



International collaborations to share successes and lessons learned on AMR domestically and abroad

Executive Summary

- Antimicrobial resistance is a threat to global health security. Japan has been working with the international community to promote a “One Health” approach to tackle the issue.
- Rapid economic development and urbanization has made South East Asia increasingly susceptible to AMR.
- While international collaboration on AMR has intensified since the 2000s, low- and middle- income countries lack the resources to manage AMR despite facing a disproportionate burden from the problem.
- Japan should foster collaborations with countries in tackling AMR by supporting initiatives to strengthen surveillance and promote antimicrobial stewardship.

Introduction

With the spread of AMR throughout the world, it has become clear that unilateral responses are not enough to tackle antimicrobial resistance effectively. AMR is a transnational threat to the health of communities across the globe, and as such Japan and other countries have been promoting international collaborative efforts to address this problem.

“One Health” has recently been the focus of international collaboration on AMR. According to the WHO, “One Health” is “an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes.”¹ Specifically, the “One Health” approach focuses on the intersection of human health, animal health, and environmental health. Antimicrobials are used for agriculture and livestock and may contaminate the surrounding environment. Moreover, antimicrobial resistance organisms may use animals as reservoirs and potentially spread to humans.

Background of the Issue: Japan

All of its international cooperative efforts are guided by the Japanese Government’s vision of making a “proactive contribution to peace.”² Japan has worked to achieve this vision through a number of means, not the least of which are its initiatives to promote the concept of “human security” throughout the world. Japan regards health security as an indispensable element of human security.³ As part of those efforts, Japan has been promoting global action on communicable diseases and addressing the challenge of antimicrobial resistance.

One area internationally where Japan has been working to promote AMR measures is the Asia-Pacific region. This is a region that is seeing rising antimicrobial use, with usage expected to further increase as much as 200% in countries such as Myanmar and Indonesia by 2030.⁴ AMR surveillance in the region is currently limited, with no regional AMR surveillance network like the European Antimicrobial Resistance Surveillance Network (EARS-Net) or the Central Asian and Eastern European Surveillance of Antimicrobial Resistance (CAESAR).⁵

In response to this situation, Japan has taken actions to increase the significance of AMR in the Asia-Pacific region. In 2016, Japan held the Biregional Technical Consultation on Antimicrobial Resistance in Asia to strengthen international collaboration and determine the appropriate strategies for tackling antimicrobial resistance in the region.⁶ The meeting resulted in

recommendations focused on themes such as harmonizing standards and methodologies for surveillance of AMR and antimicrobial consumption, strengthening human and animal health networks, sharing national experiences of successful regulatory practices, and building regional capacities and mechanisms to enhance research and development of diagnostics, vaccines, and antimicrobials. Also, in 2018, Japan signed the ASEAN Plus Three Leaders' Statement on Cooperation against AMR, recognizing the need for regional collaboration.⁵

Stakeholders and Countermeasures: Japan

Stakeholder	Countermeasure
Ministry of Health, Labor and Welfare	<ul style="list-style-type: none"> • ASPIRE – strengthen surveillance system and laboratory network; health-care management; antimicrobial access and regulation; and research and development. One Health Approach.⁶ • Tokyo AMR One Health Conference (February 2019) - representatives from the ministries of health and agriculture from 17 countries of Asia-Pacific and related partners.⁶ • Japan has supported platforms for discussing AMR in Africa, such as the Tokyo International Conference on African Development and Nikkei Asian Africa Conference on Communicable Disease.⁷
National Institute of Infectious Diseases (NIID)	<ul style="list-style-type: none"> • The provision of data from Japan to the WHO Global Antimicrobial Resistance Surveillance System (GLASS).⁸
G7/G20 and Global AMR R&D Hub	<ul style="list-style-type: none"> • Since 2016, Japan has played a pivotal role in making AMR a global agenda item. The G7/G20 has discussed AMR in relation to the One Health approach, R&D, antimicrobial stewardship, and health security. • G20 Osaka Summit (2019) - Interested G20 members and Global AMR R&D Hub were called upon to analyze push and pull mechanisms to identify best models for AMR R&D and to report back to relevant G20 Ministers.⁹
Ministry of Agriculture, Forestry and Fisheries (MAFF)	<ul style="list-style-type: none"> • Provides inputs into the Terrestrial Animal Health Code of World Health Organization for Animal Health and Code of Practice and Guidelines of the Codex Alimentarius Commission.¹⁰

Background of the Issue: Global

Efforts to combat AMR started taking place in the 1990s, and were intensified through the 2000s, especially in the 2010s, with not only countries, but international organizations, publicly recognizing the need to collaborate and take multilateral actions to address antimicrobial resistance.

