

Antimicrobial resistance

Report by the Secretariat

1. The Executive Board at its 140th session in January 2017 noted an earlier version of this report.¹ This revised version has been updated and takes into account the discussions at that session of the Board.
2. This report provides an update on implementation of resolution WHA68.7 (2015) on the global action plan on antimicrobial resistance and the United Nations General Assembly resolution 71/3, “Political declaration of the high-level meeting of the General Assembly on antimicrobial resistance”, which was the outcome of a high-level meeting on antimicrobial resistance at the United Nations headquarters in New York in September 2016 and adopted in October 2016.²
3. The political declaration includes commitments by Heads of State and Government and representatives of States and Governments to develop their multisectoral national action plans in line with the One Health approach; to mobilize funding for, inter alia, the implementation of these plans and for research and development; to ensure that national plans cover the development of surveillance, monitoring and regulatory frameworks on the preservation, use and sale of antimicrobial medicines; and to increase and sustain awareness of and knowledge about antimicrobial resistance among the public and health professionals.
4. The political declaration also includes three major requests to WHO and its partners. First, it advances the Health Assembly’s request by calling for the finalization by WHO, together with FAO and OIE, of a global development and stewardship framework on antimicrobial medicines and resistance. Secondly, it calls on WHO in collaboration with FAO, OIE, regional and multilateral development banks, including the World Bank, other United Nations agencies and intergovernmental organizations, civil society and multisectoral stakeholders to support national action plans and other activities to counter antimicrobial resistance at national, regional and global levels. Thirdly, it requests the Secretary-General to establish, in consultation with WHO, FAO and OIE, an ad hoc interagency coordination group to provide practical advice on approaches to ensure effective action to address antimicrobial resistance. The political declaration also requested the Secretary-General to submit a report to the General Assembly at its seventy-third session. Responses to these requests are discussed below.

¹ See document EB140/11 and the summary records of the Executive Board at its 140th session, fourth meeting and seventh meeting, section 2.

² Available at: http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/71/3 (accessed 3 March 2017).

5. The Secretary-General announced the establishment of the ad hoc interagency coordination group on 17 March. The group is chaired by the Deputy Secretary-General and WHO's Director-General. The first meeting is expected to be scheduled soon and an update will be given to the Seventieth World Health Assembly.

6. In resolution WHA68.7 (2015) the Health Assembly urged Member States to adapt the global action plan to their national priorities and specific contexts, and to have national action plans on antimicrobial resistance in place by the Seventieth World Health Assembly. WHO, FAO and OIE have published a manual for developing national action plans with a set of accompanying tools.¹ In addition to high-level meetings to generate political interest and support, workshops have been conducted with the active involvement of FAO and OIE in all WHO regions to share these tools and to support countries in elaborating their national action plans. To date, participants from 87 countries have attended these workshops, of which more are planned for later in 2017. The Secretariat has also supported antimicrobial resistance situation analyses, the results of which underpin national action plans, and facilitates coordination and planning meetings. It is drawing up a roster of consultants to support this process. To date, 67 Member States have completed their national action plans on antimicrobial resistance, and a further 62 are in the process of doing so. These represent the largest and most populous countries and include all regions, with a wide range of levels of income and development. More than 6500 million people live in a country that has, or will soon have, a national action plan. Many of the remaining countries are either small or fragile or affected by conflict. There are, however, some parts of the African region where provision of more support is being planned to catalyse progress.

7. Almost all national action plans reflect the One Health approach, with a multisectoral coordination group and actions planned across health, agriculture and other sectors. The challenge now is to implement plans, sustain action and ensure that essential priority actions are incorporated into relevant plans and budgets. There are some actions specific to antimicrobial resistance such as surveillance of antibiotic consumption and resistance patterns, awareness raising and antibiotic stewardship programmes for which the prime focus is management of antimicrobial resistance. There is also a wider range of actions related to antimicrobial resistance, such as infection prevention and control, medicines regulation and management, immunization and strengthening of water sanitation and hygiene provisions, that have much wider public health benefits as well as being vital for the prevention and management of antimicrobial resistance. Support for implementation will come through the relevant programmes and departments in the Secretariat, with coordination by the antimicrobial resistance secretariat, through a specific component of the programme budget.

8. In addition to the increased interest in antimicrobial resistance that was generated by the United Nations General Assembly and regional high-level meetings, awareness of antimicrobial resistance is increasing through targeted media outreach and an ongoing, multi-year campaign, *Antibiotics: handle with care*, aimed at the public, policy-makers, and health and agriculture workers. Led by the Secretariat at headquarters, the campaign is developed and implemented in collaboration with regional offices, FAO, OIE and other partners in the areas of infection prevention and control, water, sanitation and hygiene, maternal and child health, and food safety. Activities during World Antibiotic Awareness Week in 2016 (14–20 November) included the development and dissemination of a comprehensive campaign toolkit for countries, specific messages and materials for different types of health workers, and a series of personal stories from people around the world affected by antibiotic resistance.

