



## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

## AD HOC CODEX INTERGOVERNMENTAL TASK FORCE ON ANTIMICROBIAL RESISTANCE

Eighth Session  
(Virtual)

3-9 and 13 October 2021

## MATTERS ARISING FROM FAO, WHO AND OIE

(Prepared by FAO, WHO and OIE)

## Introduction

1. This paper aims to provide an update on the Food and Agriculture Organization of the United Nations (FAO), World Health Organization (WHO), and World Organization for Animal Health (OIE) as well as the FAO/WHO/OIE Tripartite activities on the prevention and management of antimicrobial resistance (AMR) since the seventh session of the *Ad Hoc* Codex Intergovernmental Task Force on Antimicrobial Resistance (TFAMR07).

**Part 1: FAO/WHO (in collaboration with OIE) Scientific Advice to Codex**

2. A FAO/WHO/CODEX webinar on FAO and WHO (and OIE) activities<sup>1</sup> to support monitoring and surveillance of antimicrobial resistance in the food and agriculture sectors was held on 16 March 2021.

**Part 2: FAO/OIE/WHO Tripartite activities on foodborne AMR****Call to Action on Antimicrobial Resistance 2021**

3. The Call to Action on Antimicrobial Resistance (AMR) - 2021 was launched during the closing session of the High-Level Interactive Dialogue on Antimicrobial Resistance on 29 April 2021 to raise global ambition on AMR whilst accommodating diverse national circumstances. Presented by the Group of Friends on Tackling AMR, it calls for enhanced national and global efforts to tackle AMR through a One Health approach, for the acceleration of previous commitments to tackle AMR, for improved antimicrobial stewardship, for work towards financing for AMR action, for increased research on AMR's impacts, and for supporting the new One Health Global Leaders Group on AMR among other key steps. As of 23 August 2021, there are 113 Member State signatories to the Call to Action and 35 supporting organizations.

**Tripartite Joint Secretariat on AMR**

4. The Tripartite Joint Secretariat on AMR was established in 2019, hosted by WHO and includes Liaison Officers from FAO and OIE. Its role is to coordinate the joint AMR activities of Tripartite collaboration and the collaboration with UNEP and other partners; and coordinate the work of the AMR Multi-Partner Trust Fund. Furthermore, the Tripartite Joint Secretariat on AMR provides secretary functions to global governance structures called for by the ad hoc Inter-Agency Coordination Group (IACG) on AMR.
5. The 2019 report of the ad hoc Inter-Agency Coordination Group (IACG) on AMR recommended the urgent establishment of global governance structures to strengthen overall governance, accountability, and cross-sector collaboration in the efforts to tackle AMR. As a first governance structure, the Global Leaders' Group on AMR was established in November 2020. Consisting of heads of government, government ministers, and leaders from private sector and civil society, the group is committed to catalyze political leadership and action to preserve antimicrobial medicines. The group is chaired by the Prime Ministers of Barbados and Bangladesh and meets four times per year. In August 2021 they published a call to action on AMR and food systems.
6. In response to the IACG report, a partnership platform to facilitate multi-stakeholder engagement on AMR is also currently being set up. The membership of the proposed AMR Multi-Stakeholder Partnership Platform will include government representatives, UN agencies, international, intergovernmental and regional organizations, international financial institutions, civil society, private sector, academia and research institutions.

<sup>1</sup> <http://www.fao.org/fao-who-codexalimentarius/news-and-events/news-details/en/c/1381093/>

7. The purpose of the AMR Multi-Stakeholder Partnership Platform is to bring together different voices across the human, animal, plant and environment interface. It will serve as an inclusive, international platform at the forefront of the efforts to strengthen a shared global vision on AMR, provide a venue for information-sharing and networking, and take action to reduce the impact of AMR in support of the Global Action Plan on AMR (GAP). Finally, the Independent Panel on Evidence for Action against AMR is being developed.

#### **AMR Multi-Partner Trust Fund (AMR-MPTF)**

8. In 2019, the Tripartite launched the AMR Multi-Partner Trust Fund (AMR MPTF) which supports low- and middle-income countries to scale up efforts to counter the threat of AMR from One Health approach. The AMR MPTF is currently funded by the Netherlands, Sweden, Germany and the Fleming Fund (UK). Nine country-level programme and one global programme with four technical components have been approved<sup>2</sup>.

#### **Technical activities**

9. The following Tripartite documents were published related to AMR:
- *Technical brief on water, sanitation, hygiene and wastewater management to prevent infections and reduce the spread of antimicrobial resistance*<sup>3</sup>
  - *International instruments on the use of antimicrobials across the human, animal and plant sectors*. This document provides an overview and analysis of international instruments that set standards related to the use of antimicrobials across the human, animal and plant sectors, and their release into the environment. The purpose of the document is to identify existing international instruments and standards in order to guide both their implementation and to inform discussions and direction for future international instruments related to antimicrobial use<sup>4</sup>.

