World Health Organization India

sameeksha

ANTIMICROBIAL RESISTANCE (AMR) | Volume 45 | 28 May 2026

AMR *Sameeksha**

Highlights

- Global Action Plan on AMR (2026-2036) endorsed by WHO Member States at the World Health Assembly
- AMR and IPC curriculum assessment tool for nursing and midwifery education
- Global adoption and readiness for AI and digital health technologies in IPC
- Standard treatment workflows – scaling system-compatible approaches to rational antibiotic use
- Safety and efficacy concerns in Indian probiotics
- 2026 WHO South-East Asia Public Health Champion Award – call for nominations

Quotable quote

To reduce deaths from AMR, WHO Member States approved the Global Action Plan on Antimicrobial Resistance (GAP-AMR) for 2026–2036, renewing commitments to strengthen the global response to AMR.

– Seventy-ninth World Health Assembly
Daily update 23 May 2026

***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) Improve Awareness and understanding

Primary caregivers' practices and perceptions on antibiotic use and resistance: a one health qualitative study in rural South India

- Qualitative One Health study in rural Tamil Nadu using 11 focus group discussions (77 caregivers of children aged 2–12) examines community knowledge, attitudes, and practices on antibiotic use and AMR across human, animal, and environmental domains.
- Findings show widespread self-medication, incomplete antibiotic use, environmental contamination and livestock antibiotic exposure with close child–animal contact – highlighting the need for integrated, multisectoral AMR interventions.

BMJ Open | Original research | 12 May 2026 | Online link

Antimicrobial resistance and infection prevention and control curriculum assessment tool for nursing and midwifery education

- WHO tool designed to support a rapid and systematic review of pre-service nursing and midwifery curricula at institutional or national level.
- Helps assess the extent to which curricula include AMR and IPC content and competences.

WHO | Publication | 11 May 2026 | Online link

Insights from AMR experts: from parliamentary advocacy to global action

- Interview with Mr S. Niranjan Reddy, Member of Parliament from India, who recently introduced a Private Member's Resolution on AMR in the Rajya Sabha, talks about the role of parliamentarians in addressing AMR.
- Quotes: *Parliamentarians can play a unique and powerful role. We can be the bridge between scientific consensus and actionable policy. Equally important is our role in budgetary oversight.*

Quadripartite Joint Secretariat on AMR | News | 23 April 2026 | Online link

Frontline voice: *"Caring for the Earth is inseparable from caring for our health"*

- Lorena Ochoa is a world-renowned Mexican professional golfer, who works with children in communities to promote environmental responsibility and the rational use of medications to address AMR.
- Quotes: *We must prioritize the prevention of infections, strengthen both individual and community health systems, and approach bacteria with respect. Antimicrobials must be protected as a shared global good.*

Quadripartite Joint Secretariat on AMR | News | 23 April 2026 | Online link

Civil society as a driving force in the global AMR response

- High-level event, co-organized by WHO Civil Society Task Force on AMR and European Public Health Alliance (EPHA) and hosted at the European Economic and Social Committee (EESC), Brussels.
- Showcased the value of civil society in the global AMR response and forging future collaboration.

Civil Society Task Force on AMR & EPHA | Event | 31 March 2026 | Online link

Antimicrobial resistance communications toolkit

- Communication toolkit includes – key messages, graphics, videos, social media content – to support organizations in educating diverse audiences on AMR and appropriate antibiotic use.
- Supports coordinated, multi-audience engagement to prevent infections and slow the spread of AMR.

US-CDC | Toolkit | 13 May 2026 | Online link

2) Strengthen laboratory capacity

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

- Machine-learning (ML) models predicted bedaquiline resistance in *M. tuberculosis* from whole-genome data, with AI identifying key mutations and genomic features.
- Models showed strong accuracy and uncovered novel resistance loci (including 15 genes), demonstrating that ML combined with explainability can predict resistance and reveal underlying molecular mechanisms.

