Survey on Optimizing the Roles and Work Styles of Japan's Healthcare Workforce in the Field of Non-Communicable Diseases

"STRENGTHENING OF HEALTH WORKFORCE ON Non-Communicable Diseases AND Universal Health Coverage"

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*NCDs: Non-Communicable Diseases
**UHC: Universal Health Coverage (UHC) refers to systems in which all people can access affordable and appropriate services that promote health, prevent health issues, provide treatment, and rehabilitate lost functions

Introduction

Introducing Health and Global Policy Institute

Health and Global Policy Institute (HGPI) is a Tokyo-based independent and non-profit health policy think tank established in 2004. In its capacity as a neutral think-tank, HGPI involves stakeholders from wide-ranging fields of expertise to provide policy options to the public to successfully create citizen-focused healthcare policies. Looking to the future, HGPI produces novel ideas and values from a standpoint that offers a wide perspective. It aims to realize a healthy and fair society while holding fast to its independence to avoid being bound to the specific interests of political parties and other organizations. HGPI intends for its policy options to be effective not only in Japan, but also in the wider world, and in this vein the institute is very active in creating policies for resolving global health challenges.

Introducing NCD Alliance Japan

NCD Alliance Japan is a collaborative platform operated by Health and Global Policy Institute (HGPI) to engage civil society and promote countermeasures for prominent NCDs such as cancers, cardiovascular diseases (CVDs), diabetes, chronic respiratory diseases, and mental and neurological disorders. Since 2013, NCD Alliance Japan has served as the Japanese branch of NCD Alliance, a collaborative platform bringing together over 2000 civil society organizations and academic institutions in more than 170 countries, and became a full member of the NCD Alliance on January 17, 2019. Through activities in the three fields of policy proposals, support for people living with NCDs (PLWNCDs), and survey research, NCD Alliance Japan aims to unite PLWNCDs and multi-stakeholders in industry, government, academia, and civil society from Japan and abroad to contribute to solving NCD-related issues.

Background and purpose of study

To respond to NCDs in Japan, where the population is aging rapidly, it is urgent that a provision system that can meet the growing demand for healthcare is established. For each healthcare professional to maximize his or her individual abilities, it is necessary to help them achieve efficient and sustainable work styles and to reinforce their positions within countermeasures against NCDs to further improve care for PLWNCDs. Based on changes in the environment surrounding healthcare in Japan, this study aims to comprehensively and holistically analyze issues faced on the provision side of healthcare as well as recent discussions on healthcare policy aiming to solve those issues with a particular focus on reexamining and understanding the roles of medical staff involved in NCD countermeasures. At the same time, this study aims to identify the gap between ideals and reality and solutions that are required to bridge that gap, which we will present as recommendations.

This report was compiled with support from the NCD Alliance Advocacy Institute NCDs and UHC Accelerator Programme. As a member of the international non-profit organization NCD Alliance, NCD Alliance Japan aims to share the current circumstances and countermeasures in Japan, where population aging has advanced the most in the world. It is our hope that our findings provide some suggestions that will be useful when measures against NCDs are implemented abroad.

Structure of this study

This report contains two chapters, one focusing on our desk study and one on our qualitative study.

As discussed in Chapter I, we conducted a desk study of recent policy discussions using existing studies and reports to comprehensively and holistically examine issues facing medical staff from two major perspectives, namely “systems and policies” and “roles.” Recent discussions and reforms of systems and policies have occurred in Japan aiming to correct prominent issues related to the

shortage of doctors, nurses, and other medical personnel; overwork among medical staff; and the uneven distribution of medical staff both geographically and across specialties. Meanwhile, the roles played by medical staff in the prevention, early detection, and treatment of NCDs vary depending on their occupation, specialty, place of work, and region, but each person plays an important role in their respective position. However, there are times when the citizens do not properly understand those roles, and there are inefficiencies among the roles during efforts to prevent or treat NCDs. In this report, we will take a fresh look at those roles to examine the challenges and gaps that exist when responding to NCDs and to identify opportunities for improvement so the capabilities of medical staff can be utilized more fully and so more optimal and effective measures against NCDs can be taken.

Chapter II will focus on task shifting from physicians to nurses and task sharing between them. These two measures will be central to addressing the shortage of medical staff. Because that issue cannot be grasped from an examination of policy discussions alone, we will share the results of a qualitative study (conducted through focus group interviews[1]) of physicians and nurses during which we asked about the current situations, issues, and future prospects in real-world clinical settings. While system and policy reforms continue to advance, our survey revealed how medical personnel themselves, who are the parties most affected by this issue, perceive and evaluate the situation, as well as how they envision the future.

[1] Focus group interviews: A method of gaining a deeper understanding of an issue by presenting open-ended questions to participants in a group interview and allowing them to converse freely. Krueger, R. A. (2014). Focus groups: A practical guide for applied research. Sage publications.

Executive summary

As of January 2021, the global spread of Coronavirus Disease 2019 (COVID-19) infections has placed an unprecedented amount of pressure on Japan's healthcare provision system. We would like to begin by expressing our sincere respect and gratitude to all medical personnel who are working round-the-clock on the front lines of healthcare to provide treatment.

As the country where population aging has advanced the most, Japan has been facing urgent issues in healthcare provision since before the COVID-19 pandemic. These issues are rooted in shortages and uneven distributions of medical staff both geographically and across specialties. Non-communicable diseases (NCDs) are one of the leading causes of death in Japan, and many Japanese elderly people are living with multiple NCDs. As such, policy discussions on optimizing the work styles of the limited number of medical staff while addressing shortages and uneven distributions of medical personnel have advanced and efforts have begun to provide treatment to people living with NCDs (PLWNCDs) in communities rather than in healthcare institutions. In the midst of ongoing Government discussions and the implementation of new measures to address the aforementioned issues, this study was conducted by NCD Alliance Japan (which Health and Global Policy Institute (HGPI) serves as secretariat) to reexamine the roles of medical staff involved in NCDs, to contribute to improving and enriching the work styles of medical staff, and to contribute to further improving the quality of healthcare for PLWNCDs.

