

## *Sameeksha\** – Antimicrobial Resistance (AMR)

### *Key highlights*

- WHO India's resources on WAAW 2023
- Global antimicrobial resistance and use surveillance system (GLASS) report 2022
- Global strategy on infection prevention and control
- AWaRe classification of antibiotics for evaluation and monitoring of use, and AWaRe antibiotic book
- Quadripartite One Health AMR research agenda
- People-centred approach to addressing AMR in human health

## **Strategic priority 1: Awareness and understanding**

### **WHO India's resources for WAAW 2023**

- Campaign resources adapted to raise awareness about AMR in India.
- Includes social media infographics for WAAW 2023, and ideas for "Going Blue for AMR".

*WHO India* | IEC resources | November 2023 | [Online link](#)

### **Antimicrobial resistance and the climate crisis**

- Highlights the complexity of threats posed by climate change on the emergence of new challenges of AMR.
- Futuristic policy-level considerations to better understand and respond to the converging threats.

*GLG on AMR* | Information note | 1 October 2021 | [Online link](#)

### **World AMR Awareness Week 2023 campaign guide**

- Campaign guide provides key information and ideas on celebrating WAAW 2023.
- Includes the campaign theme, calls to action, and links to various campaign resources.

*WHO* | Campaign guide | 11 August 2023 | [Online link](#)

### **Why should policymakers act on antimicrobial resistance in agrifood systems?**

- Background information on the link between AMR & agrifood systems.
- Outlines priority actions that policymakers can take to control AMR.

*FAO* | Information note | 2023 | [Online link](#)

### **Understanding antimicrobial resistance in aquaculture**

- Shares insights and evidence-based recommendations for strengthening capacities, policies, and national action plans on the prudent and responsible use of antimicrobials in fisheries and aquaculture.

*FAO* | Technical document | 2020 | [Online link](#)

## **ACT now. Action to support implementation of Codex AMR Texts (ACT)**

- Strategies implemented at global and local level to address foodborne AMR through Codex AMR texts.
- Outlines the steps and policies that decision-makers to take to protect the health of consumers and ensure fair practices in the food trade.

*FAO* | Information note | 2023 | [Online link](#)

## **Environmental cleaning and infection prevention and control in health care facilities in low- and middle-income countries**

- Technical modules and resources with instructions, definitions, photographs, posters and specific illustrations of recommended cleaning practices.
- Reference guide for on-site cleaning supervisors.

*WHO* | Modules and resources | 7 March 2023 | [Online link](#)

## **Environmental dimensions of AMR – summary for policy makers**

- Technical summary for policy makers detailing development, spread and transmission of AMR in the environment, environmental impact of AMR and One Health actions needed to contain AMR.

*UNEP* | Summary | 2022 | [Online link](#)

## **Slowing down superbugs – legislation and antimicrobial resistance**

- Details the connection between food safety legislation and AMR and their implications on each other.
- Also details institutional governance frameworks relevant for AMR.

*FAO* | Technical toolkit | 2021 | [Online link](#)

## **Strategic priority 2: Laboratories and surveillance**

### **Surveillance of antimicrobial resistance and use**

- Highlights the importance of AMR surveillance and use as an effective response to AMR across all sectors.
- Advocates a One Health approach to mitigate challenges in data sharing and harmonization across sectors.

*GLG on AMR* | Information note | 1 July 2021 | [Online link](#)

### **WHO integrated global surveillance on ESBL-producing *E. coli* using a “One Health” approach: implementation and opportunities**

- Standard methodologies in the human health, food chain and environmental sectors to facilitate the establishment of the integrated multisectoral surveillance on AMR.
- The protocol outlines targeted monitoring of extended spectrum beta-lactamases (ESBL) producing *E. coli*

*WHO* | Technical document | 16 March 2021 | [Online link](#)

### **GLASS manual for antimicrobial resistance surveillance in common bacteria causing human infection**

- This manual is to provide guidance for countries on the methods and metrics for the surveillance of AMR.
- Aims for national GLASS focal points, national public health professionals and health authorities responsible for AMR surveillance.

*WHO* | Technical document | 31 August 2023 | [Online link](#)

## **Global antimicrobial resistance and use surveillance system (GLASS) report: 2022**

- Summary of five years of national AMR surveillance data derived from the data sets submitted by the countries participating in GLASS.
- Findings also include the antimicrobial consumption according to the WHO AWaRe antibiotic classification.

