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Advisory Opinion

Social Security and Social Welfare that can Respond to the Crises and Risks associated with the COVID-19 Disaster: Transforming into a System and Support that Leaves No One Behind

22 September 2023

Science Council of Japan

Committee for Sociology
Subcommittee on Social Welfare

This Advisory Opinion is largely the outcome of the deliberations of the Subcommittee on Social Welfare, the Committee for Sociology, Science Council of Japan.

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This English version is a translation of the original written in Japanese.

EXECTIVE SUMMARY

Ⅰ Background

The worldwide spread of the novel coronavirus infection (COVID-19) since the beginning of 2020 has exposed the limitations of conventional social security and social welfare systems, having triggered the need to reconsider the standards and targets on which conventional systems are based and review the design of the systems in anticipation of future disasters. In this advisory opinion report, we focus on the following groups of people and issues that were severely affected by the COVID-19 disaster[1] in Japan due to their "vulnerability": (1) the needy, (2) children and families, (3) women, (4) people in need of assistance in daily life, and (5) those who experience discrimination, and propose institutional reforms to eliminate or reduce social vulnerabilities that amplify crises and risks.

Ⅱ Current Situation and Issues

The increase in the impoverishment caused by the COVID-19 disaster has brought to highlight the limitations and problems of existing systems. For example, the consultation services provided by the Self-Reliance Support Benefit for the Needy and the Special Loans for Living Welfare Fund implemented by the municipal councils of Social Welfare played a major role, but the consultation services that should have been originally provided on-site have remained insufficient. At the same time, undesired loneliness and social isolation has been becoming increasingly serious. For accompaniment-type support that attends to the needs of each individual to function, it is necessary to establish a comprehensive support system utilizing a Multilayered Support System Development Program. In addition, the Housing Security Benefit, whose use has been increasing rapidly, is a program for jobseekers with restrictions on duration and income, and the application for such benefits requires complicated procedures. Although stable housing is the foundation for life and livelihoods, Japan does not have a sufficient, universal housing security system. Furthermore, the public assistance system, which is the last safety net, is a system that should be "easy to get

[1] The term "COVID-19 disaster" became widely used in newspapers and on the Internet around the middle of March 2020 as a generic term for the calamity or crisis situation caused by a new type of coronavirus infection. https://www.nhk.or.jp/bunken/research/kotoba/ 20200701_4.html (July 31, 2023).

in and easy to get out," as inquiries regarding possible support by relatives and stigma[2] are factors that prevent people from applying for such system. In addition, because no systematic social security and social welfare support system has been established for foreign residents, there is an urgent need to create a system based on multicultural understanding.

On the other hand,, during the COVID-19 disaster, children and women under social structural discrimination faced compounding problems, such as violence and human rights violations. Their well-being depends heavily on environmental conditions such as home and school and is always prone to serious crises and risks, such as anxiety, truancy, abuse, and social withdrawal. To identify such risks in ordinary times, it is necessary to establish a system for sharing and utilizing data among related institutions. In addition, stable employment and the proper assignment of welfare professionals, including consultants/social workers for women, are essential to deal with the challenges faced by vulnerable populations. Efforts based on the "Law Concerning Support for Women with Difficulties" and the "Basic Act on the Child" enacted in 2022 must be strengthened.

In addition, it is required for welfare facilities that care for the elderly people, persons with disabilities, and others who need assistance in their daily lives to formulate Business Continuity Plans (BCPs) based on "continuity of services," "ensuring the safety of users," and "ensuring the safety of staff." However, in order to make these plans effective, it is indispensable for health, medical, and welfare institutions to have wide-area cooperation. In addition, a nationwide disaster welfare network should be established, with "welfare" positioned as a "type of rescue" under Article 4 of the Disaster Relief Law, and disaster welfare support centers established as the foundation for regional cooperation. Simultaneously, infrastructure should be developed to enable both users and supporters to utilize technology, including Information and Communication Technology (ICT), and a system should be established to enable the training, registration, and dispatch of personnel to implement disaster case management.

Furthermore, the COVID-19 disaster has also revealed discrimination and abuse of human rights. In order to deal with prejudice, discrimination, bullying, and other human rights violations surrounding COVID-19, the government has taken a certain level of measures to disseminate correct knowledge and prevent prejudice and discrimination. Nevertheless, legal measures to prohibit discrimination and remedies that go beyond

[2] It is used to mean "a brand of shame." It is regarded as a "shame" that a person needs the support of the welfare system because of poverty and causes hesitation and a sense of inferiority in using the system.

consultation support, publicity, and awareness, are required. In addition to legal measures, it is also important for each individual to engage in a proactive process of thinking about prejudice, discrimination, isolation, and social exclusion in their daily lives in order to prevent discrimination. It is also important to position welfare education as school education and social education to create such a process, and to make efforts to foster a sense of coexistence.

Ⅲ Recommendations

Based on the recognition of the issues mentioned, we propose realization of the following reforms to reduce social vulnerabilities that amplify crises and risks and to reform the systems and support so that no one is left behind:

(1) Reduction in crisis/risks and institutional reforms for the needy
- i. Reinforcement of accompaniment-type support and establishment of a comprehensive support system to reduce crises and risks;
- ii. Introduction of universal social policy toward housing security and expansion of housing support;
- iii. Considering a welfare system that is “easy to get in and easy to get out”;
- iv. Establishment of systematic support for foreign residents.

(2) Reduction of crises and risks and systemic reforms for children and families
- i. Establishment an objective screening system to detect potential risks;
- ii. Establishment of inter-agency collaboration to enable preventive support;
- iii. Promotion of policies based on data collaboration on child and family issues;

(3) Reduction of crises and risks and institutional reforms for women
- i. Sustained efforts to eliminate violence and discrimination against women;
- ii. Promotion of stable employment of women’s consultants/social workers as professionals;
- iii. Required and appropriate appointment of women’s consultants/social workers in cities and wards;

(4) Reduction of crisis and risks and institutional reform for those who need assistance in daily life
- i. Wide-area coordination of health, medical care, and welfare for the preparation and implementation of BCPs;
- ii. Specify "welfare" in the "rescue" section of the Disaster Relief Law, establish disaster welfare support centers, and create a disaster welfare network;
- iii. Establishment of comprehensive support and disaster case management through various domains and media;

(5) Prevention of discrimination during crises and system reforms

i. Implementation of prompt and adequate remedial measures for those who have suffered from discrimination;
ii. Search for and formation of new "connections" in the age of living with coronavirus;
iii. Positioning the content of welfare education in the Basic Plan for the Promotion of Education, etc., and developing it as a curriculum;

Ⅳ Challenges

The whole picture of the damage caused by the COVID-19 disaster, including its residual effects, has not yet been elucidated, and academic efforts to analyze its effects in detail must be continued in the future. To this end, it is necessary to collect data widely and continuously in cooperation with private support organizations and to examine ways to transform the system and support into a more inclusive one.

Advisory Opinion

Unwanted Pregnancy of Adolescent and Young Adult Women: Support for the Mother and Child and Prevention of Child Abuse

22 September, 2023

Science Council of Japan

Subcommittee on Child Birth and Development,

Committee on Clinical Medicine

This advisory opinion is published as a result of deliberations of the Subcommittee on Child Birth and Development Committee on Clinical Medicine of the Science Council of Japan (SCJ).

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This English version is a translation of the original written in Japanese.

Abstract

1. Background of the Advisory Opinion

Nurturing of the next generation is one of the policy issues of top priority in Japan, where declining birthrate and aging population have advanced, and economic, health and educational disparities have widened. From the viewpoints of not only widening disparity but also of child abuse, unwanted teenage pregnancies, and abortion or childbirth associated therewith, are a serious problem requiring investigation and countermeasures from broad perspective covering medicine, welfare, education and human right. Therefore, in the 25th session of the Subcommittee on Child Birth and Development of the Science Council of Japan, we decided to express our opinion on enriching policies to support for the mother and child following unwanted pregnancy.

2. Current issues

Issues from Pregnancy to Childbirth

In Japan, a large number of female junior and high school students experience unwanted pregnancy, followed either by abortion or childbirth. As having nobody to consult with, many of them kill or abandon the baby immediately after isolated birth. Education for them, as well as social and economic support, remains insufficient. Legal systems for anonymous fostering and confidential birth have neither been established nor thoroughly discussed.

Issues from Childbirth to Child Rearing

For a mother who cannot rear the baby by herself, Japan has a system for special adoption. Nevertheless, the number of adopted babies is small, and the ratio of children under family nurturing is low. Even if babies are adopted, economic and social support for their foster parents is insufficient. Systems to manage information on the origin of child have not been established. About the treatment and development of children under facility care, little information is available.

We will express our opinions in detail toward solving these issues.

3. Opinions

⑴ To improve situation of pregnancy, childbirth and child rearing of young women:

Systems of telephone consultation and prenatal health checkup, available at any time and in an anonymous way, should be established and their information widely disseminated. [Children and Families Agency] Education to protect children from sexual assault should be promoted. Schools for girls in pregnancy or engaged in childrearing should be established. [Ministry of Education, Culture, Sports, Science and Technology]

⑵ To address issues regarding anonymous entrustment and confidential birth:

Aiming at benefiting both social help for both mothers in trouble due to unexpected pregnancy and lives and human rights of their babies to be born, a legal system for anonymous entrustment and confidential birth should be established. Whereas the national guideline on confidential birth (Treatment of a pregnant woman who has given birth with her identity information revealed only to a limited staff of a medical institution. Government notification by Director, Ministry of Justice Civil Affairs Bureau and Director, Ministry of Health, Labour and Welfare Child and Family Policy Bureau. September 30th, 2022) is an important step, introduction of a more comprehensive system should be discussed [Ministry of Health, Labour and Welfare; Children and Families Agency; Ministry of Justice]

⑶ To improve the treatment and rearing of newborns requiring social care:

Utilizing the system of special adoption, child's relationship with a biological mother with no wish or capability of child rearing should be ended, and adoption with foster parents should be conducted. Measures to improve the foster parent system should be discussed. [Children and Families Agency; Ministry of Justice]

⑷ To strengthen economic and social support for fostering parents:

National support should be enhanced for special adoption system and self-help organizations and support groups . [Children and Families Agency]

⑸ **To address issues regarding the origin of children:**

A national system should be created for safe and secure management of child's origin information without a public notice in family register. [Ministry of Health, Labour and Welfare; Children and Families Agency; Ministry of Justice]

⑹ **To assess and improve the situations of treatment and development of children:**

Investigations should be conducted on the treatment of children institutionalized in infant homes and on the development of children under social care. [Children and Families Agency; Ministry of Education, Culture, Sports, Science and Technology]

Recommendation

Five Recommendations for Rapid Qualification of New Development Tools for Innovative Medical Products

26 September, 2023

Science Council of Japan

This Recommendation is largely the outcome of the deliberations of the Subcommittee on Issues in the Governance of Social Implementation of Advanced Medical Technologies, which is a joint committee of the Committee on Pharmaceutical Science, Committee on Political Science, Committee on Basic Medical Science, Committee on Comprehensive Synthetic Engineering, Committee on Mechanical Engineering, and Committee on Material Engineering ,Science Council of Japan(SCJ), and is issued under the auspices of the SCJ.

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This English version is a translation of the original written in Japanese.

