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## Minireview

# What is the Information Base of COVID-19 Disaster's EBM-based Chronic Injury and Illness Strategy

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## Abstract

The authors, so far, have proposed to build and utilize a “disability registry” in Japan, also known as the “World Model of UHC.” In this study, from the perspective of social medicine, the author discussed how Japan after the COVID-19 disaster should develop the information infrastructure necessary to achieve the SDGs Sustainable Development Goals. Countries need to work on the SDGs as a sustainable reconstruction policy aimed at balancing human life, the environment and economic growth. It will be important to reform society not only in the environmental field but also by transforming it into a society that is resistant to disasters and infectious diseases. “Construction and utilization of the disability registry” was found to have many sustainable if we used the NDB (medical / health DB) and long-term care DB systems, disaster assistance list information, etc., that Japan already has under the existing policy. It was thought that the construction and utilization of the disability registry could be developed as a measure that also contributes to the reform of a sustainable society.

**Keywords:** Disability Registry, chronic disease, injury and trauma, National Database, life course data, Individual information on people who need assistance in the event of a disaster

## Introduction

The authors, so far, have proposed to build a “disability registry” in Japan, also known as the “UHC (= Universal Health Coverage) World Model [1,2].” It is necessary for vulnerable people to live the same life as others and obtain information in order to enhance the information base for chronic traumatic / disease countermeasures without disparities and breaks and to realize a symbiotic society [3,4]. On the other hand, since the WHO (= World Health Organization) made a pandemic declaration in 2020, the worldwide spread of the new coronavirus infection (= COVID-19) has continued [5]. In addition to the great impact on economic activities, it has been pointed out that the gap with vulnerable people is widening [6], and the “SDGs (= Sustainable Development Goals)” that each country is working on to achieve 2030 are very difficult. It can be said that we are facing [Table 1]. In this paper, from the perspective of social medicine, we will discuss how Japan after the COVID-19 disaster should develop the information infrastructure necessary to achieve the SDGs. At the same time, we propose strategies that we consider to be “realizable” at this time.

## Covid-19 pandemic

The COVID-19 pandemic continues to be a global epidemic as of September 2020. Until the development of therapeutic agents and vaccines, the only way to prevent the spread of infection is to limit contact between people as much as possible and thoroughly wash hands and wear masks. In each country, the

movement to strengthen the wearing of masks has spread, and it has become necessary to resume economic activities as soon as possible and protect the lives of the people. The negative impact on people was not only a major blow to economic activity, but also a surge in the number of people who could not receive appropriate medical care and education. The disparity has widened due to more damage to vulnerable people such as the elderly and non-regular employees. If the infection spreads to countries with weak health care, poverty problems, conflict areas, refugee camps, and densely populated disaster shelters, it will be nearly impossible to control it.

## Sdgs: sustainable development goals

By 2030, the SDGs aim to achieve 17 goals, including eradication of poverty and hunger, economic growth and environmental conservation [7]. Behind the creation of these goals is a complex intertwining of these issues, including economic growth and human social issues, and global environmental issues. The background of the SDGs is that these measures should be taken at the same time in order to sustain economic growth.

The 17 goals can be broadly divided into three groups [8] [Table 1]. The first group is a goal related to the “lives and rights of human beings.” For example, from goal 1, specific goals such as “end poverty in all its forms everywhere” are set. The second group is economic growth, and the third group has items related to global issues such as climate variability. Each goal is not inde-

pendent, but related to each other, aiming to achieve goals such as economic goals, energy supply, employment and economic growth, industrial / infrastructure development, and inequality reduction. Each target has a specific index as a guide, and each country is supposed to take the initiative to achieve these. For example, the first “poverty” stipulates that “zero people live on less than \$ 2.25 a day.”

Each country must work toward the achievement of the SDGs in 2030, which aims to balance human life and the environment with economic growth. However, the UN (= United Nations) has announced that the impact of COVID-19 has made it even more difficult to achieve the SDGs, with the proportion of the poor in the world expected to increase significantly this year for the first time in 20 years [9]. However, that is why it will be more necessary to strengthen efforts toward the SDGs with the aim of resolving various issues related to the goals of the SDGs. Japan is not the only country facing the situation that it is difficult to achieve the SDGs as long as the “pre-pandemic measures” are continued. Now is the time to embark on policies in line with the SDGs, which are “social reforms.”

### Sustainable reconstruction policy “Green Recovery”

UN Secretary-General António Guterres has also argued

**Table 1:** The 17 Goals of SDGs

Goal number	specific index
Goal 1	End poverty in all its forms everywhere.
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3	Ensure healthy lives and promote well-being for all at all ages
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5	Achieve gender equality and empower all women and girls
Goal 6	Ensure availability and sustainable management of water and sanitation for all
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10	Reduce inequality within and among countries
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12	Ensure sustainable consumption and production patterns
Goal 13	Take urgent action to combat climate change and its impacts
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

\* Created by the author with reference to ref. 7.

that economic recovery from the new Corona should create new environmentally friendly employment businesses and lead to sustainable growth [9]. In response to this, it is said that green recovery, which is a sustainable reconstruction policy from COVID-19, is currently attracting worldwide attention. This is not just a measure to protect and restore existing industries amid the deprivation of many jobs. It is a reconstruction policy that emphasizes the environmental field such as renewable energy and the field that transforms the society into a resilient society against disasters and infectious diseases and encourages the creation of new employment and industry there. For example, the EU has indicated that it will concentrate its 90 trillion-yen reconstruction fund on the environment and digital [10]. A new goal to reduce greenhouse gas CO<sub>2</sub> emissions by 55% (compared to 1990) by 2030 was also announced by European Commission President Von der Leyen. It is said that it aims to take this opportunity to develop decarbonization technology such as EV conversion of automobiles and to foster industry at once. Along with this, a major European aircraft manufacturer has announced that it will develop a hydrogen-free aircraft that does not emit carbon dioxide by 2035.