The Japanese Government is now taking the lead in efforts to grasp the real-world circumstances surrounding current issues such as the shortage and uneven distribution of physicians and other medical staff based on detailed and abundant data analysis, and is working to implement concrete measures to resolve those issues. Real changes are taking place and include the establishment of systems for treating elderly people and PLWNCDs in their communities based on Regional Medical Care Visions and the promotion of multidisciplinary team treatment. Another significant policy change occurred when regulations for online medical examination were loosened in response to the ongoing COVID-19 pandemic. Because free access to care is guaranteed by Japan’s universal health insurance system, another issue being discussed is how encouraging appropriate medical consultation-seeking behavior among the public can contribute to optimizing the healthcare provision system.

In this way, healthcare is no longer limited to treatment and procedures performed by healthcare institutions, but is expanding to include a comprehensive set of services provided in communities through in-home care and cooperation among various healthcare and nursing professionals. Additionally, self-management tools that utilize the latest technology are expected to not only benefit PLWNCDs by facilitating early detection and early treatment; they are also expected to improve the work styles of medical staff. The roles of medical staff such as general practitioners and family doctors, who provide holistic NCD prevention and promote treatment before the onset of NCDs, will become even more important.

Within work style reform for medical staff, a movement is underway to reassess the work styles of overworked medical staff while ensuring quality of healthcare for PLWNCDs. Among measures for achieving this, much attention has been placed on task shifting and task sharing between physicians and nurses. However, our study revealed that there have been very few cases in which work styles were drastically improved. While some physicians and nurses have come to realize the effectiveness of task shifting and task sharing, we have high expectations that broader implementation of task shifting and task sharing can be achieved through the establishment of a system in which nurses who have undergone training to acquire new skills can fully utilize their abilities, that matches such nurses to healthcare institutions, and that enables better understanding and effective collaboration

between physicians, nurses, and healthcare institutions. The following are three perspectives on task shifting and task sharing and recommendations for improving them more effectively.

Perspective 1: There is a need for specific introduction measures in clinical settings and training opportunities for nurses who can perform specific actions to promote task shifting and task sharing.

Even if a healthcare institution has nurses with specified task training and NPs on staff, physicians, nurses, and other medical staff do not know exactly which tasks they can handle, and there are few opportunities and medical cases for practical training. Successful examples of healthcare institutions that have introduced the system must be shared more broadly so more healthcare professionals can be educated on aspects to keep in mind when implementing or expanding task shifting and task sharing. Awareness must be promoted among both medical staff and members of the public.

- **Related survey findings**
  - ✓ We were able to confirm examples of successful implementation of task shifting and task sharing in emergency medical services in urban areas and in in-home care and chronic care in rural areas. In these examples, nurses with skills gained from specified task training were able to play active roles because physicians acted as key persons in mediating between them and other physicians and general nurses.
  - ✓ It is ideal for nurses with specified task training to gain experience by training at large hospitals in urban areas. However, we found that nurses at such institutions can only play active roles in limited clinical situations and under certain conditions, and that there are insufficient training opportunities as well as physicians to provide the training.

- **Measures that should be promoted in the future**
  - ✓ Make successful examples visible and spread awareness among medical staff and the public.
    - ✧ (**The national Government and municipal governments**) The number of successful examples is extremely limited, and it is likely that there are many healthcare institutions who wish to adopt these measures but are struggling to do so because they do not understand effective implementation processes and methods. Success stories should be made visible by sharing them online or in print.

  - ✓ Define procedures, establish guidelines, and provide consultation to enable smooth implementation.
    - ✧ (**The national Government, municipal governments, and private companies**) Procedures should be defined to enable smooth implementation and guidelines should be developed that cover each stage and healthcare setting. At the same time, consultation should be provided to ensure smooth implementation.
    - ✧ (**The national Government, municipal governments, and healthcare institutions**) Communication gaps with other medical staff must be bridged. This can be accomplished by establishing partner doctors for nurses with specified task training and setting up working groups for physicians and nurses. Competency criteria should be set and training opportunities for partner doctors and other people who can act as hubs for promotion should be provided.

- ✓ Create visible examples showing the presence of nurses with specified task training and NPs in the institutions that have accepted them.
  - ✧ (**The national Government, municipal governments, and healthcare institutions**) Since there are few nurses with specified task training and NPs overall, a platform that can be approached by medical staff and people working in hospital administration who want to hire them in the future should be built. Providing visible examples of regions and fields in which such nurses can play active roles would also be an effective way to help nurses seeking employment, and it will allow for more efficient matching of nurses to healthcare institutions that have established environments to accept them.
  - ✧ (**The national Government, municipal governments, and healthcare institutions**) Because there is a great degree of potential for nurses with specified task training and NPs to contribute to care in special nursing homes for the elderly, community medicine, and care in rural areas, a showcase of nurses actively participating in these fields should be given wide-reaching publicity.

- ✓ Establish nurse training opportunities in real-world clinical settings.
  - ✧ (**The national Government, municipal governments, and educational institutions**) A system for educating nurses and for training physicians who can provide that education should be built.

Perspective 2: The number of participants in specific action training should be increased through incentives and educational system reforms.
There are very few nurses with specified task training and NPs. Various reasons for this became clear from the study. Nurses face significant hurdles to receive specified task training and, even if once they complete it, many cannot play active roles using their new skills. Furthermore, they lack incentives in terms of compensation or treatment and, as a result, do not feel motivated to become specialists in certain skills. Although physicians feel there is high demand for nurses with new skills, and nurses themselves feel the significance of their roles, systemic improvements are required to increase the number of such nurses.

- **Related survey findings**
  - ✓ Improving compensation and treatment
    - ✧ Physicians and nurses agreed that it is difficult for nurses to work with autonomy without a national certification, prescriptive authority, and discretionary authority. They also require incentives in the forms of compensation and treatment.