Life Science Alliance | Research article | 30 April 2026 | Online link

Analysis of infection types, pathogens, antimicrobial treatment, and clinical outcomes data in hospitalised patients: comprehensive online database for antimicrobial resistance (CODAR) retrospective pilot study

- Multinational retrospective surveillance analysed 7,434 patients from 21 hospitals in five countries (including India) to assess infection types, pathogen distribution, antimicrobial treatments and outcomes.
- Findings showed substantial variation in treatment and survival, with poorer outcomes in bloodstream, respiratory, and specific pathogen-associated infections, highlighting critical gaps.

Journal of Epidemiology and Global Health | Research article | 21 May 2026 | Online link

Profiling of antimicrobial resistance genes and genotype–phenotype associations in Salmonella spp. isolated along the broiler production chain in Karnataka, India

- Salmonella isolates from hatcheries, broiler farms and retail meat in Karnataka – screened for 35 AMR genes – show widespread multidrug resistance, including colistin resistance genes.
- Dissemination of shared ARG profiles across production stages emphasizes the need for surveillance, stewardship, and improved biosecurity in poultry systems.

International Journal of Food Science | Research article | 29 April 2026 | Online link

Fast antimicrobial susceptibility testing for Gram-negative bacteremia

- Open-label, multinational randomized trial compares rapid versus standard antimicrobial susceptibility testing in 850 patients with gram-negative bloodstream infections, assessing 30-day outcomes and treatment metrics.
- Rapid testing did not improve overall clinical outcomes or mortality but accelerated antibiotic optimization and stewardship actions in resistant infections, supporting selective rather than routine implementation.

JAMA | Original investigation | 18 April 2026 | Online link

3) Reduce Incidence of Infection

Global adoption and readiness for artificial intelligence (AI) and digital health technologies in infection prevention and control (IPC): a WHO global survey

- A multi-country survey assesses infection prevention and control practices using respondent data across diverse healthcare settings, analysing variation in behaviours and implementation across countries.
- Findings revealed substantial heterogeneity and gaps in adherence, indicating inconsistent IPC implementation globally – highlighting the need for standardized guidance and strengthened stewardship.

The Journal of Hospital Infection | Full length article | 13 May 2026 | Online link

Methicillin-resistant *Staphylococcus aureus* nasal swab utilization as a predictor for MRSA skin and soft tissue infections: a systematic review and meta-analysis

- This systematic review evaluates the diagnostic performance of MRSA nasal swabs to predict MRSA involvement in skin and soft tissue infections (SSTIs).
- Finds that nasal screening as a predictor for MRSA SSTIs has a high negative predictive value in areas where MRSA prevalence is low.

Open Forum Infectious Diseases | Journal article | 16 April 2026 | Online link

Infection prevention and control guideline for Ebola and Marburg diseases

- Evidence-based IPC guidelines for Ebola and Marburg, synthesizing operational experience and outlining multisectoral strategies for preparedness, community protection, and continuity of essential services.
- Integrated, community-centred, cross-sector interventions are essential to reduce transmission, mitigate societal impacts, and strengthen resilience and response capacity for future high-threat outbreaks.

WHO | Guideline | 17 May 2026 | Online link

Contribution of nosocomial transmission to *Klebsiella pneumoniae* neonatal sepsis in Africa and South Asia: an observational study of infection clusters inferred from pathogen genomics and temporal data

- Genomic epidemiology study aggregated whole-genome sequencing data (1,523 *Klebsiella pneumoniae* isolates) from neonatal units across Africa and South Asia (including India).
- Findings show substantial proportions of neonatal sepsis arise from hospital transmission clusters, underscoring that strengthened IPC is essential to reduce AMR burden and mortality in LMIC neonatal settings.

