

## Japanese WHO Collaborating Centres (WHO CCs) fight against COVID-19

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**Abstract:** WHO Regional Office for the Western Pacific (WPRO) organized an online meeting connecting WHO Collaborating Centres (WHO CCs) in the region on 25 August 2020, to share experiences and promote networking on COVID-19 response. The meeting shared regional update on situation and responses, and COVID-19 related experiences of selected WHO CCs, followed by discussions on opportunities for enhancing collaboration between WPRO and WHO CCs. Priorities of WPRO's support to countries included a health systems approach rather than single intervention. On behalf of WHO CCs in Japan, the National Center for Global Health and Medicine (NCGM) delivered a presentation on the results of a survey about COVID-19 related activities of these WHO CCs. These activities were categorized into collaboration with WHO, research and development, public health responses, and clinical services. Collaboration with WHO included sending consultants through the scheme of GOARN, strengthening of COVID-19 testing, and contribution to development of WPRO guidelines. Research and development involved establishment of a nationwide registry of COVID-19 clinical data. Following the meeting, NCGM further enhanced its activities as WHO CC. Since WHO CCs in the country have a wide range of expertise that could contribute to health system strengthening, it is worthwhile for the WHO CCs to consider amending existing work plans for supporting countries in the region to incorporate a health systems approach as part of COVID-19 response strategies.

**Keywords:** COVID-19, World Health Organization (WHO), Collaborating Centre (CC), Western Pacific Region (WPRO)

World Health Organization Collaborating Centres (WHO CCs) are instrumental partners that provide strategic support for implementing WHO's mandate and programmes and in developing and strengthening institutional capacity. Exchange of information and experiences among WHO CCs in Japan has been promoted through networking meetings hosted by the National Center for Global Health and Medicine (NCGM) since 2017. WHO Regional Office for the Western Pacific (WPRO) organized an online meeting connecting WHO CCs in the Western Pacific Region (WPR) amid the COVID-19 response on 25 August 2020. This meeting aimed to share experiences of WHO CCs' response and promote networking on COVID-19 response and towards the "new normal". It was attended by around 250 participants from 10 countries.

At the beginning of the meeting, Dr. Takeshi Kasai, the Regional Director, introduced the overview of the WPRO's new vision paper titled "For the Future"

published in January 2020 (*J*). He expressed his strong expectations that WHO CCs urgently tackle issues related to vulnerable health and social systems, which have surfaced due to the COVID-19 pandemic. It was followed by presentations on regional epidemiological trends and a programmatic update on COVID-19 as well as the online survey on WHO CCs' response to COVID-19. The survey results indicated more than 80% expressed their interest in collaborating to support the COVID-19 response in the region while fewer than 50% were actually working with WHO for that purpose. WPRO requested WHO CCs to consider possible support for WPRO's COVID-19 response structure, discuss possible support with WPRO's focal points for respective WHO CCs, and amend the work plan of each WHO CC as needed. Four WHO CCs in Australia, China, Japan, and Republic of Korea then reported their activities, challenges, and opportunities in responding to COVID-19 in each country. The National Center



**Figure 1. The presentation by NCGM President Norihiro Kokudo at the online meeting connecting WHO CCs in the WPR amid the COVID-19 response on 25 August 2020.** NCGM: National Center for Global Health and Medicine; WHO CCs: WHO Collaborating Centres; WPR: Western Pacific Region.

for Global Health and Medicine (NCGM) delivered a presentation on behalf of WHO CCs in Japan (Figure 1).

Prior to this meeting, NCGM conducted an additional survey to collect detailed information on COVID-19 related activities of WHO CCs in Japan. Out of the 37 WHO CCs (including one CC in re-designation process), 24 CCs responded and 21 CCs indicated they had ongoing or planned activities related to COVID-19. These activities were categorized into the following four domains, and the brief summary of each domain in Table 1 was presented by NCGM during the meeting.

