

AMR Sameeksha*

Highlights

- World AMR Awareness Week 2026 theme – One Health, one action: Prevent AMR now.
- InFARM report of the FAO AMR monitoring system
- Outbreak of *Candidozyma auris*: a challenge for the infection control team
- Updated IDSA guidance for treatment of antimicrobial resistant Gram-negative infections
- Childhood antimicrobial resistance with global forecasts
- Second Quadripartite report on implementing the global action plan on AMR

Quotable quote

*AMR is a major public health concern
that can only be addressed through collective action.
Overuse and misuse of antibiotics has unfortunately become
common practice, underscoring the urgency of corrective measures.*

– Shri J.P. Nadda, Hon'ble Union Minister, Health and Family Welfare
[Union Health Minister during the launch of National Action Plan on AMR 2.0](#)

*Sameeksha is a Hindi word, meaning review. This is a compilation of open access publications and resources on One Health containment of AMR (along with a brief summary) – grouped according to the strategic objectives of India's National Action Plan on Antimicrobial Resistance 2.0. Kindly note, inclusion of publications and resources in this review compilation does not imply an endorsement by WHO.

1) Awareness and behaviour change

World AMR Awareness Week 2026 – *One Health, one action: Prevent AMR now.*

- World AMR Awareness Week (WAAW) is a global campaign – observed every year from 18 to 24 November – to raise awareness and increase understanding of AMR and to promote global action to tackle the emergence and spread of drug-resistant infections.
- Theme for WAAW 2026 is “One Health, one action: Prevent AMR now”, highlighting the shared responsibility to address the global threat of AMR, and calls on everyone to do their part – one action at a time, recognizing that the health of people, animals, plants, and the environment is closely connected, and actions in one sector can affect others.

WHO-FAO-UNEP-WOAH | Theme | July 2026 | [Online link](#)

Understanding what citizens think about antimicrobial resistance

- This study used Deliberative Polling to engage 2,419 citizens across six middle-income countries (including India) and assess public views on 45 AMR policies that were likely to feature in a global political declaration.
- After receiving information and participating in discussions, support for most policies increased significantly, with infection prevention measures receiving the strongest backing.

Wellcome Open Research | Research article | 14 May 2026 | [Online link](#)

Antimicrobial resistance: updated WHO fact sheet

- Updated WHO fact sheet reframes AMR as a broader One Health, economic and access crisis.
- Key changes include – 2021 mortality estimates, 2023 resistance data (“one in six” infections is resistant), projected 2035 treatment/productivity costs, stronger emphasis on vaccines, diagnostics, medicine access, WASH, IPC, stewardship, regulation, and the thin antimicrobial R&D pipeline globally.

WHO | Updated fact sheet | 16 July 2026 | [Online link](#)

Roadmap for establishing an independent panel for evidence for action against antimicrobial resistance (IPEA)

- Outlines a transparent, global consultation process led by the AMR Quadripartite to create an independent science–policy body for global action on AMR.
- Includes evidence reviews, stakeholder engagement, surveys, and governance documents to ensure the panel is scientifically credible, policy-relevant, inclusive, and capable of providing evidence-based guidance.

Quadripartite Joint Secretariat on AMR | Roadmap | 2 July 2026 | [Online link](#)

Global consultation on the WHO antimicrobial resistance learning programme

- Reports WHO’s global consultation to design a multi-year AMR learning programme.
- Participants identified priority competencies, target audiences, learning gaps, and partnership opportunities to strengthen health workforce capacity, antimicrobial stewardship, surveillance, laboratory systems and IPC.

WHO | Report | June 2026 | [Online link](#)

Sustained improvement in antibiotic prescribing among private practice dentists following antibiotic stewardship education and dashboard implementation

- A multi-practice study of nine private periodontists in USA found that antibiotic stewardship education, combined with self-monitoring dashboards, led to sustained improvements in prescribing over three years.
- Inappropriate prophylaxis and use of high-risk antibiotics declined, treatment durations shortened, and linking prescriptions to dental procedure codes supported development of evidence-based prescribing guidelines.