- **Measures that should be promoted in the future**
  - ✓ Improve compensation and treatment.
    - ✧ (**The national Government**) Medical service fee premiums that improve compensation and treatment for nurses should be considered.
    - ✧ (**Municipal governments and healthcare institutions**) Measures to improve compensation and treatment for nurses with specified task training should be considered.
  - ✓ Establish legal status for nurses with specified task training and NPs.
    - ✧ (**The national Government**) To truly achieve work style reform and reduce workloads, the scopes of the roles of physicians and nurses to must be reviewed, rearranged, and expanded; specified task classifications must be revised to fit

real-world circumstances; and the responsibilities of each party and the authority they possess must be clarified. One item that might be considered is the establishment of a national certification for NPs.
    - ✧ (**The national Government**) A system to track and certify nurses in remote areas who have learned to perform specified tasks out of necessity should be built.
- ✓ Provide training through educational system reform.
    - ✧ (**Educational institutions**) In addition to training nurses at large hospitals in urban areas, educational institutions such as universities and nursing schools should design programs to train nurses in rural and remote areas, where they will have more opportunities to perform specified tasks. Best practices for nurse training that combine education and real-world practice should also be established.
    - ✧ (**The national Government and municipal governments**) The national Government and municipal governments should create scholarships and support systems to help human resources like these to find rewarding lives in rural areas.

Perspective 3: It is necessary to measure the effectiveness of task shifting and task sharing to visualize and better understand its utility.

Our study showed that promoting task shifting and task sharing improves the work styles of medical staff, and participants felt these measures made real contributions to better health outcomes and care for PLWNCDs. However, the number of domestic studies that clearly demonstrate the usefulness of these initiatives is still limited, so further evidence will be necessary in the future. We anticipate that demonstrating the effectiveness of task shifting and task sharing using scientific evidence will encourage understanding and action among medical staff, hospital administrators, and policy makers. We also expect that the potential for task shifting and task sharing will expand beyond physicians and nurses, the subjects of this study, and eventually be implemented in all clinical settings and include all professions.

- **Related survey findings**
    - ✓ When doctors are unavailable or busy, patients are being cared for by nurses with specified task training. Said nurses are providing holistic care while serving as hubs between healthcare institutions and their communities.
    - ✓ Patients feel healthier and polypharmacy is being avoided.

- **Measures that should be promoted in the future**
    - ✓ Research should be promoted and further evidence should be established.
        - ✧ (**The national Government and research institutions**) Efforts to verify the effects of task shifting and task sharing on work styles and outcomes for PLWNCDs should be further expanded.
        - ✧ (**The national Government, municipal governments, and research institutions**) Special districts should be established in regions facing depopulation and other such areas where task shifting and task sharing should be introduced. The effects of task shifting and task sharing should then be verified for each healthcare institution and region.

Chapter I

Desk study: The roles and work styles of medical staff involved in NCDs in Japan

1. NCDs and UHC in Japan

1.1 Japan's healthcare system and NCDs in Japan

Average life expectancies in Japan are among the longest in the world, at 87.32 years for women and 81.25 years for men.[2] However, examining causes of death and disease patterns, we find that although the leading causes of death during World War II and in the postwar period were infectious diseases, a significant shift has occurred in which NCDs such as cancer and heart disease or stroke have become the leading causes of death.

NCDs are defined by the World Health Organization (WHO) as a group of chronic diseases that includes cancer, diabetes, cardiovascular diseases, respiratory diseases, and mental disorders and that are caused by factors like unhealthy diet, lack of exercise, smoking, excessive alcohol consumption, and air pollution. According to WHO statistics from 2016, NCDs were the cause of death for 41 million people worldwide and accounted for 71% of all deaths. In Japan, that ratio climbs to about 82% of all deaths, making NCDs an urgent health issue for the country.[3] When focusing on disability-adjusted life years (DALYs),[4] an indicator of health loss (also known as the disease burden) due to specific diseases and injuries, we find that disease burdens are particularly high among cardiovascular diseases, cancers, musculoskeletal disorders, mental disorders, diabetes, chronic respiratory diseases, neurological disorders, and gastrointestinal diseases.[5] In other words, disease burdens for NCDs are particularly high. Furthermore, NCDs are often associated with two or more comorbidities and may cause people to face issues that span multiple fields of medicine related to both physical and mental health. In addition, some cases require secondary or tertiary levels of care, such as in cases of acute heart failure or acute exacerbations of chronic obstructive pulmonary disease (AECOPD), so it is important to ensure continuity of care through vertically-integrated healthcare systems.[6] Horizontal integration of healthcare and welfare systems is also necessary because people with cognitive or physical disabilities may require support from long-term care and welfare systems after receiving acute stage treatment. This results in the involvement of many specialized medical staff who not only provide disease management, but who also provide daily living support or assistance in utilizing social support systems.

1.2 Introducing Japan's Universal Health Insurance System and its Issues

Here, we will introduce the National Health Insurance system, which is the backbone of healthcare in Japan. Article 25 of the Constitution of Japan, enacted in May, 1947, states "All people shall have the right to maintain the minimum standards of wholesome and cultured living. In all spheres of life, the State shall use its endeavors for the promotion and extension of social welfare and security, and of public health." In response to that, social security policies were developed under the Government's leadership and led to the establishment of a

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[2] Cabinet Office. "Annual Report on the Ageing Society FY 2020 (Full Version)."https://www8.cao.go.jp/kourei/whitepaper/w-2020/html/zenbun/s1_1_1.html. Accessed December 15, 2020.

[3] World Health Organization "Noncommunicable diseases country profiles 2018" https://apps.who.int/iris/rest/bitstreams/1151362/retrieve. Accessed December 15, 2020.

