

COMMISSION REPORT

# Reconstruction of a resilient and secure community and medical care system in the coronavirus era – English translation of the Japanese opinion released from the Science Council of Japan

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**Background:** Over 3 years have passed since the outbreak of novel coronavirus disease 2019 (COVID-19), a disease associated with a high risk of severe illness and death among older individuals. This period has brought to light regional and social issues, including issues in overall and regional healthcare, that existed before the epidemic. “COVID-19-related frailty” is defined as secondary damage to health caused by inactivity and disconnection from human interaction owing to prolonged isolation among older individuals. Now in its fourth year, COVID-19 cannot be taken lightly, even though it is now a Category 5 infectious disease. Looking at it from the perspective of the Corona (COVID-19)/post-Corona (COVID-19) era and society, it is necessary to reconstruct regional communities in which active residents can resume their activities, a resilient regional society from multiple perspectives, and a medical and care system that can give the public a sense of security, all of which will lead to the development of local communities.

**Current situation and problems:**

1. Weak healthcare systems in emergencies such as emerging infectious diseases and disasters  
 The COVID-19 pandemic has posed challenges in the management of older individuals in Japan. These challenges are common to those encountered with other emerging infectious diseases and disasters; however, the pandemic has emphasized the vulnerability of older adults.
2. End-of-life care and advance care planning do not function during a contingency  
 The COVID-19 pandemic has had a significant effect on the end-of-life (EOL) care of older adults, with the lack of implementation and dysfunction of advance care planning (ACP) identified as the biggest factors. This has made it difficult for this population to share their values, intentions, and life goals with their families and healthcare providers.
3. Inadequate use of information and communication technology and the latest technologies  
 Disparity in the digital field (digital divide) is more pronounced among older individuals. Consequently, the benefits of new technologies, such as digitalization and robotics, have not fully reached older individuals, leading to social isolation and frailty in this population.
4. Various secondary health outcomes have emerged as a result of the COVID-19 pandemic  
 The influence of misinformation and disinformation following the outbreak of the COVID-19 pandemic has accelerated secondary health outcomes, as excessive isolation in life has become prolonged. The inability of older individuals to screen information is a source of major concern. Furthermore, older adults are generally vulnerable to information technology and often face difficulty in accessing correct information.
5. Lack of human resources in the field of public health  
 The promotion of vaccine development, therapeutic drug development, and measures to prevent serious illnesses among older adults remain major challenges, especially following the COVID-19 pandemic. Information gathering and analysis during normal times are also important issues in the public health, medical care, and nursing care sectors. A shortage of human resources for this purpose has also become evident.

**Content of opinion:** The COVID-19 pandemic has led to the compilation of a vision for the future of the aging Japanese society from the viewpoint of individual health as well as from

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### Introduction

The average life expectancy has increased remarkably in recent years in Japan, with the average life expectancy being estimated to reach 81.05 years for men and 87.09 years for women. This would make Japan a country with one of the longest lifespans in the world. The 2023 White Paper on Aging Society reported that the older population (aged  $\geq 65$  years), comprising 36.24 million individuals, accounts for 29.0% of the total population. It is estimated that this population will continue to grow until 2043, peaking at 39.53 million, after which it will begin to decline. The total score for the new physical fitness test has improved over the past 10 years in this population, with the healthy life expectancy increasing by 2.26 years for men and 1.76 years for women, which is higher than the increase in average life expectancy (1.86 years for men and 1.15 years for women). The aging of the population is expected to continue in Japan, with a marked increase in the number of individuals aged  $\geq 75$  years and the arrival of a super-aged society being observed, which no other country has ever experienced before.

The high risk of severe illness and death among older individuals associated with COVID-19 has been drawing attention for

a broader viewpoint of the systems in the medical community, local community, and environment. These views will be reflected in the policies (including cross-ministerial flow) of academic associations such as the Japan Geriatrics Society; the Ministry of Health, Labor and Welfare; the Ministry of Education, Culture, Sports, Science and Technology; the Ministry of Economy, Trade and Industry; the Ministry of Land, Infrastructure, Transport and Tourism; the Cabinet Office; and various professional organizations.

1. Healthcare systems that respond promptly to other emerging infectious diseases, disasters, and contingencies should be reconstructed

As an issue that can commonly arise during the COVID-19 pandemic and other emerging infectious diseases, disasters, and other contingencies, a healthcare system designed for the older population, the most vulnerable segment of the population, must be developed.

2. EOL care and ACP that is fully respected even in a contingency should be accelerated  
ACP should be implemented from an early stage, so that all parties involved can share values, intentions, and life goals with family members and healthcare personnel such that they are reflected in EOL care. This will enable older individuals to live as they desire until EOL.

3. Use of information and communication technology and new technologies should be promoted to actively build new regional communication

Disparities in the digital field (digital divide) must be eliminated to create an environment that enables everyone to benefit from digitalization. Furthermore, new regional communication systems, wherein the perspective of mobility support is key, must be created to prevent social isolation.

4. The secondary health outcomes caused by the COVID-19 disaster among older individuals should be prevented through a multifaceted approach

Utmost attention must be paid to preventing the occurrence of secondary health outcomes through a multifaceted approach that includes raising awareness regarding health maintenance and providing appropriate information related to health maintenance.