Open Forum Infectious Diseases | Journal article | 18 May 2026 | [Online link](#)

Antimicrobial resistance in livestock: current trends, challenges and future directions

- Reviews global trends in antimicrobial use and resistance in food-producing animals – highlighting the declining antimicrobial use, links between use and resistance, and the value of integrated surveillance.
- Discusses key challenges, on-farm mitigation strategies, and research priorities needed to reduce AMR while supporting sustainable livestock production through a One Health approach.

WOAH | Scientific and technical review | 22 May 2026 | [Online link](#)

2) Surveillance and laboratory networks

The international FAO antimicrobial resistance monitoring (InFARM) system

- FAO's InFARM system is a global platform supporting countries to collect, analyse, visualize and share AMR data from animals, food and, increasingly, antimicrobial use in plant production.
- It strengthens national surveillance, provides secure data repositories, informs stewardship policies, and connects evidence to regional, global One Health surveillance efforts worldwide.

FAO | Report | 15 June 2026 | [Online link](#)

Escalation of CTX-M-producing extensively drug-resistant *Shigella* spp. in Kolkata, India, following the COVID-19 pandemic

- Prospective surveillance in Kolkata (2021–2023) found rising third-generation cephalosporin resistance in *Shigella*, driven by blaCTX-M-15 spread and XDR *S. sonnei* emergence; with blaCTX-M-15 prevalence increasing from 3% pre-pandemic to 26% by 2022–2023.
- Transferable plasmids carrying antibiotic resistant genes (blaCTX-M-15 and mphA) underscore urgent need for strengthened surveillance for AMR containment.

Microbiology Spectrum | Research article | 24 July 2026 | [Online link](#)

WHO Global Antimicrobial Resistance Surveillance System (GLASS) for monitoring bloodstream infections due to *Candida*

- A GLASS-Fungi demonstration study collected standardized *Candida* bloodstream-infection data from 14 laboratories in 13 countries from 3,447 patients, in which *Candida albicans* predominated.
- Antifungal resistance was notable, especially fluconazole-resistant *C. parapsilosis*, highlighting that gaps in laboratory, testing, training and funding are limiting global fungal AMR surveillance.

eClinicalMedicine | Article | 23 June 2026 | [Online link](#)

Antimicrobial resistance surveillance in the WHO European Region 2024

- The tenth CAESAR report analyses 2023 AMR surveillance data from 15 countries and territories in the WHO European Region, alongside EARS-Net data.
- Reviews coordination, surveillance capacity, external quality assessment results, and guides interpretation of data reliability and representativeness, supporting stronger regional AMR surveillance and data-sharing.

WHO | Report | 9 July 2026 | [Online link](#)

Profiling the gut resistome to unlock antimicrobial resistance biology and inform clinical risk

- Highlights gut resistome profiling as a next-generation sequencing approach to detect AMR genes within microbial communities.
- Explains how profiling reveals acquisition, transfer and persistence of antimicrobial resistance; offers early warning for emerging AMR, and supports surveillance, infection-risk prediction, antimicrobial stewardship and precision public health.

Nature Communications | Review article | 15 July 2026 | [Online link](#)

Genome-wide investigation of outbreak-associated *Vibrio cholerae* in Gujarat, India identifies antimicrobial resistance genes, virulence determinants, and mobile genetic elements

- Whole genome analysis of Gujarat's 2024 cholera outbreak linked clinical and wastewater surveillance – most isolates were O1, seventh-pandemic El Tor ST69, with limited diversity.
- Testing showed ampicillin resistance but susceptibility to key alternatives, and sequencing revealed AMR genes, virulence factors, integrative conjugative elements, pathogenicity islands, and wastewater ctxA signals.

Frontiers in Microbiology | Original research article | 2 July 2026 | [Online link](#)

3) Infection prevention and control

Outbreak of *Candidozyma auris*: a challenge for the infection control team

- A 2025 ICU outbreak of multidrug-resistant *Candidozyma auris* in a Kerala hospital affected five patients – infections in three patients and colonization in two patients.
- Rapid control measures – screening, cohorting, hand hygiene, cleaning and equipment disinfection – with no new cases on follow up, underscoring the preparedness for infection-control.