[4] Ministry of Health, Labour and Welfare. "Healthy Japan 21 (Introduction) General Reference Materials." https://www.mhlw.go.jp/www1/topics/kenko21_11/s1.html. Accessed December 16, 2020.

[5] Institute for Health Metrics and Evaluation "GBD Compare (2019)" https://vizhub.healthdata.org/gbd-compare/. Accessed December 15, 2020.

[6] Thomas, P., Meads, G., Moustafa, A., Nazareth, I., Stange, K. C., & Donnelly Hess, G. (2008). Combined horizontal and vertical integration of care: a goal of practice-based commissioning. Quality in primary care, 16(6), 425-432. ISSN 1479-1072

universal health insurance system in 1961, at which point Japan achieved Universal Health Coverage (UHC).[7] It can be said that this is one factor that led to Japan becoming one of the world leaders in health and longevity.

Japan's system of UHC guarantees access to public health insurance for all citizens and allows them to freely select healthcare institutions and determine frequency of visits at their own discretion. In other words, it is a free access system. In this system, insured people can receive the healthcare they need while paying a certain percentage of the costs of treatment out-of-pocket. Another feature of the system is that both clinics and hospitals provide primary and outpatient care. Japan's public health insurance can be divided into three major categories: occupational health insurance, National Health Insurance (regional insurance), and the Medical Insurance System for the Latter-Stage Elderly. Premiums are calculated according to personal income, with higher premiums accompanying greater earnings. The ratio of healthcare expenses paid out-of-pocket as copayments by people receiving healthcare is the same for every type of insurance. Copayment ratios are determined by age and income and are as follows: people under age 70, 30%; children under age 6 (before the start of compulsory education), 20%;[8] people ages 70 to 74, 20%; low-income earners age 75 or over, 10%, and people age 70 or over with income equivalents to those of full-time workers under retirement age, 30%.[9] To prevent households from being overburdened by healthcare expenses, there is also a high-cost medical care payment system which provides funding to cover amounts exceeding predetermined monthly copayment limits. Said copayment limits vary according to age and income.

In this manner, Japan's UHC system is operated as a form of social insurance, in which people pay insurance premiums in advance to prepare for the various risks they may encounter in life, and in which the necessary funding and services are provided to the people who actually encounter problems. However, in recent years, expenditures have been much higher than income generated by insurance premiums. Although public funds have been invested to help bridge the gap, the current situation surrounding the management of insurance finances remains difficult. In addition, as of November 7, 2020, the time of writing, people age 65 and over account for 28.7% of the total population,[10] and the healthcare expenses required to help them maintain good health are projected to increase every year. High-cost medical treatments are also growing more common as medical technology advances. Meanwhile, it was estimated that the working-age population (people ages 15-64), which pays the majority of insurance premiums, decreased to 75.72 million people in FY2019. That was 379,000 fewer people compared to FY2018. Furthermore, the size of the working-age population is the lowest it has ever been since 1950,[11] so determining how to achieve sustainable UHC is a critical issue.

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[7] Ministry of Health, Labour and Welfare. "Annual Health, Labour and Welfare Report 2012-2013 – Thinking about Social Security." https://www.mhlw.go.jp/wp/hakusyo/kousei/12/dl/1-03.pdf. Accessed December 16, 2020.

[8] Prefectures and municipalities offer their own subsidies, with many prefectures offering subsidies until preschool age and many municipalities offering subsidies until the end of the year children turn 15.

[9] Ministry of Health, Labour and Welfare. "Health Insurance in Japan." https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/kenkou_iryou/iryouhoken/iryouhoken01/index.html. Accessed December 16, 2020.

[10] Statistics Bureau of Japan. "Senior Citizens of Japan in Statistics in Honor of Respect for the Aged Day." https://www.stat.go.jp/data/topics/topi1261.html. Accessed November 7, 2020.

[11] Statistics Bureau of Japan"Population Estimates (As of October 1, 2019) – National (by Age); Population by Gender/Prefecture (Age Five); Population by Gender." https://www.stat.go.jp/data/jinsui/2019np/index.html Accessed December 14, 2020.

1.3 Changes in the healthcare environment in Japan

By around 2025, members of the baby boomer generation born between 1947 and 1949 will be latter-stage elderly, referring to the group age 75 and older, and social security expenses in long-term care and healthcare are expected to increase dramatically. Examining the structure of Japan's healthcare provision system, we find that 70% of hospitals in Japan are owned by individuals or are private medical institutions (known as "medical corporations") and that these institutions account over 50% of care beds.[12] In other words, Japan's healthcare provision system is centered on the private sector. In addition, although the per capita number of care beds is decreasing and the average length of hospital stays are growing shorter,[13] Japan still has more care beds and longer average hospital stays than other countries (Figure 1). Meanwhile, there are few medical personnel per care bed.[14] The number of care beds is particularly high in the field of mental health, an NCD field. Japan has the most psychiatric care beds per capita in the world. (As of 2019, the average number of psychiatric care beds per 100,000 people was 261 in Japan while the average for OECD countries was 45.)[15] In addition, according to the 2020 Hospital Report, the average length of stay for psychiatric beds was 279.2 days, which is significantly longer than that for general care beds, which was 16.1 days.[16] In the future, it is likely that the burden on medical personnel will grow as the situation facing the healthcare provision supply system becomes more severe.

