brussels/declaration.html.
[189] Global action plan on antimicrobial resistance, 68th World Health Assembly, 26 May 2015. Date of Access: 17 February 2024. https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-spc-sel-glass/a68-r7-en.pdf?sfvrsn=fa7f3dde_2.
[190] Global action plan on antimicrobial resistance, WHO, 1 January 2016. Date of Access: 17 February 2024. https://www.who.int/publications/i/item/9789241509763.

At the 2015 Elmau Summit, leaders stated that they would address AMR in a two-fold approach, one part of which was "engaging in research and development for new antimicrobials," to this end they added that "we have to stimulate innovation by increasing basic research, research on epidemiology, and the development and access of new antimicrobials."[191]

At the 2016 Ise-Shima Summit, leaders noted in the "Ise-Shima Vision for Global Health" that they would "share with the international community, including the G20, the importance of addressing market failure and incentivizing R&D [research and development] of new antimicrobials" and "promote R&D to combat AMR, such as through 'pull' incentives to address specific market failures and funding for basic and applied research and development of new vaccines, diagnostics, antimicrobials."[192] These commitments recognise that the current market for the development of antimicrobials is inadequate and propose that "pull" incentives could be used to resolve this, alongside direct funding. The document describes "pull incentives" as "making advance purchases and supporting creating markets/demands." This was the first time the term "pull incentives" was used in the context of antimicrobial development in the G7 leaders' communiqués.

At the 2018 G7 Charlevoix Summit, leaders committed to "prioritize and coordinate our global efforts to fight against antimicrobial resistance, in a 'one health' approach," but no specific incentives to encourage R&D of new antimicrobials were mentioned.[193]

The 2019 Biarritz Summit and 2020 Virtual Summit made no specific commitments on AMR.

At the 2021 Cornwall Summit, a separate "Health Declaration" was issued which stated "building on past G7 and G20 commitments, we call on our Health, Finance, Environment and Foreign and Development Ministers to continue to take action to tackle antimicrobial resistance."[194] Additionally, the G7 finance ministers issued a separate statement on "Actions to Support Antibiotic Development" in which they commit to expediting the implementation of existing strategies outlined in their national action plans and taking additional steps to bring new drugs to the market. It can be understood that these additional steps would include the implementation of pull incentives.[195]

At the 2022 Elmau Summit, leaders stated that they would "spare no efforts to continue addressing this silent pandemic" and specifically mentioned that they would "incentivise the development of new antimicrobial treatments with a particular emphasis on pull incentives."[196] In an additional statement from the G7 health ministers, they again acknowledged that "it is essential to ensure a sustainable market for existing as well as new antibiotics" and that "we commit to expedite implementation of

[191] Annex to the Leaders' Declaration, G7 Summit, 7-8 June 2015. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2015elmau/2015-G7-annex-en.html.
[192] G7 Ise-Shima Vision for Global Health, May 27, 2016. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2016shima/health.html
[193] The Charlevoix G7 Summit Communiqué, La Malbaie, 9 June 2018. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2018charlevoix/communique.html
[194] G7 Carbis Bay Health Declaration, June 13, 2021. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2021cornwall/210613-carbis-bay-health-declaration.html
[195] G7 Finance Ministers' Statement on Actions to Support Antibiotic Development, 2021. Date of Access: 17 February 2024. assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1040016/AMR_-_G7_Finance_Ministers_statement_on_supporting_antibiotic_development_-_final_-_13_Dec_2021.pdf
[196] G7 Leaders' Communiqué Elmau, June 28, 2022. Date of Access: 11 January 2024 https://www.g7.utoronto.ca/summit/2022elmau/220628-communique.html

existing strategies and to take additional specific and appropriate steps in our domestic markets and health system."[197]

Commitment Features

At the 2022 Elmau Summit on 26-28 June 2022, G7 leaders committed to "incentivise the development of new antimicrobial treatments with a particular emphasis on pull incentives." This analysis covers the period between 29 June 2022 and 18 May 2023.

Definitions and Concepts

"Antimicrobial resistance (AMR)" is the phenomenon of bacteria, viruses, fungi and parasites no longer responding to antimicrobial medicines. As a result of drug resistance, antibiotics and other antimicrobial medicines become ineffective and infections become difficult or impossible to treat, increasing the risk of disease spread, severe illness, disability and death.

"Continue to" is understood as meaning that new actions will be added to existing ones. This means that complying with this commitment can be fulfilled by either expanding on previous initiatives or creating new initiatives with the purpose of incentivising the development of new antimicrobials.

"Incentivise" is understood as meaning something that incites or tends to incite to determination or action. In this context, G7 members are aiming to incentivise action on behalf of the private sector (pharmaceutical companies, biotechnology companies), academic institutions, public research institutes and/or public-private partnerships.

"Pull incentives" are understood to mean incentive structures which intend to create a sustainable market for antimicrobials through rewarding successful developing and supplying antimicrobials.[198] This is specifically different from funding or grants being given out or awarded in order for a work to be carried out.

General Interpretive Guidelines

This commitment has one goal, to "incentivise the development of new antimicrobial treatments." It identifies that the particular policy instrument that will be emphasised for this is pull incentives.

In the context of this commitment, "Continue to incentivise the development of new antimicrobial treatments" refers to taking strong actions, either expanding on previous initiatives or creating new ones, which can be seen to incentivise the development of new antimicrobial treatments. Whilst other incentive mechanisms (such as push funding) can contribute towards incentivising the development of new antimicrobial treatments, given the specific mention of pull incentives in the commitment, for full compliance a G7 member must have taken strong actions towards having pull incentives in place.

Examples of pull incentives include advanced market commitments, such as through subscription models (where a fixed reward is paid out every year for a number of years) or market entry rewards (where a fixed reward is paid out upon market approval), ongoing revenue incentives (minimum price guarantees or reimbursement system carve-outs) or exclusivity extensions (where patent extensions are granted to the successful antimicrobial innovator).

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[197] Berlin G7 Health Ministers' Communiqué, 20 May 2022. Date of Access: 11 January 2024 https://www.g7germany.de/resource/blob/974430/2042058/5651daa321517b089cdccfaffd1e37a1/2022-05-20-g7-health-ministers-communique-data.pdf?download=1

[198] Progress Report by the Global AMR R&D Hub & WHO, Incentivising the development of new antibacterial treatments, 30 November 2022. Date of Access: 19 February 2024. https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-gcp-irc/incentivising-development-of-new-antibacterial-treatments-2023---progress-report.pdf

Also constituting strong actions to incentivise the development of new antimicrobial treatments through pull incentives are running a pull incentive program (such as subscription models or milestone payments), committing funding to pull incentive programs or putting in place policy that constitutes a pull incentive (such as diagnosis group related carve-outs for selected antimicrobials).