PLOS Medicine | Research article | 13 May 2026 | Online link

4) Optimise use of antimicrobials

Standard treatment workflows: scaling system-compatible approaches to rational antibiotic use

- Analyses 157 ICMR Standard Treatment Workflows, mapping recommended antibiotics against WHO AWaRe categories and national essential medicines to evaluate stewardship alignment and system compatibility.
- STWs predominantly prioritize Access antibiotics and align with existing health system capacities, indicating strong stewardship orientation and scalability, supporting their adoption to optimize antibiotic use.

Frontiers in Medicine | Policy and practice review | 22 April 2026 | Online link

Plan-do-check-act (PDCA) cycle analysis for antimicrobial stewardship of orthopedic patients in trauma center – implementation research

- A four-phase implementation study applied a PDCA-based antimicrobial stewardship program in 767 orthopedic trauma patients, to evaluate prescribing practices and outcomes.
- The intervention improved guideline adherence, increased culture-guided therapy, and reduced antibiotic use, to effectively enhance stewardship in resource-constrained surgical settings.

Antimicrobial Stewardship & Healthcare Epidemiology | Original article | 11 May 2026 | Online link

Clinical and bacteriological effectiveness of three different short-course antibiotic regimens and single-dose fosfomycin for uncomplicated lower urinary tract infections in women (SCOUT): a pragmatic, multicentre, open-label, randomised clinical trial

- Multicentre, open-label randomized trial compared short-course antibiotic regimens (nitrofurantoin, pivmecillinam) with single- and two-dose fosfomycin for uncomplicated urinary tract infections in women.
- Nitrofurantoin was the most effective treatment and single-dose fosfomycin the least effective treatment for UTIs – recommending re-evaluation of the role of fosfomycin as a first-line antibiotic for uncomplicated UTI.

The Lancet | Article | 20 April 2026 | Online link

Duration of antibiotic therapy for Gram-negative bloodstream infections in the neonatal intensive care unit

- A retrospective multicentre study in NICU infants with Gram-negative bloodstream infections compared short (≤8 days) versus long (≥9 days) antibiotic courses to assess recurrence and resistance outcomes.
- Shorter therapy showed no increased treatment failure and lower emergence of multidrug-resistant infections, supporting reduced antibiotic duration to minimize exposure without compromising effectiveness.

The Journal of Pediatrics | Original article | May 2026 | Online link

Slow thinking for fast results: reclaiming analytical reasoning in antimicrobial susceptibility test interpretation

- A perspective article applied dual-process cognitive theory to antimicrobial susceptibility test interpretation, using clinical AMR examples to analyse how heuristic thinking affects decision-making in real-world workflows.
- Argues that interpretive errors stem from cognitive biases rather than knowledge gaps, and that fostering analytical reasoning and improved reporting can enhance stewardship and diagnostic accuracy.

Open Forum Infectious Diseases | Perspectives | 24 April 2026 | Online link

ESCMID clinical guidelines on the evaluation and management of a reported antibiotic allergy

- Synthesizes evidence from systematic reviews and existing guidelines using a GRADE-based framework to develop recommendations for evaluating and managing reported antibiotic allergies.
- Concludes that structured assessment and strategies can reduce inappropriate broad-spectrum antibiotic use, improving stewardship and patient outcomes by correcting widespread misclassification of antibiotic allergies.

Clinical Microbiology and Infection | Guidelines | May 2026 | Online link

The role of electronic medical record systems and pharmacovigilance databases in the surveillance of antimicrobial use and resistance in low- and middle-income countries: protocol for a multistudy project

- Protocol assesses the use of electronic medical records and pharmacovigilance databases for surveillance of AMU and AMR in LMICs, combining mixed methods, cross-sectional analyses, surveys and systematic reviews.
- Suggests that integrating digital data sources can strengthen AMR surveillance capacity, address data gaps and inform more effective stewardship and policy in resource-limited settings.

