

Summary report on the
**Regional meeting to
review antimicrobial
resistance (AMR) country
programmes**

Cairo, Egypt
4–6 June 2023



**World Health
Organization**

REGIONAL OFFICE FOR THE **Eastern Mediterranean**

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1. Introduction

From 4 to 6 June 2023, WHO country office staff and national staff from eight¹ countries of the WHO Eastern Mediterranean Region, and staff from the WHO Regional Office for the Eastern Mediterranean and WHO headquarters gathered for the first in-person post-COVID-19 regional meeting to review antimicrobial resistance (AMR) country programmes in the Region.

The meeting's objectives were to:

- review progress in implementation of AMR national action plans (AMR NAPs);
- appraise options to update AMR NAPs;
- identify opportunities to roll out new WHO tools to address AMR;
- identify challenges in AMR NAP implementation along with possible solutions;
- strengthen links between countries and opportunities for knowledge-sharing and exchange;
- identify priority actions for the upcoming biennium 2024–2025; and
- identify where regional support will be required.

Over the course of three days, participants discussed AMR NAP implementation, challenges and next steps, and countries shared their experiences and the lessons learnt. This report summarizes the key outputs of the meeting.

Dr Ahmed Al-Mandhari, WHO Regional Director for the Eastern Mediterranean, opened the meeting with a call for everyone to work together across the health sector and build strong systems to prevent, diagnose and manage infections to contain the development and transmission of antimicrobial resistance in the Region. Leading up to

¹ Egypt, Iran (Islamic Republic of), Iraq, Jordan, Morocco, Pakistan, Sudan, Tunisia.

the United Nations General Assembly High-Level Meeting on Antimicrobial Resistance in September 2024, he urged countries to undertake key actions to ensure sustainable implementation of prioritized AMR activities in their NAPs.

Dr Rana Hajjeh, Director of Programme Management at the WHO Regional Office for the Eastern Mediterranean, noted the progress that had been made at country and regional level in building the capacity to address AMR, but highlighted the problem that antibiotics have become a substitute for good hygiene, infection prevention and control (IPC) measures and accurate diagnosis. Raising awareness about AMR was no longer sufficient, she said, and that WHO and governments must start to address and change the behaviours of health workers and prescribers while managing patient expectations. AMR must become one of the top priorities of decision-makers in countries, she concluded.

Dr Yvan Hutin, Director of Communicable Diseases at the WHO Regional Office for the Eastern Mediterranean, outlined three priority areas for action: (1) better coordination and collaboration across communicable diseases; (2) building on the current One Health momentum and enhancing multisectoral action on AMR; and (3) ensuring that all work is underpinned by strong results-based management and is able to demonstrate impact.

Dr Elizabeth Tayler, Acting Regional Advisor for AMR and IPC at the Regional Office for the Eastern Mediterranean, stressed that despite setbacks such as the COVID-19 pandemic and other challenges, countries in the Region could be proud of what they have achieved, given that the Global Action Plan on AMR was only endorsed by Member States in 2015. In the past seven years, all countries in the Region had developed national action plans on AMR and the participating countries had built strong foundations in AMR surveillance and IPC. Dr Tayler urged countries to seize opportunities to scale up actions on AMR through integration with other communicable disease programmes, universal health care and primary health care programmes, Joint External

Evaluations (JEEs) and the recently launched Pandemic Fund. She noted that the Eastern Mediterranean Region faced systemic and structural problems, such as a large unregulated private sector and over-the-counter sales of antibiotics which are challenging to address politically, particularly in those contexts where access is a problem. Going forward, she concluded, antimicrobial stewardship (AMS) efforts, including the rollout of the WHO AWaRe (Access, Watch, Reserve) antibiotic book and behavioural change interventions, needed to be prioritized to reduce antibiotic prescribing.