Weak actions are defined as less substantial initiatives. Examples of weak action include creating working groups or task forces to investigate options for pull incentives, verbal reaffirmations of existing commitments to pull incentives without taking new action, ministers attending meetings where pull incentives are discussed or diplomacy.

Strong action towards pull incentives alone, in the absence of action towards other types of incentives, is sufficient for full compliance. If the G7 member takes action that incentivizes antimicrobial development that is not a pull incentive, this will count towards partial compliance.

Other types of incentives which could be employed by a G7 member towards this commitment include, but are not limited to, investing in basic and applied research and public-private partnerships, such as the Global Antibiotic Research and Development Partnership (GARDP) and the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARBX).

Full compliance, or a score of +1, is assigned to G7 members that demonstrate several strong actions to incentivise the development of new antimicrobial treatments, including pull incentives. Several is at least four, with at least one being on pull incentives.

Partial compliance, or a score of 0, is assigned to G7 members who take some weak action on pull incentives. Partial compliance is also assigned if the G7 member takes strong action on other incentives but not on pull incentives. Some is defined as at least three weak actions or two strong ones.

Non-compliance, or a score of −1, is assigned to G7 members that fail to meet the aforementioned criteria for a partial score, or they take action that is directly antithetical to the commitment.

Scoring Guidelines

−1	The G7 member has taken fewer than three weak actions or no strong actions to incentivise the development of antimicrobial treatments.
0	The G7 member has taken three or more weak actions towards incentivising the development of antimicrobial treatments including towards pull incentives or has taken two or more strong actions but none on pull incentives.
+1	The G7 member has taken four or more strong actions towards incentivising the development of antimicrobial treatments, including through pull incentives.

Canada: 0

Canada has partially complied with its commitment to incentivise the development of new treatments for antimicrobial resistance (AMR).

On 1 June 2022, before this commitment was made at the Elmau Summit, the Public Health Agency of Canada requested that the Council of Canadian Academies formed an expert panel to investigate "What economic pull incentives have the greatest potential for success in encouraging the market entry and sustained market availability of high-value antimicrobials for use in humans in Canada?" This panel is aimed at putting forward recommendations for new pull incentive models which can support development of new antimicrobials.[199] The panel released its recommendations for putting in place a

[199] CCA Appoints Expert Panel on Pull Incentives for High-Value Antimicrobials, 1 June 2022, Date of Access: 1 March 2024 https://www.cca-reports.ca/cca-appoints-expert-panel-on-pull-incentives-for-high-value-antimicrobials/

Canadian pull incentive program on the 7 September 2023.[200] It is therefore reasonable to assume that this work was ongoing during the compliance period.

On 28 October 2022, the Health Ministers' of the G20 said that they "support initiatives to catalyse AMR research and development." Canada is a member of the G20 and used this platform to renew its commitment.[201]

On 21 November 2022 the National Research Council of Canada announced it is working on performing research into alternatives to traditional antimicrobial treatment and would be supporting industry in this development.[202]

On 11 May 2023 the Public Health Agency of Canada committed CAD 6.3 million to the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X) to support it in developing new antibiotics.[203]

On 14 May 2023 G7 health ministers issued a declaration that included committing to prudent and appropriate use of antimicrobials and exploring and implementing push and pull incentives that promote investment in R&D of antimicrobials.[204]

Canada has made a significant commitment to financing CARB-X as a push incentive to incentivise the development of new antimicrobials, made verbal reiterations of support for the commitment, and was working on developing a report on pull incentives during the compliance period. However, Canada did not take strong action to incentivize pull incentives.

Thus, Canada receives a score of 0.

Analyst: David McKinney

France: −1

France has failed to comply with its commitment to incentivise the development of new treatments for antimicrobial resistance (AMR).

On 28 October 2022, the Health Ministers' of the G20 said that they "support initiatives to catalyse AMR research and development." France is a member of the G20 and used this platform to renew its commitment.[205]

[200] Overcoming Resistance, The Expert Panel on Antimicrobial Availability Date of Access: 1 March 2024 https://cca-reports.ca/reports/pull-incentives-for-high-value-antimicrobials

[201]Chair's Summary: Health Ministers' of the G20, 28 October 2022, Date of Access 1 March 2024. https://www.g20.utoronto.ca/2022/221028-health.html"

[202] National Research Council of Canada, Persistence against antimicrobial resistance: NRC tackles global health threat, November 21, 2022. Date of access: 17 February 2024. https://nrc.canada.ca/en/stories/persistence-against-antimicrobial-resistance-nrc-tackles-global-health-threat

[203] Public Health Agency of Canada, Government of Canada makes important investments to fight antimicrobial resistance (AMR), 11 May 2023. Date of Access: February 17 2024. https://www.canada.ca/en/public-health/news/2023/05/government-of-canada-makes-important-investment-to-fight-antimicrobial-resistance-amr.html

[204] G7 Nagasaki Health Ministers' Communiqué, 14 May 2024. Date of Access: 17 February 2024. https://www.mhlw.go.jp/content/10500000/001096403.pdf

[205]Chair's Summary: Health Ministers' of the G20, 28 October 2022, Date of Access 1 March 2024. https://www.g20.utoronto.ca/2022/221028-health.html"

On 15 February 2023, the National Authority for Health (HAS) adopted the Transparency Commission's evaluation principles relating to drugs eligibility for reimbursement.[206] These principles included an adapted evaluation framework for antibiotics targeting multi-resistant bacteria. The HAS also published a working document which included the European Commission's reflections on the evaluation of antibiotics for highly resistant bacteria.

France has failed to comply with its commitment to incentivise the development of new antimicrobial products. It has done a reform of its reimbursement process for certain antibiotics but has failed to investigate, create or finance other types of incentives for the development of new antimicrobial products, or create pull incentives.

Thus, France receives a score of −1.

Analyst: David McKinney

Germany: 0

Germany has partially complied with its commitment to incentivise the development of new treatments for antimicrobial resistance (AMR).

On 17 October 2022, the German Ministry of Education and Research announced EUR 50 million to support the Global Antibiotic Research and Development Partnership (GARDP) for research and development of new antibiotics.[207]

On 28 October 2022, the Health Ministers' of the G20 said that they "support initiatives to catalyse AMR research and development." Germany is a member of the G20 and used this platform to renew its commitment.[208]

On 14 February 2023, the Ministry of Health drafted the Act to Combat Supply Shortages of Off-Patent Medicines and to Improve the Supply of Paediatric Medicines). This legislation means that reserve antibiotics will be significantly privileged under the revised pricing and reimbursement laws.[209]

On 10 May 2023, the Ministry of Education and Research renewed its support of the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X), committing EUR 41 million for research and development.[210]

Germany has partially complied with its commitments to incentivise development of new antimicrobials. It has assigned significant amounts of money to push incentives, GARDP and CARB-X, but has failed to take strong action on having pull incentives in place.

