



EBRD engagement in global efforts
to curb antimicrobial resistance (AMR)

Abbreviations, acronyms and references

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AMR	antimicrobial resistance
AMS	antimicrobial stewardship
API	active pharmaceutical ingredient
BSAC	British Society for Antimicrobial Chemotherapy
CDC	US Centers for Disease Control and Prevention
EBCD	European Bank for Reconstruction and Development
ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FPP	finished pharmaceutical product
G7	Group of Seven
G20	Group of 20
GDP	gross domestic product
GIP	good international practice
GLG on AMR	Global Leaders Group on AMR
GMP	good manufacturing practice
IAAMR	Investor Action on Antimicrobial Resistance
IACG	Interagency Coordination Group
IPC	infection prevention and control
LMICs	low- and middle-income countries
MDB	multilateral development bank
NAP	national action plan
OECD	Organisation for Economic Co-operation and Development
PPP	public-private partnership
QJS	Quadripartite Joint Secretariat on AMR
SDG	Sustainable Development Goal
UNGA-HLM	United Nations General Assembly High-Level Meeting
UWWTD	Urban Wastewater Treatment Directive
WAAW	World AMR Awareness Week
WHO	World Health Organization
WOAH	World Organisation for Animal Health

References

- American Society for Microbiology (2022), "Phage Therapy: Past, Present and Future", 31 August 2022. Available at: <https://asm.org/articles/2022/august/phage-therapy-past,-present-and-future>
- AMR Industry Alliance (n.d.), "AMR Industry Alliance", Geneva, Switzerland. Available at: <https://www.amrindustryalliance.org/>
- AMR Industry Alliance (2022), *Antibiotic manufacturing standard: Minimizing risk of developing antibiotic resistance and aquatic ecotoxicity in the environment resulting from the manufacturing of human antibiotics*, Geneva, Switzerland. Available at: https://www.amrindustryalliance.org/wp-content/uploads/2022/06/AMRIA_Antibiotic-Manufacturing-Standard_June2022.pdf
- Antimicrobial Resistance Collaborators (2022), "Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis", *The Lancet*, 399(10325): 629-655. Available at: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02724-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02724-0/fulltext)
- R. Blaney, E. Handy, A. Wawrzyniak and R. Dirkzwager (2023), "EU Pharma Legislation Review Series: Regulatory Data Protection", *Inside EU Life Sciences*, Covington, London. Available at: <https://www.insideeu-life-sciences.com/2023/04/26/eu-pharma-legislation-review-series-regulatory-data-protection/>
- BSAC (2021), "Global Antimicrobial Stewardship Accreditation Scheme", Birmingham, United Kingdom. Available at: <https://bsac.org.uk/global-antimicrobial-stewardship-accreditation-scheme/>
- CDDEP (2019), *Access Barriers to Antibiotics*, Washington, DC. Available at: https://onehealthtrust.org/wp-content/uploads/2019/04/AccessBarriertoAntibiotics_CDDEP_FINAL.pdf
- C. Dall (2024), "UK's NHS to require companies to meet responsible antibiotic manufacturing standard", CIDRAP, University of Minnesota, 13 August 2024. Available at: <https://www.cidrap.umn.edu/antimicrobial-stewardship/uks-nhs-require-companies-meet-responsible-antibiotic-manufacturing>
- M. Denchak (2018), "Permafrost: Everything You Need to Know", Natural Resources Defense Council, New York. Available at: <https://www.nrdc.org/stories/permafrost-everything-you-need-know>
- S.E. Dogan (2024), "Explained: the history of progress in tackling antimicrobial resistance", Wellcome, 3 September 2024. Available at: <https://wellcome.org/news/explained-history-progress-tackling-antimicrobial-resistance>
- EBRD (2021), "EBRD-FAO Framework (2019 extension)", London. Available at: <https://www.ebrd.com/work-with-us/projects/tcpsd/12330.html>
- EBRD (2024a), *Environmental and Social Policy*, London. Available at: <https://www.ebrd.com/environmental-and-social-policy-esp-2024>
- EBRD (2024b), *Sustainability Report 2023*, London. Available at: <https://www.ebrd.com/sustainability-report-2023.html>
- ECDC (2022), *Antimicrobial Resistance in the EU/EEA – A One Health response*, Solna, Sweden. Available at: <https://www.ecdc.europa.eu/en/publications-data/antimicrobial-resistance-eueea-one-health-response>
- ECDC and WHO European Region (2023), *Surveillance of antimicrobial resistance in Europe, 2022 data: executive summary*, Solna, Sweden, and Copenhagen. Available at: <https://www.ecdc.europa.eu/sites/default/files/documents/Nov2023-ECDC-WHO-Executive-Summary.pdf>