2. Summary of discussions

AMR NAP implementation, updates and governance

Despite past and ongoing infectious disease outbreaks, natural disasters and political unrest, countries of the Region have made progress in addressing AMR. Yet most, including all eight participating countries, are now at a critical juncture for thoroughly assessing and updating their first AMR NAPs. Among the participating countries, three (Egypt, Jordan and Sudan) have initiated their AMR NAP update, while five, namely Iran (Islamic Republic of), Iraq, Morocco, Pakistan and Tunisia, are committed to evaluating and refreshing their AMR NAPs over the next two years. Iran (Islamic Republic of), Iraq, Morocco and Pakistan are planning to undertake a formal situation analysis to inform their AMR NAP updates. Updating their national action plans is also a commitment of the Muscat Manifesto, signed by 17 countries in the Region. Seven of the participating countries (all but Sudan) have also initiated or are planning to review their AMR multisectoral governance structure (Table 1).

Table 1. Country plans to update their AMR NAPs and governance structures over the next two years

Country	Plans to update AMR NAP over the next two years	Plans to commission a formal situation analysis of the first AMR NAP	Plans to review intersectoral governance structure (within Ministry of Health)	Plans to review AMR multisectoral governance structure
Egypt	Operational framework to be developed in 2023		Yes – in parallel with One Health mechanism developments	Yes – in parallel with One Health mechanism developments
Iran, Islamic Republic of	Yes – ideally in 2023	Yes – but no available domestic funds to hire a consultant for this task		Yes (engagement of new stakeholders in second AMR NAP)
Iraq	Yes – in 2023	Yes – a consultant hired and currently undertaking the situation analysis	Yes – potential high-level mission is being planned to advise/support Ministry	Yes – linked to the high-level mission
Jordan	Yes – endorsement of updated AMR NAP tentatively proposed for July 2023	Already undertaken		Yes – technical committees have been revised and a new committee on monitoring and evaluation and costing established
Morocco	Yes	Yes – consultant to be hired for the situation analysis		Yes – need to link up with One Health governance mechanism and disease-specific committees
Pakistan	Yes	Yes – could utilize JEE data, scientific publications, and consider hiring a consultant		Yes – functionality of committee needs to be strengthened
Sudan		Already undertaken		
Tunisia	Mid-term review of first AMR NAP planned for Sept 2023		Yes – governance mechanism will be assessed in mid-term review	Yes – governance mechanism will be assessed in mid-term review

The update of AMR NAPs provides a good opportunity to review the AMR governance structure within the health sector and multisectoral AMR governance mechanisms, as both are among the challenges most frequently identified by countries (see Annex 1). Successfully establishing a functional AMR governance structure is driven by different, context-specific factors, such as: (1) strong engagement of the Minister of Health (Jordan); (2) seizing the momentum of One Health to advance the AMR agenda (Egypt); or (3) funding and joint proposals, such as the AMR Multi-Partner Trust Fund project (Morocco). To ensure the sustainable development and functionality of the AMR governance mechanism, it is important to identify champions at national and provincial level, have legislation in place that is enforced and institutionalize the mechanism once set up.

There needs to be clarity as to who is accountable for delivery. AMR coordination committees should be established and supported by an effective secretariat and accountable to a higher body, such as a ministerial committee. Governance within the health sector is important to align actions and responsibilities with the structures, systems and budgets of the overall health system.

Possible WHO support includes:

- technical and financial support for situation analysis and AMR NAP updates;
- facilitation of cross-country learning and sharing of best practices, such as setting up a dedicated space for countries on the AMR Community Exchange Platform;
- ensuring new tools, such as the tools to review AMR NAP implementation in the health sector, address AMR in primary health care, and for data analysis and use (currently being developed by WHO), are shared with countries in a timely manner.

AMR and One Health

While the methodological concept of One Health and the importance of taking a One Health approach in tackling AMR are widely recognized, it remains challenging to effectively link One Health and AMR governance structures. While the Quadripartite organizations, namely the Food and Agriculture Organization of the United Nations (FAO), United Nations Environment Programme (UNEP), WHO and World Organisation for Animal Health (WOAH), at the global level have established functional secretariats for AMR and One Health, respectively, Quadripartite collaboration on AMR at the regional level has not yet been undertaken in a systematic manner. This is further complicated by the fact that the different organizations have different regional configurations.