*i) Collaboration with WHO* A WHO CC coordinated the recruitment of consultants, who worked for the WPRO and WHO country office in the Philippines through the scheme of Global Outbreak Alert and Response Network

**Table 1. Main activities by WHO Collaborating Centres (WHO CCs) in Japan**

Items	Activities
<i>i) Collaboration with WHO</i>	<ul style="list-style-type: none"> <li>● Sent technical consultants to Global Outbreak Alert and Response Network (GOARN)</li> <li>● Contributed to Webinars by WHO/WPRO</li> <li>● Provided technical support for handling PCR testing to seven countries</li> <li>● Technical support to WPRO Guidance on COVID-19 for the care of older people and people living in long-term care facilities, other non-acute care facilities and home care</li> <li>● Translated WHO materials into Japanese               <ul style="list-style-type: none"> <li>√ Water, Sanitation and Hygiene (WASH) COVID-19</li> <li>√ Use of Chest Imaging in COVID-19; A Rapid Advance Guide</li> <li>√ Mental health documents related to COVID-19</li> </ul> </li> <li>● Staff members joined WHO movie material</li> </ul>
<i>ii) Research and Development</i>	<ul style="list-style-type: none"> <li>● Established registry of COVID-19 cases all over Japan (6,003 cases/525 institutions registered)</li> <li>● Promoted and conducting clinical trials and various studies on medical treatment</li> <li>● Study on effective border control including SARS-CoV-2 testing at the points of entry</li> <li>● Development of               <ul style="list-style-type: none"> <li>√ vaccine</li> <li>√ testing for SARS-CoV-2 antigen</li> <li>√ test kits (dry LAMP) to differentiate SARS-CoV-2 and Influenza (A&amp;B)</li> <li>√ anti-viral drug herbal medicine</li> </ul> </li> <li>● Survey of sewage and raw water</li> <li>● Planned surveys on               <ul style="list-style-type: none"> <li>√ people's behaviors such as dietary life and physical activities</li> <li>√ impact of COVID-19 on TB programs in several countries</li> </ul> </li> </ul>
<i>iii) Public Health Response</i>	<ul style="list-style-type: none"> <li>● Advice and contribution to national government's COVID-19 responses               <ul style="list-style-type: none"> <li>√ Technical support to the government as leading national institutions</li> <li>√ Outbreak containment operations in the outbreaks on cruise ship</li> <li>√ Screening of COVID-19 infection among returnees on charter flights from Wuhan, China</li> <li>√ Managing temporary accommodation using hotels for isolating positive cases</li> <li>√ Development of national guidelines of COVID-19</li> </ul> </li> <li>● Advice and contribution to Tokyo Metropolitan's COVID-19 responses               <ul style="list-style-type: none"> <li>√ Advice on infection prevention and control</li> <li>√ Management of temporary facility for isolating mild or asymptomatic COVID-19 cases</li> </ul> </li> <li>● Conducted surveillance for COVID-19 and co-infection of COVID-19 and Influenza</li> <li>● Preparation for upgrading quality control system for vaccine importation</li> <li>● Expanded capacity of PCR testing</li> <li>● Supported Ministries to issue circulars on swimming pool, water purification and sewage system</li> </ul>
<i>iv) Clinical Services</i>	<ul style="list-style-type: none"> <li>● Disseminated updated information and provided technical advice on diagnosis, treatment, and infection prevention and control to medical facilities nationwide</li> <li>● Established and coordinated a novel clinical network for early case detection and case management ('Shinjuku Model')</li> <li>● Provided medical services for COVID-19 cases               <ul style="list-style-type: none"> <li>√ Severe cases using respirators and ECMOs</li> <li>√ Adults and children</li> </ul> </li> <li>● Online management of mild cases</li> </ul>

(GOARN) (2). They provided technical assistance on COVID-19 including strengthening of infection prevention and control, staff training, and surveillance. A WHO CC provided technical support for handling Polymerase Chain Reaction (PCR) testing to seven countries including countries in WPRO such as Mongolia and Viet Nam. Technical inputs were also provided for developing WPRO guidelines such as 'Guidance for the care of older people and people living in long-term care facilities, other non-acute care facilities and home care'. Moreover, several WHO materials were translated into Japanese. They included COVID-19 documents concerning water, sanitation, and hygiene (WASH), chest imaging, and mental health.