#### **Monitoring of the Global Action Plan on AMR**

10. Further to a two-year consultation, the Tripartite has developed a monitoring and evaluation framework<sup>5</sup> for the Global Action Plan (GAP) with a harmonized list of indicators for monitoring at the national and global levels. The Tripartite is currently developing guidance to countries on developing national monitoring frameworks for NAPs through in country and country desk assessments.
11. Based on tools developed by the Tripartite, Member States have begun implementing their NAPs. To measure progress on NAP implementation, the Tripartite administers an annual country self-assessment survey on AMR (TrACSS) since 2016. Responses from the surveys are published in an open-access database<sup>6</sup>. The survey recorded an increase in countries' participation in the development of NAPs – especially in low-income countries – and reflects progress in the establishment of national multisectoral working groups. The fifth round of TrACSS was administered in 2021, and 139 out of 161 responding countries (86.3%) reported having developed NAPs, an increase from 120 countries in 2019/20<sup>7</sup>. Recent data collected by WHO Regional and Country Offices indicate there has been even greater progress, with 145 countries having now established multisectoral NAPs as of May 2021.
12. The results show that while progress has been made, urgent action is needed to scale up resourcing, implementing and monitoring of NAPs, and take necessary global measures to address AMR. For example, while results of the fifth round of TrACSS indicates that 139 countries have developed NAPs, only 94 have started implementing their plans, and only 31 countries are implementing and actively monitoring their national action plans.
13. Progress is also being made in the involvement of multiple sectors in AMR NAP implementation. Data from the recent TrACSS shows that almost all of the responding countries (97%, 156/161) reported that both the human health and animal health sector were actively involved in developing and implementing their AMR NAPs, 103 of 161 countries responded that the environment sector was actively involved, and 76 of 161 responding countries reported active involvement of the plant sector in AMR NAPs. Along with the human-health sector, full engagement of the animal, plant and environment sectors through a One Health Approach, and a functional multisectoral coordination mechanism are urgently needed in each country; NAPs should be jointly reviewed and revised to reflect a comprehensive One Health approach, while also ensuring sector-specific activities move forward.

<sup>2</sup> <http://mptf.undp.org/document/download/27784>

<sup>3</sup> <http://www.fao.org/3/ca9120en/CA9120EN.pdf>

<sup>4</sup> <https://www.who.int/publications/i/item/9789240013964>

<sup>5</sup> <https://www.who.int/antimicrobial-resistance/global-action-plan/monitoring-evaluation/tripartite-framework/en>

<sup>6</sup> <https://amrcountryprogress.org>

<sup>7</sup> [https://www.who.int/publications/i/item/monitoring-global-progress-on-antimicrobial-resistance-tripartite-amr-country-self-assessment-survey-\(tracss\)-2019-2020](https://www.who.int/publications/i/item/monitoring-global-progress-on-antimicrobial-resistance-tripartite-amr-country-self-assessment-survey-(tracss)-2019-2020)

**Tripartite Integrated Surveillance System on AMR/AMU (TISSA)**

14. The development of TISSA is now being funded through the AMR MPTF. A platform is being created which intends to make available in a user friendly manner on a global and regional basis validated and official data provided by countries to FAO, OIE and WHO on patterns and trends in antimicrobial use (AMU) and antimicrobial resistance (AMR).

**World Antimicrobial Awareness Week 2021 (WAAW)**

15. World Antimicrobial Awareness Week (WAAW) is celebrated from 18-24 November every year. The theme of the WAAW 2021 will be 'Spread Awareness, Stop Resistance'. The overarching slogan of World Antimicrobial Awareness Week continues to be 'Antimicrobials: Handle with Care'. The purpose of WAAW is to increase global awareness of antimicrobial resistance and to encourage best practices among the general public, policy makers and other relevant stakeholders across all sectors.
16. Everyone is encouraged to engage with the global campaign activities, and organize events that increase knowledge about what AMR is and spread awareness on household, workplace, community, and/or governmental action that can affect the control or spread of AMR. The AMR Tripartite has a campaign toolkit (published in mid-September) that has suggestions for engagement ideas. The AMR Tripartite organizations are also developing several visual assets which will be made available in multiple languages for participants to use in their events.
17. WAAW 2021 will also encourage participants to share their stories in an effort to shift thinking around AMR beyond being only about 'drugs and bugs'. Instead, people everywhere need to see, hear and relate to AMR as a health threat affecting that affects today's environment, animals, families and communities today.
18. In an effort to improve global awareness of AMR as a top global public health threat among policymakers, professionals, and the general public WAAW 2021 will initiate a global colour campaign. Drawing from the Antimicrobials: Handle with Care slogan and acknowledging also the collective global action across sectors required to address AMR, the colour light blue has been selected for the campaign. When campaign participants wear blue and when buildings or landmarks light up blue, these actions will raise awareness about antimicrobial resistance and can also serve as individual or collective commitments to being stewards of responsible antimicrobial use.
19. WAAW participants can 'Go Blue' as an individual, workplace, or community. Individuals can wear blue during the WAAW week and make use of WAAW campaign virtual backgrounds. Workplaces (hospitals, clinics, laboratory facilities, industry headquarters, universities) can light up blue, while communities can 'Go Blue' by lighting up local monuments and One Health landmarks (including water towers, sanitation plants, grain stores, etc). Individuals, workplaces and communities should accompany their 'Going Blue' with opportunities to share stories and/or highlight new or existing commitments to addressing AMR and being good stewards of antimicrobial use.
20. The 'Go Blue' lasts all week, culminating in a global 'Go Blue' light up moment for landmarks around the world on 24 November, the final day of WAAW.
21. World Antimicrobial Awareness Week (WAAW) 2020 reflected an important decision across the tripartite to change the wording of the campaign from 'antibiotics' to 'antimicrobials'. The focus of this year's campaign shifted to focus on the current impacts of AMR as reflected in FAO's theme 'AMR is here and now: United to strengthen food systems and secure livelihoods.' This was informed by FAO's new integration of a behavioural science approach to awareness and engagement as well as discussions with FAO and partners and recent research on AMR communication effectiveness.
22. Last year's campaign also focused on highlighting the involvement of stakeholders across food safety, crop and plant health, the environment, water management, food standards, legislation and aquaculture in response to AMR. New materials were developed to humanize the issue of AMR and to visually show its relevance to these different sectors.
23. Six new social media videos on AMR targeted at the general public were created and viewed more than 1.3 million times on Facebook.
24. Four virtual events took place including a joint Tripartite press conference involving the Tripartite Directors-General and the Prime Ministers of Bangladesh and Barbados. Two press releases were published to launch WAAW and announce the launch of the Global Leaders Group on Antimicrobial Resistance. FAO was mentioned by several leading global media outlets during WAAW including [United Nations](#), [CGTN](#), [France 24](#), [Tehran Times](#), [Le Monde](#), [Times of India](#) and [Vanguard](#).