[206] French Health Authority, Doctrine of the Commission of the Transparency (TC) TC Evaluation Principles relating to medicinal products for the purpose of their access to reimbursement, 15 February 2023. Date of access: 17 February 2024. https://www.has-sante.fr/upload/docs/application/pdf/2021-03/doctrine_ct.pdf

[207] Stark-Watzinger: 50 Millionen Euro für die Erforschung innovativer Antibiotika. Date of access: 1 March 2024. https://www.bmbf.de/bmbf/shareddocs/pressemitteilungen/de/2022/10/171022-GARDP.html

[208] Chair's Summary: Health Ministers' of the G20, 28 October 2022, Date of Access 1 March 2024. https://www.g20.utoronto.ca/2022/221028-health.html"

[209] Drug Supply Bottleneck Combating and Supply Improvement Act, 14 February 2023, Date of access 1 March 2024. https://www.bundesgesundheitsministerium.de/service/gesetze-und-verordnungen/detail/albvvg.html

[210] Stark-Watzinger: We urgently need new approaches to prevent, diagnose and treat superbugs 10 May 2023, Date of access 1 March 2024. https://www.bmbf.de/bmbf/shareddocs/pressemitteilungen/de/2023/05/100523-CARBX-Antibiotika.html#searchFacets

Thus, Germany receives a score of 0.

Analyst: Ting

Italy: −1

Italy has failed to comply with its commitments to incentivise the development of new treatments for antimicrobial resistance (AMR).[211]

On 28 October 2022, the Health Ministers' of the G20 said that they "support initiatives to catalyse AMR research and development." Italy is a member of the G20 and used this platform to renew its commitment.[212]

Italy has not complied with its commitment to incentivise the development of new antimicrobial treatments. They have taken no steps towards implementing a pull incentive scheme and have not funded any push funding initiatives such as the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator or the Global Antibiotic Research and Development Partnership.

Thus Italy receives a score of −1.

Analyst: Aanika Dalal

Japan: −1

Japan has not complied with its commitment to incentivise the development of new treatments for antimicrobial resistance (AMR).

On 28 October 2022, the Health Ministers' of the G20 said that they "support initiatives to catalyse AMR research and development." Japan is a member of the G20 and used this platform to renew its commitment.[213]

In December 2022, a commitment of JPY 1.1 billion was announced in Japan's 2023 fiscal year budget for a "support program to secure antibiotics" targeting antimicrobial agents for drug resistant bacteria that pose a public health threat.[214] The program is limited to highly effective products that have been approved and launched domestically.

Japan has not complied with its commitments to incentivise development of new antimicrobials. It has implemented a small pull incentive program which helps secure access to antibiotics, but does not incentivise development, and it made one verbal reiteration of support, failing to meet the breadth or depth criteria for this commitment.

Therefore, Japan receives a score of −1.

Analyst: Aanika Dalal

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[211] This was determined after checking the websites of Italy's Ministry of Health, Ministry of University and Research, Ministry of Foreign Affairs and International Cooperation, and Ministry of Agriculture, Food Sovereignty and Forestry as well as the Global AMR R&D Hub website and World Health Organization website.

[212] Chair's Summary: Health Ministers' of the G20, 28 October 2022, Date of Access 1 March 2024. https://www.g20.utoronto.ca/2022/221028-health.html"

[213] Chair's Summary: Health Ministers' of the G20, 28 October 2022, Date of Access 1 March 2024. https://www.g20.utoronto.ca/2022/221028-health.html"

[214] Progress Report by the Global AMR R&D Hub & WHO, Incentivising the development of new antibacterial treatments, 30 November 2022. Date of Access: 19 February 2024. https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-gcp-irc/incentivising-development-of-new-antibacterial-treatments-2023---progress-report.pdf

United Kingdom: +1

The United Kingdom has fully complied with its commitment to incentivise the development of new treatments for antimicrobial resistance (AMR).

On 30 June 2022, the Department of Health and Social Care Responsibility announced GBP 4.5 million investment made by the government's Global AMR Innovation Fund to support the Global Antibiotic Research and Development Partnership (GARDP) to develop new treatments for drug-resistant infections identified by the World Health Organization as the greatest threat to global health and development.[215]

In July 2022, the UK government awarded Shionogi and Pfizer subscription style contracts which promised these companies a fixed annual fee for access to specific antimicrobials, based primarily on a health technology assessment of their value to the National Health Services, instead of the volumes used.[216] These contracts were awarded as a part of a pilot programme testing subscription models as novel financing mechanisms to incentivise the development of new antimicrobials.

On 28 October 2022, the Health Ministers' of the G20 said that they "support initiatives to catalyse AMR research and development." The UK is a member of the G20 and used this platform to renew its commitment.[217]

On 21 November 2022, the UK government published "Lessons learnt from the UK project to test new models for evaluating and purchasing antimicrobials" following consultation with key stakeholders.[218]

On 22 May 2023, the UK government announced up to GBP 39 million cash injection for antimicrobial resistance research through the Global AMR Innovation Fund.[219] This funding includes up to GBP 25 million to support the early development of new antibiotics, vaccines, rapid diagnostics and other products to combat life-threatening drug-resistant infections. GBP 24 million of this is to be awarded to the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X).

The United Kingdom has fully complied with its commitment to incentivise the development of new antimicrobial treatments with a particular emphasis on pull incentives. The United Kingdom has implemented a pilot pull incentive scheme and also funded various push funding initiatives including the Global AMR Innovation Fund and GARDP.

Thus, the UK receives a score of +1.

Analyst: Aanika Dalal

[215] Government of UK Department of Health and Social Care, New treatments to tackle pandemic of drug-resistant infections, 30 June 2022. Date of Access: 19 February 2024. https://www.gov.uk/government/news/new-treatments-to-tackle-pandemic-of-drug-resistant-infections

[216] NHS England, NHS lands breakthrough in global battle against superbugs, 15 June 2022. Date of Access: 19 February 2024. https://www.england.nhs.uk/2022/06/nhs-lands-breakthrough-in-global-battle-against-superbugs/

[217]Chair's Summary: Health Ministers' of the G20, 28 October 2022, Date of Access 1 March 2024. https://www.g20.utoronto.ca/2022/221028-health.html"

[218] National Institute for Health and Care Excellence Report from external workshops, Lessons Learnt from the UK Project to test new models for evaluating and purchasing antimicrobials, 21 November 2022. Date of Access: 19 February 2024. https://www.nice.org.uk/Media/Default/About/what-we-do/Life-sciences/models-for-the-evaluation-and-purchase-of-antimicrobials/AMR-lessons-learnt.docx

[219] Department of Health and Social Care, £39 million for AMR research as UK launches Global Health Framework, 22 May 2023. Date of Access: 19 February 2024. https://www.gov.uk/government/news/39-million-for-amr-research-as-uk-launches-global-health-framework

United States: +1

The United States has fully complied with its commitment to incentivise the development of new treatments for antimicrobial resistance (AMR).