Abstract

1. Background

When evaluating the efficacy, safety, and quality of newly emerging innovative medical products, it is necessary to update the evaluation methods themselves. However, as sometimes criticized that "evaluating 21st century products with 20th century evaluation methods," the update of evaluation methods tends to lag behind the progress of science and technology. When evaluating a medical product using a new evaluation method, it is necessary to evaluate the evaluation method itself" in the first place. After determining the scope of application of the evaluation technique and verifying its validity with data, guidance on the evaluation method for appropriate use within the scope of application is developed, and the method is made available for use as an evaluation method in non-clinical or clinical trials. This is called Development Tool Qualification. In Japan, even though the guidance for individual evaluation techniques have been developed, there are no explicit rules for qualification procedures of evaluation technique, and measures for this purpose have not been sufficiently discussed in terms of both content and method. Therefore, in this proposal, as a procedure for the qualification of evaluation techniques, we propose development of “the guidance to prepare guidance for evaluation methods” and the relevant policies.

2. Current situation and problems

In the U.S., the policy “the Drug Development Tool Qualification Program (DDTQP) and the Medical Device Development Tool Program (MDDT)” have been established for pharmaceutical products, and in Europe, “the Qualification of novel methodologies for drug development: guidance to applicants”. These countries have already developed and implemented a qualification system for evaluation technologies for medical products as a rule-of-rules type policy (a rule to create a rule) which is "a guidance to create guidance for evaluation methods." In the U.S., as this system has been used to submit more than 200 applications, mainly for biomarkers for pharmaceutical products and clinical outcome assessment for medical devices, the qualification of tools has been progressing.

On the other hand, Japan has not developed a rule-of-rules type system that explicitly defines the process, and its policy resources to operate such system are insufficient. As a result, tool qualification has not progressed systematically among technology owners, users, and regulators of evaluation technologies. While evaluation technologies from Europe and the U.S. become de facto, Japan will not only have nothing but to follow the result of qualification for evaluation technologies, but also face the risk of obstacles to promote innovative medical products originating in Japan domestically and overseas.

3. Contents of the proposal

In order to quickly deliver medical products that utilize new technology to patients, it is essential to rapidly qualify evaluation technologies for medical products. To this end, we recommend the following five measures to promote involvement of stakeholders.

⑴ Develop rule-of-rules type guidance

We propose to develop a "rule-of-rules type guidance" that establishes the procedures to qualify individual evaluation methods for evaluating medical products. This will enable to have following benefits:

1) A process for creating guidance that qualifies evaluation methods and specifies how to use such guidance will be defined, and processes and procedures described in the guidance will be disseminated and shared among relevant stakeholders, including owners of evaluation technologies and regulatory authorities;

2) The procedure for voluntarily submission for the start of review work for creating guidance will be clarified;

3) The procedure for transition to the next process will be clarified;

4) Through disclosure of process transition at the time of process transition. transparency and efficiency of such process can be ensured.

In the future, it is required to develop the guidance that establishes the guidance specifying how to develop guidance related to efficacy, safety, and quality of all kinds of medical products (Good Guidance Practice) and to improve the transparency and efficiency of organization and revision of rules.

⑵ Secure the necessary human resources and funds

In order to implement measures to qualify evaluation methods, it is required

to take measures to expand policy resources for regulatory science, including securing human resources to enhance the review system, and developing a subsidy system to subsidize the cost of acquiring data to verify qualification. Additionally, it is also required to establish core research organizations for education, research, and industry-academia collaboration in specific universities, and make such organizations as human resource development organizations for forming governance of advanced medical care by enhancing recurrent education for working adults.

⑶ Build a flexible personnel system

In order to expand the human resources involved in the qualification of medical products evaluation, personnel exchange between industry, government, and academia is essential. However, due to the current rigid personnel system for national civil servants, the more personnel exchanges occur, the worse the treatment for personnel becomes. In order to develop human resources for regulatory design requiring diverse experience, it is necessary to prepare for a personnel system in which personnel exchanges do not bring people disadvantageous treatment, and a structure that supports career path design based on such personnel system.

⑷ Enable evaluation technology holders to understand the benefits of qualification

As it is not sufficient to increase the number of qualification cases merely by establishing a rule-of-rule qualification system, it is necessary to provide motivation and mechanisms to enable university researchers, companies, and other organizations that possess evaluation technology to obtain qualification of their evaluation methods and to move toward the use of the evaluation technology in clinical development. To this end, it is required to develop an ecosystem for the use of evaluation technology, such as disseminating examples of how the system is used, enhancing research grants to support qualification, and supporting commercialization of companies.

⑸ Promote international recognition and use of evaluation technology developed in Japan

It is expected that the number of qualified evaluation methods will increase in the future as Europe and the United States have established qualification

systems for evaluation method. In addition to promote the qualification of evaluation methods in Japan, it is also necessary to develop procedures and support measures for Japanese-originated evaluation methods to be certified in Europe and the United States. In addition to routes such as international technical standards, it is necessary to continue developing the procedures and support measures to enable the evaluation methods developed in Japan to be certified in Europe and the United States as well. It is also required to develop multiple implementation methods, such as procedures for mutually certifying evaluation methods that have been qualified in Europe and the United States in addition to the routes for international technical standards.

Advisory Opinion

Toward the Enrichment of “Geography” and the Construction of Geography Education Consistent from Elementary School to University; Toward the realization of a sustainable society

27 September 2023

Science Council of Japan

Subcommittee on Geography Education of the Committee on Area Studies and the Committee on Earth and Planetary Sciences

This advisory opinion is the result of the deliberations of the Subcommittee on Geography Education of the Committee on Area Studies and the Committee on Earth and Planetary Sciences of the Science Council of Japan.

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This English version is a translation of the original written in Japanese.

Executive Summary

1. Background to the Development of this Opinion

In April 2022, a new curriculum based on the current National Curriculum Courses Standards (revised in 2018) began in high schools, and classes in “Geography and History” began with the newly established “Geography” as a compulsory subject. All students, from elementary school through high school, will study geography equally, and it is expected that geography education will make a greater contribution to society by fostering spatial awareness from people’s local communities to the land, the world, and the earth, and by fostering future leaders who will live better lives and be better shapers of society.

In order to promote such education, while reforms have been made as indicated in the proposal issued in August 2020 by the Subcommittee on Geography Education of the Committee on Area Studies and the Committee on Earth and Planetary Sciences of the Science Council of Japan, “Toward the Enhancement of New Geography Education to be Changed by ‘Geography’ - Fostering Geographical Qualities that Contribute to the Creation of a Sustainable Society”, there still remain an unaddressed issue of the continuity of geography education from elementary school to high school and university.

It is important to find a direction for solving this issue and to further enhance geography education. In order to promote the further development of geography education and its contribution to society, including the findings of not only geography but also and other humanities including cultural anthropology and history, natural sciences, and informatics, for a sustainable society, we issue the following statement. The following is a summary of the views expressed in the Opinion.

2. Current Situation and Issues

The school curriculum and training system for teachers in introducing of “Geography” at each high school are insufficient, and the importance and continuity of geography education from elementary school to university are not fully recognized. The issues are following: the relationship between the academic background and the contents of school learning has not been clarified. In addition,

the development and evaluation of the required qualities and abilities, that are the aims of “Geography” including the use of maps/GIS (geographic information systems), international understanding, and environment and disaster prevention, which are necessary in a DX (Digital Transformation) society, have also not been indicated.

There is an immediate need to examine the university curricula for the training of geography teachers and the state of the university entrance examinations for "Geography" which has become a compulsory subject, and continuity of geography education at universities.

3. Details of the Opinion

(1) Enrichment of “Geography” and establishment of continuous geography learning from elementary school to high school

The training should include: detailed training for teachers on the content of geography, according to their expertise and years of teaching experience; training on evaluation, including the new perspective-based evaluation; and training on basic knowledge and concepts of the content of learning, fieldwork, etc. It is necessary to provide a variety of contents to support the devising and improvement of classroom practices based on the revised National Curriculum Courses Standards. It is expected that the national government, geography-related academic associations, universities, research institutions, etc. will collaborate to develop a system to provide diverse teacher training materials and programs, and to accumulate and enhance training programs by utilizing a cross-sectional network of geography-related academic associations. With the introduction of “Geography” as a compulsory subject at high schools, it is necessary to examine the continuity of geography studies at elementary, junior and senior high schools, and to provide teacher training for this purpose.

(2) Map/GIS education content development with “Geography”

In the development of contents for map/GIS education, there is a need for a system to accumulate, maintain, and update important geospatial information and useful contents, and to ensure that the latest information is available at all times. In map/GIS education, it is important to make the regional image through fieldwork and other means. In addition to using the websites as a source of statistical information, it is expected to collaborate and interact with the local communities. It is desirable for students to use the skills they have acquired such

as "localization of teaching materials" using the results of map/GIS education and having students think about disaster prevention and the environment in their immediate surroundings, and to use this learning guidance to improve their own lives and society.

(3) Distribution of the importance of "international understanding and international cooperation”

In order to gain a correct understanding of the philosophy of “Geography”, it is necessary to raise public awareness of importance of "international understanding and international cooperation in “Geography”. For reducing the gap between the philosophy of “Geography” and social reality, it is required to take one step further, such as providing information to the press through press releases.

It is necessary to seek for a consensus through wide-ranging discussions on to what degree complex realities should be structured and grasped, under the philosophy of moving from content (knowledge) to competency (ability) and under the conditions required for the compulsory subject as easy to teach and learn.

(4) Enhance physical geography education to support education for environmental disaster prevention and further strengthen cooperation with universities, etc.

School classroom support needs to be strengthened to make unique difficulties of education for environmental disaster prevention easier. In the learning for environmental disaster prevention, focusing on offering various learning opportunities in high schools, curriculum structure should be considered that allows students to flexibly take subjects that can be linked to geography and adjacent subjects such as history and geology. In addition, it should be encouraged to further collaborate with universities and research institutions. It is desirable to accelerate the dissemination of ICT learning for environmental disaster prevention using maps by Geospatial Information Authority and other tools, as well as use of the collection of teaching materials, and to provide a generous support system to achieve learning that enables students to apply their knowledge.

(5) Teacher training and enhancement of geography education in common education at universities, and reform of university entrance examinations

In order to reflect the content of “Geography” effectively, it is necessary to

improve the contents of university training course for elementary and high school teacher training programs and the contents of teacher training for “Geography and History” of high school. As “Geography” started as compulsory subject along with “History” in high school, it is necessary to treat geography and history equally in university entrance examinations, because school students who have taken geography subjects will not be disadvantaged in entrance examinations. It is required that students who select geography as university entrance examination could be evaluated on the various qualities and abilities acquired through their geography learning of high school. It is also required for the universities that have difficulty making their own entrance examinations to use the Common Test for University Admission or other methods to ensure opportunities for students who take geography.

While aiming at consistency with the learning contents of “Geography”, in the common subjects in universities, it is necessary to enhance the contents of geography in universities, taking into consideration the connection with the high school and university, such as provision of subject based on “Geography” aiming at fostering competency by utilizing the achievements that have been made so far.

Advisory Opinion

Measures to prevent epidemics of high-risk infectious diseases need to be promoted

28 September 2023

Science Council of Japan

Subcommittee on Preventing and Controlling Large-scale Infectious Diseases, Section Ⅱ

This Advisory Opinion is issued in accordance with the outcome of the deliberations of the Subcommittee on Preventing and Controlling Large-scale Infectious Diseases, Section Ⅱ of Science Council of Japan.

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This English version is a translation of the original written in Japanese.

Executive Summary

1. Backgrounds

In this Advisory Opinion, we provide our views on the issues identified through our analysis of the current situation regarding the response to human infectious diseases that have a high probability of human-to-human transmission, pose a particularly high health risk, and could have a significant impact on local public health if their spread is not prevented. （Hereinafter, this kind of infectious diseases are referred to as high-risk infectious diseases).