JMIR Research Protocols | Protocol | 28 April 2026 | Online link

Dental stewardship implementation and antimicrobial resistance awareness in India: prescribing patterns, knowledge gaps, and barriers – systematic review with narrative synthesis

- PRISMA-guided systematic review of 14 studies in Indian dental professional found substantial knowledge-practice gaps, inappropriate antibiotic use, and weak stewardship infrastructure.
- Improved education, guideline access, and formal AMS programmes are essential to translate awareness into effective prescribing and AMR control in dental practice.

Antimicrobial Stewardship & Healthcare Epidemiology | Original article | 18 May 2026 | Online link

5) Promote research and innovations

Safety and efficacy concerns in Indian probiotics: Insights from whole-genome sequencing and in vitro assessment

- Evaluates 13 commercial probiotics using microbial identification, antibiotic susceptibility testing, gastrointestinal survival assays and whole-genome sequencing to assess composition, safety and resistance determinants.
- Found labelling inconsistencies, contamination and presence of transferable AMR genes, indicating quality and safety concerns – stressing the need for stricter regulatory oversight and strain-level validation of probiotics.

Gut Microbes Reports | Research article | 14 May 2026 | Online link

Point-of-care diagnostic technologies for antimicrobial resistance: principles, platforms, clinical impact, and future directions

- Reviews current point-of-care diagnostic technologies for AMR, examining platforms, principles, and clinical applications, including molecular, biosensor, and rapid susceptibility testing approaches.
- Highlights that rapid diagnostics can reduce delays in pathogen identification and inappropriate antibiotic use, but emphasizes the need for their validation, integration into workflows, and equitable access.

Diagnostics | Review article | 21 April 2026 | Online link

Editorial: Natural products in the fight against antibiotic resistance: addressing the WHO priority pathogens

- Synthesizes research on AMR mechanisms and emerging interventions, highlighting natural products alongside innovative strategies such as AI-assisted discovery, antimicrobial peptides, and phage therapy.
- Concludes that integrating natural product-based approaches with advanced technologies is essential to overcome limitations of traditional antibiotics and address escalating multidrug resistance globally.

Frontiers in Pharmacology | Editorial article | 27 April 2026 | Online link

6) Strengthen governance, coordination and collaborations

Call for nominations – 2026 WHO South-East Asia Public Health Champion Award

- WHO South-East Asia invites nominations for the Public Health Champion Award – recognizing individuals and institutions delivering measurable and sustained public health impact.
- Priority areas include advocacy, capacity building, innovation, health systems strengthening and community engagement.

WHO Regional Office for South-East Asia | News release | 18 May 2026 | Online link

5th high level ministerial meeting on antimicrobial resistance in Nigeria

- Brings together ministers, policymakers, scientists, civil society leaders, and international partners to accelerate the global response to AMR – on 28 June 2026 (6 pm) till 30 June 2026 (3 pm) in Abuja, Nigeria.
- Theme is *One Health: Advancing Global AMR Commitments through Local Action*.

Quadripartite Joint Secretariat on AMR | Event | 28–30 June 2026 | Online link

Antimicrobial resistance in conflict-affected settings: field realities, operational challenges and policy recommendations

- MSF synthesizes field experience and case studies to examine AMR drivers in conflict-affected settings, highlighting disrupted health systems, poor diagnostics, displacement, and inappropriate antibiotic use.
- Concludes that standard AMR policies are insufficient; context-adapted, integrated, and equity-focused interventions are essential to address systemic constraints and reduce AMR burden in fragile humanitarian environments.

MSF Access | Report | 26 March 2026 | Online link

World health statistics 2026: monitoring health for the sustainable development goals

- Includes SDG indicator 3.d.2 to track the proportion of bloodstream infections caused by antimicrobial-resistant organisms – ESBL *E. coli* and MRSA.
- Global average of *E. coli* resistant to third-generation cephalosporins was 45.1% (range 22–71%), while methicillin resistance in *S. aureus* was 35.1% (range 15–51%), with substantial variation across regions.

WHO | Global report | 13 May 2026 | Online link