*WHO* | Report | 9 December 2022 | [Online link](#)

## **The International FAO Antimicrobial Resistance Monitoring (InFARM) system and IT platform**

- Highlights issues and challenges related to the quality of data and data-driven decision-making process in AMR surveillance.
- Introduces International FAO Antimicrobial Resistance Monitoring (InFARM) IT platform to develop the building blocks to regularly generate and analyze reliable and comparable data on AMR.

*FAO* | Information note | 2022 | [Online link](#)

## **Foodborne antimicrobial resistance – compendium of Codex standards**

- A compendium of three Codex texts, two guidelines and a code of practice, to support governments in designing and implementing strategies to tackle foodborne AMR.
- Highlights One Health in addressing AMR in animal, plant and human health.

*FAO* | Technical document | 27 February 2023 | [Online link](#)

## **Strategic priority 3: Infection prevention and control**

### **Global strategy on infection prevention and control**

- WHA resolution to Member States to improve IPC at the national, subnational and facility levels.
- Provides strategic directions to reduce risk of health care-associated infections (including resistant infections) and limit infectious disease outbreaks by 2030.

*WHO* | Technical document | 12 September 2023 | [Online link](#)

### **Technical brief on water, sanitation, hygiene (WASH) and wastewater management to prevent infections and reduce the spread of antimicrobial resistance (AMR)**

- Summary of evidence and rationale for WASH and wastewater actions within AMR NAPs and sector specific policies to combat AMR.
- Defines key domains like coordination, surveillance, research etc., to be taken in account to effectively combat AMR.

*WHO-FAO-WOAH* | Technical brief | 18 November 2020 | [Online link](#)

### **Framework and toolkit for infection prevention and control in outbreak preparedness, readiness and response at the health care facility level**

- Resource toolkit with guidance for specific actions for infectious diseases and/or MDRO outbreak management phase at healthcare facilities (HCFs).
- Specifically tailored for IPC focal points, epidemiologists, public health experts, outbreak response incident managers etc.

*WHO* | Toolkit | 6 September 2022 | [Online link](#)

## **Environmental cleaning and infection prevention and control in health care facilities in low- and middle-income countries**

- This training package aims to address critical gaps in the training and capacity of those involved in cleaning processes in HCFs.
- Support the trainers in development and delivery of training programmes intended to improve environmental cleaning at HCFs.

*WHO* | Training resource | 7 March 2023 | [Online link](#)

## **Bracing for superbugs: strengthening environmental action in the One Health response to antimicrobial resistance**

- Provides an overview of the environmental dimensions of AMR and the strategic actions required to reduce the risk and burden of AMR and help address the triple planetary burden.

*UNEP* | Report | 7 February 2023 | [Online link](#)

### **Strategic priority 4: Optimise use of antimicrobials**

## **WHO policy guidance on integrated antimicrobial stewardship activities**

- Set of evidence-based and pragmatic recommendations to drive comprehensive and integrated AMS activities at the national level.
- Aimed at national policymakers at ministries of health, national AMR focal points and others who are responsible for implementation of NAP-AMR.

*WHO* | Technical document | 20 May 2021 | [Online link](#)

## **Antimicrobial stewardship programmes in health-care facilities in low-and middle-income countries**

- Practical guidance on implementation of antimicrobial stewardship (AMS) programmes in the human health sector.
- Outline core elements, structures and resources required at the national and health-care facility level to facilitate AMS programmes.

*WHO* | Technical document | 22 October 2019 | [Online link](#)

## **AWaRe classification of antibiotics for evaluation and monitoring of use, 2023**

- Developed by the WHO Expert Committee on Selection and Use of Essential Medicines as a tool to support antibiotic stewardship efforts at local, national and global levels
- Antibiotics are classified into three groups – Access, Watch and Reserve – to emphasize the importance of their appropriate use.

*WHO* | Guidance document | 26 July 2023 | [Online link](#)

## **Animal health and welfare and antimicrobial resistance and use**

- Highlight key aspects of animal health including responsible use of antimicrobials and reducing the risk of the emergence and spread of AMR.
- Key action points for different sub-thematic areas of animal health, biosecurity, infection prevention and control measures, and good animal husbandry practices.

*GLG on AMR* | Information note | 28 November 2022 | [Online link](#)

## **The WHO AWaRe (Access, Watch, Reserve) antibiotic book**

- Concise, evidence-based guidance on the choice of antibiotic, dose, route of administration, and duration of treatment in children and adults in both primary health care and hospital settings.
- Summary infographics for infection among both adults and children provide a quick-reference guide for health care workers at the point of care.