*ii) Research and Development* A wide range of research and development was underway. Clinical trials on medical treatment, as well as studies on vaccine, testing and medicines have been accelerated (3). A nationwide registry of COVID-19 clinical data was established and 6,003 cases were registered from 525 institutions as of August 2020. It aims to reveal clinical epidemiological characteristics of inpatients in Japan, including comorbidities, progression to severe cases and trend of mortality (4). A study was conducted on epidemiology and quarantine measures (5). Ongoing or planned studies include surveys to examine COVID-19 in sewage and raw water, and to assess the impact of COVID-19 on national tuberculosis programs in low and middle countries, and on people's dietary and physical behaviors.

*iii) Public Health Response* Many WHO CCs have been very active in contributing to the public health response to COVID-19 in Japan. As leading national institutions, several WHO CCs played a central role in advising national and Tokyo metropolitan governments on various technical matters such as outbreak containment operations, infection prevention and control, and surveillance. WHO CCs also contributed to the development of national guidelines and ministerial circulars, and capacity-building of PCR testing.

*iv) Clinical Services* As top referral hospitals, WHO CCs disseminated updated information and provided technical advice on diagnosis, treatment, and infection prevention and control to medical facilities with a view to building the capacity of medical facilities throughout the country for managing COVID-19 cases. It is noteworthy that a novel clinical network model was developed across the continuum of COVID-19 testing, temporary accommodation for asymptomatic or mild cases, and referral of moderate and severe cases to hospitals. Several WHO CCs accumulated extensive experiences of treating and managing very severe COVID-19 cases using respirators and extracorporeal membrane oxygenation (ECMOs).

Moreover, in collaboration with WHO headquarters, WPRO, GOARN and the Japanese research group on human resource development for international

outbreak responses, NCGM as WHO CC organized the first virtual GOARN Tier 1.5 workshop on infection prevention and control (IPC) targeting IPC experts in Japan on 29-30 October 2020. NCGM coordinated the dispatch of a Japanese clinical expert through GOARN for supporting COVID-19 response in Papua New Guinea. Upon request of WPRO, a series of seminars on COVID-19 clinical management were held for clinicians in the region. Further, a training module on preventing and managing COVID-19 cases in medical facilities was developed by NCGM, which will be used in a training course for one of the largest hospitals in Vietnam in early 2021. Regarding research in Japan, the nationwide registry of COVID-19 clinical data was expanded to reach 17,197 cases from 830 institutions as of November 2020. In the area of public health response, NCGM launched an initiative to improve information flow and access to health services, particularly for Vietnamese, Myanmar and Nepalese communities to prevent and address the expansion of COVID-19 transmissions among foreign residents in Japan (6). As for clinical services, NCGM as one of four nationally designated hospitals served 389 COVID-19 patients including very severe cases, as of 12 December 2020 (7).

Regarding the way forward, since the pandemic will likely continue for the next few years, it is critical to establish a sustainable response to COVID-19. Priorities of WPRO's support include: *i)* early detection and targeted response; *ii)* expanding "social capacity" (e.g. public health, health system, protection of vulnerable population); *iii)* voluntary behavioral changes at individual and organization-level; *iv)* "Backcasting" from future needs; and *v)* a health systems approach, rather than single intervention.

WHO CCs in Japan have been working with WPRO and countries in the region to enhance response to COVID-19. For example, specific technical support has been provided through GOARN and other WHO schemes. Ongoing nationwide registry of COVID-19 could inform global and regional clinical guidelines. Furthermore, these and other WHO CCs in the country have a wide range of expertise that could contribute to health system strengthening, such as health workforce, nursing, service quality, mental health, laboratory, as well as disaster preparedness, response and recovery. In line with WPRO's priorities, it is worthwhile for the WHO CCs to consider amending existing work plans for supporting countries in the region to incorporate a health systems approach as part of COVID-19 response strategies.

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listed in the supplementary Table S1 (<https://www.globalhealthmedicine.com/site/supplementaldata.html?ID=12>).

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