On 28 October 2022, the Health Ministers' of the G20 said that they "support initiatives to catalyse AMR research and development." The US is a member of the G20 and used this platform to renew its commitment.[220]

On 23 December 2022, the Eastern Research Group published "Analysis of Market Challenges for Antimicrobial Drug Development in the United States." The report was prepared under contract to the Office of the Assistant Secretary for Planning and Evaluation.[221]

On 9 March 2023, the President's Budget Request for fiscal year 2024 included USD 9 billion in mandatory funding to encourage the development of innovative antimicrobial drugs, by establishing a novel payment mechanism to delink volume of sales from revenue for newly approved antimicrobial drugs and biological products that address a critical unmet need.[222]

On 27 April 2023, the PASTEUR Act was reintroduced to Congress.[223] The Pasteur Act would authorise the Department of Health and Human Services to enter into subscription contracts for critical-need antimicrobials. The current proposed value of these contracts ranges from USD 750 million to USD 3 billion over 5 to 10 years, with total funding of USD 11 billion over 10 years. The size of the contracts will be determined based on whether the antimicrobial has a novel mechanism of action and/or whether it targets a World Health Organization priority pathogen.

The United States has fully complied with its commitment to incentivise the development of new antimicrobial treatments with a particular emphasis on pull incentives. The United States has investigated various mechanisms for pull incentives and introduced the related legislation to congress.

Thus, the US receives a score of +1.

Analyst: Aanika Dalal

European Union: +1

The European Union has fully complied with its commitment to incentivise the development of new treatments for antimicrobial resistance (AMR).

On 13 March 2023, the European Health Emergency Preparedness and Response Authority (HERA) published a study on "Bringing AMR Medical Countermeasures to the Market." The study reviewed various pull incentive schemes including a revenue guarantee model, market entry rewards, milestone-base rewards, and combination of market entry rewards with revenue guarantee model. It also included

[220]Chair's Summary: Health Ministers' of the G20, 28 October 2022, Date of Access 1 March 2024. https://www.g20.utoronto.ca/2022/221028-health.html"

[221] Eastern Research Group (ERG), Analysis Of Market Challenges For Antimicrobial Drug Development In The United States, 23 December 2023. Date of Access: 19 February 2024. https://aspe.hhs.gov/sites/default/files/documents/4585438337d955ce3de8ae4e1edeae21/antimicrobial-drugs-market-challenges.pdf

[222] US Department of Health and Human Services, President's Budget Request 2024, 9 March 2023. Date of Access: 19 February 2023. https://www.hhs.gov/sites/default/files/fy-2024-budget-in-brief.pdf

[223] Michael Bennet Senate website, Bipartisan/Bicameral Legislation Would Support Development of Innovative Antibiotics to Treat Resistant Infections and Improve Appropriate Antibiotic Use, 24 March 2023. Date of Access: 19 February 2024. https://www.bennet.senate.gov/public/index.cfm/2023/4/bennet-young-bipartisan-house-colleagues-reintroduce-bipartisan-pasteur-act-to-fight-antimicrobial-resistance

various legal and practical considerations for what implementation of such models could look like at the EU level.[224]

On 26 April 2023 the European Commission adopted a proposal for a new directive and a new regulation, which would revise and replace the existing general pharmaceutical legislation. This updated legislation aims to incentivise the development of novel antimicrobials through offering successful developers a "Transferable Exclusivity Extension" as a pull incentive.[225]

On 11 May 2023, HERA, the World Health Organization (WHO), and the Global Antibiotic Research and Development Partnership (GARDP) as part of the first Project Steering Committee meeting. HERA provided the WHO and GARDP with EUR 8 million to ensure sustainable access to AMR treatments, promote responsible use and affordability, and drive research for the search for new antimicrobials.[226]

The European Union has fully complied with its commitment to incentivise the development of new antimicrobial treatments with a particular emphasis on pull incentives. The EU has provided EUR 8 million in push funding to GARDP and the WHO. The EU has also explored various pull incentive models to stimulate antimicrobial research and development, with a focus on delinkage approaches like voucher systems and revenue guarantees independent of volumes sold to ensure proper stewardship.

Thus, the EU receives a score of +1.

Analyst: Neha Suresh

[224] Publications Office of the European Union, Study on bringing AMR medical countermeasures to the market, 13 March 2023. Date of Access: 19 February 2024. https://op.europa.eu/en/publication-detail/-/publication/51b2c82c-c21b-11ed-8912-01aa75ed71a1/language-en/format-PDF/source-282306182

[225] European Commission, Reform of the EU pharmaceutical legislation. Date of Access: 11 March 2024. https://health.ec.europa.eu/medicinal-products/pharmaceutical-strategy-europe/reform-eu-pharmaceutical-legislation_en

[226] Global Antibiotic Research and Development Partnership, HERA, WHO and GARDP join forces to counter the growing threat of antimicrobial resistance, 19 May 2023. Date of Access: 19 February 2024. https://gardp.org/hera-who-and-gardp-join-forces-to-counter-the-growing-threat-of-antimicrobial-resistance/

4. Push and Pull Incentives for Research and Development (2023)

2023-262: Recognizing the rapid escalation of AMR globally, we continue to commit to exploring and implementing push and pull incentives to accelerate R&D of antimicrobials

G7 Hiroshima Leaders' Communiqué (Hiroshima Summit, May 19-21, 2023)

Assessment

	No Compliance	Partial Compliance	Full Compliance
Canada		0	
France		0	
Germany		0	
Italy		0	
Japan			+1
United Kingdom			+1
United States			+1
European Union			+1
Average		+0.50 (75%)	

Background

Antimicrobial resistance (AMR) is now a widely known global health issue which was responsible for 1.27 million deaths in 2019 according to the most prevalent study on AMR mortality.[227] It is now well understood that the market for antimicrobial drugs is poorly suited to developing new drugs to help combat AMR and therefore various proposals for remedying this have been under discussion for several years at the G7.