In this advisory opinion, high-risk infectious diseases are defined as those with human-to-human infections in infected persons, including asymptomatic pathogen carriers, with a fatality rate of 15% or more and a basic reproduction number R0, a measure of infectivity, of 3 or more. This includes newly emerging infectious diseases.

2. Current situation and problems and viewpoints

The Government of Japan should stratify high-risk infectious diseases based on their characteristics (infectiousness of infected persons including asymptomatic infected persons, fatality rates, routes of infection, lengths of incubation period, etc.). It should also specify measures (quarantine, isolation, follow-up at home or in facilities, restriction of activities, employment, business, human flow and distribution, vaccination if effective vaccine is available, etc.) for each stratified group. At the same time, it is necessary to establish a system to monitor the Government's restriction of private rights by the Diet, etc., and a system that can take sufficient measures to stabilize people's lives and the national economy.

(1) Identification of infected persons and prevention of the infection spread

Border control measures: The border control measures have been significantly improved through the revision of the Quarantine Act of 2022. As a result, those entering Japan who are judged to be ``persons who may have been infected with infectious disease agents'' under the Quarantine Act are subject to severe restrictions on their movements and human rights restrictions. For this reason, the period of restriction on the movement of the entrants must be kept to the minimum necessary. In addition, a mechanism should be established to promptly designate high-risk infectious diseases, not currently specified in the Quarantine Act as quarantinable infectious diseases. Furthermore, information on infected cases identified in the quarantine station should be promptly transmitted to the command post for

infectious disease control in the Government. Additionally, the authority for measures under the Quarantine Act should be transferred to the command post, enabling the Government to take responsibility for securing medical facilities for patients and infected individuals with high-risk infectious diseases, as well as facilities for accommodating and monitoring contacts.

Management of infected persons: The 2021 amendment to the Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases (here in after, referred to as “the Infectious Diseases Control Law”) introduced administrative penalties on the patients who 'refused' hospitalization or 'escaped' from in-patient facilities; however, it has been pointed out that this amendment is inconsistent with the principles of this law, leaving an outstanding issue. In the case of high-risk infectious diseases, there may be situations where it is necessary to detain individuals who do not comply with isolation measures; hence the Infectious Diseases Control Law should rather straightforwardly state that patients can be taken into custody and isolated for a period considered medically necessary, to the extent necessary to provide them with protection and appropriate medical care, and to control the spread of infectious diseases. In addition, there should be a system whereby the Government secures the necessary facilities for local municipalities to conduct their quarantine. Necessary legislation should be developed through careful and adequate discussions in normal times.

Management of contact persons and prevention/mitigation of contact: For high-risk infections, it may be necessary to impose movement restrictions on asymptomatic infectants and contactees, which could effectively amount to isolation measures, and to take those who do not comply into custody. Restrictions on private rights, such as restrictions on employment and business, may also be necessary. The Government must take into account the stability of people's lives and the national economy, as they are encouraging people to respond voluntarily or forcibly to suppress social contact in order to control the spread of infection. The Government should prepare during normal times so that it can promptly establish a livelihood support system in the event of an emergency, such as supplying residents with daily necessities.

Restrictions on human flow and logistics to prevent the spread of the epidemic: Even when regional blocks are set up to restrict the flow of people and logistics, the minimum necessary social and economic activities must be maintained. In order to establish a system that enables the prompt implementation of necessary initiatives, the Government should determine such regional blocks in normal times by the opinions of experts in infectious diseases, human flows and logistics, and establish a wide-area administrative structure within such blocks, which can be coordinated by the Government if the block straddles several prefectures. Restrictions on the flow of people and logistics

must be combined with a system to monitor the infection situation in real time and eliminate them as soon as they become unnecessary.

Legislation to restrict people flow and logistics between regions: The Government should collect the opinions of experts and others on the necessary conditions for restricting the flow of logistics and people other than patients and infected persons when high-risk infectious disease cases occur in the country; based on their views, it should prepare a concrete response plan within the constraints of the Constitution. The plan, together with the opinions of Public Health Centres and other public health workplaces, should be presented to the public as risk communication. Listening to public opinions, the Government should make efforts to gain a consensus among the people.

Legislation on facility use and health-related professions: Based on the experience obtained through the COVID-19 outbreak, should be established is a system that does not rely solely on Public Health Centres as the competent authorities for infectious diseases in order to respond appropriately to high-risk infectious diseases. Laws and regulations should be specifically revised from the perspective of crisis management and the 'command post' should be made responsible for securing accommodation facilities, adopting, and applying operational methods, and assigning responsibilities of medical personnel engaged in infectious disease control.

Development of the research system: In the event that an unknown high-risk pathogen that invades from overseas causes an epidemic, Japan will be responsible for promptly acquiring its entire genome information and disseminating information internationally. It is necessary to improve the current research system in which each ministry, including the Ministry of Health, Labour and Welfare (MHLW) and the Ministry of Education, Culture, Sports, Science and Technology (MEXT), deals with the issue individually.

(2) Establishment of communication systems, including information provision on patient isolation, restrictions on movement of residents and others

When isolating or restricting the movement of infected people to control high-risk infections, there needs to be a system in place to ensure that people who do not speak Japanese or use a non-verbal language for communication can understand the need for these measures without 'barriers'. In addition, the daily life of these individuals cannot be maintained if information on the supply of daily necessities is not communicated without omission or delay. By the unusual situation in which an infectious disease outbreak takes place, individuals' daily activities are interfered. Considerations in communication are not only essential for information sharing to effectively prevent the spread of infection. They also play an important role in maintaining the safe and healthy functioning of the people,

households, and communities that make up society, and even society as a whole. To establish a communication system, it is necessary to have (i) a mechanism to provide necessary information efficiently and to all members of society, (ii) a mechanism enabling society members to secure access to information, and to select necessary information, and (iii) a mechanism to prevent some members of society from being disadvantaged because of communication differences.

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I. Backgrounds

A. Introduction

The experience of the new coronavirus infection (hereafter, referred to as “COVID-19”) epidemic has led to a marked improvement in national and international infectious disease control measures. However, various problems remain in relation to quarantine, information collection on identification and tracking of patients and infected persons, open science and vaccine measures as pointed out by the following two recommendations: i) the Recommendation entitled “Establishment of a Permanent Organization to Prevent and Control Infectious Diseases, which was prepared by Subcommittee on Preventing and Controlling Large-scale Infectious Diseases, Section Ⅱ of Science Council of Japan”, and was published on July 3, 2020; and ii) the Recommendation entitled “Strengthening the ICT infrastructure and promoting digital transformation for disease control and social transformation”, which was jointly prepared by the Subcommittee on Preventing and Controlling Large-scale Infectious Diseases, Section Ⅱ of Science Council of Japan, and the Subcommittee on Ubiquitous Situational Awareness and Social Infrastructure of the SCJ Informatics Committee, and was published on 15 September, 2020. In the future, we hope that the problems which are pointed out in this document will be improved thanks to the establishment of the Cabinet Agency for Infectious Disease Crisis Management and Supervision Agency and the National Institute for Health Crisis Management and Research in the Ministry of Health, Labour and Welfare. The National Institute for Health Crisis Management and Research is established for the following purposes: i) prevention and anti-expansion of the spreads of infectious diseases and other emergency situations in which serious public health hazards occur or are likely to occur; and the improvement and promotion of public health in Japan and abroad (adapted from the National Institute for Health Crisis Management and Research Act).

The COVID-19 epidemic revealed the challenges facing humanity today, when human interaction and the distribution of goods and information have increased significantly. The possibility cannot be ruled out that, in the future, climate change and other changes in the habitats of many wildlife species will result in many viruses being transmitted between species as different species come into contact with each other for the first time, leading to the emergence of new high-risk infectious diseases that were previously completely unknown. Regional conflicts are also likely to increase more than ever. During wars, carcasses of animals resulting from shelling and bombing, as well as carcasses of animals that died from diseases caused by the destruction of the environment and wild animal habitats, are left undisposed of. Furthermore, unregulated movement of animals and increased contact between humans and animals--wild and domestic animals--increases the risk of spillover (interspecies transfer of pathogens) and the spread of animal-borne

diseases. This point was also raised in discussions during the process of developing the 24th-period SCJ Recommendation entitled "Urgent Recommendations on the Control of African Swine Fever (ASF, formerly known as African Swine Cholera)", which was published on April 16, 2020.

In this new phase of history, where humanity must confront social problems caused by climate change, war, etc., human survival will become more vulnerable not only to infectious diseases but also to terrorism and wars between nations; and a civilizational crisis could easily occur. The health of humans and animals and the conservation of the environment are closely related to each other within the ecosystem, and the aim of true health is to achieve a good overall state of health, in other words, to achieve One Health[1].In the coming globalised society, common human challenges such as infectious diseases, food insecurity and the environment issues require a global and cross-sectoral approach. Academic information as a common public good of humanity must be shared and disseminated equally, and then opinions must be shared to find a way to realise correct and effective policies.

The plague epidemic of the Middle Ages was feared as the Black Death in Europe, and some estimate suggests that around 60% of the European population died of the disease in the 14th century [1]. It is not possible to discuss this historical catastrophe by applying it to the present day because Europe at that time differed significantly from the present day in terms of the natural and social environment. However, as we have discussed, the new risk of infectious disease pandemics has increased to the point that it cannot be ignored in modern societies, and it is necessary to consider preparedness for infectious diseases with much higher fatality rates than COVID-19. This Advisory Opinion presents the results of our analyses and conclusions regarding the current measures and responses against human infectious diseases (hereafter referred to as high-risk infectious diseases) with a high probability of human-to-human transmission, a particularly high health risk and a significant impact on local public health if their epidemic spread is not stopped.

When facing the extremely high risk of the high-risk infectious diseases considered in this Advisory Opinion, we concluded that there was little room to consider the balance with economic activities at the time of prioritizing measures to stop their spread. We hope that this Advisory Opinion will be helpful when measures to deal with various infectious diseases will be considered by the Cabinet Office Infectious Disease Crisis Management and Supervision Agency and the National Institute for Health Crisis Management and Research in the Ministry of Health, Labour and Welfare.

B. High-risk infectious diseases

[1] The concept of human and animal health and the health of the environment as One Health and protecting them in an integrated manner.

This section provides definitions of high-risk infections in this Advisory Opinion for viruses and bacteria respectively, as well as examples of high-risk infections caused by viruses and bacteria.

1. Viral infections

The Act on Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases (hereafter referred to as the Infectious Diseases Control Law) classifies infectious diseases that are 'extremely high-risk from a comprehensive perspective based on infectivity and the severity of the illness' as Category I infectious diseases. Category I infectious diseases caused by viruses are Lassa fever, Ebola haemorrhagic fever, Crimean-Congo haemorrhagic fever, Marburg haemorrhagic fever, South American haemorrhagic fever, and smallpox. Note that Ebola haemorrhagic fever is often referred to internationally as Ebola virus disease as patients do not always present–haemorrhagic symptoms. This disease will be referred to as Ebola virus disease in this Advisory Opinion [2].

According to the Infectious Diseases Quick Reference for "Viral Haemorrhagic Fever" of the Infectious Diseases Society of Japan, the fatality rates for all of the Category I infectious diseases is 15% or more, with Ebola virus disease having the highest fatality rate among these, at 25－90％[3]. However, the infectivity of most Category I infectious diseases is not high enough to cause an explosive epidemic in a brief time.

