Member States have identified health security, including antimicrobial resistance (AMR), as a priority for WHO’s work in the Region in the coming years. The Regional Committee endorsed the Action Agenda for Antimicrobial Resistance in the Western Pacific Region in 2014, but progress has been uneven in tackling the complex challenges and drivers of AMR. Countries now have varying capacities and resources to address AMR and its consequences, which makes AMR a threat to all countries in today’s environment of increased international travel and trade.

In addition to potentially reversing many hard-fought health gains globally, AMR threatens future progress on health on several fronts, from universal health coverage and health security to achievement of the Sustainable Development Goals. This draft framework looks at new ways of working to slow the spread of AMR and address its impact on health and overall development in the Region. It guides countries in implementing sustained and future-oriented solutions based on national contexts with broad societal participation, aimed at promoting behaviours focused on future health and well-being.

The Regional Committee for the Western Pacific is requested to consider for endorsement the draft Framework for Accelerating Action to Fight Antimicrobial Resistance in the Western Pacific Region.
1. CURRENT SITUATION

Antimicrobial resistance (AMR) is an ever-present threat to global health security and to the achievement of universal health coverage (UHC) and the Sustainable Development Goals (SDGs). AMR is outpacing efforts to contain it, as new resistant pathogens emerge and spread globally. If no additional action is taken, AMR is projected to cause up to 10 million deaths a year by 2050, and 4.5 million of those lives lost would be in the Asia Pacific region.

WHO recently raised a global warning that infections resistant to carbapenem antibiotics are a significant threat to public health. Organisms resistant to carbapenem and other multidrug treatments are becoming widespread in health-care settings in the Western Pacific Region. Australia, China, Hong Kong SAR (China), Japan, Malaysia, New Zealand, the Philippines, Singapore and Viet Nam have reported cases of increased resistance, resulting in high mortality and prolonged hospitalization.

Hardest hit by AMR are the poor and vulnerable, those least able to afford effective antibiotics. The World Bank estimates that AMR will cause economic losses equivalent to 3.8% of the global gross domestic product by 2030, potentially pushing 28 million more people into extreme poverty by 2050. Children up to 12 months of age and adults aged 70 years and older are most likely to develop resistant infections. In Japan, for example, 80% of the cases with carbapenem resistance are among people 65 years old and above.

AMR threatens to reverse the gains achieved in public health programmes, including tuberculosis (TB), malaria, and HIV and other sexually transmitted infections. By 2017, around 558 000 people globally had developed TB that was resistant to rifampicin. Of these cases, 82% had multidrug-resistant TB, which requires longer treatment as well as more expensive and more toxic drugs. In addition, a pandemic of extensively drug-resistant Neisseria gonorrhoeae infection could have serious public health consequences. Resistance to antimalarial drugs has been observed in the Greater Mekong Subregion (GMS) with partial resistance to artemisinin and other antimalarials emerging independently in multiple areas in the past decade.

The Action Agenda for Antimicrobial Resistance in the Western Pacific Region, endorsed by the WHO Regional Committee for the Western Pacific in 2014, focused actions on the containment of AMR through: (1) developing national action plans and efforts to increase awareness in other sectors; (2) improving AMR surveillance and monitoring of antimicrobial consumption; and (3) strengthening health systems to contain AMR.
Progress in implementing the 2014 Action Agenda has been uneven. In particular, countries with fewer resources face enormous challenges, such as poor access to clean water and adequate sanitation and hygiene, which hinder even the most basic measures for infection prevention and control. While the overuse and misuse of antimicrobials continue across and within specific areas of countries, access to basic health services and quality-assured medicines to treat life-threatening infections is a serious concern for many.

These problems demonstrate that AMR issues are systemic in nature and require long-term planning and sustained actions beyond the health sector. A number of countries in the Region have established national multisectoral coordination mechanisms using a One Health approach, but coordinating and sustaining commitment across sectors has been difficult.

Meanwhile, other complex health challenges continue, including: disease outbreaks and health emergencies, the rising burden of noncommunicable diseases, inequities concerning access to basic health services, and disasters and the impact of climate change. Tackling these issues, while also attempting to combat AMR, puts enormous pressure on countries. As a result, new ways of working are necessary, including strengthening health systems as the foundation for sustained actions, working beyond the health sector and on the ground with forward-looking solutions, and understanding country contexts and needs in an effort to create a more meaningful and lasting impact.

2. ISSUES

2.1 AMR is an ever-present threat to health security and the achievement of UHC and the SDGs

AMR is a natural phenomenon that is accelerated by the overuse and misuse of antimicrobials. Organisms that are originally susceptible to antimicrobials will become resistant to them over time as a result of mutations or acquisition of external genetic material. More than 100 different types of resistance have been observed over several decades, indicating that the development and emergence of resistance will most likely continue.

The most serious impact of AMR is a decline in the effectiveness of antimicrobials to treat infections. Without effective antibiotics, the success of major surgery and cancer chemotherapy would be compromised. The impact on health systems is serious, including increased mortality and morbidity from infectious disease, prolonged hospital stays and increased cost of care. For many countries, AMR can impede the achievement of UHC.
Drug-resistant bacteria can circulate in human and animal populations through food, water and the environment, and their transmission is influenced by trade, travel, and both human and animal migration. AMR affects animal health and the sustainability of the food systems, and it also results in economic loss. AMR also impedes progress towards the SDGs.

