Policy Recommendations

Using Data and Lessons from COVID-19 to Enhance the Sustainability and Resilience of the Japanese Health System

Executive Summary

COVID-19 put a spotlight on many issues within the Japanese healthcare system. In addition to other problems, the crisis challenged a core tenant of the system – it's ability to deliver the same quality and level of care to all citizens. What should Japan have done from the start of the COVID-19 pandemic to reduce its impact? The Partnership for Health System Sustainability and Resilience (PHSSR) examined this question from the perspectives of health system governance, finance, workforce, medicines and technology, delivery, population health, and environmental sustainability. When COVID-19 occurred, each of these facets of the health system were impacted by the long-standing problem of the lack of strong health data infrastructure and use within Japan. This recommendations document proposes three first steps to overcome this issue toward the future strengthening of the sustainability and resilience of Japan's health system.

Develop infrastructure to make data collection and analysis more beneficial for healthcare providers and patients. The Government should create incentives for the adoption of standardized EHR systems in medical facilities, and consider the development of infrastructure that would allow those systems to be used for care improvements, productivity improvements, and quality benchmarking across the country, in order to further promote a more standardized healthcare response in times of crisis.

Create a new organization to facilitate collaboration on data-based policymaking. The Government should develop a new bureau within the Ministry of Health, Labour and Welfare with the mission of using healthcare data to develop and fund system-wide rapid health policy analyses and comparisons.

Reconsider the structure of authority within the healthcare system during times of crisis. The Government should advance legal measures to give the central Government greater control over health system delivery when infectious disease crises occur.

Further details on each of the background and details of these recommendations can be found below.

Please note that these recommendations have been created based on opinions and information received over multiple meetings with health sector experts involved in the PHSSR project. These recommendations are solely the responsibility of HGPI. Participation in this project by experts or other project partners should not necessarily be construed as endorsement or support of the content of this document.

Introduction

Since 2019, the novel Coronavirus disease (COVID-19) has set off a once-in-100-years medical crisis, straining the ability of healthcare systems around the world to continue to function. To date, there have been approximately 500 million cases globally, resulting in over 6 million deaths. Although Japan has achieved a comparatively strong response, there have still been over 5 million cases domestically, with

just over 25,000 deaths. The disease, and measures to respond to it, have also had a major impact on socioeconomic activities.

This wasn't the first time that the world, or Japan, has experienced a pandemic the scale of COVID-19. The world should have been better prepared for this crisis. Why wasn't it? Could the response to COVID-19 have been handled with less impact to society? Is Japan doing enough to evaluate its response, and learn from that evaluation to create an even more resilient system in the future?

The Partnership for Health System Sustainability and Resilience (PHSSR) is a project initiated by the London School of Economics (LSE), the World Economic Forum (WEF) and AstraZeneca in 2020 that is working to answer questions like these in countries around the world. Through research and analysis of health systems around the world and their responses to the COVID-19 pandemic, the project seeks to consider what went wrong, what could have gone better, and how health systems can better prepare for a future in which crises like COVID-19 become ever more common. Specifically, the project aims to improve the each health system's sustainability (the health system's ability to improve population health, by continually delivering key functions: providing services, generating resources, financing, and stewardship, incorporating principles of financial fairness, equitable access, responsiveness, and efficiency of care), and resilience (the health system's ability to prepare for, absorb, adapt to, learn from, transform in response to, and recover from crises, borne of short-term shocks and accumulated stresses, to minimize their negative impact on population health and disruption of health services).

In Japan, the PHSSR project is led by Keio University and Health and Global Policy Institute (HGPI). To guide and support the creation of the project report and recommendations, HGPI convened an advisory board that consists of 10 experts from academia, civil society, the Government, and the business world. These recommendations have been created based on opinions and information received over multiple meetings with advisory board experts.

The PHSSR project and advisory board set out to consider how to create a more resilient and sustainable healthcare system. The board focused on seven key areas (health system governance, finance, workforce, medicines and technology, delivery, population health, and environmental sustainability). These themes were discussed over the course of multiple hearings and roundtable meetings, with discussion culminating in the production of a report on the resilience and sustainability of the Japanese health system. That report included a vision for the future strengthening of the system (explained in detail in the chart below on "Better Co-Being.") By promoting wellbeing, positive health, and social inclusion, it is believed that Japanese can achieve an even more sustainable and resilient health system. As shown in the chart below, many of the actions needed to achieve this vision depend on the creation of health data infrastructure and promotion of data use. As such this recommendations document lays out three first steps that Japanese can take to enhance data infrastructure and use.