One indicator of transmissibility is the basic reproduction number (R0). R0 is an estimate of the average number of secondary infections caused by a single infected person in a population without immunity to the disease. R0 > 1 means that one infected person creates one or more secondary infections [4]. A similar indicator is the effective reproduction rate (Rt), which is defined as the number of secondary infections caused by one infected person at a given point in time under certain measures, and one of the epidemiological indicators to assess whether an epidemic is currently expanding or converging [5].

R0 is a product of the following three factors: i) the duration of infectiousness; ii) the probability of infection per contact (effective contact, which would cause infection) with one infected person and iii) the average number of contacts (effective contacts) per unit of time (rate) between a susceptible and infected person. The value of the third factor can vary from population to population [6]. Therefore, although the value of R0 is not virus-specific, ROs of the same virus are not expected to differ significantly between populations where the average frequency of effective contacts does not differ significantly.

The R0 for Ebola virus disease, a Category I infectious disease, is estimated to be between 1.51 and 2.53 [7], and for smallpox between 3.5-6 [8] - By the way, the R0 for measles, which is known to be particularly highly contagious, is 12-18 [7]. The Infectious Agents Surveillance Report (IASR) of the National Institute of Infectious Diseases (NIID)

indicates an R0 of 1.7-1.9 for Severe Acute Respiratory Syndrome (SARS), a Category II infectious disease [4].

The R0 of COVID-19 virus is estimated to be 2.1-5.1 based on data from Hubei Province, China, in the early stages of the spread of the infection, but 2.1-3.2 based on analyses outside China [4]. Among the mutant viruses that have emerged since then, the R0 of the Omicron strain is estimated to be several times higher than at the beginning of the epidemic in 2020 [9].

In this Advisory Opinion, high-risk infections are defined as those that fulfil all three of the following conditions: (i) Human-to-human transmission by infected persons, including asymptomatic pathogen carriers (uninfected persons); (ii) R0 is 3 or larger; and (iii) the fatality rate must be at least 15%. For reference, we present the results of simple calculations below. If one infected person causes three new infections in two days, the number of patients is 243 (5 to the power of 3) in 10 days. Since high-risk infection defined in this document is assumed to have a fatality rate of 15% or higher, the death toll will be at least 36. Such an epidemic could lead to a collapse of healthcare in a short period of time, even if it occurs in a (relatively well-prepared) metropolitan a

The definition of high-risk infections in this Advisory Opinion does not include routes and modes of human-to-human transmission. However, droplet and droplet nucleus transmission are likely to be the most common route of transmission for viral diseases that are highly contagious. This Advisory Opinion assumes that some infections can occur from non-human animals (hereafter simply referred to as 'animals') to humans. However, we consider only such infections that cause human-to-human transmission after animal-to-human transmission has occurred.

Some human-to-human infections, such as typhus rash, are arthropods-mediated (in this case, lice) --typhus rash is a rickettsial infection but is included in the discussion in this section--; and some are transmitted orally. It does not categorically exclude infections with such a mode of transmission as envisaged by this opinion. However, in a country like ours, with good sanitation and a high level of hygiene awareness among citizens, it seems unlikely that this mode of transmission would spread in such a short time. --Although, of course, this may not always remain the case in the future. Bites by mosquitoes and ticks can cause human infections, but it is considered unlikely or very unlikely that mosquitoes can transmit human-to-human infections. In addition, the following SCJ Recommendation noted that SFTS (Severe Fever with Thrombocytopenia Syndrome) and other tick-borne infectious diseases are becoming an important public health problem in Japan: the SCJ Recommendation entitled "Strengthening Education and Research in Sanitary Zoology Aimed at Reducing Damage Caused by Sanitary Pests" published in April 2019 by the Subcommittee on Applied Entomology of the Committee on Agricultural Sciences, the

Subcommittee on Veterinary Medicine of the Committee on Food Science, and the Subcommittee on Pathogens of the Committee on Basic Medical Sciences of the Science Council of Japan. In addition, in September 2019, SCJ issued 'Urgent Recommendations on Measures to Combat Tick-borne Infectious Diseases such as Japanese Erythrocytic Fever and SFTS' (Public Health Science Subcommittee of the Joint Committee on Basic Medical Sciences and the Committee on Health and Life Sciences, SCJ). It is hoped that these recommendations will be taken into consideration in the future regarding the control of arthropod-borne high-risk infections.

High-risk infections as defined above include known infections as well as emerging infections. Such an outbreak in a population without immunity to the pathogen in question would indisputably require immediate and stringent infection control measures. Based on this criterion, of the viral infections classified as Category I infections, the first one to be taken up as a high-risk infection in this opinion would be smallpox. As already mentioned, R0 is estimated to be 3.5-6 [8]. Fatalities can reach 20-50%. Several antiviral drugs are used for treatment, but evidence for their efficacy is still insufficient. If smallpox is endemic in humans, the possibility of bioterrorism must also be considered. In such cases, resistance to antiviral drugs may have been artificially introduced. Note that in May 1980, WHO declared that smallpox (smallpox) had been eradicated from the world. In response to this, the legal practice of vaccinations was abolished in Japan in 1980, and has remained so to the present day. No countries practices smallpox now that smallpox has been eradicated.

Viral infections other than smallpox can also cause human-to-human transmission, but the likelihood of transmission by droplets or droplet nuclei is considered low and the infectivity in such cases is unknown. Viral haemorrhagic fevers (e.g., Ebola virus disease), a Category I infectious disease, can be transmitted from mucous membranes and other parts of the body through contact (including ingestion of raw meat) with viruses contained in animal fluids (stool, urine, saliva, semen, etc.), tissue, animal carcasses and raw meat. It is usually considered unnecessary to cordon off an area if those in close contact are isolated and kept under surveillance [10]. However, it would be necessary to consider the case of a much higher infectivity.

Known infections that do not meet the criteria for high-risk infections as set out in this Advisory Opinion may also come to meet the definition of high-risk infections due to pathogen mutation, reduced immunity of the population or environmental changes. For example, when the fatality rate of COVID-19 infections increases, when the infectivity and fatality rate of SARS increases, or when the infectivity of Middle East Respiratory Syndrome (MERS) or Ebola virus disease increases. It is also worth remembering that in 2014, the largest Ebola virus disease outbreak to date occurred and there were fears of a

global epidemic, but we narrowly escaped the arrival of infected people in our country [2].

On Novel influenza, detailed investigations/considerations have already been made in the Ministry of Health, Labour and Welfare's 2009 Report of the General Council for Countermeasures against New Strains of Influenza (A/H1N1), published on 10 June 2010. The study was briefly presented in the Recommendation from this Subcommittee in 2020, which was on the creation of a permanent organisation for the prevention and control of infectious diseases. The R0 of a novel influenza that would produce a pandemic is estimated to be 2-3 [11]. Some of these may fall under the high-risk infections considered in this opinion.

2. Bacterial infection

i) Plague

Plague is the only bacterial infection classified as a Category I infection under the Infectious Diseases Control Law. This is due to infection with the plague bacillus (Yersinia pestis), which is transmitted mainly by arthropods (mainly fleas of the rat flea genus), with rodents as the carrier host. No domestic cases of plague have been reported since 1927 [12]. It can be divided into pneumonic/glandular/septic plague according to the route of infection and clinical presentation. In pneumonic plague, the patient is the source of infection and human-to-human droplet transmission occurs. The main route of transmission of glandular and septicemic plague is through the bite of fleas parasitising infected rodents and direct contact from infected animal pus, with low potential for human-to-human transmission. If appropriate antimicrobials are not used, the disease can progress to pneumonic plague, which can be fatal. The prognosis is good if effective antimicrobials (tetracyclines, aminoglycosides and quinolones) are administered within 8-24 hours of the onset of pneumonic plague, but the fatality rate is said to be 90-100% if appropriate antimicrobials are not used [12,13].

When plague bacteria are used in bioterrorism, they are likely to be artificially made drug resistant [12]. In such cases, antimicrobial treatment may not be effective. R0 reported to be close to 1, but 6.5-7.1 reported, inconclusive [14]. In the USA, five cases of infection from infected cats reported between 1977 and 1998 were thought to have been caused by droplet infection from cats that had developed pneumonic plague [15].

In conclusion, pneumonic plague can cause human-to-human transmission by droplet and droplet nuclei, and is highly fatal if not properly treated. However, if symptoms do not progress, the shedding of the organism from the lungs is not high, and the incubation period in the case of trans-respiratory infection is usually 2-3 days, so the risk of human-to-human transmission is low. Therefore, although it is unlikely for this disease to meet the definition of a high-risk infection, the possibility of a highly contagious and rapidly

spreading epidemic of this disease should be kept in mind.

ii) XDR tuberculosis

Tuberculosis is a Category II infectious disease under the Infectious Disease Control Law. Mycobacterium tuberculosis that is resistant to at least both INH (Isoniazid) and RFP (Rifampicin), the primary antituberculosis drugs, is called multidrug-resistant tuberculosis (MDR-TB). In addition to multidrug resistance, those resistant to three or more of the six categories of secondary anti-tuberculosis drugs are called XDR Tuberculosis (Extensively Drug Resistant Tuberculosis). The six categories refer to aminoglycosides, polypeptides, fluoroquinolones, thioamides, cycloserine, and para-aminosalicylic acid. Its fatality rate is estimated to be over 20%, although it is unclear in some respects [16,17].

In 2021, the WHO definition of XDR TB was changed, and XDR TB is now defined as "Tuberculosis caused by Mycobacterium tuberculosis strains that meet the definition of MDR-TB and are resistant to fluoroquinolones and at least one Group A drug other than fluoroquinolones". Since Group A drugs are currently bedaquiline and linezolid as well as levofloxacin/moxifloxacin, which is a fluoroquinolone drug, XDR-TB is MDR/RR-TB resistant to bedaquiline or linezolid or both in addition to fluoroquinolones.

In the case of tuberculosis, R0 can range from less than 1 to more than 10. In XDR TB, if its fatality rate (rate of severe disease and incidence of serious sequelae) is assumed to be 15% or more, and the R0 is 3 or more, the disease must be treated as a high-risk infection.

Tuberculosis control measures have included detailed health checkups, vaccinations, an ordered admission system based on full public funding, outpatient treatment, and long-term treatment based on patient registration [18]. However, XDR TB requires even more stringent infection control measures.

II. Analysis of current situation and problems

A. Identification of infected persons and prevention of epidemic spread

1. Border control measures

High-risk infections as defined in this Advisory Opinion would typically be imported from abroad. If a high-risk infectious disease occurs in a country or region outside Japan, and it cannot be determined that there is no possibility of infected persons invading Japan, entry of infectants into the country cannot be prevented unless we prohibit entry from all regions, not just the countries and regions where the infection has occurred. However, it would be extremely difficult to prohibit the entry of Japanese nationals and foreigners residing in Japan from returning to Japan, as special circumstances, such as humanitarian reasons, must be taken into consideration. It is necessary to secure an appropriate facility in Japan, detain them there, observe their health conditions for a period of time as deemed necessary, and if necessary, transfer them to an appropriate medical facility for treatment. Restrictions on movement should be removed after confirming that they are not infected (in the case of infected persons, the restrictions should be removed after confirming that they have not shed any pathogens and are not at risk of secondary infection). These responses are similar to those for other infectious diseases, but more stringent measures are required for high-risk infections.

The Quarantine Act states that for quarantinable infectious diseases, the quarantine station chief may "isolate a patient with an infectious disease or have a quarantine officer isolate him or her" (Article 14, paragraph (1), item (i), Article 15) to the extent deemed reasonably necessary, and "detain a person who may have been infected with an infectious disease pathogen or have a quarantine officer detain him or her" (Article 14, paragraph (1), item (ii), Article 16) only when the pathogen is deemed likely to enter the country and seriously affect the lives and health of citizens.