Environmental Resilience Institute (n.d.), “Climate Implications – Mosquitoes, Ticks, and Other Vectors”, Indiana University, Bloomington, IN. Available at: <https://eri.iu.edu/erit/implications/mosquitoes-ticks-and-other-vectors.html>

EU4Business-EBRD Credit Line (n.d.), “EU4Business-EBRD Credit Line”, Chisinau. Available at: <https://www.eu4business-ebrdcreditline.md/>

European Antimicrobial Resistance Collaborators (2022), “The burden of bacterial antimicrobial resistance in the WHO European region in 2019: a cross-country systematic analysis”, *The Lancet*, 7(11): e897-e913. Available at: <https://www.research.ed.ac.uk/en/publications/the-burden-of-bacterial-antimicrobial-resistance-in-the-who-europ>

European Commission (n.d.a), “Farm to Fork Strategy”, Brussels. Available at: https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en

European Commission (n.d.b), “Antimicrobial Resistance: Research, Projects & Studies”, Brussels. Available at: https://health.ec.europa.eu/antimicrobial-resistance/research-projects-studies_en

European Commission (2010), “Commission Communication – EU best practice guidelines for voluntary certification schemes for agricultural products and foodstuffs (2010/C 341/04)”, *Official Journal of the European Union*, 16 December 2010. Available at: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:341:0005:0011:en:PDF>

European Commission (2023), *Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach*, Brussels. Available at: https://health.ec.europa.eu/publications/council-recommendation-stepping-eu-actions-combat-antimicrobial-resistance-one-health-approach_en

European Commission (2024), “Update on AMR-related issues in several environmental policy contexts”, Brussels. Available at: https://ec.europa.eu/assets/sante/health/amr/docs/amr_20240229_co04_en.pdf

European Food Safety Authority (2024), *Data collection on antibiotics for control of plant pathogenic bacteria*, Parma, Italy. Available at: <https://www.efsa.europa.eu/en/supporting/pub/en-8522>

European Union (2018), *Regulation (EU) 2019/6 of the European Parliament and of the Council of 11 December 2018 on veterinary medicinal products and repealing Directive 2001/82/EC*, Brussels. Available at: <https://eur-lex.europa.eu/eli/reg/2019/6/oj>

European Union (2019), *Regulation (EU) 2019/4 of the European Parliament and of the Council of 11 December 2018 on the manufacture, placing on the market and use of medicated feed, amending Regulation (EC) No 183/2005 of the European Parliament and of the Council and repealing Council Directive 90/167/EEC*, Brussels. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019R0004>

European Union (2021), *Community strategy against antimicrobial resistance*, Brussels. Available at: <https://eur-lex.europa.eu/EN/legal-content/summary/community-strategy-against-antimicrobial-resistance.html#:~:text=This%20recommendation%20is%20a%20follow.the%20effectiveness%20of%20these%20agents>

FAIRR (2024), *Health and Wealth: The Investors’ Guide to Antimicrobial Resistance (AMR), A Growing Global Health Crisis*, London. Available at: <https://www.fairr.org/resources/reports/health-and-wealth-the-investors-guide-to-antimicrobial-resistance>

FAO (2022), “Antimicrobial resistance: Now is the time for collective action”, Rome. Available at: <https://www.fao.org/newsroom/detail/antimicrobial-resistance-now-is-the-time-for-collective-action/en>

FAO Investment Centre (2024), “Helping minimize the misuse of antibiotics in farmed poultry in Ukraine”, Rome. Available at: <https://www.fao.org/support-to-investment/news/detail/en/c/1677564/>

A.A. Fayad, A. Rizk, S. El Sayed, M. Kaddoura, N.K. Jawad, A. Al-Attar, O. Dewachi, V.K. Nguyen and Z.A. Sater (2023), "Antimicrobial resistance and the Iraq wars: armed conflict as an underinvestigated pathway with growing significance", *BMJ Global Health*, 7(Suppl 8): e010863. Available at: <https://PMC9933488/>