GMS Hygiene and Infection Control | Research article | 9 July 2026 | [Online link](#)

Beyond awareness: evaluating the impact of a hospital-wide, multi-station infection prevention and control (IPC) innovation campaign on core hospital infection control committee (HICC) performance metrics

- This pre-post audit found a hospital-wide gamified IPC campaign engaged 215 healthcare workers and improved metrics for hand hygiene, PPE use, waste segregation, environmental cleaning and safe injections.
- Participation exceeded 85%, feedback was positive, and gains were achieved with minimal cost, suggesting immersive staff-led interventions can strengthen sustainable infection-prevention culture.

GMS Hygiene and Infection Control | Research article | 30 June 2026 | [Online link](#)

Airborne infection control measures at HIV settings in India and potential areas for TB cross transmission

- Assessment of airborne infection control in Indian HIV-care settings (with high TB transmission risk) identifies gaps in administrative, environmental and personal protective measures that could enable cross-transmission.
- Findings highlight the need to strengthen facility-level TB screening, ventilation, infection-control practices, staff training and monitoring to protect people living with HIV.

BMC Infectious Diseases | Research article | 24 April 2026 | [Online link](#)

Nosocomial outbreaks with rare yeasts: trends, characteristics and preventive measures

- Reviews 76 nosocomial rare-yeast outbreaks since 1984, involving 28 species. Reports increased after 2000, likely due to improved diagnostics, and neonates and haematology patients were commonly affected.
- Many species showed antifungal resistance, while hand hygiene and equipment disinfection frequently stopped transmission.

Journal of Infection | Review | 24 May 2026 | [Online link](#)

hyFive hand hygiene tool

- ECDC's hyFive is a digital tool – based on WHO's 5 moments of hand hygiene – for monitoring hand-hygiene in healthcare, supporting prevention of healthcare-associated infections and AMR.
- Adapted from Norway's hand hygiene tool NOST – it includes manuals, tutorials, reports and implementation resources – giving IPC teams and managers real-time compliance data for hospital and unit-level improvement.

ECDC | Hand hygiene monitoring tool | 5 May 2026 | [Online link](#)

4) Equitable access and appropriate use of antimicrobials

IDSA 2026 guidance on the treatment of antimicrobial resistant Gram-negative infections

- Updates treatment recommendations for resistant Gram-negative infections, including MDR Enterobacterales, difficult-to-treat *Pseudomonas aeruginosa*, *Acinetobacter baumannii*, and *Stenotrophomonas maltophilia*.
- Incorporates new clinical and dosing evidence, updated breakpoints, pediatric considerations, UTI definitions, and refined organism-specific therapeutic approaches.

Infectious Diseases Society of America | Guideline | 27 July 2026 | [Online link](#)

Estimating optimal levels of WHO Access, Watch, Reserve (AWaRe) antibiotic use in 186 countries, territories, and areas on the basis of clinical infection and resistance burden

- Estimates that 43 billion defined daily doses of antibiotics were needed in 2019, with 77% ideally coming from WHO's Access antibiotic group, supporting the UN target of at least 70% Access use globally.
- Analysis shows widespread imbalance in antibiotic use – most countries exceeded optimal total use and almost all overused Watch antibiotics, while many underused Access and Reserve antibiotics – highlighting the need for country-specific AWaRe targets based on infection burden and antimicrobial resistance patterns.

The Lancet Public Health | Article | 22 July 2026 | [Online link](#)

Linking access to stewardship: a pathway for introducing reserve antibiotics in India

- The article proposes stewardship-linked differential access pathways to introduce reserve antibiotics in India, addressing both poor access and inappropriate use – to offer scalable lessons for other LMICs.
- It argues that early planning, facility-based stewardship standards, targeted implementation and real-time monitoring can enable responsible availability of novel antibiotics and preserve their effectiveness.

JAC-Antimicrobial Resistance | Journal article | 25 June 2026 | [Online link](#)

Benzylpenicillin versus flucloxacillin or cloxacillin for the treatment of penicillin-susceptible *Staphylococcus aureus* bacteraemia (SNAP): an international, multicentre, open-label, non-inferiority randomised controlled trial

- SNAP trial compared benzylpenicillin with flucloxacillin/cloxacillin for adult penicillin-susceptible *S. aureus* bacteraemia across 67 hospitals.
- Benzylpenicillin did not meet prespecified non-inferiority for 90-day mortality but may offer similar outcomes with less nephrotoxicity.