When COVID-19 was first introduced to Japan, the infection was not regulated by the Quarantine Act, and the Government had no choice but to request cooperation from those who refused to be tested upon entry into Japan. The Government designated COVID-19 as an infectious disease under Article 2, item (iii) of the Quarantine Act through an Cabinet Order that came into effect on February 1, 2020, and additionally designated it as an infectious disease of Article 34, paragraph (1) of the Quarantine Act by another Cabinet Order issued on February 13, 2020, thus establishing a system that allows for temporary isolation and detention measures under the Quarantine Act for entrants with suspected COVID-19 infection. Subsequently, COVID-19, classified as a Category 2 equivalent designated infectious disease, was positioned as a quarantinable infectious disease under Article 2, item (ii) of the Quarantine Act in the revision of the Infectious Diseases Control Law promulgated on February 3, 2021. At the same time, "a person who possesses an

infectious disease-causing pathogens and is not showing symptoms of such infectious disease" (an asymptomatic pathogen carrier) is also considered a patient under Article 2-2, paragraph (3) of the Quarantine Act, which was revised at the same time, and the quarantine station chief can request "an infected patient or a person who may be infected by such infectious disease-causing pathogens" to stay home and report their health status and other necessary cooperation (Article 14, paragraph (1), item (iii), Article 16-2).

Article 36 of the Quarantine Act imposes penalties (up to six months in prison or a fine of up to 500,000 yen) for making false statements in questionnaires or declarations, or for "refusing, obstructing, or evading" a medical examination or inspection conducted by the quarantine station chief or quarantine officers. In addition, if a "person who may have been infected with an infectious-disease-causing pathogens" does not respond to a request to stay at home, etc., measures such as "detention" at a facility may be taken (Article 14, paragraph (1), item (ii)). In addition, "if a person is placed under isolation or suspension and escapes during the continuation of such a dealing" is subject to a criminal penalty of "imprisonment for not more than one year or a fine of not more than one million yen" (Article 35, item (ii)).

In the border control measures for COVID-19, there were persons who did not respond to health follow-up and whereabouts verification, persons who did not comply with requests for cooperation and engaged in unnecessary outings, and persons who refused to take immediate measures to enforce isolation and suspension to prevent infection [19]. Based on this, the revised Quarantine Act promulgated on December 9, 2022 requires persons at risk of infection to stay at home or cooperate in reporting, and allows "instructions" to stay if such persons do not comply with such cooperation without just cause (Article 16-3), and imposes imprisonment of up to 6 months or a fine of up to 500,000 yen (Article 36, item(viii)) if a person fails to report whether he/she is following the instructions or makes a false report.

With the revision of the Quarantine Act in 2022, "border control measures" have been greatly improved. As a result, those entering Japan who are judged to be “persons who may have been infected with infectious disease agents” under the Quarantine Act are subject to severe restrictions on their movements and human rights restrictions. For this reason, the period of restriction on the movement of those entering the country must be kept to the minimum necessary. On the other hand, under the current circumstances, it may not be possible to impose strong behavioral restrictions on people entering Japan even if such restrictions are necessary to slow down the introduction of high-risk infectious diseases originated overseas into Japan. The reason is that the target is limited to quarantinable infectious diseases designated in Article 2, items (i) and (ii) of the Quarantine Act (which are considered non-endemic in Japan). Note that the Act does not cover the

other infectious diseases (such as the aforementioned XDR tuberculosis) and unknown infectious diseases. Based on the International Heath Regulations, a system is needed to promptly implement domestic responses (including revision of Quarantine Act ~~futhers~~) to infectious diseases which the WHO and other organizations have determined that they should be addressed internationally.

From the experience of the COVID-19 pandemic, infection prevention measures for immigration inspectors, quarantine officers, and those in charge of transporting have now been greatly improved. However, it is necessary to verify to what extent the current infection prevention measures, including equipment and personal protective equipment, are sufficient to deal with the infectious capacity of high-risk-infectious-diseases. In addition, in the event that an outbreak of a high-risk infectious disease actually occurs overseas, and preparations for invasion into the country become necessary, a system must be in place to deploy and make available the personal protective equipment necessary to protect against infection, as well as to allow passport control and quarantine measures to be carried out by holding prospective entrants in a negative pressure room. When facing a risk of an infected person entering our country, and having an effective vaccine because of the high-risk infectious disease in question being a known infection, it is necessary to examine to what extent the vaccination system for quarantine officers and those assisting them in their work can reduce the risk of infection and serious illness, assuming a higher infectivity and fatality rate.

2. Management of infected persons

The first and most important measure to prevent the spread of infection is isolation and treatment of infected persons. Although Japan's infectious disease medical care system has improved in response to the COVID-19 epidemic, as pointed out in the 2020 Recommendation from this Subcommittee entitled "Establishment of a permanent organization for the prevention and control of infectious diseases," Japan has fewer infectious disease specialists than in other countries (1,770 certified infectious disease specialists by the Japan Infectious Disease Society as of June 2023). Consideration should be given to establishing a department of clinical infectious diseases at a university medical school in each of the blocks described in the Recommendation (e.g., Hokkaido, Tohoku, Kanto,Koshinetsu-Seizou,Tokyo,Tokai-Hokuriku,Kinki,Chugoku-Shikoku,Kyushu-Okinawa) to foster specialists in infectious diseases.

High-risk infections are more likely than other infections to cause severe illness in short period of time, so even those with mild illnesses need to be accommodated in a healthcare facility. Asymptomatic infected persons are placed under observation, if not admitted to a medical facility, and are asked to avoid social contact, such as restricting their outings, from

the perspective of preventing transmission to others. If the infected person has family members or other persons living with them, they should be placed in suitable accommodation.

The Infectious Diseases Control Law, the legal basis for isolation measures, is based on the basic principle that appropriate regulations should operate effectively while fully respecting the human rights of patients with infectious diseases and others. Regulatory measures shall be the minimum necessary to prevent outbreaks or the spread of infectious diseases. The basic approach was a non-coercive one, whereby patients and others were protected by providing good quality and appropriate medical care based on public funds at designated medical institutions for infectious diseases, thereby eliminating the possibility of transmission from infected persons to others (risk of other harm).

Until the Infectious Diseases Control Law was amended in 2021, the Law was prefaced with a 'recommendation' (a request for voluntary cooperation) to patients and others in the expectation of a voluntary response upon hospitalisation, and hospitalisation measures would be taken if the patient did not respond to 'persuasion' (Article 19). The system was originally designed to allow for immediate enforcement without resorting to penalties, but a 2021 amendment to the law imposed a fine of up to JPY 500,000 for failure to comply with hospitalisation measures or for fleeing from the hospital (Article 80). As a result, the character of the 'recommendations', which were based on respect for patient autonomy and mutual understanding and trust between patients and administrative bodies, had to be significantly altered, and it is pointed out that consistency with the principles of the Infectious Diseases Control Law remains a problem [20].

Even after the amendment to the law, if an infected person does not consent to isolation, he or she cannot be taken into custody. The inability to implement the necessary infection control measures as a statutory act has left it to the field.

In the 2021 amendment to the Infectious Diseases Control Law, placed was a provision (Article 80) for imposing a fine, which is a sanction for breach of duty. If, by such a placement, the legislators think that they themselves "made it clear that the recommendation in Article 19, paragraph (1) is an adverse legal disposition, i.e., imposition of an obligation to be hospitalised" [21], the Law should establish a provision for hospitalization orders and impose a duty directly, in order to ensure opportunities for prior procedures and litigation [22]. A 'duty imposition mechanism' is even more necessary in the case of high-risk infections where the degree of imminence of danger and time urgency is high. This is because situations may arise where there is no alternative but to take persons into custody who do not comply with the isolation measures.

In the event that preparations could not be made in advance, it is conceivable that the opinions of experts could be promptly heard in an emergency, and the area could be

sealed off based on the results; then afterwards, the legal validity of the decision could be debated in the Diet. However, even for infectious diseases that can be predicted in advance, such a response will make it difficult to achieve public consensus.

3. Prevention/reduction of contact with infected persons and management of contact persons

Given the high infectiousness of high-risk infections, even contacts that would be relatively low risk of infection in the case of conventional infections are considered to be contacts at risk of infection, and contact persons may need to be subjected to strict behavioural restrictions. Specifically, it may be necessary to impose behavioural and work restrictions on contacts, such as refraining from leaving the house, which can effectively be regarded as isolation measures, and to take those who do not comply into custody.

When identifying infected persons, active epidemiological surveys play an important role. However, this may place an excessive burden on the operations of public health centres and other facilities. The support system for public health centre functions and health centre operations needs to be strengthen as stated in the 2020 Recommendation of this Subcommittee entitled “Establishment of a permanent organization aimed at preventing and controlling infectious diseases”. IHEAT, an organization led by the Ministry of Health, Labour and Welfare, should be utilized.

Under the Infectious Diseases Control Law, patients with infectious diseases and asymptomatic pathogen carriers are restricted from working if necessary (Article 18). Violations are punishable by a fine of up to 500,000 yen (Article 77, item (iv)). The first priority should be to create a social climate in which voluntary restrictions on behaviour can be obtained. Resorting to penalties should be carefully considered only if this is still ineffective. It is necessary to ensure that restrictions on employment do not result in economic hardship. In addition, the law needs to clearly state right redress procedures such as ex post facto appeals.

As the number of contacts (potentially infected contacts) by a single infected person with a high-risk infection will often reach triple digits in a short period of time, it is necessary to ensure that facilities are available to accommodate and 'isolate' a large number of people and monitor their progress. It is necessary to select a location that does not allow droplets or droplet nuclei of infected persons to leak into the facility surroundings and infect neighbors even if an infected person occurs from such a facility, Consideration should be given to how many infected people can be accommodated if existing buildings are rented or converted in such locations. Closed public schools in areas with low populations could be used to house them.

If the rented/converted building cannot be used for an extended period of time, there is a

need to construct facilities that can accommodate individuals for a long duration in a short period of time. It is necessary to develop technologies for constructing buildings that can be built and dismantled in a short period of time, and to establish a system for building accommodation facilities using these technologies. Such buildings can also be used in the event of other disasters that require the evacuation of residents.

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4. Prevention of infection during transfer and transport

Legal arrangements for the transport of persons infected with high-risk infectious agents as defined in this Advisory Opinion are necessary. In the case of COVID-19, transfers for securing hospital beds were defined as transport, while transfers necessary for treatment were defined as 'transfers' as defined in the Infectious Diseases Control Law, the cost of which was borne by the public purse. For high-risk infections, similar measures should be taken to ensure that the public burden is borne by the public in order to be fully covered.

When cremating infected corpses (including non-human animals), transportation to a crematorium is also required. It is necessary to take appropriate measures in advance by referring to Guidelines for the Cremation of the Bodies of Patients who Died from Category 1 Infectious Diseases [23] and, the guidelines for treatment, transport, funerals, cremation, etc. of people who have died or are suspected of dying due to the new coronavirus infection [24].

The Infectious Diseases Control Law defines the transportation of infected persons from their homes, accommodation, clinics, hospitals, etc. to isolation facilities as the work of prefectures and other authorities, and the cost of transporting patients is covered by the cost of infectious disease prevention services. The transport of a patient already admitted to a medical institution to another medical institution is carried out under the management and responsibility of the medical institution and, unlike transfers stipulated in the Infectious Diseases Control Law, there is no public cost-sharing.