A Vision for Enhanced Health System Sustainability and Resilience
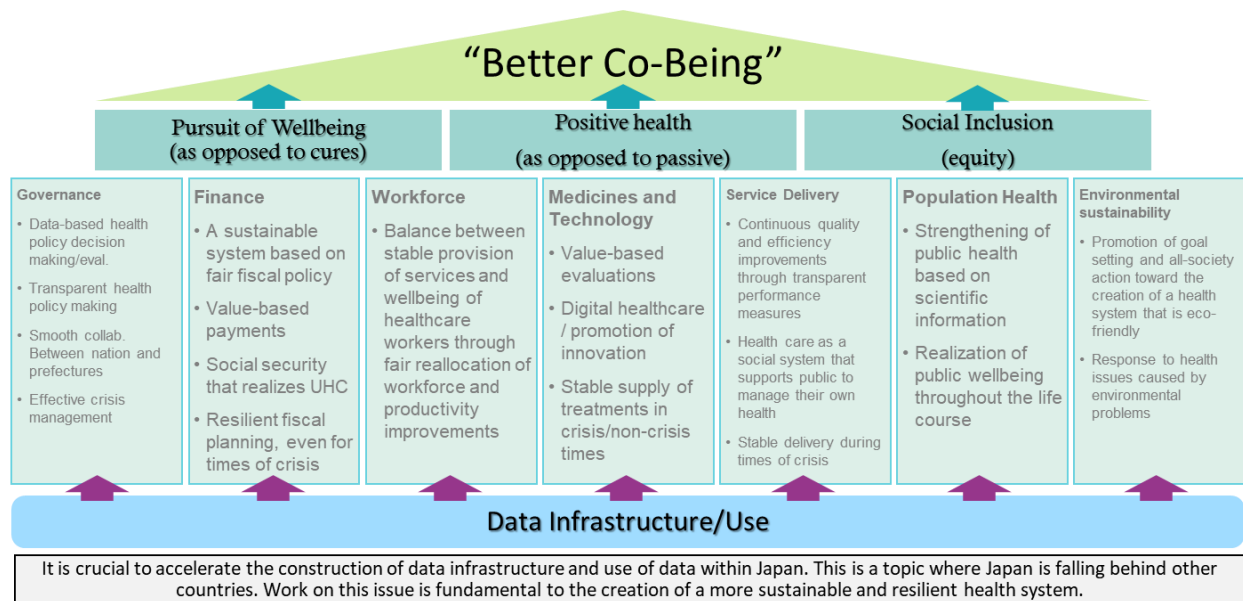
As first steps, this document proposes that the Government 1) develop infrastructure to make data collection and analysis more beneficial for healthcare providers and patients; 2) create a new organization to facilitate collaboration on data-based policymaking; and 3) reconsider the structure of authority within the healthcare system during times of crisis. Details on each proposal are listed below.

Three Recommendations to Enhance Data Infrastructure and Use Toward the Strengthening of Health System Sustainability and Resilience

Recommendation 1: Develop infrastructure to make data collection and analysis more beneficial for healthcare providers and patients

Issue: For crisis response in particular, standardized patient and hospital level data is needed to understand how cases may vary, what responses are being undertaken at a regional or facility level, and how those responses compare to responses elsewhere. A problem that arose during COVID-19 was the use of independent data systems by the national Government and each prefecture responding to the crisis, making comparisons and analysis difficult. There are many ways to respond to this problem. Among them, there has been particular debate recently about the introduction and standardization of electronic medical records (EMR) throughout Japan. This is a crucial step forward for Japan. Although EMRs are currently being used in 85% of major hospitals with 400 beds or over, major hospitals only account for 9.3% of the 8,300 hospitals that have at least one bed in Japan.