5. Research in the field of public health must be promoted to strengthen human resource development in this area, with a focus on analyzing information on health, medical care, and long-term care from ordinary times

Continuous support must be provided even before the occurrence of emergencies to facilitate basic research that will lead to clinical applications. Researchers at universities and research organizations, in particular, must strive to promote these activities. In addition, the government (local and national governments that have data and the national government that supports research and human resource development) must also commit to playing an important role in such research activities. **Geriatr Gerontol Int 2025; 25: 481–490.**

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more than 3 years. This period has brought to light regional and social issues that existed before the outbreak of the pandemic. The COVID-19 disaster, now in its fourth year, must be linked to community building, while reconstructing a community capable of facilitating the activities of active residents that is resilient from multiple perspectives. Furthermore, a medical and care system that gives individuals a sense of security must be developed, with a view toward the COVID-19/post-COVID-19 society. These elements must be reconstructed to build communities. Another issue is “COVID-related frailty,” defined as secondary damage to health caused by physical inactivity and disconnection from human interaction owing to the prolonged period of isolation among older individuals. COVID-related frailty has led to a decline in the physical and mental functioning of many residents, particularly older adults. Thus, changing the awareness of older residents and stakeholders, including the government, is necessary to increase awareness regarding the need to rebuild their communities to enable the resumption of positive community activities and the promotion of comprehensive measures against frailty from a multifaceted perspective while considering infection prevention. In addition to establishing a medical care delivery system that includes vaccines and therapeutic drugs, individuals must be

brought closer together to strengthen ties and create new values for a prosperous society while realizing “the origin we must not forget” and “a new vision for the next generation of local communities (including a new digital society)” for a true human-centered society. New values must be created to ensure a prosperous society.

The creation of a system for a healthy and long-lived society wherein individuals can enjoy a healthy life and longevity is imperative in this era of “100-year life expectancy.” Furthermore, pursuing a new social system wherein older adults become “supporters of society” through active participation in economic and community activities is important. The extension of healthy life expectancy is at the core of the national strategy. The key to this is the prevention of frailty.

This subcommittee on aging summarizes the issues for building a vibrant super-aging society from the perspective of building a medical system based on the experience of the COVID-19 pandemic and the creation of a social framework to cope with the super-aging population. This study presents our views on measures to realize this goal.

## Establishment of a medical care system

### *Response during the acute phase and infection control measures such as cluster prevention and appropriate medical care*

The COVID-19 pandemic has highlighted issues in the medical and nursing care of older adults in Japan. Identifying individuals who are most vulnerable to this infection enables the identification of issues in medical and nursing care in the post-COVID-19 era, in addition to the development of effective countermeasures.

Older patients with underlying diseases such as cardiovascular disease and hypertension have been at a higher risk of developing severe illness since the early days of the pandemic. The pandemic has also added a total burden on individual medical specialties in a short period of time, resulting in major disruptions in the respective departments, including dialysis. The medical practice system in Japan, which uses the reimbursement system as a template and is adjusted for every detail, has struggled to take the initiative to adapt to newly emerged issues. For instance, the fee-for-service system is not flexible in terms of incorporating preventive measures, resulting in large subsidies. Furthermore, the impact of COVID-19 is cross-cutting, and the medical treatment and care system in Japan lack integrated information-sharing methods and a centralized command-and-control system for the management of individual patients, especially older adults. Such scenarios can arise during the outbreak of other emerging infectious diseases and disasters.

A tendency to refrain from visiting medical institutions owing to concerns about infection was observed during the COVID-19 pandemic. Thus, the medical care delivery system must be reformed so that the public is informed about safe and appropriate medical care at medical institutions. In the event of such contingencies (such as emerging infectious diseases and disasters) occurring again, it is important to alert residents and strengthen the medical care delivery system (e.g., calling on medical institutions) at an early stage to ensure the utilization of a secure medical care delivery system. In particular, from the viewpoint of the healthcare delivery system reforms that aim to efficiently utilize limited healthcare resources while maintaining the basic principle of free access, a loose gatekeeper function (wherein patients receive medical care from their family doctor, except in emergencies; the same

applies to patients who have a family doctor), including a family doctor function, must be established to ensure an appropriate division of roles among medical institutions. Older adults should receive medical care from their primary care physician in such scenarios.<sup>1-3</sup> A medical system must also be developed for the most vulnerable patient groups, including older individuals, from the perspectives of the following points.

1. Clarification of the coordination function to identify institutions that will accept hospitalization in the event of an emergency.
2. Securing medical institutions that can convert general hospital beds to infectious disease beds in the event of the spread of infection.
3. Priority securing of therapeutic drugs.
4. Stockpiling of medical materials (such as personal protective equipment, gowns, gloves, and masks) and their prompt distribution to necessary medical facilities.
5. Fundamental revision to incorporate preventive measures into the current reimbursement system.
6. Establishment of a system and human resource development related to the professions of comprehensive medical care, such as primary care physicians.
7. Introduction of early rehabilitation in acute care hospitals.

