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**Name of the University, Hospital, Research Institute, Academy or Ministry**

National Center for Global health and Medicine

**Name of the Division, Department, Unit, Section or Area**

AMR Clinical Reference Center

**City** Shinjuku-ku **Reference Number** JPN-98

**Title** WHO Collaborating Center for prevention, preparedness and response to Antimicrobial Resistance

**Report Year** 02-2022 to 02-2023

**1. Annual report on the agreed workplan**

**Describe progress made on the agreed workplan. For each activity, detail (1) the actions taken, (2) the outputs delivered, as well as (3) any difficulties that may have been encountered. Three responses are expected. [maximum 200 words per activity]. Indicate, if an activity has been completed previously, has not yet started or has been placed on hold.**

**Activity 1**

Title: 1. To provide support to WHO in developing and conducting training and mentoring activities for planning, development and implementation of antimicrobial stewardship and infection prevention and control activities, based on the request of WHO

Description: Member States have expressed their interest in receiving the technical support required to create capacities at national, subnational and facility level, in order to strengthen IPC and antimicrobial stewardship. The deliverables will support WHO's work with Member States towards strengthening their capacity for IPC and antimicrobial stewardship

Status: ongoing

Dr. Norio OHMAGARI, Dr. Nobuaki MATSUNAGA, Dr. Haruhiko ISHIOKA, and Dr. Akane ONO from NCGM attended the Tokyo Antimicrobial Resistance (AMR) One Health Conference hosted by Japanese Ministry of Health, Labour, and Welfare on February 17, 2023. We introduced some of the initiatives and achievements of Japan's National Action Plan on AMR to countries in the World Health Organization (WHO) Western Pacific Region and South East Asian Region, also with invitation of Prof. Masaru Usui from Rakuno Gakuen University in Japan and Dr. Archawin Rojanawiwat from National Institute of Health Department of Medical Sciences in Thailand to make presentations. From NCGM, we reported the progress of our antimicrobial stewardship introduction towards countries of the WPRO and presented the antimicrobial surveillance in Japan. We also showed our plan of the introduction of the Japanese manual of antimicrobial stewardship and antimicrobial stewardship program in hospitals.

**Activity 2**

Title: 2. To inform WHO's work as a core member of the AMR consortium through the provision of technical inputs

Description: In order to support WHO's work as a leading participant of the AMR consortium, technical inputs in specific areas of work related to AMR are required from other institutions, which may inform the technical work conducted by WHO in such context

Status: ongoing

Dr. Norio OHMAGARI, Dr. Nobuaki MATSUNAGA, Dr. Haruhiko ISHIOKA, and Dr. Akane ONO, with Prof. Masaru USUI from Rakuno Gakuen University in Japan and Dr. Archawin Rojanawiwat from National Institute of Health Department of Medical Sciences in Thailand participating and speaking, attended the Tokyo AMR One Health Conference and discussed initiatives and achievements of Japan's National Action Plan on AMR (conducted by Japan's Ministry of Health, Labor, and Welfare [MHLW] on February 17, 2023) to SEAR and WPR countries. We led the Working Group 3 on behalf of Japan's MHLW and intend to initiate the following activities. Dr. Norio OHMAGARI chaired with presentation by Dr. Haruhiko ISHIOKA, Prof. Masaru USUI and Dr. Archawin Rojanawiwat. From NCGM, we presented regulations and enforcement of the antibiotic prescription for selected countries. We will proceed our activity to obtain updated situation of prescription antimicrobials not only in human area but also in animal area. Prof. USUI introduced guidelines for antimicrobial use in Porcine Respiratory Disease Complex from Japan. Lastly, Dr. Archawin presented the case study from Thailand regarding to the approach to AMR control from one-health perspective chaired the session and led the discussion.

### **Activity 3**

Title: 3. To provide technical inputs to inform WHO's work towards the development of AMR advocacy and awareness strategies and tools, to help champion AMR beyond the health sector in WPR Member States (particularly priority LMICs)

Description: The Framework for Accelerating Action to Fight Antimicrobial Resistance in the Western Pacific Region advances the formation of a movement to fight AMR as an overarching principle to mobilize mass action, underpinned by value formation – of protecting self, society and future generations. The aim is to support WHO's efforts in order to recast AMR as a political and social issue and ingrain collective behavior change through incremental, yet sustained, awareness-raising and adoption of good practices to reach a level whereby acting responsibly to combat AMR will become a societal norm and a way of life. WHO will use the technical support from the institution in order to inform its work towards the design of awareness raising strategies and strategic communication tools, to enable communities to combat AMR

Status: ongoing

Dr. Yumiko Fujitomo worked with academic groups to translate the WHO hand hygiene campaign posters and distribute them to healthcare facilities in the World Antimicrobial Awareness Week (WAAW) campaign (November, 2022).