Human activities and development accelerate AMR. These include the overuse and misuse of antimicrobials, the spread of resistance, the transmission of infections and contamination of the environment. More than 50% of antimicrobial use in the human sector is inappropriate, with up to 60% of antibiotics being sold without a prescription. The global use of antimicrobials in meat production is expected to grow by 67% between 2010 and 2030. The environment, a melting pot of resistant microbial populations, acts as a direct vehicle for transmission to humans and animals.

An emerging issue is travel and medical tourism, including overseas medical referrals, which small island countries have been using as a way of addressing complicated and serious medical conditions. The exchange of patients across borders and the implications in terms of AMR transmission and the emergence of new resistance patterns are not well documented, but the risks are well recognized.

The natural occurrence of AMR and the development and societal issues that drive its emergence mean the problem will persist. Interventions to reduce its impact on human health and development must, therefore, be sustainable and aim to get ahead of the so-called AMR curve. Sustainable interventions will, in principle, be anchored on mechanisms, systems or structures that are part and parcel of governance, disease control, or public protection and safety. This would involve using and strengthening existing systems as the foundation for programmatic interventions.

### 2.2 AMR affects everybody

The 2015 *Global Action Plan on Antimicrobial Resistance* recognized that AMR will affect everybody and, thus, requires whole-of-society engagement. Every sector, according to their respective mandates, resources and influence, must work to promote best practices and strengthen systems to control and monitor the drivers of AMR.

The draft *Framework for Accelerating Action to Fight Antimicrobial Resistance in the Western Pacific Region* reiterates the need for the health sector to work beyond health, across different sectors and involving stakeholders, the private sector and civil society.

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1 The rising AMR curve depicts AMR as a natural phenomenon that will continue to progress (horizontal progression) and increase (vertical progression as a result of growing resistance to a wide number of antimicrobials).
In the Region, 11 Member States so far have established multisectoral mechanisms to combat AMR, although there have been challenges in terms of coordination, sustained commitment and defining concrete outcomes. The Framework proposes a new way of working beyond health, such as creating a popular movement to mobilize population-based support to combat AMR. The aim is to begin a long-term value formulation – emphasizing the value of protecting self, society and future generations – that will shift short-term interests (including incentives and profit) towards better collective behaviour.

2.3 AMR needs to be approached with the future in mind

The current impact of AMR is the result of the evolution of resistance accelerated by human activities in the distant and immediate past. Upon his discovery of penicillin in 1928, Alexander Fleming envisioned and warned of antibiotic resistance. The world acknowledged the impact of resistance, but until recently did not systematically plan to avert AMR. This has resulted in a collective shortfall of sustained, long-term and future-oriented solutions, leaving the world unprepared to combat AMR.

Interventions and responses should be developed by starting with a clear projection of the future AMR scenario and working on steps to avert that situation through long-term planning. Using such a backcasting approach – working backwards from a longer-term goal or vision and developing the steps to reach a desired outcome – is one of the operational shifts proposed in *For the Future: Towards the Healthiest and Safest Region*, a document prepared in consultation with Member States, partners and other stakeholders that will guide WHO work in the Region for the next five years. The document lays out thematic priorities and operational shifts to help countries address the complex issues relating to health and development.

Applied to AMR, backcasting will help avert a future crisis through a long-term plan that maps steps that begin now. However, this does not mean reinventing systems and interventions. Good country examples exist, such as the ban on using antibiotics as growth promoters in agriculture in Europe and the recent reversal of the registration of fluoroquinolones\(^2\) in the veterinary sectors by the Food and Drug Administration in the United States of America. These steps are part of long-term plans to combat overuse and misuse of antibiotics to slow the progression of AMR.

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\(^2\) A class of broad-spectrum antibiotics often used to treat urinary and respiratory tract infections and life-threatening infections. These drugs are on WHO’s watch list because of the high risk of resistant pathogens.
2.4 AMR affects different countries differently

AMR is a universal problem, while sustainable solutions are local and largely underpinned by the culture, way of life and political contexts of countries. Even the epidemiologic nature of antimicrobial-resistant infections and patterns of antibiotic use vary.

Efforts to tackle AMR must take consider the specific situation in countries, with special attention to reducing the fragility of health systems and strengthening local intelligence to guide policy- and decision-making as well as to formulate regional and global strategies and interventions.

Global efforts and external funding for AMR have trickled down to countries, but many countries report a lack of a concrete and demonstrable impact for several reasons: (1) support has been undertaken through research and projects by institutions outside government, as donors often do not trust capacity within government to implement technical programmes such as AMR surveillance; (2) governments require long-term plans to determine where external support can be aligned and situated; and (3) human resources and institutional capacity need to be strengthened, especially in less-resourced settings. Long-lasting country impact and sustainable solutions supported by sustained domestic investment must be built from the ground up and must be country led.

3. ACTIONS PROPOSED

The Regional Committee for the Western Pacific is requested to consider for endorsement the draft framework, *Framework for Accelerating Action to Fight Antimicrobial Resistance in the Western Pacific Region.*