*WHO* | Infographics | 9 December 2022 | [Online link](#)

## **The selection and use of essential medicines 2023. Executive summary of the report of the 24th WHO expert committee on selection and use of essential medicines**

- Recommendations on the use of essential medicines for 2023.
- Based on scientific evidence around comparative effectiveness, safety and cost-effectiveness of the medicines.

*WHO* | Report | 26 July 2023 | [Online link](#)

## **GLASS methodology for surveillance of national antimicrobial consumption**

- Overview of methodology for the national surveillance of AMC and data collection & reporting.
- Outlines setting up national surveillance system for AMC, data flow and GLASS-AMC IT platform.

*WHO* | Technical document | 1 January 2020 | [Online link](#)

## **GLASS guide for national surveillance systems for monitoring antimicrobial consumption in hospitals**

- Guidance for national surveillance systems to monitor antimicrobial consumption in hospitals.
- Recommendations for countries in establishing national mechanisms to enable routine AMC monitoring in hospitals.

*WHO* | Technical document | 1 January 2020 | [Online link](#)

## **WHO methodology for point prevalence survey on antibiotic use in hospitals**

- Protocol for point prevalence surveys on prescribing practices of antibiotics and management of infectious diseases in hospitalized patients.
- Standardized methodology to estimate the prevalence of antibiotic use.

*WHO* | Technical document | 1 February 2019 | [Online link](#)

## **Responsible use of antimicrobials in beekeeping**

- Guideline focuses on responsible use of antimicrobials in apiculture through the application of good beekeeping practices and biosecurity measures.
- Outlines progressive management pathway (PMP) in beekeeping practices and general awareness of topical issues like AMR.

*FAO* | Guidance document | 2021 | [Online link](#)

## **How to reduce the use of antibiotics in dairy cattle**

- Key recommendations for dairy farmers and dairy veterinarians, related to husbandry and animal health management to reduce need, and use of antibiotics in dairy cattle.

*FAO* | Information note | 2021 | [Online link](#)

## How to reduce the use of antibiotics in poultry production

- Resource leaflet for poultry farmers and poultry veterinarians on husbandry and animal health management for reducing the use of antimicrobials in poultry production.

*FAO* | Information note | 2021 | [Online link](#)

## How to use antibiotics effectively and responsibly in dairy production

- Practical tips for livestock producers in improving animal health by reducing the need for antibiotics in dairy farming and its responsible use when needed.

*FAO* | Information note | 2021 | [Online link](#)

## International instruments on the use of antimicrobials across the human, animal and plant sectors

- Overview and analysis of international instruments on standards related to the use of antimicrobials.
- Aims to identify existing instruments and standards in order to guide implementation of future international instruments related to antimicrobial use in human, animal and environmental health.

*FAO* | Guidance document | 2020 | [Online link](#)

## How to use antibiotics effectively and responsibly in poultry production – for the sake of human and animal health

- Technical advice on reducing need for antibiotics in poultry production.

*FAO* | Guidance document | 2021 | [Online link](#)

## Strategic priority 5: Research, innovations and finance

### A One Health priority research agenda for antimicrobial resistance

- A joint initiative by the Quadripartite to catalyze scientific interest and financial investments for the priority research across sectors.
- Outlines five key pillars – transmission, integrated surveillance, interventions, behavioural change, and economics and policy.

*Quadripartite* | Guidance document | 3 July 2023 | [Online link](#)

### WHO fungal priority pathogens list to guide research, development and public health action

- First global effort to prioritize fungal pathogens, considering unmet research and development needs and perceived public health importance.
- Categorizes fungal pathogens into critical, high and medium priority groups.

*WHO* | Guidance document | 25 October 2022 | [Online link](#)

### Bacterial vaccines in clinical and preclinical development 2021

- Reports vaccine candidates in preclinical and clinical development in the context of AMR.
- Highlights 61 vaccine candidates in various stages of clinical development, and 94 candidates in preclinical development.

*WHO* | Technical document | 12 July 2022 | [Online link](#)

## Financing to address antimicrobial resistance

- Outlines the challenges in financial support for sustainable implementation of national action plans on AMR in LMICs.
- Signifies investment in AMR and integration into national pandemic preparedness and response plans.

*GLG on AMR* | Information note | 1 July 2021 | [Online link](#)

## Foodborne antimicrobial resistance (AMR): an economic concern

- Highlights the economic burden of foodborne AMR including productivity losses and premature deaths.
- Warrants evidence-based policies to minimize AMR, strengthen food control systems, responsible antimicrobial use, and promote data sharing.