Cooperation among medical institutions and primary care physicians and an information network that links multiple professions around individual patients must be established to realize (1), (2), and (6) promptly. The effort to establish a community-integrated care system in normal times is also a major challenge.

### *Acceleration of appropriate care, end-of-life care, and advance care planning*

The “Report by the Working Group on Definitions of Older People,” issued in 2017 by the Japan Geriatrics Society and Japan Federation of Gerontological Societies, recommended defining the older population as those aged  $\geq 75$  years.<sup>4</sup> This recommendation redefines the age of older individuals and implies that those aged  $\geq 65$  years, who are currently considered older individuals, are socially active and in diverse health conditions, and that these individuals are not necessarily passive entities to be supported and cared for. The report also stated, “We believe that this will have the effect of helping the socially vulnerable of the same generation and reducing the burden on the younger generation, thereby further strengthening the social security system in Japan and making it more sustainable.” Thus, older adults can be positioned as recipients of care as well as individuals who mutually support each other within the community.

Emphasis is also placed on the individual lifestyle and dignity of older individuals, and the term “EOL care” (end-of-life care) has come to be used regarding how the final stage of life should be approached. Each older person must be supported to live as they wish until EOL and be provided with medical treatment and nursing care that contributes to this goal. Advance care planning (ACP) plays a major role in realizing this goal and refers to “a process to support the realization of decisions about future medical treatment and nursing care that respect the individual as a person.”<sup>5</sup> The values, intentions, and life goals of the patient must be shared with family members and healthcare professionals in advance in order to put ACP into practice. Furthermore, collaboration among these individuals must be encouraged when making decisions regarding future medical care.

The COVID-19 pandemic has significantly impacted the EOL of older adults. Several individuals admitted to hospitals as a result of the infection were unable to make choices regarding their treatment and care, with many individuals dying without seeing their families in person. In addition, individuals often face difficulty in expressing their wishes when faced with the choice of life support, and the lack of ACP causes distress to the medical staff and family and prevents patients from receiving the desired medical care.<sup>6</sup> Furthermore, some patients were forced to spend their final days with restricted options, whereas others were forced to stay at home owing to visitation restrictions.<sup>7</sup> The promotion of ACP is indispensable to realizing medical and nursing care in EOL in Japan, a country with a death-ridden society, that is consistent with the wishes of the patient, which are unique to the patient.

Several possible scenarios have been proposed regarding when and how to conduct ACP; however, ACP must be commenced as early as possible, with an eye on the EOL, as it is important to practice ACP repeatedly. Medical care information, such as the illness and physical condition of the patient, plays an essential role in the decision-making process of the patient. Thus, the sharing of appropriate information with the patient and close family members, as well as with medical care providers, is necessary to guide the patient in joint decision-making. Further education of the public and healthcare professionals will aid in promoting ACP in the future.

### *Triage and legal issues*

The shortage of medical resources observed during the COVID-19 pandemic has triggered a debate over the selection of a COVID-19-related triage, which differs from the triage that is increasingly being utilized at disaster sites and elsewhere.<sup>8</sup> The severity of illness and the urgency of treatment have been used as criteria for determining the order of priority for transport and treatment in conventional triage. In contrast, in COVID-19-related triage, the possibility of saving the patient's life influences the decision to invest in medical equipment and human resources, such as extracorporeal membrane oxygenation (ECMO), for the patient in question or to allocate these resources for other patients. The criteria for discontinuing treatment are being closely examined at present. Older individuals, who are generally more susceptible to developing severe illness, are at a disadvantage in COVID-19-related triage. That the objective of COVID-19-related triage is to save more lives cannot be denied. However, evidence demonstrating that COVID-19-related triage actually maximizes the number and efficiency of lives saved remains insufficient. Furthermore, in addition to the unfairness of the selection of lives and the quantitative weighing of lives, issues such as discrimination against older individuals and distinctions in the value of life by category (including triage) that could conflict with the principles of equality and human dignity have also been identified.

The revised "Code of Medical Ethics" issued by the Japan Medical Association states that "fair treatment without discrimination based on appropriate medical judgment is required." However, it provides no specific guidelines for these difficult issues. The tightening of medical resources can occur in scenarios other than the COVID-19 pandemic. Public guidelines must be established based on broad public discussions on how to respond to such scenarios when there is a need to allocate limited medical resources; such discussions should not be limited to medical professionals. These measures will help prevent delays in medical treatment by making medical professionals bear the risk of heavy judgment and civil and criminal liabilities. The goal is to promote

ACP and make decisions based on the patient's will; however, the legal status of the right to die, including its relationship to death with dignity and euthanasia, and the nature and limits of self-determination regarding life and death, will be questioned again if transferring the order of treatment to another person means death. In addition, the legal basis and clarification of the right of the family to consent in cases where the intention of the patient is unclear are issues to be considered. For instance, granting the right to consent to an adult guardian, which is particularly important in cases where there is no family member, or the possibility of establishing a proxy system to make decisions and consent regarding medical care are scenarios wherein these rights will be considered.