The authors have focused on accumulating and utilizing the life cycle of individuals such as persons with disabilities as a database through “construction and utilization of disability registries” in Japan. We have proposed the development of infrastructure such as chronic trauma / disease patients such as persons with disabilities for a vulnerable society [11]. Below, I would like to deliberately discuss the realization measures of this proposal from the perspective of “contribution to sustainable reconstruction policy green recovery.”

### Verification of “disability registry” from the perspective of “sustainable reconstruction policy”

When constructing a database (DB), in the usual procedure so far, it was necessary to first perform interventions and surveys such as medical treatment in fields and collect data on the target population. So far, the authors have tried to collect data from the “disability health field” by positioning it as “long-term prognosis / outcome of trauma and illness.” Certainly, it has been pointed out that the data on “long-term prognosis / outcome of trauma” and “health with disabilities” are overwhelmingly small in Japan at present [12]. In the form of “data collected for the same purpose” as the authors’ proposal, it may certainly be lacking in Japan.

However, in Japan, for example, if it is a DB for “long-term prognosis / outcome of trauma or disease”, the national “NDB: National Data Base” [13] can be used. In addition, if it is a disability registry (hereinafter referred to as “disability DB”), it will be possible to utilize the Cabinet Office’s “Disaster Support List Registration Project”.

By the way, NDB is an information database for receipt information and specific medical examinations. The receipt information is about 18.8 billion from April 2009 to December 2019, and the information on specific medical examinations is about 290 million from 2008 to 2018. The national government keeps a “long-term care insurance comprehensive database (hereinafter referred to as” long-term care DB “)” in the server under the jurisdiction of the Ministry of Health, Labor and Welfare,

and plans to consolidate it with NDB in the fall of 2020 [14]. However, the data stored in this “long-term care DB” is mainly information on long-term care certification for elderly users aged 40 and over who can use the long-term care insurance system.

On the other hand, “registering a list of people requiring assistance during a disaster” [15] is to create a list by registering as desired in order to discover and create a network of people requiring assistance during a disaster. It will be used to provide information to local stakeholders in advance and to create a system to watch over in the area. Regarding the collection and sharing of information on people requiring assistance, welfare-related departments have prepared a “list of people requiring assistance” in advance after completing the required procedures, mainly in areas where damage occurs frequently in the event of a storm or flood. It is in place as a system that can provide such information to the department in charge of disaster prevention. It is said that this information on the list of people requiring assistance is now beginning to be used mainly by fire departments and emergency medical care for each local government. However, at the level of personal information on the list, it is not always shared with the health and welfare departments of local governments, so it is difficult to connect to damage prevention measures. In Japan, where natural disasters such as earthquake disasters and typhoon floods occur frequently, it is necessary to improve the infrastructure so that this “information on people requiring assistance” can be used practically. It is also important for the prevention of disaster health damage. In this paper, we would like to propose to build this as an “electronic standard format DB” that can be linked to “big data of health, medical care, and long-term care” such as NDB and long-term care DB. In view of the above circumstances and the viewpoint of green recovery, the “construction and utilization of the disability registry” proposed by the authors was considered to have the following advantages. We can expect new analysis based on the progress of the development of databases for each purpose other than the national “NDB / long-term care DB”. As a result, the database can be constructed at a relatively low cost. By making it available to medical institutions, insurers, researchers, the private sector, etc. in the field of disability health, employment of engineers, etc. can be created and effective and efficient analysis can be promoted. By enriching the big data of “health, medical care, long-term care, and disability”, it will be expected to secure a healthy life for people of all ages and aim to promote welfare. By constructing big data of “health, medical care, long-term care, and disability”, we can expect an effective, efficient, and high-quality medical care and long-term care provision system in the region. In addition, from the viewpoint of constructing a comprehensive community care system, it is possible to perform a consolidated analysis of the current information that is individually collected, managed, and analyzed. Expected to contribute to Society 5.0. If we start by building a mechanism for the “regional model”, each local government can make improvements and corrections according to the actual conditions of the region in the process of disseminating and enlightening it. At the development / evaluation stage of the first “regional model”, it can be expected that it will lead to efficient and effective operation by collaborating with local social capital such as persons with disabilities and patient family associations.

By enhancing disaster countermeasures, we can contribute to SDGs Goal 11 “Creating a town where people can continue to live”.

### Conclusion

From the perspective of “sustainable reconstruction policy”, the “disability registry” had a wide range of advantages across disciplines. In the future, the global pandemic of COVID-19 may occur every time governments change their measures. Considering the spread of COVID-19 across national borders in this era of internationalization, it is impossible for only one country to solve the problem. Especially in Japan, where disasters occur frequently, it is necessary to strategically face a long battle to curb the spread of health damage at a level where an international cooperation system centered on the United Nations and WHO can be firmly established. It was thought that the construction and utilization of the failure registry could be developed as a measure that also contributes to the reform of a sustainable society.

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### Disclosure of Interest

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