25. New podcasts were recorded in English and French and new public service announcements for radio were shared with broadcast journalists. Vatican Radio broadcast the podcast interview with the FAO Chief Veterinary Officer (CVO), Keith Sumption. Global internal and external communication guides were provided to decentralized offices to help align global WAAW messaging and support awareness-raising at regional, sub-regional and national levels. New campaign materials were developed that featured real people to humanize the issue of AMR and visually convey that AMR is a cross-sectoral issue. These materials were rolled out across FAO social media channels throughout the week as part of a robust social media engagement campaign- including a new social media video which was viewed 1.3 million times on Facebook and 50 000 times on Instagram.

#### **Africa Region (RAF)**

26. Seven virtual events in English, French, Portuguese, and Arabic were organized to target a wide range of stakeholders. These included journalists, government practitioners, civil society and grass-root organizations, academia, and the general public. After last year's successful WAAW Africa celebration with the African Union (Africa CDC and AU-IBAR) and the Regional Tripartite (FAO, OIE, WHO), the WAAW Africa Organising Committee expanded its partnerships and engaged with UNEP and the North Africa regional offices (FAO RNE, WHO EMRO) to commit to an Africa Continental solidarity combatting AMR in the region. The Regional Directors of the organizing agencies published a [Communiqué](#) to demonstrate high-level commitment and launch the first partnership of its kind at the continental level. A [twitterchat](#) was organized to discuss how to increase AMR awareness in Africa and had 22.6 million impressions with 2200 tweets generated. Consultation was provided to country offices that needed guidance in organizing WAAW at the national level.

#### **Asia and the Pacific Region (RAP)**

27. FAO RAP supported and participated in eight virtual and hybrid WAAW events. Specifically, FAO RAP collaborated with the Federation of Asian Veterinary Associations (FAVA) to launch a regional campaign on biosecurity in farms. Future and current veterinarians are some of the key gatekeepers in promoting prudent use of antimicrobials among farmers, and the campaign targeted future students and veterinary associations to promote good biosecurity practices. A series of webinars were held in Thailand, Indonesia, Philippines, Malaysia and Myanmar. The Regional Tripartite (FAO, OIE and WHO) and UNEP, for the first time, held a WAAW event. Around 400 people participated in/viewed the Regional WAAW Event. Overall, the webinars were viewed/participated in by 12 000 people. The FAO RAP ADG made a video address on AMR and existing FAO videos were also remixed to produce [new video on biosecurity](#).

#### **Europe and Central Asia Region (REUT)**

28. At the regional level, FAO organized a joint [high-level webinar](#) with OIE and WHO. This involved high-level participants from the Tripartite, as well as the European Commission and the Eurasian Economic Commission. This event served to elaborate on the importance of establishing a Regional Tripartite One Health Secretariat to mobilize partners. FAO also launched an informative leaflet on ['Antibiotics in Livestock'](#) which was translated into 16 major languages of Europe and Central Asia. WAAW [country level engagement activities](#) took place in Belarus, Kazakhstan, Kyrgyzstan, the Russia Federation, Tajikistan, Turkey and Ukraine. These included press briefings, virtual events held jointly with OIE and WHO, social media engagement and visits to agricultural colleges.

#### **Latin America and the Caribbean Region (LAC)**

29. At the regional level, FAO collaborated with PAHO and OIE to organise several WAAW activities. FAO participated in eight webinars during WAAW which were organized by stakeholders and partners across the region including PAHO Colombia and CENASA, Mexico. FAO colleagues presented on a range of topics including 'antimicrobial use in small-scale foodproduction' and 'understanding and changing behaviour to combat AMR in the community.' Two audio-visual campaigns on 'What is AMR?' and 'Let's Talk About Antibiotics' were organized including a series of [six new videos](#) in Spanish with Portuguese subtitles. These videos helped publicize the AMR work being undertaken across the region and aligned messaging on AMR.

#### **Near East and North Africa Region (RNE)**

30. FAO/ECTAD in collaboration with WHO Egypt organized an awareness day for university students from medicine, veterinary and agriculture faculties. A live streaming session was organized on the last day of WAAW to raise awareness of AMR and get audience questions answered by the experts from FAO and WHO. A session on ['AMR and One Health Approach'](#) was also held with WHO EMRO, the OIE Regional Office and FAO RNE and was broadcast live on social media channels. A WAAW video filming with WHO also took place and throughout

31. A WAAW week-long social media contest was held on FAO and WHO channels. The FAO RNE Deputy Regional Representative and acting Representative delivered a speech in the opening ceremony of the WAAW campaign for Africa. Maurice Saade, FAO representative in Lebanon, also delivered a presentation at a WAAW event organized by WHO Lebanon and the Lebanese Medical Student International Committee.