The Lancet | Article | 11 July 2026 | [Online link](#)

Prospects and practicality of antimicrobial stewardship in animal health

- This WOA review clarifies antimicrobial stewardship in animal health, covering its history, terminology, “five Rs” (responsibility, review, reduce, refine and replace), metrics, decision tools and global case studies.
- It proposes a standardized definition and emphasizes practical stewardship: improving animal health, reducing antimicrobial need, and ensuring prudent, responsible use when necessary.

WOAH | Scientific and technical review | 22 May 2026 | [Online link](#)

Microbiological spectrum, risk factors, and antifungal susceptibility of fungal keratitis in the Indore region of Central India

- Prospective study of 100 suspected fungal keratitis cases from Madhya Pradesh, confirmed 35 infections – mainly by *Fusarium* and *Aspergillus*. Ocular trauma was the leading risk factor, followed by antimicrobial use.
- Triazoles, luliconazole and terbinafine showed low MICs, while natamycin and amphotericin B had higher MICs – supporting the importance of local diagnosis, susceptibility testing and treatment.

Indian Journal of Ophthalmology | Original article | 29 June 2026 | [Online link](#)

A cross-sectional study of antibiotic prescription patterns in India using the WHO AWaRe classification

- This cross-sectional study of 525 prescriptions at an urban primary health centre in Kerala – found that antibiotics were included in over one-fourth of prescriptions
- Access antibiotics were only 51.4%, below WHO’s 70% target, while Watch antibiotics were 48.6%, and over half did not adhere to WHO guidelines, indicating the need for stronger stewardship and prescriber training.

EMJH | Research article | 6 May 2026 | [Online link](#)

Antibiotic dispensing practices and determinants among informal healthcare providers in low- and middle-income countries: a mixed-methods scoping review

- This mixed-methods scoping review of 37 studies from 13 LMICs (including 9 studies from India) found that antibiotic dispensing by informal healthcare providers was consistently reported to be high, with estimates varying widely by data source.
- Key drivers included limited knowledge, experiential learning, patient expectations, peer and pharmaceutical influence, perceived risks of withholding antibiotics, and financial incentives; highlighting surveillance gaps and calls for stewardship approaches that engage informal providers.

BMJ Global Health | Original research | 29 June 2026 | [Online link](#)

AMRObit: a trajectory-based scorecard for antimicrobial stewardship using routine susceptibility testing data

- AMRObit scorecard with an open-access dashboard and analytical suite extends conventional AMR surveillance using routine susceptibility data (as baseline resistance) and its rate of change, to classify trends as improving, persistent, or worsening.
- Application to ATLAS data showed widespread rising resistance and concerning “spiral-out” trajectories, supporting earlier detection, visualization, and timely stewardship responses across diverse health systems globally.

JAC-Antimicrobial Resistance | Journal article | 22 July 2026 | [Online link](#)

5) AMR research and innovations

Childhood antimicrobial resistance with global forecasts

- This multiregional study analysed 106,581 pediatric isolates from 82 countries (2004–2022) and forecast AMR to 2035. Resistance rose globally in all regions, especially in resource-limited settings, in infants/toddlers, sepsis and ICU cases – driven primarily by escalating AMR in Gram-negative pathogens causing sepsis and pneumonia.
- Forecasts project concerning carbapenem resistance in *Klebsiella* and *Acinetobacter*, highlighting the need for integrated, age-stratified AMR surveillance to guide antimicrobial stewardship.

JAMA Pediatrics | Original investigation | 20 July 2026 | [Online link](#)

Integrative genomic and molecular dynamics characterisation of *acrB*_R717L/Q mutations in azithromycin-resistant *Salmonella* Typhi from India

- This Indian study identified three azithromycin-resistant *Salmonella* Typhi isolates with MICs of 32 mg/L. Whole-genome sequencing found chromosomal *acrB*_R717Q and *acrB*_R717L mutations linked to resistance.
- Phylogenetics showed distinct lineages, including Bangladesh-linked strains, and molecular dynamics suggested altered efflux pump behaviour.