### *Oral cavity function, sensory organ function (visual and auditory function), and motor organ function*

In addition to the respiratory system, COVID-19 affects the oral cavity, sensory organs (visual and auditory/hearing), and motor organs. The oral cavity, the interface between the human body and the outside world, is involved in the functions of feeding, swallowing, speaking, and breathing. Oral nutrition is an essential function that should be maintained from the perspectives of nutrition, human dignity, and well-being. Chewing and food-mass formation in the mouth play important roles in facilitating safe swallowing. Eating involves the use of all five senses: sight, hearing, smell, taste, and touch. Thus, the importance of the oral cavity should be re-evaluated, considering that a decline in sensory function has been reported to promote aging and a decline in cognitive function. The importance of oral hygiene in terms of preventing infectious diseases (including viruses) and aspiration pneumonia has been emphasized. Oral function is also involved in communication through its role in social interactions, which is important for maintaining the health of older adults. A new concept of "oral frailty" that considers the maintenance of general health from the perspective of oral function has emerged.<sup>9</sup> Oral frailty is defined as a state of overlapping minor deteriorations in oral function, such as fewer teeth, difficulty chewing food, increased difficulty in swallowing soup, dry mouth, and poor oral diadochokinesis. The COVID-19 disaster has also affected community interaction by drastically decreasing daily conversations and forcing a prolonged period of isolation, resulting in the deterioration of oral functions.<sup>10,11</sup> The introduction of the new diagnosis of oral hypofunction can prevent and improve the deterioration of oral function through appropriate and comprehensive dental evaluation and intervention.<sup>12</sup> However, this issue affects populations other than older individuals. Seamless oral health management across all generations from childhood onward is critical; thus, oral health management must be further promoted through multidisciplinary collaboration.<sup>13,14</sup>

Sight, hearing, taste, and smell, which are essential senses, play important roles in the maintenance of human life and social life. A decline in visual and auditory senses can significantly accelerate frailty in older individuals. Visual deterioration reduces independent functioning in older individuals; furthermore, it increases the risk of falls and dementia, thereby reducing social participation and involvement in the community. This was evidenced by the fact that among the individuals newly certified as visually impaired in 2015, 62.5% of individuals were aged  $\geq 70$  years, indicating that severe visual impairment at an older age was observed in many cases. The number of individuals with visual impairment in Japan is estimated to reach 2 million by 2030.<sup>15</sup>

Treatable chronic diseases such as glaucoma, age-related macular degeneration, and diabetic retinopathy are the leading causes

of visual impairment. Regular examinations must be conducted for prevention. The widespread adoption of advanced surgery has made it possible to treat cataracts from an early stage. Furthermore, it has been linked with a certain inhibitory effect on cognitive decline in older individuals. However, the number of patients undergoing surgery declined during the COVID-19 disaster owing to reluctance on the part of patients to visit a doctor and restrictions on surgery at hospitals. In addition, the prompt medical response to eye ruptures and acute glaucoma attacks caused by falls among older individuals was delayed. For instance, retinal detachment led to permanent loss of function in some cases, partly owing to delays in the timing of the initial diagnosis. Early detection and response to visual dysfunction by a primary care physician are important, regardless of the outbreak of a pandemic. A local medical system capable of transporting patients with such urgent conditions to a facility that can provide high-level emergency care 24 h a day is also required. Cross-sectional and longitudinal studies have reported that hearing impairment is also associated with frailty.<sup>16,17</sup> Taste disorders caused by COVID-19 have been reported in many cases; however, further evidence must be collected to determine the impact of the infection on hearing and the negative effects of restricting medical examinations. Early screening and regular care of the sensory organs of older individuals play an extremely important role in extending healthy life expectancy and preventing dementia and frailty in Japan, where the population is rapidly aging.

A survey in the field of orthopedic surgery revealed locomotor instability and locomotive syndrome in many older individuals (especially women) and a decrease in their independent function, as well as progressive muscle weakness (sarcopenia), owing to inactivity caused by prolonged isolation during the COVID-19 pandemic. A decline in independent function owing to long-term inactivity caused by the COVID-19 pandemic and progressive muscle weakness has also been reported.<sup>18,19</sup> This is especially true in older individuals, who are more susceptible to developing severe infectious diseases and manifesting increased frailty. Refraining from activities will lead to a decrease in physical activity and social interactions, leading to physical dysfunction (including the progression of locomotion and frailty), cognitive decline, and deterioration of nutritional status. This progression can be defined as a negative chain of events. The Federation of Japanese Medical Associations issued the “Declaration of the Medical Association for Overcoming Frailty and Locomotive Syndrome” in 2022.<sup>20</sup> This declaration indicates that individuals with frailty and locomotive syndrome are susceptible to a decline in their daily functions and are at an increased risk of requiring nursing care (approximately a four times higher risk of requiring nursing care); however, the severity of these conditions can be reduced or the individuals can be returned to their original robust state through appropriate measures. The underlying disease is often the primary cause; nevertheless, prolonged periods of self-imposed inactivity, as exemplified by the COVID-19 pandemic, have markedly reduced locomotor function. How a state of inactivity in normal times, even in an emergency situation (such as a pandemic), can reduce physical function, especially locomotor function, must be explained to the general population. Individuals must be encouraged to make efforts to avoid physical inactivity in their daily lives.