5. Restrictions on human flow and logistics to prevent the spread of infection

Restrictions on human flow and logistics are necessary in situations where the area of a high-risk infectious disease outbreak cannot be reliably identified--e.g., i) when a city-wide outbreak occurs; and ii) when an infected person uses mass transit connecting long distances--, or in situations where a number of secondary cases of infection have occurred.

Article 33 of the Infectious Diseases Control Law states that " If a prefectural governor deems it particularly necessary for the purpose of preventing the spread of a Category I Infectious Disease, and it is difficult to achieve the purpose by means of disinfection, the prefectural governor may restrict or block the traffic in places where patients with that Infectious Disease stay and other places contaminated or suspected to have been

contaminated with pathogens of that Infectious Disease, in accordance with the standards specified by Cabinet Order, for a specified period of not more than 72 hours. According to this law, it is possible to restrict or block traffic for up to 72 hours; however, it is not considered possible to apply this repeatedly on the basis of the Infectious Diseases Control Law alone and implement traffic restrictions or blockages for a substantially longer period of time.

The Governments need to discuss and consider legal and specific implementation issues regarding restrictions on people flow and logistics, such as traffic restrictions and blockages, in normal times, and take the necessary countermeasures. The patient and his or her cohabitants are transported to a medical facility or contact person's accommodation; and the residence is sealed and disinfected. It is unlikely that measures such as sealing off the area surrounding the patient's residence or sealing off an apartment block are necessary to prevent the spread of infection in order to prevent secondary infection originating from the patient in question. However, as mentioned at the beginning of this section, restrictions on human and logistical flows are necessary in situations where areas of high-risk infectious disease outbreaks cannot be reliably identified, or where a large number of secondary cases of infection have occurred.

Voluntary restraint of human flows and logistics requires information to be made publicly available. Article 44-2, paragraph (1) of the Infectious Diseases Control Law states that when the Minister of Health, Labour and Welfare recognizes the outbreak of a New Infectious Disease, the Minister must promptly publicize to that effect, disclose the area facing the outbreak to the public, and spread the information on the New Infectious Disease pursuant to the provisions of Article 16 paragraph (1). The Minister must sequentially publicize the measures to be implemented and the information necessary for the prevention of the outbreak or spread of the New Infectious Disease in newspapers, by broadcasting, via the Internet, or by any other appropriate means pursuant to the provisions of this Act (Article 44-2 paragraph (1). Should be included in such information are means of examining the pathogen, pathological conditions, means of diagnosis and medical treatment, and means of infection prevention. However, it has also been pointed out that public information disclosure could lead to discriminatory attitudes [25,26]. Prejudice and discrimination not only cause irreparable divisive wounds in society but also negatively affect behavioural history-taking of infected people, preventing them from speaking the truth. and, in turn, leading to the spread of infection. It is necessary to increase the public's literacy of infectious diseases and ensure adequate risk communication about infectious diseases in normal times.

If there is an effective vaccine for a known infectious disease or for other reasons, vaccination should be provided to healthy residents in the area (healthy members of the

society) in which the epidemic is confirmed.

6. Preventing the spread of epidemics by blocking areas

In situations where the spread of an infected area or group of high-risk infections cannot be determined, precautionary measures should be taken to prevent the spread of infection throughout the country by restricting human flows and logistics, just in case. A 'wall' needs to be installed to prevent the infection from spreading outwards, like a fire wall to slow/prevent the spread of fire in the event of a fire (dare I add, to prevent misunderstanding, that this 'wall' is not physical, but functional). However, if regional blocks are created at the municipal level to cut off people flow, it is likely that essential workers will not be available in those areas. Special emphasis needs to be placed on securing those working in urgent jobs in healthcare, nursing, police, and firefighting. Where there is an effective vaccine for a known infectious disease, for example, the right to vaccination and regular testing should be guaranteed to healthy essential workers.

Regional blocks should be established as large enough to allow for the flow of people required to sustain the minimum necessary social and economic activities. When establishing regional blocs smaller than prefectures, it is likely that supports such as the dispatch of personnel, including infectious disease specialists, from other regions, and the delivery of supplies and equipment necessary for infection prevention and treatment will be required, and a comprehensive support system should be considered at normal times. In metropolitan areas, there is likely to be a massive flow of people beyond the framework of the prefectures, and it may be necessary to create regional blocs to bring the prefectures together. The creation of such regional blocks (regional allocation) should be decided based on opinions from experts in infectious diseases, human flows, and logistics, etc. in normal times. Furthermore, in preparation for the situation where the regional blockade lasts for a long time, exceeding several weeks, it is necessary to consider issues, organize, and train during normal times. Furthermore, if the blockade continues for a long period of time, to be needed are flexible responses, including subdividing the blocks on the basis of infection situation, local functions, and response status.

Under the direction of the Government's command post organisation for infectious disease control, it is necessary to consider converting training ships and training ships of universities and high schools belonging to the regional block so that they can provide outpatient care, and dispatching medical and administrative staff, including medical and nursing students, from the universities to some of these ships to serve as disaster hospital ships to provide medical care to general patients.

Even excluding those with a gross tonnage of less than 100 tons, there are around 50 training and apprenticeship vessels in the country. When the response to high-risk

infectious diseases restricts the flow of people and logistics in the region, it is necessary to consider putting such 'hospital ships' in charge of the medical response to the consultation and treatment of patients with chronic and acute diseases that cannot (or cannot) be handled in the region during the period of the measures. If a 'hospital ship' can be secured, it can also be used to accommodate small numbers of contactees.

7. Legislation to restrict people flow and logistics between regions

While some argue that restrictions on human flows and logistics that would amount to a blockade of an area cannot be justified under the current Constitution, some current individual laws, such as the Basic Law on Disaster Countermeasures, envisage large-scale restrictions on action in preparation for imminent danger. According to this, it is necessary to "carefully clear constitutional issues one by one, such as under what conditions a curfew is permissible, whether the ban should be imposed uniformly, and what the price of the ban should be"[27], in other words, the law needs to be developed.

On the premise of such legislation, the Government of Japan should make efforts to reach a public consensus through the following activities: (i) consolidating the opinions of infectious disease experts, regional public health and transport experts and others, and prepare a concrete proposal for regional blockade within the constraints of the Constitution based on the views of such expert groups; (ii) obtaining opinions from Public Health Centres and other public health frontlines to ensure effectiveness; (iii) presenting this as risk communication to the public and obtain their opinions; and (iv) making the necessary revisions. More people may be willing to tolerate a regional blockade if several infected people are in serious condition and the area where they appear is widespread, but it is too late to implement a regional blockade after such a situation has arisen. As mentioned above, if advance preparations could not be made, it is conceivable that the opinions of experts could be promptly heard in an emergency, the area could be sealed off based on the results, and the legal validity of the decision could be debated in the Diet after the fact. However, it will be difficult to achieve public consensus on such a response, even for infectious diseases that can be predicted in advance. When implementing restrictions on human flows and logistics, it is necessary to establish the respective functional roles and legislation at national level (including the Self-Defense Forces), prefectural level (including the police) and municipal level (including the fire brigade), as well as a mechanism for cooperation.

If strict measures to restrict people flow and logistics are actually implemented between the infection outbreak area and the surrounding areas, company managers and employees will have their private rights restricted, while the Government will be politically responsible for taking care of 'people's livelihoods and national economic stability'. The Governments

need to be prepared in normal times to be able to quickly build up human rights protection and livelihood support, including the provision of daily necessities, for all citizens in an emergency. It is also necessary to assess, after the fact, the direct human suffering and health effects of the presence or absence of such measures, compared with the indirect human suffering and health effects due to economic and other impacts.

Even if regional blockades are justified to defend society against high-risk infections, they must be combined with real-time monitoring of the infection situation and rapid withdrawal of restrictions when they are no longer needed [28]. Nevertheless, it cannot be ruled out that, after the measure is lifted, there may be acts of discrimination against residents of the infected outbreak area who were subject to the measure. It is necessary to prevent such human rights violations. Furthermore, as a post-process, in addition to the verification of the policy-making process and the way policies are implemented by the administrative bodies in charge, by a standing body for the prevention and control of infectious diseases, as recommended by the 2020 Recommendation of this Subcommittee entitled "On the establishment of a standing body for the prevention and control of infectious diseases", it is necessary to establish a mechanism in law to check whether there have been excessive restrictions on the rights and interests of citizens when implementing policies. In addition, it is necessary to check whether there have been excessive restrictions on the rights and interests of citizens in the implementation of policies by the Diet and the courts, and to legally establish a mechanism to provide relief to victims of discrimination and prejudice identified by the courts and human rights protection bodies.

8. Institutional issues related to facility use and health-related professions

Under the current system of the Infectious Diseases Control Law, the Medical Care Act, the Quarantine Act, and other related laws, if the health department alone were to take measures against high-risk infectious diseases, there would be an absolute shortage of facilities to accommodate patients and close contacts, and a shortage of personnel to run these facilities. It is undeniable that the division of roles and coordination of the various laws were not always clear. In the COVID-19 pandemic, which began in 2020, countermeasures were confused since even trivial matters were regulated by issuing a huge number of administrative notices.

For example, vaccination under the Immunisation Act is regarded as "health promotion" through disease prevention, and administratively, the main duties include optimizing public expenditures, managing vaccination records, and providing relief for health damage. The current public immunisation program, which aimed at mass immunisation, had enormous difficulties in securing pre-screening doctors, vaccinators, etc [29]. Measures such as allowing dentists and others to perform vaccination duties have been taken. Further, the

way to carry out preliminary examinations in the program should also be considered as part of future infection control measures, with a view to expanding the scope of duties during normal times. As part of future infection control measures, it should be considered how to conduct preliminary examinations, with a possibility in mind to expand the program, during normal times.

The transfer of infected persons was originally considered the responsibility of Public Health Centres under the provisions of the Infectious Diseases Control Law. However, the COVID-19 pandemic did not ensure from the outset that sufficient vehicles were available to transport infected patients, and in reality, even before the number of infected patients had increased, fire department's ambulances were responsible for transporting the most seriously ill patients [30].Based on these cases, it is clear that current laws and regulations and their operation do not always function well when it comes to high-risk infectious diseases.

9. Research System

It was pointed out once again that virological research in Japan may have lagged behind that in Europe and the USA when it came to countermeasures against the COVID-19 pandemic. The Government should take the lead in establishing a funding system to support microbiological research in Japan as soon as possible in order to promptly deal with new pathogen infections that may occur in the future, and should also take the lead in training researchers. In addition, experiments dealing with genetically modified organisms that process viral nucleic acids outside the cell required the approval of the Minister of Education, Culture, Sports, Science and Technology (MEXT), but the treatment of such experiments needs to be re-examined. In the first place, what should be noted is the fact that SARS-CoV-2 was classified as Category 3 by the amendment of MEXT notification on 15 February 2021, and the examination process was subsequently speeded up. Meanwhile, as of November 30, 2022, the National Institute of Infectious Diseases required a BSL-3 laboratory for SARS-CoV-2 infection experiments. When COVID-19 was positioned as a designated infectious disease on March 26, 2020, this virus was classified as a VI-Class pathogen (the only legal regulation is compliance with standards). Some believe that this lack of legal control over the handling of pathogens was a barrier to the conduct of research. It is quite possible that unknown high-risk pathogens brought into our country from abroad could cause an epidemic in our country in the future. There is also a concern that the first epidemic takes place in our country. In such cases, it is the responsibility not only of our scientists but also of our nation to promptly obtain whole-genome information on the pathogen and to disseminate this information internationally. There are concerns that such responsibilities may not be able to be fulfilled

because it takes time to comply with the regulations of current system for handling pathogens. For example, although the classification of pathogens that are subject to regulation is stipulated by law, there is no legal regulation for the BSL classification that determines the level of handling of pathogens in laboratories. There are only pathogen safety management regulations created by the National Institute of Infectious Diseases. Furthermore, as pathogen classification and BSL classification do not necessarily match, it may take time to comply with current regulations. It is necessary to accurately identify the problems with the new pathogens mentioned above and to implement remedial measures quickly.