### Part 3: Other related matters arising from FAO, OIE, and WHO

#### FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

32. The FAO Action Plan on Antimicrobial Resistance (AMR) 2021–2025<sup>8</sup> has been approved by the 166th session of the FAO Council. This Action Plan will guide FAO's support to its Members to build capacity to minimize and contain AMR in food and agriculture sectors. The implementation of the plan will follow a collaborative One Health approach by creating synergies with partner organizations (World Health Organization (WHO), World Organization for Animal Health (OIE) and UN Environment Programme (UNEP)).
33. All FAO publications, documents and news are available online<sup>9</sup>. To receive timely information on FAO activities, services and products, please subscribe to the FAO AMR mailing list (information on the FAO AMR webpage). FAO is also disseminating information on AMR through a number of sector-specific channels, for instance the FAO Livestock Technical Network Newsletter, and the FAO AMR Newsletter<sup>10</sup>. An "Evaluation of FAO's role and work on antimicrobial resistance (AMR)" was conducted.<sup>11</sup>
34. FAO published the following reports,
- *Handbook Responsible use of antibiotics in livestock production for animal health workers in Viet Nam*<sup>12</sup>
  - *Improving communications for antimicrobial resistance (AMR) in Africa: How should we move forward?*<sup>13</sup>
  - *Antimicrobial Resistance in Food*<sup>14</sup>
  - *Understanding antimicrobial resistance in aquaculture*<sup>15</sup>
  - *Tackling antimicrobial use and resistance in dairy cattle*<sup>16</sup>
  - *Animal nutrition strategies and options to reduce the use of antimicrobials in animal production*<sup>17</sup>,
  - *How to use antibiotics effectively and responsibly in dairy production*<sup>18</sup>
  - *How to use antibiotics effectively and responsibly in pig production - for the sake of human and animal health*<sup>19</sup>
  - *How to use antibiotics effectively and responsibly in poultry production - for the sake of human and animal health*<sup>20</sup>
35. A consultant meeting was convened by Joint FAO/IAEA Centre in June 2021 to develop a proposal for a coordinated research project, "Isotopic Techniques to Assess the Fate of Antimicrobials and Implications for Antimicrobial Resistance in Agricultural Systems". The project is expected to commence in late 2021 with a call for research contract proposals.
36. FAO [Development Law Service](#) (LEGN) has developed a FAO Methodology to analyze AMR-relevant legislation in the food and agriculture sectors<sup>21</sup>, including veterinary legislation, food safety, AMR in crops, environment, water and waste. With the financial support of the MPTF, FAO, OIE and WHO are working collaboratively to further develop this methodology and to upgrade it into a One Health AMR Legal Assessment tool including a chapter on human health. The Methodology has been applied in 25 countries of Africa<sup>22</sup>, Asia<sup>23</sup>, Central Asia<sup>24</sup> and Latin America<sup>[25]</sup>. OIE provided input that was incorporated into the refining of the methodology and has collaborated with FAO in piloting a joint mission to the Philippines to conduct the first VLSP (Veterinary Legislation Support Programme.)

<sup>8</sup> <http://www.fao.org/3/nf736en/nf736en.pdf>

<sup>9</sup> <http://www.fao.org/antimicrobial-resistance/en/>

<sup>10</sup> [Antimicrobial Resistance Newsletter, July 2021 - Issue #4 \(fao.org\)](#)

<sup>11</sup> <http://www.fao.org/3/cb3680en/cb3680en.pdf>

<sup>12</sup> <http://www.fao.org/3/cb0593en/CB0593EN.pdf>

<sup>13</sup> <http://www.fao.org/3/cb0863en/cb0863en.pdf>

<sup>14</sup> <http://www.fao.org/3/ca8275en/CA8275EN.pdf>

<sup>15</sup> <http://www.fao.org/3/cb2601en/cb2601en.pdf>

<sup>16</sup> <http://www.fao.org/3/cb2201en/CB2201EN.pdf>

<sup>17</sup> <http://www.fao.org/3/cb5524en/cb5524en.pdf>

<sup>18</sup> <http://www.fao.org/3/cb4156en/cb4156en.pdf>

<sup>19</sup> <http://www.fao.org/3/cb4158en/cb4158en.pdf>

<sup>20</sup> <http://www.fao.org/3/cb4157en/cb4157en.pdf>

<sup>21</sup> <http://www.fao.org/fao-who-codexalimentarius/news-and-events/news-details/en/c/1312576/>

<sup>22</sup> Kenya, Ghana, Ethiopia, the United Republic of Tanzania, Zambia, Zimbabwe, South Sudan and Mozambique

<sup>23</sup> Lao, Cambodia, Philippines, Viet Nam, Bangladesh

<sup>24</sup> Azerbaijan, Armenia, Belarus, Kyrgyzstan, Kazakhstan, Tajikistan, Ukraine

37. A Regional Workshop on Legislation and AMU/AMR was conducted in Bangkok in March 2018.<sup>25</sup> The workshop brought together a community of regulators and experts from the region as well as WHO, OIE, and ASEAN. At the request of the participants, a second workshop was organized in Bangkok in July 2019. Other regional workshops took place on 11-12 December 2018 in South Africa, including participants from SADC countries, as well as in Ouagadougou, Burkina Faso, on 11 March 2019 and Abuja, Nigeria, on 26-27 June 2019, for francophone and anglophone countries in West Africa. More recently, a workshop on AMR legislation for all countries in Africa was developed in June 2021. In Latin America, a regional workshop served for the five beneficiaries of a Norad funded regional AMR project (four countries and a regional organization) to share their experiences. Support is planned for similar workshops in other regions and sub-regions, with one aim being to consider where and how regional harmonization of legislation can support improved management of AMR.
38. FAO legal experts are working to identify AMR-relevant legislations and policies within and across countries and building an AMR dataset of FAOLEX (a comprehensive database of national legislation and policy in all areas under FAO's mandate). The dataset facilitates access and understanding of the different legal areas relevant for AMR and includes country profiles identifying the AMR-relevant legislation at the national and regional levels. Based on the above experience, experts from LEGN are developing a legislative study on AMR-related legislation, including best practices and options to strengthen regulatory frameworks on AMR.
39. FAO has published an [AMR Policy Review and Development Framework](#) for Asia and the Pacific<sup>26</sup>. The regional guide is intended for governments to review, update, and develop policies to address AMR and AMU in animal production. In addition, the document, *"Slowing down superbugs – Legislation and antimicrobial resistance"*<sup>27</sup> was also published in 2021.
40. Different modalities of stakeholder assessment studies have been completed in 10 countries across different stakeholders, mainly involving farmers and veterinarians, as well as extension workers distributing antimicrobials. A report, *"Towards a bottom-up understanding of antimicrobial use and resistance on the farm: A knowledge, attitudes, and practices survey across livestock systems in five African countries,"*<sup>28</sup> has been published.
41. FAO has developed a stepwise approach tool to address AMR based on the FAO Action Plan called the "Progressive Management Pathway" (PMP) to help Member States with developing and operationalizing multi-sector 'One-Health' National Action Plan (NAP) to combat AMR. To achieve an optimal and sustainable use of antimicrobials, PMP expresses stages and develops in-country competencies to improve progressively better actions for improving awareness, developing monitoring and surveillance capacity, strengthening governance, promoting good practices and the prudent use of antimicrobials. Since that time, PMP has been conducted in several Member countries (Belgium, Ghana, Kenya, Kyrgyzstan, the Lao People's Democratic Republic, Morocco, Saint Kitts & Nevis, Senegal, Sierra Leone, Tajikistan, Tunisia).
42. FAO completed an exploratory requirements analysis that will inform the development of an IT solution for the International FAO Antimicrobial Resistance Monitoring (InFARM) data platform. This data platform will be a key tool to catalyse country participation, supporting the consolidation of national, regional and global AMR monitoring and surveillance systems in food and agriculture, and complementing global efforts for One Health AMR surveillance through integration of data into the TISSA platform.