ICARS (International Centre for Antimicrobial Resistance Solutions) is an organization that supports the fight against AMR in LMICs. We collaborated with them on activities where Japan and Denmark work together to support the fight against AMR in Asia. Dr. Norio OHMAGARI, Dr. Nobuaki MATSUNAGA, Dr. Yumiko Fujitomo, Dr. Shinya Tsuzuki, Dr. Haruhiko ISHIOKA, and Dr. Akane ONO exchanged views with ICARS members on microbiological and one-health surveillance. Dr. Norio OHMAGARI attended a meeting in Denmark-Japan AMR Expert Meeting.

The institution participated in the fourth Regional Forum of WHO Collaborating Centers in the Western Pacific (November 28-29, 2022, Siem Reap, Cambodia). At the meeting, we discussed that WHO and CCs work together at the strategic planning stages to best leverage the breadth of expertise, capacities, networks and resources of the CCs to broaden CC contributions to accelerating implementation of For the Future.

### **Activity 4**

Title: 4. Provision of technical support to assist WHO's work in the response to infectious disease outbreak including AMR pathogens, as requested

Description: Technical support provided by the institution will assist WHO's activities to deal with outbreak response, in particular AMR pathogens in the Western-Pacific Region

Status: ongoing

Under the Global Outbreak Alert and Response Network project, Dr. Shinya TSUZUKI and Dr. Yusuke ASAI were deployed to the WPRO as data management officers between November 2021 to February 2022 and December 2021 to March 2022, respectively. These researchers were involved with the management of epidemiological data associated with coronavirus disease (COVID-19). They prepared daily reports of the epidemiological situation of COVID-19 in the WPR and forwarded this information to the World Health Organization Health Emergency Team Lead and Information and Planning Pillar. They also provided current information regarding the epidemic and public health countermeasures in Japan through regular meetings, discussions, and presentations. Deployment of these researchers led to appropriate maintenance and improvement in the data aggregation system.

#### **Activity 5**

Title: 5. To assist WHO's work in the provision of technical assistance to support preparedness for outbreak due to AMR pathogens, including technical assistance for IPC, AMS, diagnostic stewardship and clinical management

Description: Technical support provided by the institution will assist WHO's efforts towards building capacities in the Western-Pacific Region on outbreak preparedness due to AMR pathogens

Status: ongoing

Dr. Norio OHMAGARI, Dr. Nobuaki MATSUNAGA, Dr. Haruhiko ISHIOKA, and Dr. Akane ONO attended the Tokyo Antimicrobial Resistance (AMR) One Health Conference and described the initiatives and achievements of Japan's National Action Plan on AMR (conducted by Japan's Ministry of Health, Labor, and Welfare on February 17, 2023) to the WPRO countries. We also described the role of the antimicrobial stewardship team (AST) in hospitals across Japan. We discussed the importance of the AST and the systems implemented to support the appropriate use of antimicrobials.

Mr. Koizumi collaborated with participant members and staff of the Infection Control Department of a hospital in Hoa Binh Province, Viet Nam, on nosocomial infection control measures through field training provided by bureau of international health cooperation of NCGM International Medical Cooperation Bureau. They examined measures and assessment methods for the discharge of wastes at risk of infection. They introduced lectures on proper waste disposal for hospitalized patients and their families and produced awareness-raising materials (posters, videos).

#### **Activity 6**

Title: 6. To assist WHO's work in the provision of technical assistance to support antimicrobial consumption monitoring, through capacity building for WPR Member States and by providing technical support to WHO's activities in the contents of WPRACCS

Description: Technical expertise provided by the institution will assist WHO's efforts towards advancing antimicrobial consumption monitoring in the WPR region to improve antimicrobial stewardship

Status: ongoing

The Antimicrobial Resistance Clinical Reference Center members informed the WPRO on the methodology adopted by the Japanese antimicrobial use surveillance system, the provision of information, and management of data regarding the methodology of the Western Pacific Regional Antimicrobial Consumption Surveillance System (WPRACSS), which WPRO has launched. We also provided advice on the online dashboard, which is being developed by WPRO as an important monitoring component of the WPRACSS. Following a request from the WPRO, data on the volume of antimicrobials exported and produced in Japan was applied for and obtained to form another national level consumption monitoring system in Japan. An analysis is currently being conducted to provide the information.