In addition, BSL-4 facilities are needed to train personnel with appropriate knowledge and experience in dealing with highly pathogenic micro-organisms and to carry out experiments. Currently, the Murayama Office of the National Institute of Infectious Diseases and at Nagasaki University have such facilities. The facility of the National Institute of Infectious Diseases has already been in operation since 2015 and played a central role in the administration of infectious diseases during the recent COVID-19 epidemic. Nagasaki University has formed a new research centre for infectious diseases in collaboration with nine leading Japanese universities in infectious diseases research, and established the BSL-4 facility. As the university has overseas education and research bases in Africa and Asia, and also collaborates with BSL-4 facilities overseas, it is expected to be useful for research on high-risk pathogens brought to Japan from overseas.

B. Establishment of communication systems including the information provision on patient isolation as well as movement restrictions for residents and others

When isolating infected people or restricting their behaviours to prevent the spread of high-risk infections, people living must be accurately informed and their prompt cooperation must be obtained. This requires a system whereby people who do not understand Japanese, or who use written language or non-spoken language for communication can understand the need for these measures without ‘barriers’. In addition, unless information on the supply of daily necessities is communicated without omission or delay, the daily lives of those who are subject to behavioural restrictions, etc., will not be maintained. The unusual environment caused by an outbreak of infectious disease interferes with each individual's daily life activities. This brings about significant changes in each person, not only physically but also interpersonally and socially, and as a result, it has no small impact on many people mentally as well. Considerations in terms of communication are not only essential for information sharing to effectively implement constraints to prevent the spread of infection but it also plays an important role in maintaining the safe and healthy functioning of the society, the people, households, and communities that make up society,

and thus society as a whole, which they are trying to protect by preventing the spread of infection. To this end, the following measures are needed.

1. Mechanisms to efficiently to provide necessary information to all members of a society

It is necessary to secure a means for the information to reach the recipient. Communication from the administrative side is mediated by language, but in Japan, both written and oral communications are primarily in Japanese. The number of foreign residents, which was 2.93 million at the end of 2019, has not decreased significantly to 2.76 million at the end of 2021, the year of the Corona disaster [31]. Not all of them can be expected to have access to multilingual translation software such as Google Translate and DeepL in PC or Google Lenses in smartphones, and it is necessary to develop a means of communicating required information to those with limited or no understanding of the Japanese language. Specific measures are described below.

a. Information provided in Japanese

(1) Information in Japanese must always be transmitted orally and in writing. In addition, all transmissions must be accompanied by (text) data in a machine-translatable and read-out compatible form. This makes it easier for information to reach non-Japanese language speakers and the visually impaired.

(2) Information dissemination systems need to be developed specifically for expressions of urgency and immediacy. Machine translation is not effective in all languages and does not convey accurate information in the absence of context and shared background knowledge. This can be achieved by i) confirming that the translation system conducts translations by transformation (a mechanism in which the corresponding expressions are stocked in advance) and accumulates created translations, rather than generates translation automatically, ii) customising them as necessary, and iii) keeping them always accessible.

(3) (1) and (2) are supplemented by the use of 'easy Japanese' [2].

b. Providing information to people with hearing impairment (required regardless of whether or not they have mastered written Japanese)

(1) Deaf people do not perceive sound information (e.g., alarms and broadcasts). Isolation institutions and mobile locations need facilities in which audible warnings etc., are also

[2] In August 2020, the Immigration Services Agency and the Agency for Cultural Affairs published the "Easy Japanese Guidelines for Residency Support" to promote the use of "Easy Japanese," and the recognition level of "Easy Japanese" was 29.6. has reached %
」Agency for Cultural Affairs Japanese Language Division “Public opinion survey on Japanese language in 2019 [March 2020 survey]”https://www.bunka.go.jp/tokei_hakusho_shuppan/tokeichosa/kokugo_yoronchosa/pdf/92882501_01.pdf）

issued visually for people with hearing impairments, by systems such as emergency alarm and telephone call linked to lights (flashes).

(2) For Japanese signers, Japanese is a second language, and the degree of acquisition varies, with some not being able to use it at all. In addition, even if a person is fluent in written Japanese, their comprehension may be hindered under stress or when they are unwell. It is not sufficient to support them only in ”written summaries” or ”written discussions” of oral statements. A system for transmitting (and receiving) information in Japanese Sign Language needs to be put in place. To this end, consideration should be given to responses including the following activities:

i) The development of a translation system developed by NHK's Broadcasting Technology Research Institute for use in the event of a disaster

ii) Network creation and simulation between sign-language interpreter dispatch desks in each prefecture, medical institutions, and government to ensure smooth collaboration in emergencies; and

iii) Ensured accesses to the contact point by relay interpreters in cooperation with online relay interpreting services.

(3) Other so-called 'communication vulnerable groups' such as tactile speakers, older people affected by language use and people with physical or developmental disabilities need to be addressed so that they are not left behind. However, as the specific needs of persons with communication vulnerabilities and how to respond to them vary from case to case, it is necessary for local authorities to identify these needs and establish a system to facilitate the provision of information to medical institutions and others.

2. Mechanisms for access to and choice of necessary information on the part of members of society

In disaster-stricken areas, it is essential to ensure access routes to information from the side of the members of society and to establish means for two-way communication. Being able to obtain the necessary information on their own and being given the right to make their own choices, even if they are limited, leads to reduced stress in unusual situations and, in turn, to active cooperation with the measures. It is therefore necessary to consider the relationship between the tools used for two-way interaction and language. Examples of specific measures of two-way interaction for this purpose include those as follows:

a. A multi-mode (speech, sign language and tactile) window for accessing information needs to be set up.

b. Inquiry response: Telephone lines and written documents alone will result in society members not being able to make the enquiry itself. A system is needed to set up a

reception desk for video enquiries, which can be linked to a local sign language interpreter.
c. In addition to the above, mechanisms to facilitate information sharing among society members are very effective not only in terms of information functionality, but also in reducing mental stress. For example, in the case of quarantine, online communication support systems should be established, both in terms of hardware and software. Another example is to arrange for 24-hour contact between quarantined persons and their family/carer, or to provide assistance for contact. This is particularly necessary to ensure that people who require special care in their daily lives, such as the elderly and those with developmental disabilities, can cooperate with infection control measures with peace of mind.
d. If it is necessary to move to a place or social environment that is different from everyday life, the communication method for each place/environment should be clearly indicated and the person and family members should be able to make a choice.

3. A mechanism to prevent some members of society from being disadvantaged because of differences in communication

Consideration is needed not only to ensure that people are not only functionally left out of mechanisms described in the sections 1. and 2. simply because they use a different language or means of communication, but also to ensure that no one is (unconsciously) excluded from the people around or feels discriminated against because of the fact that they are 'different'. This is also, in turn, a condition for smooth acceptance of and cooperation with infection control measures in each community.

'Language discrimination in disasters'[32] needs to be examined from the following two perspectives: whether the discriminated party suffers a functional or substantive disadvantage, and whether they feel discriminated against even if they do not suffer a functional or substantive disadvantage. Functional and substantive disadvantageous discrimination can be addressed by government actively promoting the development of 1. and 2. Discrimination without functional or substantive disadvantage occurs mainly in interactions with contact staff and other members of society with whom they are not in daily contact. The response to this will involve society as a whole, and specific proposals need to be developed with the involvement of researchers specialising in this area.

Specific measures to eliminate language discrimination and to realise the principles of diversity and inclusion would include further promotion of Japanese language adjustments (easy Japanese) and the use of universal design (audio information, use of sign boards, pictograms, effective use of colours and numbers). In any case, a system for this purpose needs to be established, and it is necessary for each municipality to appoint a full-time staff member, such as a 'Japanese language coordinator for foreign residents' (provisional title).

The duties of this staff member include the following four points.

a. Identification of all foreign residents: For foreign nationals who are registered as residents in the local government, information on their addresses, nationalities, mother tongues (and languages available as intermediary languages), family structures, school names and grades if there are school-going children/students, etc., should be centrally collected and maintained.
b. Provision of information to foreign residents, using 'easy Japanese': Among the information disseminated by the local government, information important to foreign residents should be aggregated, translated into 'easy Japanese' and distributed individually by e-mail or other means.
c. Building an information network for immediate response to emergencies: An information network using SNS, and other media should be established to provide highly urgent information during disasters and on infectious-disease countermeasures, etc in the native languages of foreign residents and in 'easy Japanese'.
d. Establishment of a system for the delivery of Japanese language education: The establishment of operational cooperation and the deployment of necessary personnel should be provided to the Japanese language education projects at the relevant local authorities, businesses, and Japanese language classes.

The qualification requirements for these staff would include experiences in Japanese language teaching for a certain period of time, qualifications such as passing the Japanese Language Teaching Competency Test, and experiences in classroom management and coordination of local Japanese language education.

In addition to the above, in order to flexibly disseminate highly urgent information in multiple languages (including 'easy Japanese'), it is also necessary to secure the following two types of experts on the internet: 'experts in disaster and infectious diseases' who translate the relevant information into plain Japanese [33], which anyone can understand, and 'experts in each language' who quickly translate it into each language (including 'easy Japanese'), and establish a collaborative structure across prefectures and even countries as necessary.

Regarding COVID-19, there has been irresponsible information dissemination via SNS (such as rumors that vaccination is harmful). In some cases, this kind of information is more powerful than official information, and we believe that sufficient countermeasures must be taken by public institutions.

III. Opinion

The Government shall stratify high-risk infectious diseases based on their characteristics (infectivity of infected persons including those who have not yet developed the disease, fatality rate, route of infection, length of incubation period, etc.), and shall establish a system to take measures (quarantine, isolation, home and facility observation, restriction of activities, employment, business, human flow and distribution, vaccination in case an effective vaccine is available, etc.) for each stratified group. At the same time, a monitoring system by the Diet and other organs regarding restrictions on private rights by the Government and a system that can take sufficient measures to stabilize people's lives and the national economy should be put in place.

A. Viewpoints on identification of infected persons and prevention of secondary infections (border control measures, prevention of secondary infections, identification of endemic areas and groups, management of contacts, prevention of epidemic spread by blocking off areas) and on the legislative reform based on dialogue with the public.

1. Border control measures

Border control measures have improved significantly with the revision of the Quarantine Act in 2022. However, there is a need for a mechanism to promptly designate infectious diseases caused by unknown pathogens or known infectious diseases that suddenly meet the definition of high-risk infectious diseases due to mutations in the pathogen, etc., as quarantinable infectious diseases. The Quarantine Act should provide a definition of high-risk infectious diseases and create a mechanism to automatically determine high-risk infectious diseases according to criteria such as their infectivity, fatality rate, route of transmission, length of incubation period, and infectivity of asymptomatic pathogen-infected persons, so that they can be added to the quarantine infectious diseases list.

With the amendment to the law, strict behavioral and movement restrictions will be imposed on those entering Japan who are deemed to be ``persons who may have been infected with infectious disease pathogens" under the Quarantine Act, with the aim of preventing high-risk infectious diseases from entering the country. Therefore, the period of restriction on the actions and movements of such immigrants must be kept to the minimum necessary.