#### **WORLD HEALTH ORGANIZATION**

43. The 72<sup>nd</sup> World Health Assembly (WHA) adopted a resolution on AMR in May 2019.<sup>29</sup> WHO has created a new dedicated AMR Division led by Assistant Director-General Dr Hanan Balkhy. Its mission is to define, advance, promote and monitor comprehensive policies and strategies that prevent, reduce, and mitigate drug-resistant infections and the overall impact of AMR globally based on the global action plan on AMR, the 13<sup>th</sup> WHO General Program of Work and the SDGs. This Division is also responsible for coordinating the implementation of the IACG recommendations at the request of the UN Secretary-General.

#### **Support to National Action Plans**

44. To date, 145 countries have multisectoral national action plans (NAPs). Regional lesson learning workshops have been held in the WHO South East Asia and Africa regions to support the process of NAP implementation. Many countries are also initiating processes to revise their NAPs.

<sup>25</sup> <http://www.fao.org/legal/development-law/magazine-1-2018/en/#fourth>

<sup>26</sup> <http://www.fao.org/3/CA1486EN/ca1486en.pdf>

<sup>27</sup> <http://www.fao.org/3/cb4128en/cb4128en.pdf>

<sup>28</sup> <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0220274>

<sup>29</sup> [http://apps.who.int/gb/ebwha/pdf\\_files/WHA72/A72\\_R5-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA72/A72_R5-en.pdf)

45. Eighty-one countries claim that they have functional multisectoral coordination mechanisms with clear terms of reference, regular meetings and funding for working groups. A number of new tools and guidance are being developed to support countries in the implementation of their NAPs. These include: a tool for prioritizing, costing and budgeting national activities to develop an operational plan; a comprehensive NAP implementation Handbook with a step-wise approach to support implementation; a training package on leadership skills to foster effective multisectoral collaboration to address AMR; and a guidance on developing a monitoring and evaluation system at country-level to monitor NAP implementation. In addition, a NAP implementation assessment tool is being developed to gauge progress in the human health sector and propose a pathway to countries for benchmarking their progress. Remote training modalities and e-learning modules are also being developed to facilitate the building of technical capacity in countries.
46. The community of practice<sup>30</sup> continues to grow, with currently, 1069 members from 123 countries and territories. This provides relevant resources on AMR from the Tripartite and other stakeholders, disseminates updates and news, provides a platform for discussion on critical issues, promotes peer-to-peer exchange of views, and helps transfer information and lessons learned across countries.

#### **Strengthening the evidence base through surveillance**

47. The WHO Advisory Group on Integrated Surveillance of AMR (AGISAR) together with WHO Collaborating Centers developed a global protocol on surveillance of extended spectrum beta-lactamase (ESBL) producing *Escherichia coli* using a One Health Approach (“Tricycle ESBL *E. coli* surveillance project”). The Tricycle ESBL *E. coli* surveillance protocol was launched in March 2021<sup>31</sup>, this protocol is intended to monitor the prevalence of one single AMR indicator, ESBL *E. coli* in humans, the food chain and the environment. Nine countries have been trained to pilot the protocol during a period of one year starting from April 2018, including Ghana, Madagascar, Senegal, Pakistan, Indonesia, Malaysia, Nepal, India and Jordan. The Tricycle ESBL *E. coli* surveillance project can be linked with the consumption and use of antimicrobial data in the human and animal sector that WHO and OIE are collecting, respectively. In 2021, five countries are working to implement the protocol, Nigeria, Zimbabwe, Burkina Faso, Cameroon and Bhutan. A GLASS module is being developed to collect the data from countries implementing the Tricycle protocol, it is expected that countries will report data on the ESBL *E. coli* Tricycle implementation in the next GLASS report in 2022.
48. Recognizing the need to foster the establishment of national AMR surveillance systems, WHO has developed the Global Antimicrobial Resistance and Use Surveillance System (GLASS).<sup>32</sup> GLASS focuses on AMR and antimicrobial consumption and use (AMC/AMU) surveillance that is relevant for human health and will foster links to AMR and AMC/AMU surveillance conducted in other sectors as relevant to human health.
49. The early implementation phase of WHO GLASS focuses on the assessment and reporting of resistance of selected priority human bacterial pathogens to selected priority antimicrobials. It is planned that WHO GLASS will include data on AMC in humans and data from the integrated surveillance across the human-animal ecosystems interface (a scaled Tricycle project).
50. As of May 2021, 107 countries and territories were enrolled in the GLASS-AMR module, and 19 in the new technical module on antimicrobial consumption surveillance (GLASS-AMC). Data on nearly 8 million infections in humans have been reported, with 74,000 AMR surveillance sites worldwide. GLASS has made notable achievements in promoting national surveillance systems and sharing data according to global standards, the limitations and gaps of the system must be addressed. Furthermore, the “3rd High level technical consultation and meeting on surveillance of antimicrobial resistance and use for concerted actions”<sup>33</sup> co-hosted by Republic of Korea and Sweden took place in April 2021 to inform and guide GLASS development.
51. Lessons learned through the early Implementation phase of GLASS, the data in 2021 GLASS report<sup>34</sup>, and the Technical Consultation and Meeting underscore the need for coordinated and concerted multisectoral action. Concrete and immediate action across the global community is needed in three key areas, including:
  - A) Prioritizing AMR and AMC surveillance at national, regional, and global levels, including monitoring of the AMR SDG indicators;