A key factor behind the previous lack of progress on this issue is likely the burden that EMR introduction and data collection places on medical facilities, and low progress in the development of systems that can provide a benefit to medical facilities for interacting with health databases. For example, EMR systems can be useful to doctors to gain a better understanding of patient medical history across healthcare

facilities, better manage treatments (including reducing polypharmacy), and streamline prescribing and billing processes, but it is not the case that these functions are being rolled out and utilized on a nationwide basis. In fact, it is thought that one reason behind the lack of progress on the expansion of EHR systems is the feeling among medical providers that they are difficult to use and take time away from providing care to patients.

This is not just a healthcare issue. Throughout the social security system, there is a need to promote the collection and comparison of data to provide higher quality, standardized services in the nursing and welfare fields as well. The value of data is the way it can motivate improvements by allowing comparisons with others. In countries such as India, governments are publishing state-level comparisons of measures of COVID-19 responses to encourage improvements. Japan as well should consider further how its data can be used to help make the jobs of front-line social service workers easier, and more impactful for those they serve.

What to do: Japan is not alone in facing this problem. Looking just at healthcare, many countries around the world have struggled to introduce nationwide EHR systems as well. There are perhaps lessons to be learned from successful cases. For instance, in the United States, the Health Information Technology for Economic and Clinical Health Act (HITECH) was very successful in increasing EHR introduction from 10% of all hospitals in 2008, to 86% of all hospitals in 2015. This was achieved through the use of monetary rewards for facilities that introduced a EHR system. In addition to developing services to ensure that EHR system use benefits healthcare providers overtime, **consideration is needed on incentives or disincentives to overcome hesitancy about the introduction and use of health data systems at medical facilities.**

How this should be done: It is important to develop data system infrastructure while considering the burden that these systems might place on healthcare workers and patients. The Government has made attempts at various initiatives since the onset of the COVID-19 pandemic to monitor and track cases more effectively, including the HER-SYS (Health Center Real-time Information- sharing System on COVID-19) system. This system was designed to improve the efficiency of medical care by shifting the burden of data entry from public health centers to medical institutions so that they can concentrate on providing medical care. However, there have been complaints that the increased burden of data entry on frontline health workers has in fact made the healthcare system less efficient. In promoting the standardization and dissemination of EHR systems, it is important to consider what is really possible for small- and medium-sized hospitals in Japan and whether it is really best for the Government to be the entity in charge of system design. In the United States and other countries, EHR systems are developed at the hospital level and by private companies. In addition to the standardization of data, the government should consider how systems should be designed to make it easier for frontline health workers to input and utilize data. This consideration should include ideas to foster the competitiveness of private companies in this space.

What this will require: In the case of the United States, the standardization and widespread introduction of EHR required the development of a new law, and US$25 billion in subsidies. Japan may face similar requirements to be successful on this long-standing issue.

In order to further promote the development of EHRs and other services that benefit both healthcare professionals and the public, The Government should reconsider the legal balance between the protection of healthcare data and the use of that data to improve public health. Furthermore, consideration must be

given to the infrastructure of EHR systems, including security measures and the costs required to implement such measures. Data system management can produce a significant financial burden for medical institutions. To avoid cost-related issues in the future, consideration should be given to establishing a cloud-based system for the management of security measures at the national level.

Recommendation 2: Create a new organization to facilitate collaboration on data-based policymaking

Issue: In order to monitor crisis response and test it effectiveness, it is crucial to have in place a system for the rapid reporting and analysis of health data. Japan already has a tremendous amount of data, but the data is not necessarily structured to be usable by researchers or effective in changing policy. For example, the Japanese Government has kept track data on COVID-19 vaccinations, but this data is only easily accessible within the Government, and not connected to other larger health data sources keeping track of patient health over time. For this reason, it has not been useful for the shaping of policy around vaccines, or for the development of evidence that could have helped to halt the spread of vaccine hesitancy. As another example, Japan is home to one of the largest health databases in the world – its National Database of Health Insurance Claims and Specific Health Checkups of Japan (NDB), which contains approximately 1.05 billion records of healthcare services. This database should be a tremendous resource for Japan, but strict regulations around who can access the data, the approval process required to view the data, and data quality and organization issues, among other problems, have hindered the production of research using this resource. A structure is needed to improve the current situation in which a great deal of data is being collected and then not put to appropriate use for policymaking.