M.C. Fisher, A. Alastruey-Izquierdo, J. Berman, T. Bicanic, E.M. Bignell, P. Bowyer et al. (2022), "Tackling the emerging threat of antifungal resistance to human health", *Nature Reviews Microbiology*, 20(9): 557-571. Available at: <https://PMC8962932/>

Fleming Fund (2023), "First line of defence for AMR One Health must address the climate crisis", 4 July 2023. Available at: <https://www.flemingfund.org/publications/the-first-line-of-defence-for-amr-one-health-must-address-the-climate-crisis/#:~:text=Although%20AMR%20is%20an%20existing.adapt%2C%20spreading%20to%20new%20locations>

G20 (2019), *Okayama Declaration of the G20 Health Ministers*, Okayama, Japan. Available at: https://www.mhlw.go.jp/seisakunitsuite/bunya/hokabunya/kokusai/g20/health/jp/img/G20Okayama_HM_EN.pdf

G20 Brazil (2024), "Sherpa Track: Health", Brasilia. Available at: <https://g20.gov.br/en/documents/sherpa-track>

A.K. Gautam and S. Kumar (2020), "Techniques for the Detection, Identification, and Diagnosis of Agricultural Pathogens and Diseases", in C. Egbuna and B. Sawicka (eds.) (2020), *Natural Remedies for Pest, Disease and Weed Control*, Elsevier Inc. Available at: <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/plant-pathogenic-bacteria#:~:text=The%20most%20commonly%20found%20pathogenic,such%20as%20soft%20rot%20Agrobacterium>

GBD 2021 Antimicrobial Resistance Collaborators (2024), "Global burden of bacterial antimicrobial resistance 1990-2021: a systematic analysis with forecasts to 2050", *The Lancet*, 404(10459): 1199-1226. Available at: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(24\)01867-1/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(24)01867-1/fulltext)

Global AMR R&D Hub (2024), "Hub-WHO Joint G7 Progress Report Published", 18 October 2024. Available at: <https://globalamrhub.org/news/hub-who-joint-g7-progress-report-published/>

Global Leaders Group on Antimicrobial Resistance (n.d.), "Global Leaders Group on Antimicrobial Resistance". Available at: https://www.amrleaders.org/#tab=tab_1

Global Leaders Group on Antimicrobial Resistance (2024), *Towards Specific Commitments and Action in Response to AMR: Recommendations for consideration by UN Member States in the outcome document of the High-level Meeting on AMR in September 2024*. Available at: <https://www.amrleaders.org/resources>

F.L. Gordillo Altamirano and J.J. Barr (2019), "Phage Therapy in the Postantibiotic Era", *Clinical Microbiology Reviews*, 32(2). Available at: <https://journals.asm.org/doi/10.1128/cmr.00066-18#:~:text=The%20therapeutic%20use%20of%20bacteriophages.the%20successful%20introduction%20of%20antibiotics>

Government of the United Kingdom (2024), *UK 5-year action plan for antimicrobial resistance 2024 to 2029*, London. Available at: <https://www.gov.uk/government/publications/uk-5-year-action-plan-for-antimicrobial-resistance-2024-to-2029>

Z. Han, H. Feng, C. Wang, X. Wang, M. Yang and Y. Zhang (2023), "Mitigating Antibiotic Resistance Emissions in the Pharmaceutical Industry: Global Governance and Available Techniques", *China CDC Weekly*, 5(46): 1038-1044. Available at: <https://pubmed.ncbi.nlm.nih.gov/38046642/>

A. Herron (2022), "Confronting a permacrisis? The intersection between antimicrobial resistance, climate change and biodiversity loss", Aviva Investors, 23 November 2022. Available at: <https://www.avivainvestors.com/en-gb/views/aiq-investment-thinking/2022/11/antimicrobial-resistance/>

M. Hutchings, A.W. Truman and B. Wilkinson (2019), “Antibiotics: past, present and future”, *Current Opinion in Microbiology*, 51: 72-80. Available at: <https://pubmed.ncbi.nlm.nih.gov/31733401/>

Investor Action on AMR (n.d.), “Investor Action on Antimicrobial Resistance”. Available at: <https://amrinvestoraction.org/>