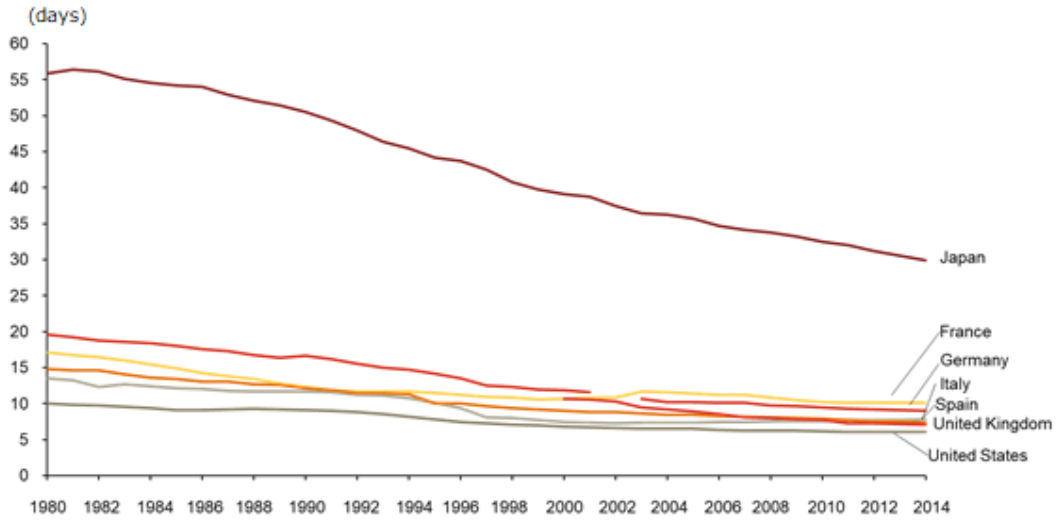

Figure 1: Average length of hospital stay in days - International comparison (Source: Japan Health Policy NOW)[17]

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[12] Ministry of Health, Labour and Welfare. "The Current Situation and Issues of the Healthcare Provision System." http://www.mhlw.go.jp/file/05-Shingikai-12601000-Seisakutoukatsukan-Sanjikanshitsu_Shakaihoshoutantou/0000184301.pdf. Accessed December 16, 2020.

[13] It should be noted that simple comparisons of average stay lengths cannot be made because the definition of hospitalization and care beds counted differ among countries.

[14] Ministry of Health, Labour and Welfare. "Annual Health, Labour and Welfare Report 2016 Edition - Consideration of a social model to overcome demographic aging." https://www.mhlw.go.jp/wp/hakusyo/kousei/16/backdata/01-03-02-06.html. Accessed December 14, 2020.

[15] OECD "Hospital beds (indicator)" doi: 10.1787/0191328e-en Accessed December 14, 2020.

[16] Ministry of Health, Labour and Welfare. "Hospital Report (August 2020, Approximate Figures)." https://www.mhlw.go.jp/toukei/saikin/hw/byouin/m20/dl/2008kekka.pdf. Accessed December 16, 2020.

[17] Health and Global Policy Institute. "Japan Health Policy NOW—4.1 Overview of Japan's Healthcare Delivery System." http://japanhpn.org/ja/section4-1/ Accessed December 16, 2020.

2. Issues facing medical staff involved in NCDs in Japan

2.1 Medical staff in Japan and NCDs

In 2020, the global spread of Coronavirus Disease 2019 (COVID-19) made infectious disease countermeasures a top priority in Japan. Although Japan has a well-established universal health insurance system, the COVID-19 pandemic provided an opportunity for members of the general public to realize that healthcare resources are finite and the supply is limited. Looking back on the past 60 years,[18] we find that most of the public health issues in Japan have been related to NCDs rather than infectious diseases, and various issues facing the healthcare provision system have been the topic of discussion from even before the COVID-19 pandemic.

In Japan, the number of people affected by NCDs is increasing as the size of the elderly population grows, and the shortage of medical personnel engaged in providing treatment for NCDs, especially physicians and nurses, is particularly serious. As mentioned above, the size of the latter-stage elderly population will peak in 2025 as the oldest members of the baby boomer generation turn age 75 or older, and the demand for healthcare will rise significantly. Then, in 2040, the second-oldest baby boomer group will be age 65 or older. It is projected that over 40% of the population will be elderly by 2050, making the healthcare supply shortage even more severe. Current issues facing medical professionals that are particularly serious include a shortage of physicians and nurses, overwork, and an uneven distribution of medical staff in both specialties and regions. Active discussions on policies to address these issues, particularly the Trinity Reform of Healthcare, have been held in recent years.

2.2 The uneven distribution and shortage of physicians

According to the FY2018 Survey of Physicians, Dentists and Pharmacists, there were 327,210 physicians in Japan. Among them, 78.1% were male and 21.9% were female. The number of physicians per 100,000 population was 258.8, an increase of 7.1 over the previous survey conducted in FY2016.[19] While it is projected that balance between the supply and demand of physicians on the macro level will be achieved by 2022,[20] uneven distribution of physicians in both geographical terms and across specialties will remain an issue.[21]

On the topic of the uneven regional distribution of physicians, physicians are concentrated in large cities and there is a noticeable shortage of doctors in rural areas and remote islands. In tertiary care areas, the Ministry of Health, Labour and Welfare's (MHLW) physician maldistribution index shows that there is a two-fold difference in the number of physicians between Tokyo, which has the most physicians per capita, and Iwate Prefecture, which has the fewest. Among secondary care areas, the difference in physicians per capita between Tokyo's Chuo City and Akita Prefecture's Kitaakita City is eleven fold.[22] To help correct this uneven distribution, the MHLW established the Study Group on Supply and Demand of Medical Personnel in 2015. That Study Group's Subcommittee on Physician Supply and Demand

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[18] Ministry of Health, Labour and Welfare. "2014 White Paper on Health, Labour and Welfare." https://www.mhlw.go.jp/wp/hakusyo/kousei/14/dl/1-01.pdf. Accessed September 25, 2020.
[19] Ministry of Health, Labour and Welfare. "Physician, Dentist, and Pharmacist Statistics." https://www.mhlw.go.jp/toukei/saikin/hw/ishi/18/index.html. Accessed November 2, 2020.
[20] Ministry of Health, Labour and Welfare. "Fourth Interim Report, Subcommittee on Physician Supply and Demand, Study Group on Supply and Demand of Medical Personnel." https://www.mhlw.go.jp/content/10801000/000496147.pdf. Accessed November 2, 2020.
[21] Ministry of Health, Labour and Welfare. "Background of Physician Supply and Demand." https://www.mhlw.go.jp/file/05-Shingikai-10801000-Iseikyoku-Soumuka/0000199249.pdf. Accessed November 2, 2020.
[22] Ministry of Health, Labour and Welfare. "Physician Maldistribution Index." https://www.mhlw.go.jp/content/10801000/000480270.pdf. Accessed December 4, 2020.

presented its fourth interim report in March 2019.[23] While it will be necessary to take the balance between future healthcare demand and the number of healthcare providers into account when implementing measures to prevent the uneven distribution and shortage of physicians, the current short-term approach to overcoming these issues is to dispatch physicians from regions where the supply of physicians is sufficient to regions with shortages. A measure to respond to these issues over the long term will be to establish regional quotas and other such quotas for university medical schools.