This is primarily an issue of access and human resources. The central Government has the authority to access health data, and there has been movement in recent years within the Ministry of Health, Labour and Welfare to use data for evidence-based policymaking, but these efforts do not seem to be progressing rapidly. On the other hand, there are many researchers within Japan that might be willing to analyze healthcare data for policy purposes, but low access to the data and low funding for such work is leading to the underutilization of these human resources. As a result of this long-standing issue, during COVID-19, Japan has seen the development of numerous pandemic monitoring initiatives at the regional level, using different data sources and different monitoring indicators, and having different policy uses. A nationwide data-based response was not achieved.

What to do: The Japanese Government should establish a new health information and systems bureau within the Ministry of Health, Labour, and Welfare with the mission of conduction and organizing rapid health data and policy analysis.

How this should be done: In creating the new bureau, it would be most effective given Japan's current issues with data use if the organization had strong collaborative and advisory functions. Rather than planning and conducting analysis and policy development entirely itself, the bureau should be given a budget for health data analysis and be encouraged to divide that budget among health researchers throughout society in order to efficiently tackle many issues at once throughout the system.

It would also be impactful for the bureau to serve as secretariat to a panel of experts that could commission health policy studies and advise the Minister and Chief Medical Officer on healthcare system strategy based on the data produced by the bureau. In addition to the Minister and Chief Medical Officer,

this panel of experts should feature a wide range of public and private stakeholders from both inside and outside of the health sector to ensure a fair view and cover the many areas of technical expertise required for such work. In addition to establishing a new bureau within MHLW, it would be ideal to consider establishing a health information and systems planning group in the Cabinet Secretariat as well to support the efforts of the new bureau and help demarcate its work areas from those of other bureaus.

What this will require: We ask that the Minister for Health, Labour and Welfare consider this matter and propose a Cabinet Decision on the creation of this new bureau and its tasks.

Reconsider the structure of authority within the healthcare system during times of crisis

Issue: Governance of the healthcare system is complex even during normal times. Currently, the central Government develops policy related to healthcare, manages the healthcare budget, and sets uniform fees for healthcare services. National policy is translated into action at the regional level via prefectural Medical Care Plans. Healthcare services are then delivered based on those plans through Japan's approximately 180,000 medical facilities, 81.6% of which are private. These facilities are incentivized to meet plan goals through the reimbursements they receive from over 3,000 insurers operating throughout Japan.

This system functions well to manage longer term health issues facing Japan, such as issues related to aging or chronic diseases, as it enables for the creation of incentives to encourage shifts in the organization of the healthcare system over time. However, during an infectious disease crisis, this structure poses a challenge. Because infectious diseases can pass from person to person and region to region rapidly, mutating as it goes (as we saw with COVID-19), the best response is a strong, rapid, nationwide response that can prevent the problem from getting out of hand at any single location. However, this is not exactly possible in Japan.

Under the Act on Special Measures Against Novel Influenza, etc., which governs the Government's infectious disease response, the central Government has the authority to request the cooperation of regional governments in carrying out disaster response in line with local conditions. There are no requirements for local Governments attached to that request, and the central Government has no authority to change course if regional countermeasures do not work out. As a result, during COVID-19, Japan has seen the formation of numerous, independent response plans on a regional level, that all set out different guidelines and measurements related to the evaluation of the crisis and the actions to be taken in response. This presents a serious barrier to the implementation of the kind of truly standardized response needed to stomp out an infectious disease problem before it spreads.

What to do: During times of Governance, the central Government should be given increased authority and responsibility to make decisions about healthcare delivery at a local level. **Legal measures should be advanced to give the Government special authority over regional health system delivery in times of crisis.**

How this should be done: Decisions about chains of command and responsibility for crisis responses should ultimately be based on data, and this recommendation should be considered one component of the direction for data infrastructure development being proposed below. In the case of infectious diseases, criteria should be set based on the speed at which the infection is spreading, the extent to which the

infection has already spread, the severity of the infection among patients, and whether treatment, vaccines, or tests exist. Other types of crises for which criteria should be considered include natural disasters and military crises, although the criteria for these issues should differ based on relevant expert opinion.

What this will require: This is primarily a legal measure. The Government should set up a coalition of legislators and health security experts to draft the legal measures and debate the specific values for each criteria to be used to determine the switch between national and local decision making in times of crisis.

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