With request from WHO, Dr Kei YAMAMOTO reviewed and gave expert advice on the first AMR national surveillance bulletin for Cambodia, which was published in December 2022.

Mr. Ryuji KOIZUMI reviewed and submitted applications for antimicrobials that are currently unregistered in the Anatomical Therapeutic Chemical/Defined Daily Dose system for drug statistics conducted by a WHO CC (The Norwegian Institute of Public Health, Norway, NOR-11). We responded for approximately 2 days in January and August. One antimicrobials were registered for antimicrobial consumption surveillance and one are under application.

## 2. Annual report on other activities requested

**Should WHO have requested activities in addition to the agreed workplan, please describe related actions taken by your institution [maximum 200 words]. Please do not include in this report any activity done by your institution that was not requested by and agreed with WHO.**

Requested by WPRO, based on the expert advice from Dr YAMAMOTO, CARBGEM Inc. developed an AI application that can identify the name of bacteria from microscopic images of gram-stained bacteria (Bacterial infection teller and treatment estimator: BiTTE). This AI application aims to reduce the occurrence of AMR due to inappropriate use of antimicrobial agents through image recognition. This was presented at The Second WHO Innovation Forum in the Western Pacific Region (April 28, 2022) (<https://www.who.int/westernpacific/initiatives/innovation-for-health-impact/innovation-challenge/carbgem>).

Dr. Norio OHMAGARI as a facilitator and members of the AMCRC as co-organisers, attended the high-level conference on “Universal Health Coverage (UHC) in an Era of Antimicrobial Resistance (AMR) and Pandemics” co-organised by Asia-Europe Foundation (ASEF) and the Ministry of Foreign Affairs of Japan (held in Tokyo on 21-22 February 2023). The aim was to identify priority actions for the next steps in addressing this global public health challenge. We and participants agreed on the importance of recognising the linkage between AMR, UHC and Pandemic Preparedness and Response (PPR). It will be essential for governments, as well as financial support from other sources, to confront this challenge, and to establish a global system of cooperation.

## 3. Resources

**Indicate staff time spent on the implementation of activities agreed with WHO (i.e. those mentioned in questions no. 1 and no. 2 above). Do not include any data related to other activities done by your institution without the agreement of WHO. Please indicate staff time using the number of “full-day equivalents” – a day of work comprising 8 hours (e.g. 4 hours work per day for 7 days should be recorded as 3.5 full-day equivalents).**

**Number of staff involved (either partially or fully)**

Senior staff	Mid-career staff	Junior staff, PhD students
7	0	0

**Number of full-day equivalents, total for all staff involved**

Senior staff	Mid-career staff	Junior staff, PhD students
200	0	0

Implementation of the agreed workplan activities (i.e. those mentioned in questions no. 1 and no. 2 above) normally require resources beyond staff-time, such as the use of laboratory facilities, purchasing of materials, travel, etc. Please estimate the costs of these other resources as a percentage of the total costs incurred (e.g. if you incurred costs of USD 100 and the value of your staff time was USD 50 which makes the total of USD 150, please report 33.3% and 66.7%).

Percentage of costs associated with staff time	Percentage of costs associated with other resources	Total
50.00	50.00	100.00

#### 4. Networking

**Describe any interactions or collaboration with other WHO Collaborating Centres in the context of the implementation of the agreed activities. If you are part of a network of WHO Collaborating Centres, please also mention the name of the network and describe your involvement in that network [maximum 200 words].**

The AMCRC performs surveys on the current coronavirus disease (COVID-19) status in Japan, particularly with regard to AMR and antimicrobial usage associated with COVID-19, in collaboration with another WHO CC (Disease Control and Prevention Center, the National Center for Global Health and Medicine [NCGM], JPN-94).

At the request of a WHO CC (Bureau of International Health Cooperation, NCGM, JPN-45), we participated in the 4th WHO CC Conference in Japan in April 2022, which was attended by Dr. Takeshi KASAI, Regional Director of the WPRO.