Since 2016, the One Health Approach has received consistent focus in the G7/G20 meetings as the appropriate framework to deal with AMR. It was discussed during the meetings in 2016 in Japan, in 2017 in Germany and Italy and in 2018 in Argentina and Canada. G7/G20 meetings have also discussed AMR in relation to antimicrobial stewardship, R&D, and health security.

In 2016, the Member States of the United Nations General Assembly adopted the Political Declaration of the High-level Meeting on Antimicrobial Resistance, which established the ad hoc Interagency Coordination Group on Antimicrobial Resistance (IACG).¹¹ IACG works with the World Health Organization, the Food and Agriculture Organization, and the World Organization for Animal Health "to provide practical guidance for approaches needed to ensure sustained effective global action to address antimicrobial resistance," taking into account the Global Action Plan on Antimicrobial Resistance. Following IACG's leadership and collaborative efforts, other international organizations are also undertaking multi-sectoral action to curb AMR.

Stakeholders and Countermeasures: Global

Stakeholder	Countermeasure
The World Health Organization (WHO)	<ul style="list-style-type: none"> • Global Antimicrobial Resistance Surveillance System (GLASS) – standardizes and collects AMR surveillance data across participating countries. Every year, National Focal Points (NFPs) provide data on the status of national AMR surveillance and GLASS implementation, as well as aggregated AMR data.¹² • WHO Global Action Plan on AMR – in 2015, WHO created the Global Action Plan, setting out five objectives – awareness, surveillance and research, prevention, antimicrobial stewardship, and investment.¹³ • The Global Action Plan on AMR can be used as framework for countries in drafting and implementing National Action Plans.¹³
Global AMR R&D Hub	<ul style="list-style-type: none"> • 15 countries, the European Commission and two philanthropic organizations collaborate on AMR R&D.¹⁴

Stakeholder	Countermeasure
Food and Agriculture Organization (FAO)	<ul style="list-style-type: none"> • FAO Action Plan on Antimicrobial Resistance – outlines FAO’s aims in curbing antimicrobial resistance, especially in agriculture. Focuses on improving awareness, developing capacity, strengthening governance, and promoting good practices.¹⁵
World Organization for Animal Health (OIE)	<ul style="list-style-type: none"> • The OIE sets international standards for the proper use of antimicrobials in animals.¹⁶ • Working on developing a worldwide database to monitor the use of antimicrobials in animals. Database will be linked to Worldwide Animal Health Information System.
G20	<ul style="list-style-type: none"> • G20 Okayama Health Minister meeting ministers urged for immediate action on AMR.¹⁷
United Nations	<ul style="list-style-type: none"> • UN General Assembly (2016) recognized AMR as a global threat and has assisted in the development and implementation of National Action Plans.¹⁸ • The Interagency Coordination Group (IACG) – WHO, FAO and OIE drafted a report for the Secretary-General of the UN with recommendations on tackling AMR.¹¹
Transatlantic Taskforce on Antimicrobial Resistance (TATFAR)	<ul style="list-style-type: none"> • Collaboration between North American and EU to implement One Health Approach to improve appropriate therapeutic application of antimicrobial drugs for both medical and veterinary uses; to prevent drug-resistance infections in communities and healthcare; and to develop strategies to improve the pipeline of new antimicrobials.¹⁹
Regional collaborations	<ul style="list-style-type: none"> • European Centre for Disease Prevention and Control - EARS-Net collects clinical antimicrobial susceptibility data from local and clinical laboratories for the European Union.²⁰ • Pan American Health Organization - the Latin American Surveillance Network on Antimicrobial Resistance collects data from 21 countries of the Americas.²¹ • Since September 2020, the U.K. and India have established five projects for the research and development of drug-resistant bacteria, totaling £8 million.²²
Private sector	<ul style="list-style-type: none"> • The AMR Industry Alliance – coalition of over 100 life-science companies working to tackle antimicrobial resistance.²³
Civil society	<ul style="list-style-type: none"> • ReACT- an independent network of medical providers, academics, civil society, and other stakeholders to curb antimicrobial resistance.²⁴

AMR Industry Alliance Recommendations

- Efforts for the Asia-Pacific One Health Initiative on AMR (ASPIRE) should be commended. Japan should continue to request cooperation and call on other countries based on a One Health approach in order to prevent the spread of AMR.
- The Government should construct a domestic surveillance system linking data on measures to promote antimicrobial stewardship, information on the incidence of AMR infections, and information on the use of antimicrobials. Having done so, the Government should spread that system to Asia and the rest of the world, thereby assuming global leadership on AMR countermeasures.
- The Government should enhance support for initiatives to provide guidance on the use of antimicrobials in developing countries, based on the 8 recognition that active support for countries overseas will lead to the strengthening of domestic AMR countermeasures. In undertaking support for developing economies, the Government should promote the creation of a cooperative system that will dispatch not only licensed medical professionals, but other personnel with needed skills and knowledge as well.

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