AMR was first mentioned in the G7 leaders 2014 Brussels Summit Declaration where leaders committed to developing a Global Action Plan on AMR in collaboration with the World Health Organization (WHO).[228] On 26 May 2015 the 68th World Health Assembly (WHA) adopted resolution WHA 68.7 on 26 May 2015 which adopted the proposed Global Action Plan on AMR and brought it into effect.[229] This Global Action Plan contained five" key objectives: 1) to improve awareness and understanding of antimicrobial resistance through effective communication, education and training; 2) to strengthen the knowledge and evidence base through surveillance and research; 3) to reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures; 4) to optimise the use of antimicrobial medicines in human and animal health; and 5) to develop the economic case for sustainable investment that takes account of the needs of all countries and to increase investment in new medicines, diagnostic tools, vaccines and other interventions".[230] The fifth objective included a call for member states to begin "piloting of innovative ideas for financing research and development and for the adoption of new market models to encourage investment and ensure access to new antimicrobial products."

[227] Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis, The Lancet 4 February 2022. Date of Access: 12 January 2024 https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02724-0/fulltext
[228] G7 Brussels Leaders Declaration, 4 June 2014. Date of Access: 17 February 2024. https://www.g7.utoronto.ca//summit/2014brussels/declaration.html.
[229] Global action plan on antimicrobial resistance, 68th World Health Assembly, 26 May 2015. Date of Access: 17 February 2024. https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-spc-sel-glass/a68-r7-en.pdf?sfvrsn=fa7f3dde_2.
[230] Global action plan on antimicrobial resistance, WHO, 1 January 2016. Date of Access: 17 February 2024. https://www.who.int/publications/i/item/9789241509763.

At the 2015 Elmau Summit, leaders stated that they would address AMR in a two-fold approach, one part of which was "engaging in research and development for new antimicrobials," to this end they added that "we have to stimulate innovation by increasing basic research, research on epidemiology, and the development and access of new antimicrobials."[231] This commitment entails governments either directly carrying out or funding research and development activities aimed at developing new antimicrobials.

At the 2016 Ise-Shima Summit, leaders noted in the "Ise-Shima Vision for Global Health" that they would "share with the international community, including the G20, the importance of addressing market failure and incentivizing R&D [research and development] of new antimicrobials" and "promote R&D to combat AMR, such as through 'pull' incentives to address specific market failures and funding for basic and applied research and development of new vaccines, diagnostics, antimicrobials."[232] These commitments recognise that the current market for the development of antimicrobials is inadequate and propose that "pull" incentives could be used to resolve this, alongside direct funding. In this document "push and pull incentives" were defined as follows: "push (e.g. support to cover R&D cost)" and "pull (e.g. making advance purchase and support creating markets/demands)."

At the 2018 Charlevoix Summit, leaders committed to "prioritize and coordinate our global efforts to fight against antimicrobial resistance, in a 'one health' approach," but no specific incentives to encourage R&D of new antimicrobials were mentioned.[233]

The 2019 Biarritz Summit and 2020 Virtual Summit made no specific commitments on AMR.

At the 2021 Cornwall Summit, a separate "Health Declaration" was issued which stated "building on past G7 and G20 commitments, we call on our Health, Finance, Environment and Foreign and Development Ministers to continue to take action to tackle antimicrobial resistance."[234] Additionally, the G7 finance ministers issued a separate statement on "Actions to Support Antibiotic Development" in which they commit to expediting the implementation of existing strategies outlined in their national action plans and taking additional steps to bring new drugs to the market.[235]

At the 2022 Elmau Summit, leaders stated that they would "spare no efforts to continue addressing this silent pandemic" and specifically mentioned that they would "incentivise the development of new antimicrobial treatments with a particular emphasis on pull incentives."[236] In an additional statement from the G7 health ministers, they again acknowledged that "it is essential to ensure a sustainable market for existing as well as new antibiotics" and that "we commit to expedite implementation of existing strategies and to take additional specific and appropriate steps in our domestic markets and health system" alongside stating their support for public-private antibiotic development partnerships Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X) and the Global

[231] Annex to the Leaders' Declaration, G7 Summit, 7-8 June 2015. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2015elmau/2015-G7-annex-en.html.
[232] G7 Ise-Shima Vision for Global Health, 27 May 2016. Access Date: 14 March 2024 https://www.g7.utoronto.ca/summit/2016shima/health.html
[233] The Charlevoix G7 Summit Communiqué, La Malbaie, 9 June 2018. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2018charlevoix/communique.html
[234] G7 Carbis Bay Health Declaration, 13 June 2021. Date of Access: 17 February 2024. https://www.g7.utoronto.ca/summit/2021cornwall/210613-carbis-bay-health-declaration.html
[235] G7 Finance Ministers' Statement on Actions to Support Antibiotic Development, 2021. Date of Access: 17 February 2024. assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1040016/AMR_-_G7_Finance_Ministers_statement_on_supporting_antibiotic_development_-_final_-_13_Dec_2021.pdf
[236] G7 Elmau Leaders' Communiqué, 28 June 2022. Access Date: 14 March 2024. https://www.g7.utoronto.ca/summit/2022elmau/220628-communique.html

Antibiotic Research and Development Partnership (GARDP).[237] At the 2023 Hiroshima Summit, leaders committed to "recognizing the rapid escalation of AMR". They also committed to continue "exploring and implementing push and pull incentives to accelerate R&D of antimicrobials" and "promoting antimicrobial access and stewardship for their prudent and appropriate use".

Commitment Features

At the Hiroshima Summit on 19–21 May 2023 G7 leaders committed to "exploring and implementing push and pull incentives to accelerate R&D of antimicrobials." This analysis covers the period between 22 May 2023 and June 12, 2024.

In the context of this commitment "push incentives" are understood to mean financial contributions to public-private partnerships, such as the GGARDP and CARB-X and funding of basic and applied research (through grants or other funding mechanisms).[238]

"Pull incentives" are understood to mean incentive structures which intend to create a sustainable market for antimicrobials through rewarding successful developing and supplying antimicrobials with a specific target product profile. Examples of pull incentives include advanced market commitments, such as through subscription models (where a fixed reward is paid out every year for a number of years) or market entry rewards (where a fixed reward is paid out upon market approval), ongoing revenue incentives (minimum price guarantees or reimbursement system carve-outs) or exclusivity extensions (where patent extensions are granted to the successful antimicrobial innovator)[239]

"Implementing" is taken to mean taking steps forward towards achieving a goal. Steps need to be taken in the near future to be considered implementation. This should not, therefore, be interpreted to mean only prolonged or delayed action.[240] In the context of this commitment, "implementing push and pull incentives" therefore refers to taking strong actions towards having both push and pull incentives in place. Examples of actions which would constitute as steps towards this include committing funding to push incentives, such as through GARDP, CARB-X and SECURE, an initiative with the mission to expand access to essential, life-saving antibiotics for countries and populations in need, committing funding to pull incentive programs (such as subscription models or milestone payments), putting in place policy that constitutes a pull incentive (such as diagnosis group related carve-outs for selected antimicrobials) and creating working groups or task forces to investigate options for push and pull incentives.