Investor Action on AMR (2024), “US \$13 Trillion Investors Call on Global Leaders To Tackle Antimicrobial Resistance Crisis”, 3 September 2024. Available at: <https://amrinvestoraction.org/article/usd13-trillion-investors-call-on-global-leaders-to-tackle-antimicrobial-resistance-crisis>

S. Janković (2024), “Subscription model for antimicrobials could be expanded in new UK five-year AMR plan”, *The Pharmaceutical Journal*, 9 May 2024. Available at: <https://pharmaceutical-journal.com/article/news/subscription-model-for-antimicrobials-could-be-expanded-in-new-uk-five-year-amr-plan>

P. Jaureguiberry, N. Titeux, M. Wiemers, D.E. Bowler, L. Coscieme, A.S. Golden et al. (2022), “The direct drivers of recent global anthropogenic biodiversity loss”, *Science Advances*, 8(45). Available at: <https://www.science.org/doi/10.1126/sciadv.abm9982>

O.B. Jonas, A. Irwin, F.C.J. Berthe, F.G. Le Gall and P.V. Marquez (2017), *Drug-resistant infections: a threat to our economic future* (Vol. 2): final report, World Bank, Washington, DC. Available at: <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/323311493396993758/final-report>

L.M. Kasman and L.D. Porter (2022), *Bacteriophages*, StatPearls Publishing, Treasure Island, FL. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK493185/>

F. Keesing, L.K. Belden, P. Daszak, A. Dobson, C.D. Harvell, R.D. Holt et al. (2010), “Impacts of biodiversity on the emergence and transmission of infectious diseases”, *Nature*, 468: 647-652. Available at: <https://www.nature.com/articles/nature09575>

U. Klümper, G. Gionchetta, E. Catão, X. Bellanger, I. Dielacher, A.X. Elena et al. (2024), “Environmental microbiome diversity and stability is a barrier to antimicrobial resistance gene accumulation”, *Communications Biology*, 7(706). Available at: <https://www.nature.com/articles/s42003-024-06338-8#:~:text=Diversity%20as%20a%20limiting%20factor,being%20invaded%20by%20ARBs29>

D.G.J. Larsson and C.-F. Flach (2021), “Antibiotic resistance in the environment”, *Nature Reviews Microbiology*, 20: 257-269. Available at: <https://www.nature.com/articles/s41579-021-00649-x>

G. Loban, M. Faustova, O. Dobrovolska and P. Tkachenko (2023), “War in Ukraine: incursion of antimicrobial resistance”, *Irish Journal of Medical Science*, 192(6): 2905-2907. Available at: <https://pubmed.ncbi.nlm.nih.gov/37178279/>

A. Manzoor and R.O. Adesola (2022), “Disaster in public health due to flood in Pakistan in 2022”, *Health Science Reports*, 5(6): e903. Available at: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9584091/>

A. McDonnell and K. Klemperer (2022), *Drug-Resistant Infections Are One of the World’s Biggest Killers, Especially for Children in Poorer Countries. We Need to Act Now*, Center for Global Development, Washington, DC and London. Available at: <https://www.cgdev.org/blog/drug-resistant-infections-are-one-worlds-biggest-killers-especially-children-poorer-countries>

D. McDougall (2019), “The tiny algae at ground zero of Greenland’s melting glaciers”, *The Guardian*, 18 September 2019. Available at: <https://www.theguardian.com/environment/2019/sep/18/tiny-algae-ground-zero-greenland-melting-glaciers>

K. Moussally, G. Abu-Sittah, F. Gordillo Gomez, A.A. Fayad and A. Farra (2023), “Antimicrobial resistance in the ongoing Gaza war: a silent threat”, *The Lancet*, 402(10416): P1972-1973. Available at: [https://www.thelancet.com/journals/lancet/article/P11S0140-6736\(23\)02508-4/fulltext](https://www.thelancet.com/journals/lancet/article/P11S0140-6736(23)02508-4/fulltext)

R. Mulchandani, Y. Wang, M. Gilbert and T.P. Van Boeckel (2023), "Global trends in antimicrobial use in food-producing animals: 2020 to 2030", *PLOS Global Public Health*, 3(2): e0001305. Available at: [https://pmc.ncbi.nlm.nih.gov/articles/PMC10021213/#:~:text=Globally%20antimicrobial%20usage%20was%20estimated,%3C1%25%20were%20in%20Africa](https://PMC10021213/#:~:text=Globally%20antimicrobial%20usage%20was%20estimated,%3C1%25%20were%20in%20Africa)