Countries are encouraged to:

- identify mechanisms to better coordinate the existing governance structures of One Health and AMR (e.g. reporting to a common inter-ministerial One Health committee);
- use the existing One Health momentum to advocate for AMR (e.g. through active engagement in JEEs and pandemic fund proposals);
- enhance the sharing of AMR/antimicrobial consumption (AMC) data across sectors;
- explore how various tools of other organizations, such as the Performance of Veterinary Services (PVS) Pathway developed by WOAH and the Progressive Management Pathway (PMP) for AMR developed by FAO, can provide insights or be applied to the situation analysis of the first AMR NAP;
- utilize and build on data readily available through the Tracking AMR Country Self-Assessment Survey (TrACSS), JEEs if available, and other assessments across sectors;
- clarify what other sectors are expected to deliver, so as to engage with those within each sector that have the responsibility and power to effect change;

- engage with United Nations organizations for technical support as appropriate, noting that UNEP and WOAAH operate from regional and subregional offices (FAO supporting the food and agriculture sectors; WOAAH supporting the monitoring of consumption in the animal sector and the PVS Pathway; UNEP supporting pollution control).

Possible WHO support includes:

- seeking closer engagement with the Quadripartite organizations at the regional level (where useful and adding value) and identifying opportunities for AMR collaboration;
- ensuring that AMR is properly reflected in the proposed Quadripartite regional One Health platform;
- clarifying Quadripartite support arrangements for different countries in the Region.

AMR/AMC surveillance capacity across the Region

The eight participating countries have established good foundations in AMR and AMC surveillance which need to be sustained and built upon.

Countries are encouraged to:

- better share and utilize (quality) AMR and AMC data to guide action in the health sector;
- better share data across sectors (e.g. AMC data in the animal health sector collected through WOAAH's ANIMUSE platform);
- ensure bacteriology is incorporated into national technical laboratory working groups.

Country priorities	Possible WHO support
More high-quality, representative data	<ul style="list-style-type: none"> • Encourage a focus on diagnostic stewardship, quality assurance of laboratory systems' data management, analysis and interpretation • Work with Public Health Laboratories (PHL) unit to encourage a more systematic approach • Develop guidance on what data is appropriate to use in particular contexts (e.g. use of antibiogram)
Using data to guide actions	<ul style="list-style-type: none"> • A new tool developed by WHO will be released in second half of 2023 to guide countries on how to better utilize their AMR surveillance data for action • Support for the piloting of this tool in selected countries of the Region • Technical support and training for the new Global Antimicrobial Resistance and Use Surveillance System (GLASS) IT platform • Support dissemination of data to decision-makers and prescribers
Building laboratory capacity	<ul style="list-style-type: none"> • Support training of reference laboratories and development and implementation of standard operating procedures (SOPs) for subnational referral laboratories • Develop tools to guide laboratories on AMR
AMR surveillance across the health, animal and food sectors	<ul style="list-style-type: none"> • Technical support and coordination with other regional or country representatives from the animal and food sectors • Facilitate learning and best practices from countries with experience of integrated surveillance (e.g. Tricycle)
Incorporating monitoring and evaluation component in surveillance plans	<ul style="list-style-type: none"> • Standardize monitoring and evaluation methods/protocols/tools
Availability of antimicrobial reagents and standardized laboratory testing for AMR pathogens	<ul style="list-style-type: none"> • Link national AMR surveillance focal points to national laboratory strengthening mechanisms to leverage existing systems and capacity-building efforts • Assist in strengthening quantification of laboratory supplies and integration into national procurement mechanisms

Awareness, education and behaviour change

Awareness-raising through World Antimicrobial Awareness Week (now rebranded “World AMR Awareness Week”, or WAAW) remains limited and efforts should focus on educating the health workforce, engaging with young health professionals (students in nursing and pharmacy schools, medical students and junior physicians), exploring approaches to behaviour change and reinvigorating high-level political support.