¹ Available at: http://apps.who.int/iris/bitstream/10665/204470/1/9789241549530_eng.pdf?ua=1 (accessed 3 March 2017).

Engagement with a broad range of partners, opinion-leading media and the public through social media around the United Nations General Assembly high-level meeting on antimicrobial resistance (New York, 21 September 2016) was highly effective, resulting in unprecedented reporting on the issue and millions sharing WHO's infographics on antimicrobial resistance through Twitter, Facebook and Instagram.

9. The Global Antimicrobial Surveillance System has been established, with 43 countries either enrolled or in the process of so doing. It will initially focus on bacterial pathogens in humans (see paragraph 14 below), and will also collect information on countries' progress in strengthening national surveillance systems on antimicrobial resistance. The System will progressively expand to include other types of surveillance related to antimicrobial resistance and links to other global surveillance systems. Guidance has been revised on the integrated surveillance of antimicrobial resistance in the food chain and laboratory capacity-building. The evidence base on the linkages between humans, animals, the food chain and the environment is being strengthened.

10. Following a recommendation from FAO/OIE/WHO tripartite expert meetings in 2002 and 2003, WHO developed a list of Critically Important Antimicrobials for Human Medicine (WHO CIA List) in 2005, which has been subsequently revised.¹ The list ranks antimicrobial agents according to their importance in human medicine, with the objective of helping to prioritize antimicrobial resistance containment strategies related to their non-human use. WHO is currently developing a guideline on the use in food-producing animals of the antimicrobials included in the list, with the objective of preserving their effectiveness and protecting public health.

11. A methodology for monitoring antibiotic consumption at national levels has been developed, with participants from 35 countries having been trained; a further three regional workshops are planned for the end of March 2017. At country level the Secretariat is supporting 40 to 50 Member States. Protocols to measure antibiotic use in a standard way in hospitals are also being developed.

12. Prevention of infections is critical to reducing the need for antibiotics and controlling the spread of resistant microorganisms. In addition to ongoing work on immunization, new recommendations on infection prevention and control were recently published, including global guidelines on the prevention of surgical site infection² and guidelines on core components of infection prevention and control programmes.³ Assessment tools and practical manuals for implementation of core components of infection prevention and control, in particular in low-resource settings, and prevention and control guidelines for reducing infections with carbapenem-resistant Gram-negative bacteria in health care are being developed in close coordination with the planned update during 2017 of WHO's infection control guidance for tuberculosis (which requires containment measures and laboratories to reduce or prevent airborne transmission).

¹ WHO. Critically important antimicrobials for human medicine, 4th revision, 2013. Geneva: World Health Organization; 2016 (<http://apps.who.int/iris/bitstream/10665/251715/1/9789241511469-eng.pdf?ua=1>, accessed 13 March 2017).

² WHO. Global guidelines on the prevention of surgical site infection. Geneva: World Health Organization; 2016 (<http://www.who.int/gpsc/ssi-prevention-guidelines/en/>, accessed 13 March 2017).

³ WHO. Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level. Geneva: World Health Organization; 2016 (<http://www.who.int/gpsc/ipc-components-guidelines/en/>, accessed 13 March 2017).

13. The antibiotic chapter of the WHO Model List of Essential Medicines, which is being updated and will be published in May 2017, will offer guidance on management of major infective syndromes. Guidelines on the management of the five most common paediatric infections have also been revised. Several medications for tuberculosis, which are not yet on the Model List, are being considered for addition to the tuberculosis section of the List. Appropriate use of antibiotics is being supported through ongoing programmes in medicines management in many countries.

14. WHO has also issued a list of priority antibiotic-resistant bacterial pathogens where new medicines are most urgently needed.¹ WHO restates the importance of research and development into interventions for tuberculosis as a major global priority. Work is ongoing to monitor the pipeline for new antibiotics under development, and antimicrobial resistance is now more explicitly considered as a factor in prioritizing new vaccine development. The Global Antibiotic Research and Development Partnership is a new facility for antibiotic development.² Its initial focus will be on new products with global application for gonorrhoea and neonatal sepsis; it will also review opportunities for new combinations of medicines and adjustments of current formulations for greater efficacy. WHO is active in providing technical support to the Partnership.