There is also a great degree of variance in the distribution of physicians among specialties. To become a physician in Japan, a person must undergo six years of education at a university medical school after graduating from high school, pass the National Examination for Medical Practitioners, then undergo initial clinical training for at least two years to gain clinical experience in various departments. The system for a physician to choose medical specialties changed in 2018. Under the previous system, physicians could become specialists by completing programs set by one of the various academic societies after completing initial clinical training. However, too many competing academic societies and a lack of uniform certification standards resulted in the creation of over 100 different specialties for physicians to choose from.[24] To overcome this issue and ensure quality and uniformity among specialists, a new medical specialist system operated by the Japanese Medical Specialty Board was established in April 2018 to certify medical specialists under a common set of standards. Currently, 19 specialties have been established.[25] According to projections for 2036 published in the MHLW's Survey of Necessary Physicians (which calculates the number of physicians needed not only by the total number of physicians, but also by specialty and prefecture or secondary care area), the greatest shortage is likely to be in internal medicine, which is projected to have a shortage of 14,189 physicians, followed by surgery (4,363) and neurosurgery (2,523).[26,27] It also projects ten more regions will be facing severe physician shortages.

These shortages and the uneven distribution of physicians are resulting in overwork for physicians. Concrete measures to improve the working conditions of physicians are currently advancing. In addition to physical burden, physicians face significant amounts of mental pressure. In addition to their obligation to provide care, physicians are required to have a high level of expertise, to continuously acquire the latest technical skills and medical knowledge, to be able to provide high-quality medical care, and have the ability to communicate with PLWNCDs. As such, the negative impact on the health of physicians themselves has become an issue. Another issue that has been raised is the increased risk of serious medical accidents caused by impaired physician performance occurring from the aforementioned physical and

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[23] Ministry of Health, Labour and Welfare. "Fourth Interim Report, Subcommittee on Physician Supply and Demand, Study Group on Supply and Demand of Medical Personnel." https://www.mhlw.go.jp/content/10801000/000496147.pdf. Accessed November 2, 2020.

[24] Ministry of Health, Labour and Welfare. "The Study Group on the Future of Physician Training and Community Medicine Materials - Current Status and Issues of the Medical Specialist System." https://www.mhlw.go.jp/file/05-Shingikai-10801000-Iseikyoku-Soumuka/0000163149.pdf Accessed December 4, 2020.

[25] Ministry of Health, Labour and Welfare. "Introducing the Japanese Medical Specialty Board." https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000078756.html. Accessed December 10, 2020.

[26] Ministry of Health, Labour and Welfare. "29th Meeting of the Study Group on Physician Supply and Demand Reference Materials (February 27, 2019): Forecast on Future Physician Demand by Specialty and Prefecture (Draft)." https://www.mhlw.go.jp/content/10801000/000483701.pdf. Accessed December 4, 2020.

[27] m3.com. "More physicians needed in ten specialties, including internal medicine and surgery; fewer physicians in eight specialties, including psychiatry; February 18, 2019." https://www.m3.com/open/iryoIshin/article/660394/. Accessed December 16, 2020.

mental demands. Policy discussions regarding overwork for physicians, physician shortages, and the uneven distribution of physicians will be discussed in detail alongside specific recommendations aimed at correcting these issues below in Section 3, "Implementing the Trinity of Healthcare Reform to respond to the increase in the elderly population."

2.3 The uneven distribution and shortage of nurses

According to the latest data, the number of nurses increased by about 6% from 2016 to 2018, but just like with physicians, the growing demand for healthcare due to population aging has resulted in a shortage of nurses, and it is estimated there will be a shortage of 60,000 to 270,000 nurses in 2025.[28] In March 2016, the MHLW established the Subcommittee on Supply and Demand of Nursing Staff under the Study Group on Supply and Demand of Medical Personnel. There, discussions on specific measures for solving the shortage of nurses have advanced, and the Subcommittee released an interim report in November 2019.[29] Some of the reasons identified as causing the shortage of nurses were night shifts, irregular or long working hours, human relations, and violence and harassment from patients.[30] The vast majority of nurses are women, who make up about 92% of the ranks,[31] and another aspect of the shortage is that they may face situations that make it difficult for them to continue working due to life stage transitions. The field has maintained a high annual turnover rate at around 10.9% among full-time nurses and around 7.5% among fresh graduates. Another reason for the shortage is the situation surrounding hospitalization in Japan, which has the longest hospital stays in the world and an extremely large number of care beds compared to the OECD average, as described in Section 1.3, "Changes in the Environment Surrounding Healthcare in Japan." Although the burden shouldered by each nurse can be reduced through measures to achieve work style reform, such as by reducing average shift lengths, it will be necessary to increase the number of nurses to meet increasing healthcare demand. It will also be necessary to reinforce support systems that enable former nurses to return to the workplace, and to proactively redefine the scope of nurses' designated duties through task shifting and task sharing.