Discussion points	Necessary actions	Possible WHO support
Impact of WAAW remains limited and one week dedicated to AMR awareness is not sufficient	<ul style="list-style-type: none"> • Re-use messages from previous years – no need to develop a vast array of new social media materials • Find a mechanism to sustain messaging over the course of the year (e.g. media partnership – could be costly though) • Media training to sensitize journalists and encourage reporting beyond the dedicated WAAW week • Identify the right civil society organizations and religious groups who are able to reach communities on the ground 	<ul style="list-style-type: none"> • Make available all existing material for AMR campaigns by July 2023 • Share WAAW 2023 social media toolkit (social media cards and messages) with country offices in a timely manner (aim for August 2023) • Consider media training (Arabic-speaking)
Messaging	<ul style="list-style-type: none"> • Put people/patients at the centre of advocacy efforts • Develop people-centred stories introducing “AMR survivors” • Focus key messaging on key constituencies (health workers) 	<ul style="list-style-type: none"> • Encourage effective rollout of the people-centred framework to address AMR in the health sector developed by WHO to be published later this year • Explore opportunities to utilize stories in the Region developed by the WHO Task Force of AMR Survivors currently being set up
Collaboration	<ul style="list-style-type: none"> • Several countries have had successful engagement with students and young professional groups • The health workforce are natural constituents and powerful advocates on this issue • Focus on students in nursing and pharmacy schools, medical students and junior physicians • Advocate for youth as champions 	<ul style="list-style-type: none"> • Continue to encourage and amplify the excellent work done by health institutions and other partners • Support networks of young health professionals in country, and the collaboration/competition between them to develop a regional movement (possibly through a

Need to move to behaviour change interventions	<ul style="list-style-type: none"> • Work more closely with medical students and their networks at the country level and engage them for WAAW 2023 • Given the complexity and perverse incentives for patients and health workers, develop a more sophisticated understanding and approach to behaviour change • Better understand barriers to behavioural change 	<ul style="list-style-type: none"> • regional competition on campaigns and media messaging)
Lack of political leadership and understanding of AMR	<ul style="list-style-type: none"> • Given that lack of political leadership remains one of the key challenges for effective, functional AMR governance, renew focus on fostering committed and sustained political leadership • Obtain patient-centred stories and national-level numbers on the economic cost of AMR/inaction on AMR • Use events such as the upcoming UNGA High-Level Meeting on AMR and the commitments that have been made (e.g. the Muscat Manifesto) 	<ul style="list-style-type: none"> • Hire a consultant to strengthen work on behavioural insights with a focus on AMR and health workers (in collaboration with the communications and partnerships team at WHO Regional Office) • Reach out to WHO’s Behaviour and Cultural Insights Hub • Keep countries informed of political developments, etc. • Re-share the messaging for ministers (“pocket guide”) • Collaborate to support preparations for the UNGA High-Level Meeting on AMR and the fourth Ministerial Conference in 2024
Education	<ul style="list-style-type: none"> • Meet need for focused guidance for new graduates on antibiotic use and prescribing. This is being developed in some countries and could be shared • Encourage incorporation of AMR into key curricula at national and regional level (e.g. family medicine) • Link to available WHO tools and key resources, such as the WHO AWaRe Antibiotic Book 	<ul style="list-style-type: none"> • Share tools as appropriate • Support AMR component of the regional family medicine course • Review and consider sharing antibiotic prescribers’ course

Implementing IPC programmes at national and facility level

The eight participating countries have established strong foundations in IPC which now need to be sustained and built upon. Further, the work on IPC and AMR at the country level needs to be tightly linked.

Countries are encouraged to:

- systematically address AMR through strengthening systems for the prevention, diagnosis and treatment of infections;
- integrate IPC and appropriate antimicrobial use at facility level (including primary health care settings);
- foster links between IPC and appropriate antimicrobial use at all levels of health system.