15. WHO, FAO and OIE have developed a monitoring questionnaire to review and summarize each country's progress; this will provide information for reporting at the global level. Responses to the questionnaire will also be used to guide follow-up actions and identify areas where assistance and support are required. The questionnaire asks countries to assess their progress with multisectoral engagement, development of a national action plan and implementation of key actions to tackle antimicrobial resistance; it includes questions on key components of the global action plan on antimicrobial resistance in human health, animal health, crop production, food safety and the environment. Results will be released on line for the Seventieth World Health Assembly and meetings of the governing bodies of FAO and OIE, and published on the WHO's website for the Global Health Observatory. Self-reported data will be periodically verified through the Joint External Evaluation of the International Health Regulations process. In parallel, the Secretariat is developing a broader monitoring framework for implementation of the global action plan on antimicrobial resistance. A draft framework has been distributed for consultation across the Organization and with FAO and OIE. The Secretariat will consult more broadly with Member States and other stakeholders to finalize indicators and build consensus on measurements needed at global, regional and national levels.

16. Since the adoption of the global action plan on antimicrobial resistance, the Secretariat has expanded efforts to prevent and control drug resistance in HIV, tuberculosis and malaria. Multidrug-resistant tuberculosis has already reached the level of a public health crisis in many countries, causing an estimated 250 000 deaths in 2015. At present, 83 countries conduct continuous surveillance of tuberculosis drug resistance and an additional 72 countries run periodic surveys. In 2016, WHO issued new guidelines on programmatic management of multidrug-resistant tuberculosis, recommending a shorter treatment regimen for most patients with multidrug-resistant tuberculosis.³ It also approved a rapid test that enables the triage of such patients in order to ensure that they receive the appropriate treatment, and revised the composition of antibiotic combinations for patients who need longer

¹ Available at: http://www.who.int/medicines/publications/WHO-PPL-Short_Summary_25Feb-ET_NM_WHO.pdf (accessed 10 March 2017).

² <http://www.dndi.org/diseases-projects/gardp/> (accessed 13 March 2017).

³ WHO treatment guidelines for drug-resistant tuberculosis – 2016 update. Geneva: World Health Organization; 2016 document WHO/HTM/TB/2016.04 (<http://www.who.int/tb/areas-of-work/drug-resistant-tb/MDRTBguidelines2016.pdf>, accessed 30 November 2016).

treatment regimens, including children. Recognizing the need for a coordinated global effort to prevent HIV drug resistance and ensure effective first-line antiretroviral treatment, WHO is leading the development of a global action plan on HIV drug resistance (2017–2021). Guidance on global and national responses to increasing HIV drug resistance is being prepared and is due to be disseminated in the second quarter of 2017. The Secretariat is also preparing a global report on HIV drug resistance, based on data for the period 2014–2016.

17. Antimalarial resistance is being monitored globally and resistance management strategies are being implemented. The biggest threat is in the Greater Mekong subregion where multidrug resistance, including resistance to artemisinin-based combination therapy, has emerged. A WHO regional hub was established in Cambodia in 2013 to provide dedicated support to countries and to coordinate partners. Intensive monitoring and management strategies are now part of the subregional malaria elimination effort launched by WHO in May 2015. WHO is also supporting therapeutic efficacy monitoring programmes in sub-Saharan Africa, where the heaviest malaria burden is, and maintains a global antimalarial drug resistance database. Given high treatment coverage rates for neglected tropical diseases in sub-Saharan Africa and South-East Asia, WHO is tracking anthelmintic medicines efficacy and is coordinating the testing of several combinations of medicines for the eventuality that resistance emerges. The UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases, hosted by WHO, is building country capacities to understand the current global situation of antimicrobial resistance and is contributing to the global effort on anthelmintic medicine response and resistance.

18. In resolution WHA68.7 (2015) the Health Assembly also requested the Director-General “to develop, in consultation with Member States¹ and relevant partners, options for establishing a global development and stewardship framework to support the development, control, distribution and appropriate use of new antimicrobial medicines, diagnostic tools, vaccines and other interventions, while preserving existing antimicrobial medicines, and promoting affordable access to existing and new antimicrobial medicines and diagnostic tools, taking into account the needs of all countries, and in line with the global action plan on antimicrobial resistance”. The Sixty-ninth World Health Assembly noted the progress being made at that time in implementing the resolution.² The Secretariat continues working to meet this and the similar request of the United Nations General Assembly in its political declaration on antimicrobial resistance (adopted in resolution 71/3) by consulting Member States as well as FAO and OIE. The Secretariat will make available a draft road map on how to work towards the finalization of the global development and stewardship framework, including Member States, FAO, OIE and all other relevant stakeholders, on the WHO website, in order to inform the discussion at the Seventieth World Health Assembly.

ACTION BY THE HEALTH ASSEMBLY

19. The Health Assembly is invited to note the report.

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¹ And, where applicable, regional economic integration organizations.

² See summary record of the Sixty-ninth World Health Assembly, Committee A, sixth meeting and seventh meeting, section 3 (document WHA69/2016/REC/3).