### Telemedicine

The advancement and spread of information and communication technology (ICT) has made the use of telemedicine feasible. The use of telemedicine has accelerated worldwide owing to its significance as an infection control measure in the wake of the COVID-

19 epidemic. However, the use of telemedicine remains difficult for older individuals who are unfamiliar with ICT. In addition, telemedicine is not considered suitable for older adults with multiple coexisting diseases and problems, such as atypical signs and impaired communication skills.

Telemedicine is a breakthrough in medical care for older individuals despite these challenges,<sup>21</sup> and its development and maintenance are greatly desirable. The severity of an illness can be determined in the presence of family members online, thereby reducing unnecessary emergency visits and household calls. The psychological burden may be lowered if the visit is conducted online, even in cases where it is not easy to conduct an outpatient visit, such as for patients with dementia and those who are housebound, and the patient may feel free to visit a doctor (gateway care). Telemedicine has also been used to disseminate specialized medical care in remote areas, for example through remote medical care by a specialist in the presence of a primary care physician and patient (hybrid medical care) and through remote medical care by a primary care physician in the presence of visiting nurses and patients (multidisciplinary cooperation). Telemedicine has enabled physicians to determine the condition of the patient at home, which cannot be fully understood in an outpatient clinic. Physicians can provide lifestyle guidance or conduct a comprehensive geriatric assessment of older individuals using a camera. Telemedicine is expected to be applied to medical and nursing care, such as nursing and rehabilitation, in the future. Nevertheless, the basis of medical care for older individuals is face-to-face, and telemedicine is currently only a complement to face-to-face care. In addition, the level of evidence for online medical care, which has the potential to complement face-to-face care, remains insufficient. Thus, gathering evidence for online medical care is an urgent issue.

### Surgery

Surgery was one of the fields of medicine most affected by the COVID-19 pandemic. A tendency to refrain from surgery was observed during the first declaration of a state of emergency in 2020 owing to information regarding the increased risk of surgery for infected patients and of the infection of medical personnel during surgery. This became a major issue. The second crisis occurred during the fourth through sixth waves in 2021, a period during which a substantial increase in the number of severely ill patients occurred. The number of surgeries conducted was reduced in order to concentrate advanced medical resources on emergency medicine, ICU care, and nurses specializing in COVID-19 care. The third crisis occurred after the seventh wave in 2022, a period during which COVID-19 infections were moderate or mild but the explosive increase in the number of patients led to many clusters of patients and infected healthcare workers in hospitals and frequent ward closures (especially in surgical wards, where infections are more likely to spread). Frequent cancellation or postponement of surgery was observed during this period.

The National Clinical Database, which is highly comprehensive, reported that the number of surgeries for 20 representative procedures (including cancer, cardiovascular diseases, and infection) decreased by 95% in 2020 compared with that in 2019.<sup>22</sup> This is a significant decrease compared with the 3.2% decrease observed in national healthcare expenditure,<sup>23</sup> indicating that the impact was significant. Surgeries for the resection of malignant tumors vary widely according to the type of cancer. The proportion of patients with early-stage cancer has decreased in the case of gastric and colorectal cancer; however, the proportion of patients with advanced cancer has increased owing to the trend of voluntary screening and refraining from receiving medical examinations.

Nevertheless, the number of patients undergoing surgery for the management of pancreatic cancer and other types of cancer that are difficult to detect in the early stages has not decreased. In addition, the number of patients undergoing surgery in urban areas decreased significantly as a characteristic of infection in 2020. However, the prevalence of infection has increased recently, with the number of infected individuals per population remaining the same, even in rural areas. The limitations of surgery in rural areas with few medical facilities may become more pronounced in such scenarios.

The delayed detection of malignant tumors and cardiovascular diseases in older individuals remains a major challenge. Another major concern in terms of the risks of surgery is the increase in the number of frail older individuals owing to decreased outings and exercise. Ensuring access to healthcare and providing access to appropriate surgical procedures to older individuals aid in saving lives and ensuring a healthy life expectancy in the COVID-19 era.

### **Support for disabled individuals**

The number of older individuals with disabilities has been increasing worldwide.<sup>24</sup> The number of individuals with physical disabilities aged  $\geq 65$  years at home in Japan was 1 587 000 (52.7% of all ages) in 1996 and 3 112 000 (72.6%) in 2016 according to the 2023 edition of the White Paper on Persons with Disabilities.<sup>25</sup> A similar trend was observed for individuals with intellectual and mental disabilities. This situation may be related to the aging of the Japanese population as a whole, the increasing number of older individuals without disabilities becoming disabled, and the aging of those with disabilities. Typical examples include age-related visual and hearing impairment. Furthermore, appropriate rehabilitation care must also consider mental and cognitive aspects while considering the physical characteristics of older individuals, including frailty, various underlying diseases, and complications such as dysphagia. Individuals with disabilities were at a higher risk of contracting infections during the COVID-19 pandemic owing to difficulty in accessing medical services.<sup>26</sup> Thus, consideration has to be given to older individuals with disabilities.