Frontiers in Microbiology | Original research article | 29 June 2026 | [Online link](#)

Mining the code of life for new antibiotics

- This review describes how antibiotic discovery is shifting from traditional soil screening to digital and AI-enabled mining of chemical libraries, genomes, proteomes and metagenomes.
- Highlights in-situ cultivation, co-culture, microfluidics, virtual screening, deep learning, antimicrobial peptides, biosynthetic gene clusters, and generative design to find novel, durable antibiotics against AMR.

Cell Host & Microbe | Review | 8 July 2026 | [Online link](#)

Machine learning method for the prediction of Bedaquiline-resistant *Mycobacterium tuberculosis*

- This study developed machine-learning models to predict bedaquiline-resistant *Mycobacterium tuberculosis* from whole-genome sequencing data. Machine learning models – Multilayer Perceptron and Random Forest – achieved 83.6% and 79.6% accuracy, respectively.
- In addition, explainable AI identified mutations and genomic features linked to resistance, including coding and intergenic regions and 15 potential resistance genes, offering tools for faster detection and insight into mechanisms of emerging drug-resistant TB globally.

Life Science Alliance | Article | 30 April 2026 | [Online link](#)

Predicting antimicrobial resistance for precision medicine

- Highlights medical advances in understanding the mechanisms and spread of AMR – and argues that AMR prediction can shift treatment towards precision medicine.
- Machine learning and AI, using rapid whole-genome sequencing and accessible clinical data, can identify pathogen vulnerabilities, guide narrow-spectrum therapy and adjuvant use, reducing microbiome collateral damage and resistance evolution.

Cell Host & Microbe | Perspective | 26 June 2026 | [Online link](#)

6) Governance, financing and accountability

Implementing the global action plan on antimicrobial resistance: second quadripartite biennial report

- The second Quadripartite report uses TrACSS data to review the progress (2022–2024) on implementing the Global Action Plan on AMR.
- Documents the expansion of national action plans, surveillance and stewardship efforts, but also identifies persistent gaps in financing, governance, coordination and sustainable implementation – calling for stronger One Health collaboration, investment, enhanced surveillance and greater integration of environmental considerations.

WHO-FAO-UNEP-WOAH | Global report | 17 July 2026 | [Online link](#)

Blueprint for strengthening responses to fungal diseases and antifungal resistance: implementation guidance

- Provides implementation guidance to strengthen national and regional responses to fungal diseases and antifungal resistance.
- It translates the fungal priority pathogens list into adaptable actions addressing awareness, diagnostics, surveillance, treatment, workforce capacity and preparedness, organized across 4 domains.

WHO | Implementation guidance | 30 June 2026 | [Online link](#)

Implementing One Health governance approaches to mitigate antimicrobial resistance across institutional, social, economic and political contexts: a scoping review

- This scoping review examined 171 documents from over 50 countries on One Health governance for AMR – identifying six governance dimensions – participation, leadership, coordination, decision-making, resourcing and accountability.
- Effective implementation depends on context, political will and institutionalisation, while barriers include siloed systems, sectoral dominance, weak accountability and inadequate funding.

BMJ Open | Original research | 8 July 2026 | [Online link](#)

The future of antimicrobial use in livestock: the economic cost of action or inaction

- FAO's report projects livestock antimicrobial use could rise about 30% by 2040, but argues this is avoidable through One Health stewardship, prevention, investment and incentives.
- It frames antimicrobial effectiveness as a global public good, and warning that delayed action increases AMR-related production, food-security and welfare losses, while transition support can protect livelihoods.

FAO | Technical report | 3 June 2026 | [Online link](#)

A narrative review on global political actions and scientific interventions in tackling antimicrobial resistance

- Synthesizes evidence on global political actions, educational interventions, and emerging scientific solutions to combat AMR.
- Highlighting the need for coordinated multisectoral efforts and a prioritized action framework for policymakers to address existing gaps in infrastructure and governance.

Discover Public Health | Article | 16 June 2026 | [Online link](#)