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<sup>30</sup> <https://ezcollab.who.int/amr-nap/>

<sup>31</sup> <https://www.who.int/publications/i/item/who-integrated-global-surveillance-on-esbl-producing-e.-coli-using-a-one-health-approach>

<sup>32</sup> <https://www.who.int/glass/en/>

<sup>33</sup> <https://glass2020.org/>

<sup>34</sup> <https://www.who.int/publications/i/item/9789240027336>

- B) Building capacity to collect, report, and use high-quality, robust, and representative data for decision-making, and strengthening the implementation of multisectoral national action plans (NAPs);
  - C) Design and implement complementary approaches such as surveys are needed to address the data limitations and ensure all countries will be enabled to generate representative quality data; and
  - D) Advocating for resources to sustainably fund AMR and AMC surveillance and other strategies to tackle AMR.
52. A new AMR SDG indicator was approved in 2021 - SDG 3.d.2 - that is focused on surveillance of bloodstream infections caused by two specific resistant organisms. Overall, 64 and 59 countries reported data through GLASS on the two AMR SDG indicators, respectively bloodstream infection caused by *E. coli* resistant to 3rd generation cephalosporins and bloodstream infection caused by and methicillin-resistant *Staphylococcus aureus* (MRSA).
53. In 2016 WHO developed a methodology for monitoring national AMC. Since then, WHO supported the implementation of a national monitoring system in countries from all regions with the majority of them being low and middle-income countries (LMICs) through regional or national workshops. In 2018, sixty-five countries submitted AMC data to WHO.<sup>35</sup> WHO will continue, as part of GLASS, to conduct trainings on the WHO methodology and support countries in implementing national surveillance system to monitor AMC.
54. In 2019, WHO developed a protocol for point prevalence survey on antibiotic use in hospitals.<sup>36</sup> With the support of WHO, surveys has been rolled out in Africa, in Latin America and Caribbean islands and in the Middle East. In 2020, WHO developed a guide on setting up surveillance of antimicrobial consumption in hospitals.<sup>37</sup> WHO has been giving priority to methodologies, as well as web tools for data collection tailored to hospital settings, but in a second round, will also develop methodologies for community settings.

### Infection Prevention and Control in Human Sector

55. Preventing harm to patients, health care workers and visitors due to infection in health care facilities is fundamental for achieving quality care, patient safety, health security and the reduction of health care-associated infections (HAIs) and AMR. Moreover, preventing HAIs ensures basic quality of universal healthcare (ensuring, for example, safe surgery and maternal and child health), protects healthcare workers from harm due to infectious diseases and controls the spread of tuberculosis, Ebola (and other viral hemorrhagic fevers), influenza in healthcare settings.
56. Clean, safe care is a patient right and should also be the duty and the pride of all those working for and in the health care sector. WHO supported by many stakeholders in the field of Infection Prevention and Control (IPC) issued recommendations and specifications for effective IPC programs. These are included in the evidence-based WHO Guidelines on core components of IPC programs<sup>38</sup> and the approach for their implementation is presented in associated manuals for the national and facility level<sup>39</sup>.
57. The implementation manual to prevent and control the spread of carbapenem-resistant organisms at the national and health care facility level has been published.<sup>40</sup> This manual presents a compelling case for action on carbapenem-resistant organisms (CROs) and describes the linkages between the prevention and control of CROs and the Global Action Plan on AMR. It describes how the eight recommendations contained within the WHO guidelines for the prevention and control of carbapenem-resistant Enterobacteriaceae, *Acinetobacter baumannii* and *Pseudomonas aeruginosa* in health care facilities relate to general measures (that is, the core components of infection prevention and control [IPC] programs) that need to be in place in all countries and health care facilities to prevent and control health care-associated infections (HAIs). The use of a stepwise approach is proposed to support implementation and improvement, based on the evidence and experience of what has worked in several health care settings worldwide. The focus is on adoptable and adaptable information.
58. WHO published in November 2019 the Minimum Requirements for IPC programs<sup>41</sup>. Implementation of all WHO core components recommendations are required to build functioning programs leading to effective reduction of HAIs and AMR. However, fulfilment of all IPC core components takes time and for some countries, it might be a demanding journey that should be faced in a realistic, step-wise approach. Especially for countries where IPC is limited or does not exist, it is critical to start by ensuring that at least minimum requirements for IPC are in place as soon as possible both at the national and facility level, and then, to gradually progress to the full achievement of all requirements of the IPC core components, according to local priority plans.

<sup>35</sup> [https://www.who.int/medicines/areas/rational\\_use/oms-amr-amc-report-2016-2018/en/](https://www.who.int/medicines/areas/rational_use/oms-amr-amc-report-2016-2018/en/)

<sup>36</sup> <https://www.who.int/publications/i/item/WHO-EMP-IAU-2018.01>

<sup>37</sup> <https://www.who.int/publications/i/item/9789240000421>

<sup>38</sup> <http://www.who.int/infection-prevention/publications/corecomponents/en/>

<sup>39</sup> <https://www.who.int/infection-prevention/tools/core-components/en/>

<sup>40</sup> <https://apps.who.int/iris/handle/10665/312226>

<sup>41</sup> <https://www.who.int/publications/i/item/9789241516945>



59. Patients and health-care workers need to be safe and protected at all times, no matter where and the context. The eight core components of IPC are the wheels to the cart that will ensure patients a safe journey while in a health care facility.