Advances in the field of medicine have increased the life expectancy of individuals with disabilities. “Activity limitations” and “participation restrictions” limit activities and exercise among individuals with physical disabilities, resulting in a decrease in physical activity. Consequently, these individuals are more likely to suffer from chronic diseases and are at a high risk of developing ischemic heart disease and stroke, which can lead to multiple disabilities. Individuals with intellectual and mental disabilities also present with complications of chronic diseases. All individuals with disabilities must strive to maintain physical activity despite their disabilities to prevent chronic disease.<sup>27</sup>

Physicians, rehabilitation professionals, and social workers must be provided with knowledge and experience to respond appropriately to this increase in the number of older individuals with disabilities. In addition to medical and social personnel, a system to provide appropriate education for individuals with disabilities must also be established.

## **Rebuilding a vibrant and secure community: Building new regional communication**

### **Promotion of ICT utilization**

The acceleration of digitization is essential for a future aging society. The Ministry of Internal Affairs and Communications has set forth three visions to realize a “Smart Platinum Society-Safe and

Secure Lifestyles Created by ICT” in its 2013 report on the ICT Super-aging Society Initiative Conference. Two of these visions, “to maintain good health for a long time and live independently” and “to work and participate in society with a sense of fulfillment,” recommend establishing an ICT health model (prevention), creating life-support businesses, improving ICT literacy, and developing and encouraging the practical application of robots plus ICT to enable older individuals to maintain their health and continue participation in society. The application of ICT is recommended for maintaining health and continuing social participation.<sup>28</sup> Furthermore, it is important to strengthen ICT infrastructure and promote digital transformation for social reform.<sup>29</sup>

Approximately 60% of individuals aged  $>70$  years do not have access to smartphones or tablets according to the 2021 White Paper on Information and Communications.<sup>30</sup> The COVID-19 pandemic has caused various socioeconomic constraints; however, digitalization can improve the convenience of daily life, such as the ability to shop online and interact with family and friends, while avoiding human contact. These benefits extend to all aspects of life, including access to services such as government services and disaster prevention. However, individuals who cannot access these benefits may be left behind. Establishing a support system to ensure that no individual is overlooked is necessary in a society in which the foundations of life are becoming increasingly digitalized, given the reality that many older individuals have no experience of using digital devices. The digital divide must be closed, and an environment wherein everyone can benefit from digitalization must be created. Efforts made to achieve this goal vary from municipality to municipality, with large regional disparities being observed. Measures at the national level, such as the free distribution of digital devices to older individuals who do not own or are unfamiliar with them (as well as the provision of training on their use and application), must be implemented in the future. ICT support in local governments (e.g., smartphone classes for older individuals, development of applications, lending of equipment, and projects that younger individuals can also join) is being promoted in local communities as a part of a range of regional exchange programs to support the use of digital devices by older individuals. Such programs should be accelerated on a nationwide basis. Digital education through the use of mobile devices should also be incorporated into ICT dissemination for older adults in their local communities.

### **Preventing social isolation: new community communication**

A survey conducted by the Cabinet Office reported that the percentage of older adults participating in group activities has been decreasing annually.<sup>31</sup> A comparison between the results of the 2014 and 2021 surveys revealed that the percentage of those who did not wish to participate has increased (18.2% in 2014 to 27.4% in 2021). This non-participation in community group activities occurs gradually, suggesting the possibility of disengagement from society. Thus, measures should be taken to ensure that social ties and diverse connections with individuals in the community are maintained to avoid social isolation.

Efforts have been made to create communities that prevent the isolation of older individuals. The goal is to create small, diverse communities that make the community itself mutually caring. This facilitates “participating in activities with a purpose” in addition to being a “system that enables the community and the place itself to look after older individuals and to mutually care for each other.” The focus of this program is not limited to older individuals; it also focuses on the interaction among multiple

generations. However, designing and building a new care community and a place where diverse individuals can naturally interact with each other is difficult. Various initiatives have been implemented in online salons that enable individuals to meet online using digital devices. It is also important to consider the challenge of creating a new type of hybrid community communication that successfully combines traditional face-to-face and online gatherings. Further measures must be taken to strengthen the efforts to build communities based on the four elements of self-help, mutual help, mutual assistance, and public assistance while raising the vitality of the residents.

### **Enhancement of mobility**

Educating older adults is not sufficient to promote their social participation; it is also essential to improve their means of transportation (mobility). Several situations wherein older individuals struggle with daily shopping, hospital visits, and transportation for active social participation have been reported owing to regional characteristics and the lack of public transportation. Furthermore, strong concerns regarding the progression of frailty as social participation decreases have been voiced, and a negative chain of events has led to decreased community interaction. Measures are being taken to improve the environment such that older individuals can move around safely and secure transportation.<sup>32</sup> The goal is to ensure that easy-to-use and safe transportation is made available to individuals who find it difficult to commute owing to old age or disabilities. The existing public transportation system must be reviewed. Municipalities must take the initiative to implement privately paid passenger transportation, non-profit organizations should provide such support, and residents and others should provide mobility support. Thus, volunteers and mutual help within cities should be further enhanced.

