COVID-19 Pandemic Response and the Future of Japanese Healthcare

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Dr. Sakoi spoke about Japan's early response to the Coronavirus Disease 2019 (COVID-19) pandemic and how the country can best structure its healthcare provision system in the future.

<POINTS>

- **Countries in East Asia and Oceania succeeded in containing the spread of COVID-19 during the initial stages of the pandemic. While the factors that allowed them to do so will require academic evaluation in the future, those experiences should be utilized as valuable lessons.**
- **Overcoming issues exposed by the COVID-19 pandemic like hospital care beds shortages, human resource procurement, and delays in healthcare digital transformation (DX) will require drastically strengthening our healthcare system while improving its ability to flexibly respond to emergencies.**
- **A number of key actions must be taken to prepare for future pandemics. With the premise of strengthening the Government's central control tower functions while providing stable health services to all citizens through Japan's universal health insurance system, these include actions to ensure healthcare system sustainability and flexibility, such as revising the Medical Care Act or promoting healthcare DX and Regional Medical Care Visions.**

■Phase changes before and after the outbreak of the Omicron variant

In 2020, during the initial stage of the COVID-19 pandemic, there was a great amount of attention on our handling of the cruise ship docked at Yokohama Port. However, when infections spread into the city, it was completely different from any infectious disease outbreak we have ever experienced, both in terms of scale and severity of symptoms. As news reports and other media made citizens more aware of the unprecedented threat of this novel virus, people stopped leaving their homes, which helped contain its spread early on.

Profile

Masami Sakoi (Chief Medical and Global Health Officer, Ministry of Health, Labour and Welfare)

Dr. Masami Sakoi graduated from the University of Tokyo Faculty of Medicine in 1989. He worked as a surgical clinician at institutions including the University of Tokyo Hospital and Toranomon Hospital. In 1992, he joined the Ministry of Health and Welfare and later pursued further studies at the Harvard School of Public Health in the United States. From 2005 to the present, he has held various roles within the Ministry of Health, Labour and Welfare (MHLW), including Chief of Health Crisis Management Office in the Minister's Secretariat, Director of Health and Welfare in Hiroshima Prefecture, Planning Officer of Health Insurance Bureau, Chief of Division of the Heath for the Elderly, Manager of Regional Medical Care Planning Divisivon, and Head of Medical Economics Division in the Health Insurance Bureau. He has also served as Deputy Director-General of the Minister's Secretariat in charge of the Health Policy Bureau and subsequently became the Director of the Health Policy Bureau. In October 2021, he was appointed as Director General, Office for COVID-19 and Other Emerging Infectious Diseases Control, Cabinet Secretariat, and Cabinet Councillor. In July 2023, he assumed the Chief Medical and Global Health Officer position at the MHLW.

Before the outbreak of the Omicron variant, there was a clear increase in the number of infections and fatalities in Western countries, while countries in East Asia and Oceania were able to suppress the spread of the virus during the early stages of the pandemic. Infections began spreading in East Asia and Oceania after the emergence of the Omicron variant, which was less severe than previous variants. This was after the introduction of vaccines and therapeutics, which allowed us to minimize the number of deaths. One key will be to identify how to apply this experience to future pandemic countermeasures.

Control measures in East Asia and Oceania implemented in the early stages controlled the spread of COVID-19 in communities, but as a result, the later expansion and disappearance of the disease was also delayed. Looking back over our entire experience during the pandemic, its most significant impacts were the deaths and health damage that occurred before the Omicron variant emerged. I believe this approach to infection control is generally in line with how we previously envisioned infection control measures for novel strains of influenza. Namely, strategies used in East Asia and Oceania were based on reducing the spread of infections until a vaccine or therapeutic agent was available, and then opening up society and allowing infections to spread to a certain extent after the introduction of medical countermeasures. These strategies may have helped to keep the number of deaths relatively low. Centered on academia, these processes must undergo scientific evaluation in the future. Other factors that may have helped Japan and other countries in East Asia and Oceania keep total excess deaths low compared to Western countries include geographical factors and infection control measures implemented at international points of entry.

Four challenges faced by Japan's healthcare provision system during the COVID-19 pandemic

The COVID-19 pandemic revealed issues in Japan's healthcare provision system in four areas: (1) in-home care and care facilities; (2) support and coordination; (3) securing human resources; and (4) healthcare DX.