#### **WHO List of Critically Important Antimicrobials for Human Medicine**

60. The WHO Critically Important Antimicrobials (CIA) list groups all antimicrobials currently used for human medicine into three categories based on their importance to human medicine. The list is limited to antibacterial drugs (antibiotics) and antimicrobials are listed by class or subclass, which are groupings of antimicrobials by chemical structure and mechanisms of resistance.
61. The WHO CIA list was initially developed in 2005, recommendations of expert meetings jointly organized by FAO, OIE and WHO in 2003 and 2004. The list is periodically updated every two years, and the latest revision was published in May 2019.<sup>42</sup>
62. In May 2019 at the 72<sup>nd</sup> WHA, a new resolution on AMR was adopted (Agenda Item 11.8).<sup>43</sup> This resolution requests WHO Member States to further enhance the prudent use of all antimicrobials and consider developing and implementing clinical guidelines and criteria according to which critically important antimicrobials should be used, in accordance with national priorities and contexts, in order to slow the emergence of drug resistance and sustain the effectiveness of existing drugs.
63. The same resolution also mandates, for first-time, WHO to maintain and systematically update the WHO CIA list.
64. WHO will established a multidisciplinary Advisory Group for the Critically Important Antimicrobial List to review, assess and update new approaches and gaps and develop the 7<sup>th</sup> revision of the CIA List to be published in 2022.

#### **Optimal Use in Human Sector**

65. WHO has recently initiated work on diagnostic and antimicrobial stewardship to optimize the use of antimicrobials. The initial phase of this work has focused on the hospital settings in LMICs. WHO has developed a toolkit for antimicrobial stewardship programs in hospitals in LMICs and are developing relevant training materials. The Essential Medicines List<sup>44</sup> and classification of antibiotics into Access, Watch and Reserve<sup>45</sup> is been one of the tools for stewardship activities.
66. WHO launched in May 2021 the WHO policy guidance on integrated antimicrobial stewardship activities<sup>46</sup>. This policy guidance responds to the demand from Member States and is anchored in public health guiding principles in the human health sector. It aims to provide a set of evidence-based and pragmatic recommendations to drive comprehensive and integrated AMS activities under the purview of a central national coordination unit, National AMR steering or coordinating committees or other equivalent national authorities. The policy guidance complements the Global Action Plan, the WHO practical toolkit for AMS programmes in health-care facilities in low- and middle-income countries and other WHO guidance in surveillance, IPC and WASH.

#### **WHO Work on AMR in the Environment with Links to Food Production**

67. WHO continues to promote the 2006 WHO Guidelines for the Safe Use of Wastewater, Excreta and Greywater in Agriculture and Aquaculture<sup>47</sup> and Sanitation Safety Planning manual (2015)<sup>48</sup> for stepwise implementation of risk assessment and management along the sanitation chain – toilet, containment- conveyance, treatment and end-use disposal. WHO has SSP training hubs in 4 regions and SSP activities are underway in 47 countries. The guidelines and SSP do not explicitly detail AMR however they are also valid for decreasing the risk for transmission of viable resistant microbes via food.
68. In 2018, WHO published comprehensive Guidelines on Sanitation and Health based on exhaustive systematic review of evidence and expert and end user consultation.<sup>49</sup> The guidelines include specific sections on AMR with chapter 6 on excreta related pathogens.

<sup>42</sup> <https://www.who.int/foodsafety/publications/antimicrobials-sixth/en/>

<sup>43</sup> [http://apps.who.int/gb/ebwha/pdf\\_files/WHA72/A72\\_R5-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA72/A72_R5-en.pdf)

<sup>44</sup> <https://www.who.int/medicines/publications/essentialmedicines/en/>

<sup>45</sup> <https://adoptaware.org/>

<sup>46</sup> <https://www.who.int/publications/i/item/9789240025530>

<sup>47</sup> [https://www.who.int/water\\_sanitation\\_health/sanitation-waste/wastewater/wastewater-guidelines/en/](https://www.who.int/water_sanitation_health/sanitation-waste/wastewater/wastewater-guidelines/en/)

<sup>48</sup> [https://www.who.int/water\\_sanitation\\_health/publications/ssp-manual/en/](https://www.who.int/water_sanitation_health/publications/ssp-manual/en/)

<sup>49</sup> [https://www.who.int/water\\_sanitation\\_health/publications/guidelines-on-sanitation-and-health/en/](https://www.who.int/water_sanitation_health/publications/guidelines-on-sanitation-and-health/en/)

69. In 2014, a briefing note on the links between AMR and water, sanitation and hygiene (WASH) was developed.<sup>50</sup> A policy brief is under development, in which the links will be further elaborated, and policy options suggested to inform environment components within AMR NAPs. The policy brief will be co-branded with FAO and OIE.
70. In 2019, a new WHA resolution on WASH in health care facilities (WASH in HCF) was passed strengthening a global campaign, tools and country support to improve the shocking number of health facilities lack access to even basic water supply and sanitation<sup>51</sup>. The work support efforts on infection prevention and control and prevention of resistant infections in hospital settings. Issues of AMR are mainstreamed throughout WASH in HCF work.
71. Other environment focused projects underway are:
  - a. Environmental surveillance of ESBL *E. coli* as part of the Tricycle project. An additional element on analysis of antimicrobial residues is included as satellite project.
  - b. Scoping to define wastewater effluent guideline values for pharmaceutical manufacturing interfacing with GMP and industry led voluntary initiatives.
  - c. Methods to assess the proportion of AMR disease or exposures that can be attributed to inadequate access to WASH.