"Exploring" is taken as meaning that a country will investigate, study or analyse push and pull incentives. Exploring is understood as taking weak action towards having push and pull incentives in place, this would include commissioning initial investigations into push or pull incentives, drafting of new policies and legislations aimed at creating push and pull incentives but not adopting them, or statements from ministries in support of push and pull incentives.

[237] G7 Berlin Health Ministers' Communiqué, 20 May 2022. Access Date: 14 March 2024. https://www.g7.utoronto.ca/healthmins/2022-0520-communique.html
[238] G7 Ise-Shima Vision for Global Health, 27 May 2016. Access Date: 14 March 2024 https://www.g7.utoronto.ca/summit/2016shima/health.html
[239] Incentivising the development of new antibacterial treatments 2023. Access Date: 14 March 2024. globalamr.e-laborat.eu/wp-content/uploads/2023/08/2.-G7_FULLReport_HUB_WHO_FINAL_10052023.pdf
[240] Compliance Coding Manual for International Institutional Commitments, G7 and G20 Research Groups (Toronto) 12 November 2020. Access Date: 14 March 2024. https://www.g7.utoronto.ca/compliance/Compliance_Coding_Manual_2020.pdf

This commitment requires that a member explores and implements both push and pull incentives. Therefore, full compliance, or a score of +1, is assigned to G7 members that have taken strong action towards having both push and pull incentives in place as defined above.

Partial compliance, or a score of 0, is assigned to G7 members that have explored or taken weak action on both push and pull incentives but have not taken strong action towards implementing either, or a member that has strongly implemented either a push or a pull incentive.

Non-compliance, or a score of −1, is assigned to G7 members that have only explored or taken weak action on either a push or a pull incentive or that have taken no action towards either a push or a pull incentive.

Scoring Guidelines

−1	The G7 member has not taken any action either to explore or implement push and pull incentives or has weak taken action to explore either push or pull incentives but not both.
0	The G7 member has taken weak action to explore both push and pull incentives, or has taken strong action to implement either push or pull incentives.
+1	The G7 member has taken strong action to explore and implement both push and pull incentives.

Canada: 0

Canada has partially complied with its commitment to explore and implement push and pull incentives to accelerate the research and development (R&D) of antimicrobials.

On 11 May 2023, ahead of this commitment, the Public Health Agency of Canada committed CAD 6.3 million to the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X) to support them in developing new antibiotics.[241] The Public Health Agency of Canada departmental plan indicates that this funding will be running from 2023 to 2025.[242]

On 7 September 2023 the Canadian Council of Academics released its "Overcoming Resistance" report which recommended that Canada create a subscription pull incentive to revitalise the market for antimicrobials in Canada. This subscription would contribute between CAD 14.5 million and CAD 18 million per year per drug with payment levels varying based on drug value.[243] The report was sponsored by the Public Health Agency of Canada.

On 19 August 2023 the G20 health ministers issued a chair's summary that said that they "welcome research and development on novel antimicrobials through various international initiatives such as SECURE, CARB-X [Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator] & GARDP [Global Antibiotic Research and Development Partnership] including push & pull mechanisms." Canada is a member of the G20 and used this platform to renew its commitment.[244]

[241] Public Health Agency of Canada, Government of Canada makes important investments to fight antimicrobial resistance (AMR), 11 May 2023. Date of Access: February 17 2024. https://www.canada.ca/en/public-health/news/2023/05/government-of-canada-makes-important-investment-to-fight-antimicrobial-resistance-amr.html

[242] Public Health Agency of Canada, Public Health Agency of Canada 2024-2025 Departmental Plan. Date of Access 11 March 2024 https://www.canada.ca/en/public-health/corporate/transparency/corporate-management-reporting/reports-plans-priorities.html

[243] Overcoming Resistance, The Expert Panel on Antimicrobial Availability Date of Access: 1 March 2024 https://cca-reports.ca/reports/pull-incentives-for-high-value-antimicrobials

[244] Outcome Document and Chair's Statement, G20 health ministers, Gandhinagar, , G20 Information Centre (Toronto) 19 August 2023. Date of Access: 11 March 2024. https://www.g20.utoronto.ca/2023/G20_HMM_Outcome_Document_and_Chair_Summary.pdf

Canada has partially complied with its commitment to explore and implement push and pull incentives to accelerate R&D of new antimicrobials. It has commissioned a report into pull incentives which suggested that creating a subscription pull incentive. However, it has so far not taken action to implement this. It has also given funding to CARB-X, a crucial push incentive.

Thus Canada receives a score of 0.

Analyst: David McKinney

France: 0

France has partially complied with its commitment to explore and implement push and pull incentives to accelerate the research and development [R&D] of antimicrobials.

On 19 August 2023 G20 health ministers issued a chair's summary that they "welcome research and development on novel antimicrobials through various international initiatives such as SECURE, CARB-X [Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator] & GARDP [Global Antibiotic Research and Development Partnership] including push & pull mechanisms." France is a member of the G20.[245]

On 31 December 2023 the European Union Joint Action Antimicrobial Resistance and Healthcare-Associated Infections program began. It is coordinated by France and France contributed EUR 2,198,914 to the initiative. This initiative will have groups working on push and pull incentives.[246]

France has partially complied with its commitment to explore and implement push and pull incentives to accelerate R&D of antimicrobials, as it has not done anything that constitutes strong action to explore or implement such policies.

Thus France receives a score of 0.

Analyst: Mo Putera

Germany: 0

Germany has partially complied with its commitment to explore and implement push and pull incentives to accelerate research and development (R&D) of antimicrobials.