NASA (n.d.), "Evidence", Washington, DC. Available at: <https://science.nasa.gov/climate-change/evidence/>

OECD (2023), *Embracing a One Health Framework to Fight Antimicrobial Resistance*, Paris. Available at: https://www.oecd.org/en/publications/embracing-a-one-health-framework-to-fight-antimicrobial-resistance_ce44c755-en.html

J. Olivera and W.C. Reyaert (2024), *Gram-Negative Bacteria*, StatPearls Publishing, Treasure Island, FL. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK538213/>

S.J.C. Pallett, S.E. Boyd, M.K. O'Shea, J. Martin, D.R. Jenkins and E.J. Hutley (2023), "The contribution of human conflict to the development of antimicrobial resistance", *Communications Medicine (London)*, 3(1): 153. Available at: <https://pubmed.ncbi.nlm.nih.gov/37880348/>

N. Petrosillo, E. Petersen and S. Antoniak (2023), "Ukraine war and antimicrobial resistance", *The Lancet Infectious Diseases*, 24(6): P653-654. Available at: [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(23\)00264-5/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(23)00264-5/fulltext)

S.I. Polianciuc, A.E. Gurzău, B. Kiss, M.G. Stefan and F. Loghin (2020), "Antibiotics in the environment: causes and consequences", *Medicine and Pharmacy Reports*, 93(3): 231-240. Available at: [https://pmc.ncbi.nlm.nih.gov/articles/PMC7418837/#:~:text=Once%20in%20the%20environment%20antibiotic.causes%20the%20development%20and%2For](https://PMC7418837/#:~:text=Once%20in%20the%20environment%20antibiotic.causes%20the%20development%20and%2For)

F. Prestinaci, P. Pezzotti and A. Pantosti (2015), "Antimicrobial resistance: a global multifaceted phenomenon", *Pathogens and Global Health*, 109(7): 309-318. Available at: <https://pmc.ncbi.nlm.nih.gov/articles/PMC4768623/>

ReAct (n.d.), "Global Policy", Uppsala, Sweden. Available at: <https://www.reactgroup.org/toolbox/policy/global-policy/>

M. Ren, A.D. So, S.J. Chandy, M. Mpundu, A.O. Peralta, K. Åkerfeldt, A.K. Sjöblom and O. Cars (2022), "Equitable Access to Antibiotics: A Core Element and Shared Global Responsibility for Pandemic Preparedness and Response", *Journal of Law, Medicine and Ethics*, 50(S2): 34-39. Available at: <https://pubmed.ncbi.nlm.nih.gov/36889350/>

H. Ritchie (2017), "Three-quarters of antibiotics are used on animals. Here's why that's a major problem", World Economic Forum, Geneva, Switzerland. Available at: <https://www.weforum.org/stories/2017/11/three-quarters-of-antibiotics-are-used-on-animals-heres-why-thats-a-major-problem/>

Royal Society of Chemistry (2024), *Position Statement: Antimicrobial Resistance*, London. Available at: <https://www.rsc.org/globalassets/22-new-perspectives/health/our-policy-position-antimicrobial-resistance.pdf>

Safeguarding Health in Conflict (2024), "2023 Attacks on Health Care in War Zones Most Ever Documented", 22 May 2024, Geneva, Switzerland. Available at: <https://insecurityinsight.org/wp-content/uploads/2024/05/2023-SHCC-Press-Release-Critical-Conditions.pdf>

A.I. Samreen, H.A. Malak and H.H. Abulreesh (2021), "Environmental antimicrobial resistance and its drivers: a potential threat to public health", *Journal of Global Antimicrobial Resistance*, 27: 101-111. Available at: <https://www.sciencedirect.com/science/article/pii/S2213716521001910>

R.M. San Lio, G. Favara, A. Maugeri, M. Barchitta and A. Agodi (2023), "How Antimicrobial Resistance Is Linked to Climate Change: An Overview of Two Intertwined Global Challenges", *International Journal of Environmental Research and Public Health*, 20(3): 1681. Available at: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9914631/>