1. In-home care and care facilities

During emergencies, general hospital care beds and general outpatient clinics must be utilized in addition to infectious disease care beds and fever outpatient clinics. However, Japan did not establish emergency preparedness measures (such as the division of duties, training, and facility preparations) for an event like a pandemic in advance, during periods of non-emergency. Furthermore, the public was only presented with a limited number of hospitals, clinics, and laboratories where people could seek medical examinations. In some cases, this caused crowding at certain health facilities, which led them to becoming overwhelmed. These circumstances improved gradually as awareness toward available facilities became more widespread.
The shortage of care beds and the rapid increase in infected patients meant that places like homes and hotels were used for recuperation. Because of the shortcomings of this system and the time it took to make the necessary preparations, there were some deaths that were not prevented because the condition of the person in question worsened while they were recuperating at home or other place outside of a health facility. Also, when clusters occurred at facilities for elderly people (who are at high risk for infection) or when people had to receive treatment within those facilities due to care bed shortages, there were cases in which medical support was not smoothly provided. This occurred because preparations to establish environments for medical treatment at those facilities were inadequate. During periods of non-emergency, facilities for elderly people and healthcare facilities must conduct pandemic drills similar to fire and earthquake drills.

2. Support and coordination

While Disaster Medical Assistance Teams (DMATs) made very active contributions during the pandemic, during the initial stages, there was a strong preconception that DMATs are dispatched during natural disasters, and this led to a lack of recognition toward the effectiveness of the hospital support and hospitalization coordination they provide. There were also areas where DMAT coordination headquarters went unused. It will be important to inform people that DMATs can provide excellent medical support and coordination. Other prominent issues included the lack of a system for coordinating care or support across multiple municipal jurisdictions and the difficulty of coordinating across large regions or within prefectures.

3. Securing human resources

When healthcare became overwhelmed, one challenge that emerged was securing surge capacity within prefectures and across large regions. I think we should work with prefectural nursing associations and similar parties to establish a dispatch coordination system in anticipation of emergencies, before healthcare shortages occur.

4. Healthcare DX

Delays in the implementation of healthcare DX in various settings (such as vaccination registry management or using fax machines to send information about infected people) made it difficult to rapidly ascertain and assess circumstances, or to implement measures based on those assessments.

Reinforcing the healthcare provision system

The number of hospitals and care beds

The current situation of hospitals in Japan can be summed up in the following three points.

1. About 80% are private hospitals
2. There are more care beds per 1,000 population than in Europe and the U.S.
3. Compared to Europe and the U.S., there are fewer physicians and nursing staff per 100 care beds

Given the relative lack of manpower, average hospital stay lengths tend to be longer in Japan, and because managing COVID-19 patients requires more medical human resources than normal care, providing care for COVID-19 patients requires the reallocation of medical resources.

The healthcare provision system when COVID-19 infections were on the rise

In the early stages of the COVID-19 pandemic, hospitals temporarily suspended operations of care beds for general and recuperative care to gather manpower for responding to COVID-19 infections. Subsequently, when the number of infections was on the rise, they significantly expanded bed closures and reallocated manpower to establish temporary health facilities and overnight health facilities. In this manner, hospitals met the rapid increase in healthcare demand. However, as the utilization of general care beds and similar steps taken during the COVID-19 pandemic demonstrate, pandemics can impact the general healthcare provision system. While paying attention to maintaining general care and infectious disease care in tandem and while dividing roles according to each health facility's functions, it will be necessary for the Government and health professionals to collaborate and ensure the patient intake system stays agile.
Normal medical treatments provided during periods of non-emergency are based on diagnoses from physicians and include consultations among physicians, patients, and patients' families regarding where to hospitalize the patient or whether to use in-home care depending on the disease or symptoms. However, during a pandemic, administrative management and measures are taken in accordance with the Infectious Disease Control Act, and it is essential to grasp situations surrounding management in each prefecture and for the Government to provide early support. Continuously providing stronger or weaker interventions that were tailored to the repeated waves of infections was one very difficult challenge we encountered, which resulted in two dynamic, major systemic shifts in medical response to the COVID-19 pandemic:

1. Establishing a government intervention system for infectious disease threats (especially during initial response)
2. Developing a patient intake system for immediate response to waves of infection

I believe that determining how to smoothly implement these measures will be a significant key.

Pandemic response functions

From the perspective of enhancing the pandemic response functions of Japan's healthcare provision system, addressing the aforementioned issues will require a twofold approach.

1. The need to anticipate emergencies when designing systems

・Quantitative aspects

Consider measures to respond to overwhelming surges in the number of infected patients by utilizing general hospital care beds.

・Qualitative aspects

Ensure that facility operations are suited to infection prevention by: securing pathways to general wards in operation; establishing facilities for infection prevention and related efforts; ensuring the available manpower is mobilized; and securing training opportunities to develop human resources.