On 10 May 2023 (nine days before the summit), the Federal Ministry of Education and Research announced that it will be continuing to support the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X) for another four years, providing EUR 39 million in funding as well as EUR 2 million for a CARB-X accelerator.[247]

On 19 August 2023 G20 health ministers issued a chair's summary that said that they "welcome research and development on novel antimicrobials through various international initiatives such as

[245] Outcome Document and Chair's Statement, G20 health ministers, GandhinagarG20 Information Centre (Toronto) 19 August 2023. Date of Access: 13 March 2024.
https://www.g20.utoronto.ca/2023/G20_HMM_Outcome_Document_and_Chair_Summary.pdf
[246] Joint Action Antimicrobial Resistance and Healthcare-Associated Infections 2, 31 December 2023. Access Date: 14 March 2024 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/projects-details/43332642/
101127787/undefined?programmePeriod=2021-2027&freeKeywords=jamrai&order=DESC&page=1&pageSize=10
[247] Stark-Watzinger: We urgently need new approaches for the prevention, diagnosis and treatment of superbugs, Press Release, German Federal Ministry of Education and Research, 10 May 2023.
https://www.bmbf.de/bmbf/en/news/2023/05/230517-carb-x.html

SECURE, CARB-X & GARDP including push & pull mechanisms." Germany is a member of the G20.[248]

On 29 September 2023, the German government said that the appointment of an antimicrobial resistance ambassador is in the "preparatory examination."[249]

On 31 December 2023 the EU Joint Action Antimicrobial Resistance and Healthcare-Associated Infections program began. Germany contributed EUR 257,347 to the initiative. This initiative will have groups working on push and pull incentives.[250]

Germany has partially complied with its commitment to explore and implement push and pull incentives to accelerate R&D of antimicrobials. Germany has made a significant contribution to CARB-X as a key push incentive but has failed to implement an adequate pull incentive.

Thus, Germany receives a score of 0.

Analyst: Leon Mayer

Italy: 0

Italy has partially with its commitment to explore and implement push and pull incentives to accelerate research and development (R&D) of antimicrobials.

On 19 August 2023 G20 health ministers issued a chair's summary that said that they "welcome research and development on novel antimicrobials through various international initiatives such as SECURE, CARB-X [Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator] & GARDP [Global Antibiotic Research and Development Partnership] including push & pull mechanisms." Italy is a member of the G20.[251]

On 31 December 2023 the EU Joint Action Antimicrobial Resistance and Healthcare-Associated Infections program began. Italy contributed EUR 1,031,561 to the initiative. This initiative will have groups working on push and pull incentives.[252]

Italy has partially complied with its commitment to explore and implement push and pull incentives to accelerate R&D of antimicrobials. It has made a contribution to CARB-X as a key push incentive but has failed to implement an adequate pull incentive.

Thus Italy receives a score of 0.

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[248] Outcome Document and Chair's Statement, G20 health ministers, GandhinagarG20 Information Centre (Toronto) 19 August 2023. Date of Access: 11 March 2024.
https://www.g20.utoronto.ca/2023/G20_HMM_Outcome_Document_and_Chair_Summary.pdf
[249] German government response to official inquiry by opposition party, 29 September 2023https://dserver.bundestag.de/btd/20/085/2008589.pdf
[250] Joint Action Antimicrobial Resistance and Healthcare-Associated Infections 2, 31 December 2023. Access Date: 14 March 2024 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/projects-details/43332642/
101127787/undefined?programmePeriod=2021-2027&freeKeywords=jamrai&order=DESC&page=1&pageSize=10
[251] Outcome Document and Chair's Statement, G20 health ministers, Gandhinagar, G20 Information Centre (Toronto) 19 August 2023. Date of Access: 11 March 2024.
https://www.g20.utoronto.ca/2023/G20_HMM_Outcome_Document_and_Chair_Summary.pdf
[252] Joint Action Antimicrobial Resistance and Healthcare-Associated Infections 2, 31 December 2023. Access Date: 14 March 2024 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/projects-details/43332642/
101127787/undefined?programmePeriod=2021-2027&freeKeywords=jamrai&order=DESC&page=1&pageSize=10

Analyst: Berke Çelik

Japan: +1

Japan has fully complied with its commitment to explore and implement push and pull incentives to accelerate research and development (R&D) of antimicrobials.

On 19 August 2023 G20 health ministers issued a chair's summary that said that they "welcome research and development on novel antimicrobials through various international initiatives such as SECURE, CARB-X [Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator] & GARDP [Global Antibiotic Research and Development Partnership] including push & pull mechanisms." Japan is a member of the G20 and used this platform to renew its commitment.[253]

On 5 September 2023, the Ministry of Health, Labor and Welfare unveiled their requirements for applicants and evaluation criteria for their revenue guarantee pilot program.[254]

On 7 November 2023, the Ministry of Health, Labor and Welfare selected Shionogi's cefiderocol for its revenue assurance pilot program.[255]

On 19 October 2023, the Japanese government provided just over US$1.8 million in funding to GARDP. The funding is part of a JPY 1 billion pledge to GARDP from 2020 to 2025.

On 22 December 2023, the Ministry of Finance released their 2024 budget which included a new contribution to CARB-X.[256]

Japan has taken concrete steps to implement programs which support push incentives, as demonstrated by its funding commitment to GARDP, and pull incentives, as demonstrated by steps taken to implement its revenue guarantee model for antimicrobials.[257]

Therefore, Japan receives a +1.

Analyst: Aanika Dalal

United Kingdom: +1

The United Kingdom has fully complied with its commitment to explore and implement push and pull incentives to accelerate research and development (R&D) of antimicrobials.

On 22 May 2023, ahead of the summit commitment, the Department of Health and Social Care announced GBP 24 million in funding to Combating Antibiotic-Resistant Bacteria Biopharmaceutical

[253] Outcome Document and Chair's Statement, G20 health ministers, GandhinagarG20 Information Centre (Toronto) 19 August 2023. Date of Access: 11 March 2024. https://www.g20.utoronto.ca/2023/G20_HMM_Outcome_Document_and_Chair_Summary.pdf

[254] Japan to Soon Start Taking Applications for Antibiotic Revenue Guarantee Program, Pharma Japan, 6 September 2023. Date of Access: 13 March 2024 https://pj.jiho.jp/article/249511?searched_keyword[]=Japan&searched_keyword[]=to&searched_keyword[]=Soon&searched_keyword[]=Start&searched_keyword[]=Taking&searched_keyword[]=Applications&searched_keyword[]=for&searched_keyword[]=Antibiotic&searched_keyword[]=Revenue&searched_keyword[]=Guarantee&searched_keyword[]=Program

[255] Shionogi's Cefiderocol Selected for Pilot-Based Revenue Assurance System, Pharma Japan, 13 November 2023. Date of Access: 13 March 2024 https://pj.jiho.jp/article/249912

[256] 2024 AMR Preparedness Index Progress Report, Global Coalition on Ageing and Infectious Disease Society of America, 15 February 2024. Date of Access: 13 March 2024 https://globalcoalitiononaging.com/wp-content/uploads/2024/01/2024-AMR-Index-Progress-Report.pdf

[257] Japan government funding supports GARDP's efforts to counter antibiotic resistance, GARDP, 19 October 2023. Date of Access: 13 March 2024

Accelerator (CARB-X) over a four-year period. It is therefore reasonable to assume this funding was active during this compliance period.[258]

On 10 June 2023, the National Health Service (NHS) began a consultation process over expanding its "Antimicrobial Products Subscription Model." This model is designed as a pull incentive to pay developers up to GBP 20 million per year for NHS England's supply of the antimicrobial, regardless of the purchased volume.[259] This is an extension of NHS England's pilot of the subscription model.