### **Raising public awareness to reduce various secondary health hazards, especially appropriate information provision**

#### ***Lifestyle changes and secondary health hazards caused by COVID-19***

The lockdown and other measures taken worldwide to contain the pandemic may have been effective in reducing the number of individuals infected; however, this came at the cost of inducing significant changes in the lifestyle of many individuals. The declaration of a state of emergency significantly decreased the number of steps taken by approximately 1500 (approximately 15 min of walking time) over several months compared with that before the pandemic in four metropolitan prefectures of the Tokyo metropolitan area.<sup>33</sup> The decrease in physical activity was eliminated by lifting the declaration of a state of emergency; however, the risk of developing chronic diseases and mood disorders, as well as the risk of total mortality, severe COVID-19, and death, increased if the decrease in physical activity of approximately 15 min per day became habitual over time.<sup>34</sup> Socialization and quality of life also decreased as the range of activities decreased owing to the implementation of COVID-19 measures.<sup>35</sup> Thus, the secondary health hazards caused by prolonged excessive isolation among older individuals during the pandemic were significant. In other words, COVID-19-related frailty, especially muscle weakness and cognitive decline, is expected to progress. The reality of the chronic lifestyle changes of individuals and the secondary health damage caused by the COVID-19 disaster must be clarified, and evidence-based countermeasures must be taken in the future.

### ***Appropriate provision of information (misinformation and disinformation and future challenges)***

The COVID-19 pandemic has made society aware of older individuals as a vulnerable population and of the need for countermeasures. The problems and confusion surrounding vaccination reservations among older individuals may be attributed to the fact that they have poor access to information owing to their inferior information technology skills. This lack of access to information indicates that there is little risk of older individuals being affected by misinformation or intentionally disseminated disinformation owing to a lack of confirmation or misunderstanding on social networking services. However, these individuals have little opportunity to relativize disinformation and recognize errors when they come into contact with them. Older adults, especially those with cognitive impairments, were confused by one-sided information in media reports during the COVID-19 pandemic. Thus, appropriate information must be provided through various channels that constitute the community, such as primary care physicians, specialists, the government, and community-integrated support centers. Such problems are not limited to the COVID-19 pandemic; they can create a difference between life and death in the event of a disaster. The ability of older individuals to access and select information must be strengthened as society becomes more information-oriented and the number of older individuals without family members, relatives, individuals living together (housemates), or close acquaintances is expected to increase.

### ***Secondary damage caused in nursing homes and efforts to prevent it***

Older residents of long-term care facilities were forced to receive EOL care from care staff who lacked the necessary hygiene products and expertise to prevent infection owing to the COVID-19 pandemic, which restricted their access to appropriate medical care. The following support measures for in-facility medical care at facilities for older individuals were announced by the Ministry of Health, Labor and Welfare in a jointly issued letter from the Headquarters for the Promotion of Countermeasures to Combat New-type Coronavirus Infections and others: “The concept of measures (such as further strengthening medical support at older care facilities),” which is based on thorough measures for health and medical care delivery systems, taking into account the characteristics of the Omicron variant (April 4, 2022). However, only 65% of the facilities have secured medical institutions that can dispatch doctors and nurses or make house calls as of April 2022. Consequently, the government has continued to issue updates “On the status of efforts and further reinforcement of the health and medical care delivery system based on thorough measures to address the characteristics of the Omicron variant” (April 28, 2022). A system must be established in the future to provide the necessary medical care in nursing homes or at home under a wide-area cooperation and coordination system that includes municipalities, prefectures, and the national government, especially in scenarios wherein medical needs expand owing to the outbreak of infectious diseases or large-scale disasters and the provision of medical care through hospitalization is restricted.

Nursing homes and older individuals living at home who receive support from nursing care services, family caregivers, and service providers were severely affected by the COVID-19 disaster. Restricting older adults from using services owing to the risk of infection has led to a decline in physical and mental function and an increase in social isolation and loneliness among older adults. This situation has placed physical and mental burdens on family

members and caregivers who provide care at home, thereby limiting their social and economic activities, including work. Caregivers at home-visit care facilities and daycare facilities were forced to perform their duties under the same inadequate infection-protection systems as those in nursing homes during the pandemic. Furthermore, some facilities were forced to close, downsize, or suspend operations owing to deteriorating business conditions caused by a decline in the number of users.<sup>36</sup> In addition to the provision of educational and practical support to nursing care facilities and nursing care facility staff, so that they can continue to practice under medical advice, and guidance on infection prevention, small-scale nursing care facilities with insufficient manpower and poor management must be offered support so that they can continue to operate and provide necessary nursing care services even in times of disaster. The following is a brief overview of the key issues that must be addressed.

### **Promotion of research and human resource development in the area of public health (analysis of information on health, medical care, and nursing care from normal times)**

“Healthy Japan 21 (Second Stage),” which outlines the national health policy, has been implemented since 2013 based on the Health Promotion Law. A final evaluation presented after 10 years in relation to the final goal of “extending healthy life expectancy and reducing health inequalities” revealed that, while extending healthy life expectancy was achieved, the goal of reducing health inequalities was not. In addition, only two of the six items in the area of “health of older individuals” were achieved.