Isolation in hospitals and clinics in accordance with Article 15 of the Quarantine Act, and suspension in hotels and vessels in accordance with Article 16 of the Quarantine Act are carried out at the discretion and authority of the quarantine station chief. A system should

be established whereby information on infected cases identified in the quarantine station is immediately sent to the Government's 'command post' for infectious disease countermeasures, and the authority to take measures under the Quarantine Act should be transferred to that command post, so that the Government can take responsibility for securing medical facilities for high-risk infectious disease patients and infected persons and facilities for housing and monitoring their contacts. Furthermore, measures to prevent high-risk infections should be considered for immigration inspectors, quarantine officers and those responsible for the transport and transfer of incoming passengers.

2. Management of infected persons and contacts

In the case of high-risk infectious diseases, it is necessary to specify rather straightforwardly in the Infectious Diseases Control Law that patients can be taken into custody and isolated for as long as medically necessary to protect them, to provide appropriate medical care and to control the spread of infectious diseases, so that the isolation of infected persons can be carried out as a statutory act, and for the Government to secure the necessary facilities for isolation and to provide them to local authorities.

In high-risk infections, infected persons can give rise to large numbers of secondary infections, which may require not only the isolation of infected persons but also strict behavioural restrictions on their contacts. Behavioural restrictions, such as refraining from leaving the house, which could effectively be described as isolation measures, may be imposed on contacts, and those who do not comply may be taken into custody.

For infectious diseases judged to be subject to measures such as isolation, work restrictions and behavioural restrictions, sufficient discussion should be held and public understanding sought in normal times so that a system can be established to define the subjects of the measures, their duration and content (content of work and behavioural restrictions) and to take adequate measures including livelihood support for those subject to the measures.

If the 'contact locations' span multiple prefectures, differences in administrative responses depending on the region may increase anxiety among residents, so the national government should take the lead in taking a unified response to initial measures against high-risk infectious diseases.

3. Prevention of infection during transfer and transport

Legal arrangements should be put in place to transport persons infected with high-risk infectious agents as defined in this Advisory Opinion.

4. Restrictions on human flow and logistics to prevent the spread of infection

Prompt restrictions on human flow and logistics are necessary to prevent the spread of a high-risk infectious disease epidemic over a large area. The Government should consider how much time it can actually take to gather information, and then make decisions based on expert advice and take the necessary measures, for example by conducting an exercise in advance.

The publication of information is necessary for voluntary control of the flow of people and logistics in the region. The Government needs to discuss and consider legal issues and specific implementation issues regarding restrictions on people flow and logistics, such as traffic restrictions and blockages, and take the necessary measures in normal times. On the other hand, it has been pointed out that the publication of information on infection status and countermeasures may lead to a sense of discrimination. Prejudice and discrimination not only cause irreparable divisive wounds in society, but also negatively affect behavioural history-taking of infected people, shutting them out of the truth and, in turn, leading to the spread of infection. It is necessary to increase the public's infectious disease literacy and ensure, adequate risk communication about infectious diseases in normal times.

If there is an effective vaccine for a known infectious disease or for other reasons, vaccination should be offered to healthy residents in areas (healthy members of the society) in which an epidemic has been identified.

5. Preventing the spread of epidemics by blocking areas

In the situations in which regional and populational spread of high-risk infectious disease cannot be determined, it is necessary to establish regional blocks restricting the flow of people and logistics between them in order to prevent the spread of infection beyond them. Regional blocs should be large enough to ensure the flow of people to maintain the minimum necessary social and economic activities. The Government should decide on such regional blocks (regional allocations) in normal times, based on the opinions of experts in infectious diseases, human flows and logistics, and other experts. In addition, a system of wide-area administration through cooperation and coordination between municipalities in the block should be established at normal times, so that the necessary measures to prevent the spread of infectious diseases can be implemented promptly. Where such municipalities straddle several prefectures, the system should allow for coordination by the Government.

6. Legislation to restrict people flow and logistics between regions

If strict measures to restrict human flows and logistics are actually implemented between the areas with outbreak(s) and the surrounding areas, it is necessary to monitor the

infection situation in real time and promptly withdraw the restrictions when they are no longer necessary. Further, after the measures have been lifted, the policy-making process and the way policy is implemented by the responsible administrative body should be examined by the standing organisation aimed at the prevention and control of infectious diseases which was described in the 2020 Recommendation from this Subcommittee, entitled "On the establishment of a standing body for the prevention and control of infectious diseases". In addition, a mechanism should be legally established so that the Diet and the courts can check whether there were no excessive restrictions on the rights of citizens in the implementation of policies, and the courts and human rights protection bodies can provide relief to victims of discrimination and prejudice identified.

7. Legislation on facility use and health-related professions

In order for appropriate responses against high-risk infectious diseases on the basis of experiences from the COVID-19 pandemic that began in 2020, the following points within the scope of hygiene regulations should be reviewed in detail from a crisis management perspective: i) the securing of accommodation and other facilities, and their operational methods, ii) the division of roles and handling of work scope among medical professionals engaged in infectious disease control the scope of work. Countermeasures against high-risk infectious diseases will fail if such burdens are placed solely on traditional public health centre operations, under the jurisdiction of the Infectious Disease Control Law.

8. Development of the research system

If an unknown high-risk pathogen introduced into Japan from overseas causes a world-leading epidemic in Japan, it is the responsibility of our country to promptly obtain full genome information on the pathogen and to disseminate this information internationally. Japan should improve the current system accordingly to fulfil its assigned international responsibilities and to achieve world-leading results in this field in order to make its reputation as a state of science and technology a reality. We should also know that such efforts will contribute to our country's security in the world.

B. Viewpoints on the establishment of a communication system, including the ~~of~~ information provision on patient isolation and restrictions on the movement of residents and others.

When isolating infected people or restricting their behavior to prevent the spread of high-risk infections, there needs to be a system for people who do not speak Japanese or use characters or a non-verbal language for communication so that they understand the need for these measures without 'barriers'. In addition, unless information on the supply of

daily necessities is communicated without omission or delay, the daily lives of those who are subject to behavioural restrictions, etc., will not be maintained. The unusual environment of an outbreak of infectious disease interferes with each individual's daily life and activities. Communication considerations are not only essential for information sharing to effectively implement constraints to prevent the spread of infection. It also plays an important role in maintaining the safe and healthy functioning of each of the people, households and communities that make up society, and thus society as a whole. In order to establish a communication system, it is necessary to have (i) 'a mechanism for providing necessary information efficiently and to all members of society'; (ii) 'a mechanism for accessing and selecting necessary information on the part of members of society'; and (iii) 'a mechanism to prevent some members of society from being disadvantaged due to differences in communication'.

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Advisory Opinion

The Future of Japan's Fishery Resource Utilization: A Medium- to Long-Term Perspective

28 September 2023

Science Council of Japan

Subcommittee on Fisheries Science ,
Committee on Food Science

This Advisory Opinion summarizes and publishes the results of the deliberations of Subcommittee on Fisheries Science, Committee for Food Science, Science Council of Japan

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This English version is a translation of the original written in Japanese.

EXECTIVE SUMMARY

1 Background

The fishing industry, along with the coastal communities that utilize it as an industrial base, are currently encountering several challenges, including decline in fishery resources, number of fishers, and demand for seafood in addition to an aging population. The Subcommittee on Fisheries Science published a report on these issues in 2004 and subsequently provided recommendations in 2011, 2014, and 2017. This article discusses several aspects, including fishery products as food, supply and demand of fishery products, aquaculture, ocean monitoring, carbon neutrality, distribution and consumption, and social awareness and education, which have not been discussed in previous expressions of intention. Furthermore, we have organized such aspects based on scientific evidence to outline the necessary measures for medium-to-long-term utilization of fishery resources toward 2050. Moreover, considering the urgent need for effective management of fishery resources, this paper also proposes an improvement plan for fishery resource management based on the current harvest state, with the goal of achieving optimal and sustainable production.

2 Current situation and problems

Human activities have caused substantial changes in the global environment and ecosystems, with discernible impacts on the ocean, resulting in considerable decline in marine biodiversity. Such changing global environment and ecosystem have also caused changes in the distribution and productivity of fishery resources. With regard to medium-to-long term implications, there is now a need to reassess the current utilization of fishery resources which is based on the assumption that these resources remain stable. Hence, several issues exist in the utilization of fishery resources, ranging from production to consumption.

3 Proposal

(1) Fishery products as food

The global demand for seafood as a healthy and sustainable source of nutrition continues to increase. In order to encourage conservation of biodiversity and the sustainable utilization of Japan’s diverse fishery resources, particularly from the perspective of consumption behavior, it is urgently required to evaluate the impacts from fishing and aquaculture on environment and biodiversity for various target species in Japan

respectively. Furthermore, it is essential to establish a certification system in Japan based on this assessment ahead of other countries.

(2) Supply and demand of fishery products

There is high uncertainty regarding the perspective of the supply and demand of fishery products, emphasizing the need to maintain and reinforce domestic production systems. To this end, systematic efforts should be made to strengthen the management of fishery resources and preserving the fishing environment, such as implementing aquaculture production compatible with the changing environmental conditions; devising strategies to reduce losses in the production, processing, and distribution processes of fishery products and waste at the consumption stage; and promoting local production for local consumption and distribution of substandard fishery products through diversification of distribution.

(3) Fishery resource management

There is an urgent need to appropriately manage fishery resources. Prior to the establishment of an ecosystem approach-based fishery resource management system, adaptive resource management should be implemented promptly by estimating and analyzing the number of young fish newly recruited to the stock every year, calculating the biologically allowable catch, and setting the allowable catch based on this information.

(4) Aquaculture and breeding

Efforts should be made to improve production efficiency in various aquaculture industries including introduction of new species for aquaculture, and the introduction of information and communications technology (ICT), artificial intelligence (AI), and robot technology, and to enhance productivity by developing useful traits through selective breeding. In addition, it is crucial to foster global collaboration in addressing challenges common to the field of aquaculture production, leveraging Japan's extensive expertise, experience, and technological advancements that Japan has accumulated so far.

(5) Ocean monitoring

In order to understand environmental and ecosystem changes and the state of resources and to contribute to measures to address the related issues, fishery practices and oceans should be monitored to dramatically increase the spatiotemporal density of data acquisition, and resource assessment research based on this should be promoted.

(6) Carbon neutrality

In addition to direct reductions in CO_2 emission in fishing and aquaculture operations, there is a need to make efforts to promote use of certain types of foods at lower trophic

levels, local production and consumption of fishery products, and reduction of food loss, and awareness-raising activities toward the above-mentioned efforts. Furthermore, there is also a need to promote the development of new methods for preserving fishery products with minimal energy input. Additionally, initiatives aimed at conserving natural seaweed as a carbon sink and promoting seaweed cultivation should be actively encouraged.

(7) Consumption and distribution

There is also a need to promote research and development aimed at efficient distribution and consumption of the abundant aquatic flora and fauna in Japan. This entails creating developing systems to align unique products generated in limited quantities, with a diverse array of products and varied consumer needs.

(8) Social awareness and education

To effectively implement the aforementioned measures, it is imperative for producers and consumers to comprehensively understand proper utilization of fishery products. For this purpose, there is a need to foster environmental improvement by promoting understanding of fishery products and fishing industry through social awareness and school education. Furthermore, it is vital to secure environment, including establishing sustainability standards for the certification of fishery products; ensuring more easy access to information for consumers regarding the life cycle assessment (LCA) of products among other parameters and developing guidelines for promoting consumption of healthy and sustainable food.