*FAO* | Information note | 7 September 2023 | [Online link](#)

## Strategic priority 6: Collaborations

### People-centred approach to addressing antimicrobial resistance in human health

- Outlines a people-centred approach to address the challenges and health system barriers in tackling AMR in human health.
- Recommends core package of interventions to design and prioritize actions at different levels.

*WHO* | Technical document | 19 October 2023 | [Online link](#)

### Strategic framework for collaboration on antimicrobial resistance

- Outlines joint work of the Quadripartite organizations to advance One Health AMR agenda at the global, regional and country level.
- Supports implementation of the five pillars of the Global Action Plan on AMR and global AMR governance.

*Quadripartite* | Technical document | 6 April 2022 | [Online link](#)

### Guidance to facilitate monitoring and evaluation for antimicrobial resistance national action plans

- Reference document to guide the development and delivery of national action plans on AMR.
- Targeted at members of the AMR multisectoral coordination committee or working group, persons responsible for M&E in AMR NAPs and other key actors involved in NAP implementation.

*WHO* | Guidance document | 3 August 2023 | [Online link](#)

### WHO implementation handbook for national action plans on antimicrobial resistance: guidance for the human health sector

- Provides a practical, stepwise approach to the implementation of the NAP on AMR within the human health sector.
- Targeted at national/subnational stakeholders working on AMR within the human health sector – national health authorities, national multi-sectoral coordination groups, AMR technical experts and policymakers and implementation partners.

*WHO* | Guidance document | 28 February 2022 | [Online link](#)

## **WHO strategic priorities on antimicrobial resistance**

- Highlights the key achievements and next steps of the AMR Division at WHO Headquarters, across four priority areas.

*WHO* | Technical document | 21 February 2023 | [Online link](#)

## **WHO Strategic and Technical Advisory Group for Antimicrobial Resistance (STAG-AMR)**

- Report of the second meeting of the STAG-AMR organized in June 2022.
- Outlines progress on various activities including fungal priority pathogen list, AMR research agenda, national periodic AMR prevalence surveys, infection prevention and control, etc.

*WHO* | Report | 21 February 2023 | [Online link](#)

## **The Global Leaders Group on antimicrobial resistance**

- Provides an overview of the Global Leaders Group on AMR including their mission, aims and activities for a global response for AMR containment.

*GLG on AMR* | Information note | 1 April 2021 | [Online link](#)

## **Global action plan on antimicrobial resistance**

- Global Action Plan on AMR adopted by World Health Assembly in May 2015.
- Outlines five key objectives – awareness and understanding of AMR; surveillance and research; infection prevention; optimal use of antimicrobials; and developing an economic case for sustainable investment for AMR containment interventions.

*WHO* | Technical document | 1 January 2016 | [Online link](#)

## **One Health joint plan of action (2022–2026)**

- Aims to create a framework to collectively prevent, predict, detect, and respond to health threats.
- Provides a set of activities that aim to strengthen collaboration, communication, capacity building, and coordination across all sectors.

*Quadripartite* | Technical document | 2021 | [Online link](#)

## **The FAO action plan on antimicrobial resistance 2021–2025**

- Provides a roadmap for focusing global efforts to address AMR in the food and agriculture sectors.
- Aims to help accelerate progress in developing and implementing multi-sectoral NAPs to tackle AMR by calling attention to strategic priorities and areas of expertise for FAO support.

*FAO* | Technical document | 2021 | [Online link](#)

## **Tracking AMR country self-assessment survey 2022**

- Report by the Quadripartite on annual AMR country self-assessment surveys (TrACSS) to monitor country progress in the implementation of the NAPs.
- Provides the results of the sixth round of the survey.

*Quadripartite* | Report | 2022 | [Online link](#)



## WHO costing and budgeting tool for national action plans on antimicrobial resistance

- Tool to support countries in costing prioritized NAP activities, map funding sources and gaps, and promote resource mobilization and sustainable implementation.
- Targets national policy makers and designated costing coordinators for NAP AMR.

WHO | Technical document | 13 October 2021 | [Online link](#)

**World AMR Awareness Week #WAAW** | 18–24 November 2023

*Preventing Antimicrobial Resistance Together (theme)*

*Go Blue for #AMR on 24 November*

*Antimicrobials: Handle with Care (slogan)*

*\*Sameeksha* is a Hindi word, meaning review. This special volume is a compilation of high-level, open access publications and resources on One Health containment of AMR (along with a brief summary) – grouped according to the strategic priorities of India's National Action Plan on Antimicrobial Resistance.