T. Schultze, M. Hogardt, E.S. Velázquez, D. Hack, S. Besier, T.A. Wichelhaus, U. Rochwalsky, V.A.J. Kempf and C. Reinheimer (2023), “Molecular surveillance of multidrug-resistant Gram-negative bacteria in Ukrainian patients, Germany, March to June 2022”, *Euro Surveillance*, 28(1): 2200850. Available at: <https://PMC9817211/>

D. Stepanskyi, O. Ishchenko, T. Luo, F. Lebreton, J.W. Bennett, I. Kovalenko and P. McGann (2024), “Phenotypic and genomic analysis of bacteria from war wounds in Dnipro, Ukraine”, *JAC-Antimicrobial Resistance*, 6(3): dlae090. Available at: <https://pubmed.ncbi.nlm.nih.gov/38872715/>

P. Taylor and R. Reeder (2020), “Antibiotic use on crops in low and middle-income countries based on recommendations made by agricultural advisors”, *CABI Agriculture and Bioscience*, 1(1). Available at: <https://cabiagbio.biomedcentral.com/articles/10.1186/s43170-020-00001-y#Sec2>

A.A. Tegegne, A.B. Feissa, G.H. Godena, Y. Tefera, H.K. Hassen, Y. Ozalp and S. Suleman (2024), “Substandard and falsified antimicrobials in selected east African countries: A systematic review”, *PLoS One*, 19(1): e0295956. Available at: <https://pubmed.ncbi.nlm.nih.gov/38277385/>

The Lancet (2024), “Infographics: Antimicrobial resistance: an enormous, growing, and unevenly distributed threat to global health”, AMR series, 23 May 2024. Available at: <https://www.thelancet.com/infographics-do/antibiotic-resistance-series-2024>

S. Thiele-Bruhn (2021), “The role of soils in provision of genetic, medicinal and biochemical resources”, *Philosophical Transactions of the Royal Society B: Biological Sciences*, 376: 20200183. Available at: <https://royalsocietypublishing.org/doi/10.1098/rstb.2020.0183>

Third Global High-Level Ministerial Conference on Antimicrobial Resistance (2022), “The Muscat Ministerial Manifesto on AMR”, Muscat, Oman. Available at: <http://amrconference2022.om/assets/images/Final%20Version%20Muscat%20Manifesto%20AMR%20with%20Annex.pdf>

K. Timmis (2021), “The soil crisis: the need to treat as a global health problem and the pivotal role of microbes in prophylaxis and therapy”, *Microbial Biology*, 14(3): 769-797. Available at: <https://enviromicro-journals.onlinelibrary.wiley.com/doi/full/10.1111/1751-7915.13771>

K. Tiseo, L. Huber, M. Gilbert, T.P. Robinson and T.P. Van Boeckel (2020), “Global Trends in Antimicrobial Use in Food Animals from 2017 to 2030”, *Antibiotics*, 9(12): 918. Available at: <https://www.mdpi.com/2079-6382/9/12/918#:~:text=Global%20Trends%20in%20Antimicrobial%20Use%20in%20Food%20Animals.of%2011.5%25%20by%202030%20to%20104%2C079%20tonnes.%20>

E. Topp and E. Pattey (1997), *Soils as sources and sinks for atmospheric methane*, Centre for Land and Biological Resources Research, Agriculture and Agri-Food Canada, Ottawa. Available at: <https://cdnsciencepub.com/doi/pdf/10.4141/S96-107#:~:text=Methane%20is%20produced%20in%20soils.carbon%20dioxide%20by%20methanotrophic%20bacteria>

Turkish Ministry of Health (2022), “Sağlık Bakanlığı Antimikrobiyal Direnç Önleme Eğitimi” (Ministry of Health Antimicrobial Resistance Prevention Training), YouTube, 23 June 2022. Available at: <https://www.youtube.com/watch?v=Nihmr5Gqg5Y>

UN Environment Programme (n.d.), “About Montreal Protocol”, Nairobi. Available at: <https://www.unep.org/ozonaction/who-we-are/about-montreal-protocol>

UNGA-HLM (2024a), *Political Declaration of the High-Level Meeting on Antimicrobial Resistance*, New York. Available at: <https://www.un.org/pga/wp-content/uploads/sites/108/2024/09/FINAL-Text-AMR-to-PGA.pdf>