### WHO Priority Pathogen List (PPL)

72. WHO has published the PPL and the review of the R&D pipeline for antibiotics.<sup>52</sup> WHO has identified a PPL for R&D with the highest priority to be given to carbapenem resistant Enterobacteriaceae, *Acinetobacter* and *Pseudomonas*. WHO has also undertaken a landscape of diagnostics against antibiotic resistance, identified gaps and developing priority TPPs. WHO also continues to support the Global Antibiotic Research and Development Partnership (GARDP).
73. WHO has establish an Advisory Group on the Fungal Priority Pathogen List (FPPL) to develop a list of the most relevant pathogenic fungi in public health, this FPPL is expected to be published at the end of 2021. This list will guide and support the activities on R&D for fungi diagnostics and treatments.
74. WHO will establish an Advisory Group on the Bacterial Priority Pathogen List (BPPL) to revise and update the BPPL launched in 2017 to continue supporting the efforts and activities on R&D.

### WORLD ORGANISATION FOR ANIMAL HEALTH

75. As the reference organisation for international standards related to animal health and zoonoses, the OIE is committed to supporting the Veterinary Services of its 182 Members and to addressing the global threat of antimicrobial resistance (AMR) in animals and humans. Collaboration and coordination with FAO and WHO is crucial in order to lead by example and ensure that all OIE Members and UN States Parties adopt a One Health approach in their fight against AMR. The OIE has therefore strengthened its involvement in Tripartite activities and its partnerships with the private sector.
76. In line with the **OIE Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobials**, the OIE supports the achievement of the following four objectives: (i) Improve awareness and understanding; (ii) Strengthen knowledge through surveillance and research; (iii) Support good governance and capacity building; (iv) Encourage implementation of OIE international Standards.
77. Following the Recommendations of the second OIE Global Conference on Antimicrobial Resistance and Prudent Use of Antimicrobial Agents in Animals (Morocco 2019), a permanent OIE Working Group on AMR was established. This Group, which includes FAO and WHO observers, has started its work to assist the implementation of the OIE Strategy on AMR and the Prudent Use of Antimicrobials by providing guidance, establishing priorities, addressing recommendations to maintain and develop International Standards related to AMR, assisting in the development of the OIE's Global Database on Antimicrobial Agents Intended for Use in Animals, and supporting OIE Members in developing communication activities and National Action Plans relating to AMR.
78. The Working Group on AMR has met four times and is currently working on the development of **species-specific Technical Reference Documents** to complement the current OIE List of Antimicrobial Agents of Veterinary Importance. These Technical Reference Documents are intended to inform the development of national treatment guidelines, advise on prevention and best practice management, risk management, and risk prioritization. So far, a Technical Reference Document has been finalised for poultry and the Working Group on AMR is currently working on Technical Reference Documents for swine and aquatic animals. The process involves external experts, including private sector participants.

<sup>50</sup> [https://www.who.int/water\\_sanitation\\_health/publications/antimicrobial-resistance/en/](https://www.who.int/water_sanitation_health/publications/antimicrobial-resistance/en/)

<sup>51</sup> <http://www.washinhcf.org>

<sup>52</sup> [https://www.who.int/medicines/areas/rational\\_use/prioritization-of-pathogens/en/](https://www.who.int/medicines/areas/rational_use/prioritization-of-pathogens/en/)

79. The Working Group on AMR is also regularly updated on the progress of the IT project for the **OIE Global Database on Antimicrobial Agents Intended for Use in Animals (OIE AMU Database)** to transition from data collection via Excel to a database system. The Group has agreed on the importance of further development of the OIE Database and established a Technical Reference Group, including Members of the Working Group on AMR and relevant experts from FAO and WHO, to assist the OIE regarding development of the OIE Database.
80. The OIE Database continues to receive voluntarily submitted data from OIE Members. In the 5th round of AMU data collection, the OIE received data from more than 150 countries and new quantitative data from 103 countries, confirming continuing progress and improvement of data quality. This highlights the increased capacity for country surveillance and accurate collection of AMU data, and establishes baselines for countries to monitor the implementation of national regulatory frameworks. The **5th report** provides, for the first time, an analysis of trends in the data reported by 69 countries to the OIE for 2015 to 2017. This analysis indicates an **overall decrease of 34% in the global quantity** of antimicrobial agents reported in (mg) by the animal biomass (kg), an indicator that can be compared between regions and over time. The 5th report is available at: [https://www.oie.int/fileadmin/Home/eng/Our\\_scientific\\_expertise/docs/pdf/AMR/A\\_Fifth\\_Annual\\_ReportAMR.pdf](https://www.oie.int/fileadmin/Home/eng/Our_scientific_expertise/docs/pdf/AMR/A_Fifth_Annual_ReportAMR.pdf). While the data of the 6th round of data collection are currently being analysed, OIE Members will be invited to contribute to the 7th round of data collection in mid-September 2021.
81. The COVID-19 pandemic led to a change in the implementation of **Training Seminars for OIE National Focal Points for Veterinary Products** from physical meetings to a webinar format. These seminars included an online training package on falsified and substandard veterinary products, pharmacovigilance, and antiparasitic resistance. In collaboration with the OIE Collaborating Centres and Health for Animals (H4A), a guidance document on the establishment of national pharmacovigilance systems was developed with input from all OIE Regions and will be published in the coming months.
82. A survey on **antiparasitic resistance** was conducted in all OIE Regions and an OIE Electronic Expert Group on Antiparasitic Resistance is currently finalising OIE Guidelines on the prudent and responsible use of antiparasitics (focusing on anthelmintics) that should be published in the coming months.
83. Work on the quality of veterinary products has progressed and an **information and alert system for substandard and falsified veterinary products** will be developed following a pilot phase planned to commence in September/October 2021.
84. Detailed information on all activities are shared through the reports of the OIE Working Group on AMR available at <https://www.oie.int/en/what-we-do/standards/standards-setting-process/working-groups/working-group-on-antimicrobial-resistance/>.