Country priorities	Possible WHO support
Leadership commitment and policies	<ul style="list-style-type: none"> • Strengthen visibility and advocacy in line with the objectives of global IPC strategy • Improve evidence communication to leaders: effectively outline available data and other information on the impact of IPC solutions on AMR risk reduction
Strengthening IPC integration within national policies, strategies and action plans on AMR	<ul style="list-style-type: none"> • Develop tools such as model governance structures, training and monitoring systems that explicitly link IPC and AMR at facility level • Promote active regional networks and stronger communication through a dedicated Regional Office space on the AMR Community Exchange Platform (for sharing IPC/AMR country success stories across, tools, SOPs, guidelines, TORs)
Building IPC capacities	<ul style="list-style-type: none"> • Develop training curricula and materials • Develop regional technical e-learning platform for IPC
Dynamic mechanism for IPC guidelines update incorporating AMR data and prevention strategies	<ul style="list-style-type: none"> • Set standardized templates for countries to develop and update their national and facility-level IPC guidelines • Facilitate access to global scientific literature
Monitoring IPC programmes	<ul style="list-style-type: none"> • Develop and roll out standardized monitoring and evaluation methods/protocols/ tools • Support external review missions
Reliable and sustainable mechanisms for analysis of health care-associated infection (HAI) data	<ul style="list-style-type: none"> • Support the development of a reliable platform for electronic analysis/generation of reports linking HAI and AMR surveillance data • Adopt WHO new case definitions for HAI surveillance • Support HAI surveillance capacity-building

Stepping up work on antimicrobial stewardship

While a lot of work in the Eastern Mediterranean Region has focused on building AMR surveillance and IPC capacity, concerted antimicrobial stewardship efforts have been more limited. In all countries, the vast majority of antibiotics are used in primary and community care. All antibiotics use increases the risk of resistance. Given that antibiotics represent a substantial proportion of total medicine costs, many organizations may have an interest in more appropriate prescribing. Antibiotics are effectively a part of the infrastructure of the health system and frequently used as a substitute for effective water, sanitation and hygiene (WASH), cleaning, IPC and making a proper diagnosis. As such, the links between stewardship and strengthening these components is vital.

Good antimicrobial stewardship requires action all along the antibiotic value chain. This aligns with the work of medicines teams in WHO country offices and strong collaboration is required. The release of WHO's Antibiotic Book marks a good opportunity to invigorate work in this area and support countries in better implementing antimicrobial stewardship programmes.

Countries are encouraged to:

- link AMS assessments to the development and implementation of an action agenda;
- build on what exists and works in countries;
- align with stakeholder interest and opportunities for change (e.g. work in primary care);
- ensure the technical working group on AMS cuts across other relevant programmes and links up with animal and agricultural sectors;
- encourage monitoring of consumption and use in addition to data analysis to create clear recommendations and inform programmatic action;

- share experiences of the rollout of stewardship programmes (such as that of the British Society for Antimicrobial Chemotherapy) and explore adaptation to other countries;
- roll out the WHO Antibiotic Book to guide appropriate prescribing;
- assess national data and review what guidelines are already available in the country:
 - option 1: tailor the WHO Antibiotic Book if necessary/applicable
 - option 2: target action initially to priority infections where most antibiotics are being used or where change will be most realistic;
- develop/roll out an antibiotic prescribing course for new prescribers.


Possible WHO support includes:

- supporting the rollout of the WHO Antibiotic Book² at country level;
- supporting the development and rollout of an antibiotic prescribing course for new prescribers;
- networking and sharing existing and ongoing work on stewardship to consider scope for scale-up.

² A more detailed discussion on how the WHO Antibiotic Book can be rolled out at the national level took place during the expert meeting on “Appropriate use and the rollout of the WHO Antibiotic Book”, 7–8 June 2023, Cairo, Egypt. A separate summary report will be issued for this meeting.

Annex 1. Key challenges identified by countries which hamper effective and sustainable implementation of AMR NAPs

- Multisectoral collaboration remains difficult in many countries: no clear lines of accountability/competing leadership among ministries/absence of robust system for AMR model
- Lack of political leadership within the ministry of health
- Lack of capacity/accountability within the ministry of health (exacerbated by frequent change of national AMR focal points)
- Difficult to engage and collaborate with the environment sector (who and how)
- Challenging to engage the private sector
- Engagement of right stakeholders who truly have the power of change remains sometimes difficult (getting the right people around the table)
- Lack of legal frameworks (e.g. no legislation that mandates meeting of AMR steering committees)
- Development of tools is not a challenge but the actual implementation of tools at the national/facility level remains challenging
- Behaviour change interventions are considered crucial but have not yet been developed/implemented
- Lack of human resources/funding in WHO country offices with staff regularly covering more than one portfolio



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