UNGA-HLM (2024b), “UN General Assembly High-Level Meeting on antimicrobial resistance 2024”, 26 September 2024, New York. Available at: <https://www.who.int/news-room/events/detail/2024/09/26/default-calendar/un-general-assembly-high-level-meeting-on-antimicrobial-resistance-2024>

United Nations (2019), “UN Report: Nature’s Dangerous Decline ‘Unprecedented’; Species Extinction Rates ‘Accelerating’”, New York. Available at: <https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/>

United Nations (2024), “Jeddah conference closes with adoption of global pledges to tackle antimicrobial resistance”, 16 November 2024, Jeddah. Available at: <https://news.un.org/en/story/2024/11/1157091>

United Nations Statistics Division (2024), *The Sustainable Development Goals Report 2024*, New York. Available at: <https://unstats.un.org/sdgs/report/2024/>

Wellcome (2023), “Why is it so hard to develop new antibiotics?”, London. Available at: <https://wellcome.org/news/why-is-it-so-hard-develop-new-antibiotics>

Wellcome (2024), *Driving action on antimicrobial resistance (AMR) in 2024: Policy briefing*, London. Available at: <https://cms.wellcome.org/sites/default/files/2024-05/driving-action-on-antimicrobial-resistance-in-2024.pdf>

Wellcome and Boston Consulting Group (2022), *Understanding the antibiotic manufacturing ecosystem*, London. Available at: <https://cms.wellcome.org/sites/default/files/2022-04/understanding-the-antibiotic-manufacturing-ecosystem-2022.pdf>

WHO (n.d.), “One Health”, Geneva, Switzerland. Available at: https://www.who.int/health-topics/one-health#tab=tab_1

WHO (2001), *WHO Global Strategy for Containment of Antimicrobial Resistance*, Geneva, Switzerland. Available at: https://iris.who.int/bitstream/handle/10665/66860/WHO_CDS_CSR_DRS_2001.2.pdf

WHO (2016), *Global action plan on antimicrobial resistance*, Geneva, Switzerland. Available at: <https://www.who.int/publications/item/9789241509763>

WHO (2017), *WHO guidelines on use of medically important antimicrobials in food-producing animals*, Geneva, Switzerland. Available at: <https://www.who.int/publications/item/9789241550130>

WHO (2020), *Origin of SARS-CoV-2*, Geneva, Switzerland. Available at: https://iris.who.int/bitstream/handle/10665/332197/WHO-2019-nCoV-FAQ-Virus_origin-2020.1-eng.pdf

WHO (2023), “Antimicrobial resistance”, Geneva, Switzerland. Available at: <https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance>

WHO (2024), “New global guidance aims to curb antibiotic pollution from manufacturing”, Geneva, Switzerland. Available at: <https://www.who.int/news/item/03-09-2024-new-global-guidance-aims-to-curb-antibiotic-pollution-from-manufacturing>

WHO African Region (2024), *Framework for strengthening local production of medicines, vaccines, and other health technologies in the WHO African Region 2025-2035: Report of the Secretariat*, Brazzaville, Republic of the Congo. Available at: <https://www.afro.who.int/sites/default/files/2024-07/AFR-RC74-6%20Framework%20for%20strengthening%20local%20production%20of%20medicines.%20vaccines%20and%20other%20health%20technologies%20in%20the%20WHO%20African%20Region.pdf>

WHO Eastern Mediterranean Regional Office (n.d.), “Zoonotic disease: emerging public health threats in the Region”, Cairo. Available at: <https://www.emro.who.int/fr/about-who/rc61/zoonotic-diseases.html>

WOAH (2024), *Forecasting the Fallout from AMR: Economic Impacts of Antimicrobial Resistance in Food-Producing Animals*, Paris. Available at: <https://www.woah.org/app/uploads/2024/09/ecoamr-woah-animal-sector-web-reduced-23924.pdf>

WOAH and World Bank (2024), *Forecasting the Fallout from AMR: Economic Impacts of Antimicrobial Resistance in Humans*, Paris and Washington, DC. Available at: <https://www.woah.org/app/uploads/2024/09/forecasting-fallout-amr-economic-impacts-antimicrobial-resistance-humans-27924-compressed.pdf>

World Bank (2024), *Stopping the Grand Pandemic: A Framework for Action Addressing Antimicrobial Resistance through World Bank Operations – Summary Report*, Washington, DC. Available at: <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099050724083015872/p17446410f60aa01d1b9d3185a333f20bef>