2. The need for a control function during emergencies

・Establish overarching command tower functions that apply to all facilities to elevate operational effectiveness and improve efficiency for each region's entire system.

Specific preparations for the next infectious disease crisis

Specific actions taken to prepare for the next pandemic were centered on legislative reform and fall into three categories, described below.

1.Proposed revisions to the Infectious Disease Control Act and other existing laws

・Insurance and healthcare provision systems for the outbreak and spread of infectious diseases were established. (Infection Disease Control Act, Community Health Act, National Health Insurance Act, Medical Care Act, etc.)

・Systems for flexible vaccinations were established. (Immunization Act, Act on Special Measures, etc.)

・Steps were taken to ensure the effectiveness of measures at international points of entry. (Quarantine Act, etc.)

2.Reinforcing the Government's ability to serve as a central control tower

・The Cabinet Agency for Infectious Disease Crisis Management was established.

3.Reviewing the MHLW's organizational structure to strengthen infectious disease response capacity

・The Department of Infectious Disease Control was established in the Public Health Bureau.

・The National Institute of Infectious Diseases and the National Center for Global Health and Medicine were merged into a new specialist organization.

To establish insurance and healthcare provision systems during non-emergency periods for the steady delivery of care during the outbreak and spread of infectious diseases, agreements must be formed with health facilities on items like care beds and outpatient fever treatment. Legal provisions to form these agreements will be provided in prefectural prevention plans formulated in accordance with the Infectious Disease Control Act.

*During the outbreak or spread of infectious diseases, public health institutions and related institutions, advanced treatment hospitals, and regional support hospitals will be obligated to provide care in accordance with their respective functions. To form agreements with other types of hospitals, coordination mechanisms will be established at prefectural medical councils

- Health institutions authorized to treat patients with health insurance coverage will cooperate with the national Government and local governments' measures
- Prefectural governments, etc. can request cooperation from medical organizations
- Measures will be implemented to ensure pre-outbreak levels of medical care (referred to as, "Measures to ensure healthcare in early stages of epidemics") for health institutions that have concluded agreements to participate in initial infection control response.
- Agreement conclusion status and related information will be publicized. Recommendations, instructions, and public announcements will be issued to health institutions that do not respond in accordance with agreements. (Advanced treatment hospitals and regional support hospitals that do not follow instructions will have their classification revoked.)

Healthcare DX

Healthcare DX is another issue that has been the subject of growing attention. Discussions are mainly focused on responses in the following areas.

Online medical consultations

The "Guidelines on the Appropriate Implementation of Online Medical Consultations" formulated in March 2018 allowed for the provision of online medical consultations starting from initial consultations as a special measure during the COVID-19 pandemic. However, difficulties in obtaining understanding from the medical community meant that this option went underutilized, which prevented it from fully taking root. To support the use of online medical examinations during pandemics, the Guidelines were revised in January 2022 and the medical service fee schedule was revised in April 2022. While this system has expanded to the point it can be used for routine medical treatments, user numbers have not grown as much as anticipated. The Government is considering formulating a basic policy to increase the use of online medical consultations in the future.

Healthcare DX Reiwa Vision 2030

In 2020, the penetration rate of electronic medical records was 57.2% for hospitals and 49.9% for clinics. These rates are inadequate for both primary and secondary use. The COVID-19 pandemic also highlighted challenges related to collecting and utilizing health information, such as the fact that patients cannot freely monitor the status of their own health and treatment using their own personal health records (PHRs). To boldly address such issues, the MHLW established the Healthcare DX Reiwa Vision 2030 Promotion Team within the Data Health Reform Promotion Headquarters. Healthcare DX Reiwa Vision 2030 has two pillars:

1. Standardize electronic medical record information and disseminate it to all health institutions
2. Implement DX in medical service fee revisions

Japan's healthcare provision system

When rebuilding the healthcare provision system to be ready for the next pandemic, it will be important to examine reform initiatives that fully reflect the fundamental characteristics of Japan's healthcare system, which can be taken as the premise of such efforts.

Japan's version of universal healthcare

One key aspect of the health insurance system in Japan is that all citizens receive benefits in kind with a fixed copayment percentage and with limits on cost. Furthermore, a single national standard called the medical reimbursement guarantees uniformity in the pricing, content, and quality of care throughout Japan. However, this uniformity creates gaps between official prices and actual costs, and results in issues such as medically underpopulated areas. Furthermore, providing all necessary health services through the universal health insurance system means all health services are paid for using public financial resources, including salaries and benefits for physicians and nurses, and the inability to fully balance supply and demand results in the uneven distribution of personnel and unmet needs. On top of this, high-cost pharmaceuticals are continuously being developed and marketed, so issues related to cost-effectiveness have also been raised.