Current reports state that 90% of newly-graduated nurses work in hospitals. However, progress on the Integrated Community Care System means that in addition to hospital care, there is demand for nursing care at a variety of institutions providing healthcare, including dispatch facilities providing long-term care, in-home care services, and long-term care facilities. (Aiming to contribute to maintaining respect for the dignity of elderly people and to supporting their independent living, the MHLW has been promoting the establishment of the Integrated Community Care System in each region since 2014. In that system, services provide support for housing, healthcare, long-term care, support for daily living, and prevention in an integrated manner through multidisciplinary cooperation to enable elderly people to spend their final days in familiar locations and communities.)[32] Even though there are enough nurses at

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[28] Ministry of Health, Labour and Welfare. "Nursing Staff Reception Subcommittee." https://www.mhlw.go.jp/stf/shingi/other-isei_338805.html. Accessed October 7, 2020.
[29] Ministry of Health, Labour and Welfare. "Study Group on Supply and Demand of Medical Personnel Subcommittee on Supply and Demand of Nursing Staff Interim Report." https://www.mhlw.go.jp/stf/newpage_07927.html. Accessed October 7, 2020.
[30] Ministry of Health, Labour and Welfare. "Nursing Staff Reception Subcommittee." https://www.mhlw.go.jp/stf/shingi/other-isei_338805.html. Accessed October 7, 2020.
[31] Health administration report example, 2018 (Ministry of Health, Labour and Welfare). https://www.mhlw.go.jp/toukei/saikin/hw/eisei/18/. Accessed October 7, 2020.
[32] Ministry of Health, Labour and Welfare. "The Integrated Community Care System." https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/hukushi_kaigo/kaigo_koureisha/chiiki-houkatsu/. Accessed December 17, 2020.

healthcare institutions, similar to the situation surrounding physicians described above, there is a shortage in various regions and at places of employment, particularly those in mountainous regions and remote islands. For example, there are 3.78 times more job openings than applications at dispatch facilities providing long-term care, where demand is likely to grow even faster than other types of care as population aging advances. This is a more severe shortage than hospitals. However, such facilities provide difficult environments for inexperienced, newly-graduated nurses to work in. To respond to this issue, prefectural nurse centers have begun to develop and distribute training and education programs to develop human resources and match them to facilities. While a growing number of experienced nurses are transferring to dispatch facilities providing long-term care and long-term care facilities, data shows that almost 40% of new nurses leave long-term care insurance facilities, so it will be necessary to resolve the mismatch between skills or ideals and healthcare demand, and discussions on improving working conditions are ongoing.[33] As one measure to secure and retain nurses and to respond to the uneven geographical distribution of nurses, some prefectures are offering their own scholarships to nursing students who choose to remain in areas like mountainous regions and remote islands.[34] Just as for physicians, there is an urgent need to correct the uneven regional distribution of nurses and implement work style reform. The roles of nurses and work style reform will be discussed in depth in Section 7, “The role of paramedical staff in measures against NCDs” and in Chapter II, “Voices of medical staff on task shifting and task sharing.”

[33] Ministry of Health, Labour and Welfare. “Improving the Treatment of Long-term Care Personnel.” https://www.mhlw.go.jp/content/12601000/000365533.pdf. Accessed December 17, 2020.
[34] Ministry of Health, Labour and Welfare. “Study Group on Supply and Demand of Medical Personnel Subcommittee on Supply and Demand of Nursing Staff Friday, November 15, 2020 Interim Report.” https://www.mhlw.go.jp/content/10805000/000567572.pdf. Accessed December 17, 2020.

3. Implementing the Trinity of Healthcare Reform to respond to the increase in the elderly population

To build a healthcare provision system that can handle a growing elderly population which will peak in 2040, a comprehensive reform of the healthcare provision system called the "Trinity Reform of Healthcare" is underway.[35] The Trinity Reform of Healthcare aims to promote three initiatives simultaneously: Regional Medical Care Visions, work style reform for medical staff, and measures against the uneven distribution of physicians and other healthcare professionals. Rather than treating these as separate issues, these three reforms are closely interrelated and must be promoted in parallel. For example, it is difficult to implement work style reform for physicians when the regional healthcare provision systems are separated by function, or are centralized and focused, but that can be overcome through the implementation of Regional Medical Care Visions, will in turn help correct the uneven distribution of physicians. The details of each of these three reforms are described below.

3.1 Regional Medical Care Visions

It is estimated that the costs of medical and long-term care will increase significantly by 2025, when the oldest members of the baby boom generation will be age 75 or older. Additionally, the population aging rate varies from region to region, so in order to allocate resources that match the medical services required in each region in an effective and efficient manner, it will be necessary to develop systems that provide better, more fitting healthcare services that meet the needs of healthcare beneficiaries spanning the acute, recovery, and chronic phases of treatment. Based on a shared recognition for this need, prefectures are now required to establish Regional Healthcare Visions in their healthcare plans. After its revision by the Amendatory Law to the Related Acts for Securing Comprehensive Medical and Long-Term Care in the Community, the Medical Care Act now obligates regions to define visions (the "Regional Healthcare Visions") for future healthcare provision system within targeted regions according to standards established by the MHLW and that cover various aspects of care to establish standards for promoting the functional differentiation and coordination of care beds within regional Healthcare Plans. Prefectures must formulate Regional Healthcare Visions that outline future demand for each healthcare function in each target region using sources like regional healthcare demand projections and reported information. That information is to be added to Healthcare Plans to promote the further functional differentiation of healthcare institutions. Regional Healthcare Visions must include healthcare demand in 2025 (including number of hospitalizations, number of people receiving treatment by types of outpatient therapy or by disease, etc.), the planned healthcare provision system for 2025 (defined by items such as the amount of treatment required by healthcare function in each secondary care area), and measures that must be implemented to achieve said target healthcare provision system.