On 19 August 2023 G20 health ministers issued a chair's summary that said that they "welcome research and development on novel antimicrobials through various international initiatives such as SECURE, CARB-X & GARDP [Global Antibiotic Research and Development Partnership] including push & pull mechanisms." The UK is a member of the G20 and used this platform to renew its commitment.[260]

On 21 February 2024, the Department of Health and Social Care pledged an additional GBP 2.5 million to GARDP.[261]

The UK has fully complied with its commitment to explore and implement push and pull incentives to accelerate R&D of antimicrobials. It has given significant contributions to both GARPD and CARB-X as crucial elements of push funding and are in the late stages of updating its pull incentive scheme through a public consultation.

Thus, the UK receives a score of +1.

Analyst: David McKinney

United States: +1

The United States has fully complied with its commitment to explore and implement push and pull incentives to accelerate research and development (R&D) of antimicrobials.

On 19 May 2022, ahead of the compliance period for this commitment, the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARBX) announced a commitment of USD 300 million in funding over 10 years from the US Department of Health and Human Services. This funding runs through the compliance period for this analysis.[262]

[258] £39 million for AMR research as UK launches Global Health Framework, 22 May 2023. Date Accessed: 12 March 2024 https://gardp.org/japan-government-funding-supports-gardps-efforts-to-counter-antibiotic-resistance/https://www.gov.uk/government/news/39-million-for-amr-research-as-uk-launches-global-health-framework

[259] NHS England, The Antimicrobial Products Subscription Model: consultation on proposals 10 July 2023. Access Date: 12 March 2024 www.engage.england.nhs.uk/survey/the-antimicrobial-products-subscription-model/

[260] Outcome Document and Chair's Statement, G20 health ministers, GandhinagarG20 Information Centre (Toronto) 19 August 2023. Date of Access: 11 March 2024. https://www.g20.utoronto.ca/2023/G20_HMM_Outcome_Document_and_Chair_Summary.pdf

[261] UK Government pledges £2.5 million towards new antibiotic treatments 21 February 2024. Access Date: 12 March 2024 https://gardp.org/uk-government-pledges-2-5-million-towards-new-antibiotic-treatments/

[262] U.S. Government and Wellcome Commit up to an Additional US$370 Million to CARB-X, CARB-X, 19 May 2022. Date of Access: 11th March 2024. https://carb-x.org/carb-x-news/u-s-government-and-wellcome-commit-an-additional-us370-million-to-carb-x/

On 11 July 2023, the US Senate Health, Education, Labor & Pensions (HELP) Committee held a hearing on the effects of antimicrobial resistance on modern medicine during which support for the PASTEUR act was discussed extensively.[263]

On 19 August 2023 G20 health ministers issued a chair's summary that said that they "welcome research and development on novel antimicrobials through various international initiatives such as SECURE, CARB-X & GARDP [Global Antibiotic Research and Development Partnership] including push & pull mechanisms." The US is a member of the G20 and used this platform to renew its commitment.[264]

On 26 September 2023, the Biomedical Advanced Research Development Authority updated its long-running Broad Agency Announcement for medical countermeasures which offers support for both antibacterial and antifungal agents.[265]

The United States has taken concrete steps to implement programs which support push incentives, as demonstrated by its funding commitment to CARBX, and commitment to pursue support for the PASTEUR Act which was reintroduced to Congress on 23 April 2023.

Therefore, the US receives a score of +1.

Analyst: Aanika Dalal

European Union: +1

The European Union has fully complied with its commitment to explore and implement push and pull incentives to accelerate research and development (R&D) of antimicrobials.

On 11 May 2023, the European Health Emergency Preparedness and Response Authority (HERA), World Health Organization (WHO), and Global Antibiotic Research and Development Partnership (GARDP) participated in the first Project Steering Committee meeting. HERA provided the WHO and GARDP with EUR 8 million to ensure sustainable access to antimicrobial treatments, promote responsible use and affordability, and drive research for the search for new antimicrobials. GARDP is expected to receive EUR 5 million of this funding. Given that this funding was given shortly before the leaders' commitment, it is reasonable to assume that it was active during this time period.

On 13 June 2023, the Council adopted the Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach. This recommendation included welcoming the Commission's intention to create a pull incentive to improve innovation and development of and access to both new and existing antimicrobials.[266] It also included that the Commission should support research and technological innovation with push incentives for the detection, prevention and treatment of infections in humans caused by antimicrobial resistant pathogens.

[263] Superbugs: The Impact of Antimicrobial Resistance on Modern Medicine, Senate Committee on Health, Education, Labor and Pensions, 11 July 2023. Date of Access: 11 March 2024. https://www.help.senate.gov/hearings/superbugs-the-impact-of-antimicrobial-resistance-on-modern-medicine

[264] Outcome Document and Chair's Statement, G20 health ministers, Gandhinagar, G20 Information Centre (Toronto) 19 August 2023. Date of Access: 11 March 2024.
https://www.g20.utoronto.ca/2023/G20_HMM_Outcome_Document_and_Chair_Summary.pdf

[265] Biomedical Advanced Research and Development Authority (BARDA) Broad Agency Announcement (BAA), U.S. Department of Health and Human Services, 26 September 2023. Date of Access: 11 March 2024.
https://sam.gov/opp/3d6c915e3ebc489bbcd07105fb6f4ac5/view

[266] Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach. Date of Access: 11 March 2024 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023H0622(01)

In late 2023 and 2024 DG HERA for the Commission has been developing a Joint Procurement Agreement in Europe to secure supply of low-volume, reserve antibiotics through a de-linked revenue guarantee.[267] This in itself is not a pull incentive to encourage development of novel antimicrobials. However, it is being trialled as a way to investigate how future pull incentives could be run.

The EU has fully complied with its commitment to explore and implement push and pull incentives. It has committed funding to GARDP and the EU Council has supported a recommendation by the Commission to implement an EU pull incentive. Additionally, the Commission has begun investigating a Joint Procurement Agreement for the EU to buy low volume antimicrobials through a Revenue Guarantee with the potential to extend this to a pull incentive.

Thus, the EU receives a score of +1.

Analyst: David McKinney

[267] HERA 2024 Work Plan, European Commission. 21 December 2023. https://health.ec.europa.eu/publications/hera-2024-work-plan_en. Date of Access: 11 March 2024.