The high degree of freedom in the healthcare provision system

A notable characteristic of healthcare in Japan is the fact that it is structured around freedom. Not only do people have free access to medical examinations, but those on the provider side of healthcare also have freedom of choice for a wide range of items such as departments, service areas, and employment type. In addition to patient concentration at major hospitals and "convenience store" style use of medical consultations, this results in a number of issues including uneven distribution in the provision system, oversupply, and unmet needs. Approximately 80% of hospitals are privately operated, which makes it difficult to obligate them to provide medical treatments (i.e. to conduct business operations) with governmental authority. This means institutions like public hospitals must supplement the system in areas where private institutions are unprofitable or face other challenges. The COVID-19 pandemic also made more visible the fact that governance is weak during emergencies.

Main past initiatives related to the placement and training of physicians

In the past, the system for training physicians centered on university medical offices with treatment systems emphasizing specialties and organs. Those offices were also responsible for dispatching physicians to ensure the provision of healthcare in communities, including in underpopulated areas. However, clinical training became mandatory and this dispatching function of medical offices was replaced with the introduction of the matching system in 2006. This weakened the ability of university medical offices to fulfill their previous role in securing physicians for communities. As a result, some regions now face difficulties in securing healthcare systems.

While a number of steps have been taken to help address regional disparities, such as the introduction of regional quotas for medical school enrollment, revised quotas for residents, and the introduction of the ceiling system for medical specialists, we must examine how to best operate these systems, including the regional quota system. The uneven geographical distribution of manpower is also being impacted by factors such as population shift toward major cities and changing social values regarding work styles. The result has been a vicious spiral of personnel shortages, where the worse a department is understaffed, the longer its work hours become. This is particularly the case in surgery, pediatrics, and obstetrics and gynecology.

A medical specialists' organization called the Japanese Medical Specialty Board was established through collaborative efforts from various academic societies to engage in activities and provide a foundation for professional autonomy. While it was established with the intent of producing both better specialists and specialists who can serve as pillars of community health, there were gaps in awareness among the academic societies and the government or communities. In the future, I believe it will be necessary for each academic society to cooperate in avoiding the uneven distribution of physicians trained at the Japanese Medical Specialty Board while ensuring that they will be able to serve in community medicine.

In 2018 and 2021, revisions to the Medical Care Act strengthened the authority of prefectural governments and the national Government to address the uneven distribution of physicians. This was a step taken to enable the government to respond in situations when it has no choice but to intervene in the clinical training system or specialist medical organization activities from the perspective of securing healthcare services in communities. Preparations are also underway for physician work style reforms that will be implemented in April 2024.

As for future discussion points, I think the challenge will be identifying how parties with different interests such as universities, medical departments, academic societies, professional associations, the national Government, and local governments can communicate while forming consensus and agreement in the health sector.

The key to establishing systems that look to the future

It is inevitable that we transition to a healthcare provision system that matches future demand (through Regional Medical Care Visions and family doctor services), and rationality that is based on data will be the absolute key. To achieve this, the major challenge will be fostering the perspective in the medical community that healthcare is a social system that transcends individual interests and that is highly public in nature. Furthermore, we must build frameworks that continue to leverage our health system's high degree of freedom while maintaining balance with society's requirements. The question is whether that system should be built through voluntary initiatives by the medical community, if it should be achieved through government intervention, or if we can strike a balance between the two.

Perspectives to keep in mind when considering the future structure of the healthcare provision system

1. Reexamine existing systems
- We need to work quickly to standardize and popularize services and balance stable supply and official prices.
- Voices from abroad have stated that Japan's balance among access, quality, and cost is not viable, but there is room for effort.
- Adjustments centered on reimbursement revisions are reaching their limits.

2. Build provision systems tailored to local conditions
- Leverage the high degree of freedom in the system for clinical practice, supplement the uneven distribution of services that occurs in the environment with public support, and construct emergency governance functions.
- It will be important to explore how to assign roles based on the characteristics of the public and private sectors.

3. Select measures for coordination based on past system changes and the significance of those changes
- We must strike a balance between speed and careful deliberation for healthcare system reform.
- Rather than choosing between public intervention and freedom, we must consider how to establish a free system that is based on certain restrictions.
- We must consider measures to lessen backlash when implementing public interventions.

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