“Health and well-being” is one of the sustainable development goals, and achieving this goal is extremely important. Diseases and disabilities gradually increase as individuals age. Thus, establishing a foundation that enables them to lead independent daily lives – in other words, the construction of a system that enables older individuals to fulfill their potential as a whole society – will prevent the occurrence or worsening of diseases and disabilities.

Primary preventive measures, such as providing employment support for those who wish to continue working and opportunities for those who wish to continue volunteer activities, are required from a public health perspective. However, providing peace of mind to older adults by enhancing the secondary prevention system to detect and respond to the need for support, care, and medical treatment at an early stage is necessary. Specifically, there is an urgent need to enhance a community-based comprehensive care system that provides support to older adults in their daily living areas. Furthermore, seamlessly communicating information and providing services from the respective systems of healthcare and nursing care that are close at hand is important when more advanced medical care or highly specialized rehabilitation (tertiary prevention) is needed. Thus, there is an urgent need to promote information networks that enable medical information to be shared and viewed from any facility, as well as digital transformation, in the medical and long-term care fields.

Systems have been put in place to support older individuals in the community; however, their effectiveness and limitations are yet to be fully evaluated and verified. Future studies must scientifically evaluate various public health initiatives in the community and promote the construction of a system to implement these results as a service in communities. This will enable us to appropriately link public health initiatives to medical and care systems, thereby contributing to the creation of livable and secure communities for all residents, not just older individuals.

The COVID-19 pandemic also revealed the lack of routine promotion of vaccine development, therapeutic drug development, and measures to prevent serious illnesses among older individuals. Analysis of the information collected during normal times is important in the fields of health, medical, and long-term care. Basic research, which can be the basis for clinical applications, requires continuous support even before the occurrence of such situations. The number of researchers conducting basic medical analyses has decreased significantly in recent years, and urgent action is needed to stem the decline of science in Japan. Undergraduate and graduate education in fields such as health, medicine, and welfare must be promoted to increase the number of researchers in public health and basic medical science. The “Current Status and Issues of Clinical, Epidemiological, and Basic Research in Japan against Infectious Disease Pandemics in Peacetime and Emergency Situations” report was jointly issued by many committees and subcommittees of the Science Council of Japan on June 16, 2023. Industry, government, and academia must cooperate to facilitate the creation of a long-term research infrastructure and investments to promote basic and translational research in normal times and conduct basic and clinical research promptly during emergencies.<sup>37</sup>

### **Opinion**

The serious impact of the super-aging society in Japan has been recognized in recent years; however, the delay in the implementation of some measures cannot be denied. In addition, various ongoing problems have become even more pronounced against the backdrop of the COVID-19 pandemic. Furthermore, secondary health problems, such as COVID-19-related frailty, have emerged. A resilient regional society must be built based on the knowledge gained from the COVID-19/post-COVID-19 society to reconstruct a secure medical and care system. A comprehensive approach to “building new social systems and communities” through collaboration among the public, private, and academic sectors is necessary, and these social implementations can be realized through immediate and constant efforts.

This subcommittee presents the following views, including what should be implemented to solve the most pressing issues from the perspective of individual health and the broader perspective of the original state in medical care systems (as well as the nature of local society and the environment), based on the experience of the COVID-19 pandemic. The contents of these views will hopefully be reflected in the policies of academic associations such as the Japan Geriatrics Society; the Ministry of Health, Labor and Welfare; the Ministry of Education, Culture, Sports, Science and Technology; the Ministry of Economy, Trade and Industry; the Ministry of Land, Infrastructure and Transport; the Cabinet Office; and various professional organizations, as well as in the cross-ministry flow.

#### ***The medical care system must be reconstructed to be capable of responding promptly to other emerging infectious diseases, disasters, and other contingencies***

A medical care system designed for the most vulnerable older population groups must be established to respond to a common issue that may arise during other emerging infectious diseases, disasters, and other contingencies.

### ***EOL care and ACP that are fully respected even in a contingency should be accelerated***

ACP should be implemented from an early stage such that the values, intentions, and life goals of the patient can be shared with family members and medical and care personnel. This will enable the reflection of these values in EOL care, thereby enabling each older person to live as the nation wishes until EOL.

### ***The use of ICT should be promoted and new regional communication should be actively established***

The digital divide should be bridged, and an environment wherein each individual can benefit from digitalization must be established. New regional communication, wherein the perspective of mobility support is indispensable which includes mobility support, must be created to prevent social isolation.

### ***The various secondary health hazards manifested by the COVID-19 disaster among older individuals should be prevented through a multifaceted approach***

Maximum attention should be paid to the prevention of secondary damage to health through a multifaceted approach that includes raising awareness regarding health maintenance and providing appropriate information related to health maintenance.

### ***Research in the field of public health should be promoted, and human resource development in this area should be strengthened, with a focus on analyzing information on health, medical care, and long-term care from ordinary times***

Researchers must strive to promote research in the field of public health, including the promotion of vaccine development, therapeutic drug development, and measures to prevent serious illnesses in older individuals, as well as the collection and analysis of information from normal times. In addition, researchers conducting basic research, especially those conducting basic research that serves as seeds for clinical applications, must be offered continuous support in ordinary (normal) times.

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The authors declare no conflict of interest.

## **Data availability statement**

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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