3.2 Measures for correcting or preventing the uneven distribution of physicians

As described in Section 2.2, "The Uneven Distribution and Shortage of Physicians," the number of physicians per population has been on the rise since 2008 due to a large increase in the number of medical school openings. However, certain regions and specialties are facing a shortage of physicians, so the uneven distribution of physicians by region and specialty has become an issue.[36]

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[35] Ministry of Health, Labour and Welfare. "Introducing Reforms of the Healthcare Provision System (Material 1-1 from the 60th Meeting of the Council on Social Security Committee on Medical Care)." https://www.mhlw.go.jp/content/12601000/000504323.pdf. Accessed December 4, 2020.

[36] Ministry of Health, Labour and Welfare. "Measures Against the Uneven Distribution of Physicians (MHLW Healthcare Policy Workshop)." https://www.mhlw.go.jp/file/06-Seisakujouhou-10800000-Iseikyoku/0000194394.pdf Accessed December 4, 2020.

In response, the MHLW has set a goal of ensuring all prefectures have enough physicians to meet healthcare demand by 2036. In December 2017, the Study Group on Supply and Demand of Medical Personnel's Subcommittee on Physician Supply and Demand published its second interim report which described the basic concept of their approach to correcting the uneven distribution of physicians and recommended specific measures.[37] Based on that report, the Partial Revision of the Medical Care Act and the Medical Practitioners' Act was submitted at the 196th Session of the Diet in March 2018 and was enacted in July of the same year, setting a basic framework for future measures against the uneven distribution of physicians. Their specific recommendations for correcting and preventing the uneven distribution of physicians include the following five items.

- Introduce an index showing the uneven distribution of physicians and specify which areas have few physicians and which areas have many
- Reinforce regional systems for securing physicians
- Secure physicians through the physician training process
- Respond to regional shortages in facilities providing outpatient medical care and the uneven distribution of said facilities
- Create an environment that encourages physicians to work in regions with few physicians

Introduce an index showing the uneven distribution of physicians and specify which areas have few physicians and which areas have many

Until now, the number of physicians per 100,000 population has been used to compare the number of physicians in each region and specialty. However, that figure does not consider factors such as future population trends, regional medical needs, the gender and age distribution of physicians, and geographical conditions such as those of remote areas and islands.[38] The Subcommittee on Physician Supply and Demand of the Study Group on the Supply and Demand of Medical Personnel designed a physician maldistribution index that takes these factors into account, which was presented in their fourth interim report in March 2019.[39]

Based on that index, the top 33.3% of secondary care areas nationwide were designated as regions with many physicians, the bottom 33.3% were designated as regions with few physicians, and it was decided that measures to secure physicians will be implemented with a focus on regions with few physicians.

Reinforce regional systems for securing physicians

According to the Partial Revision of the Medical Care Act and the Medical Practitioners' Act enacted in July 2018, prefectures are now required to include plans for securing physicians in their Healthcare Plans. These plans will outline their policies for securing physicians in the region, establish targets based on the physician maldistribution index, and describe measures

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[37] Ministry of Health, Labour and Welfare. "Second Interim Report, Subcommittee on Physician Supply and Demand, Study Group on the Supply and Demand of Medical Personnel." https://www.mhlw.go.jp/file/05-Shingikai-10801000-Iseikyoku-Soumuka/0000188997.pdf Accessed December 4, 2020.

[38] Ministry of Health, Labour and Welfare. "Second Interim Report, Subcommittee on Physician Supply and Demand, Study Group on the Supply and Demand of Medical Personne."https://www.mhlw.go.jp/file/05-Shingikai-10801000-Iseikyoku-Soumuka/0000188997.pdf
Accessed December 4, 2020.

[39] Ministry of Health, Labour and Welfare. "Fourth Interim Report, Subcommittee on Physician Supply and Demand, Study Group on the Supply and Demand of Medical Personnel."
https://www.mhlw.go.jp/content/10801000/000496147.pdf. Accessed December 4, 2020.

for achieving those targets. The content of these plans is to be reviewed every three years (four years for the first revision).

Secure physicians through the physician training process

As described in "2.2 The uneven distribution and shortage of physicians," according to the Medical Practitioners' Act, Japan's physician training process requires them to undergo six years of medical education, pass the National Examination for Medical Practitioners, and complete two years of residency. This is an eight-year process. In addition, over 90% of both male and female physicians go on to obtain specialist licensing after clinical training. This requires three or more years of specialist training.[40]

Efforts against the uneven distribution of physicians are being made throughout the physician training process, including the time of admission to medical school and during both clinical and specialist training. For example, regional quotas have been implemented at medical schools based on the fact that there are high retention rates among students from the region or community. The 2018 revision of the Medical Care Act made it possible for prefectural governors to request universities to establish or expand quotas for students with high rates of retention, such as those from the region or from the local communities. As for countermeasures to the uneven distribution of physicians implemented during clinical training, according to the 2018 revision of the Medical Care Act and the Medical Practitioners' Act, prefectures are now obligated to designate clinical training hospitals and set their trainee capacities. Previously, these were mostly determined by the national Government. As for a countermeasure implemented into specialist training processes, at the request of the Minister of Health, Labor and Welfare, the Japan Medical Specialists Organization can now set ceilings for specialties when the number of physicians required by each prefecture has been met. These ceilings are based on the number of specialists required by each prefecture and the number of physicians in training.

Respond to regional shortages in facilities providing outpatient medical care and the uneven distribution of said facilities

As a response to regional shortages in and the uneven distribution of facilities providing outpatient medical care, Healthcare Plans are now required to include "measures for securing healthcare provision systems for outpatient medical care (outpatient healthcare plans)," and opportunities for holding consultations on securing healthcare provision systems for outpatient medical care must be established so that discussions with relevant parties can be held.[41]

Create an environment that encourages physicians to work in regions with few physicians

As an initiative to create environments that encourage physicians to work in regions with few physicians, a system was established in which the Minister of Health, Labor and Welfare evaluates and certifies physicians with knowledge of community medicine acquired through six or more months' experience working in an area designated as a "region with few physicians," and in which certified physicians certified in this manner are evaluated as

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[40] Ministry of Health, Labour and Welfare. "Background of Specialty Selection Among Physicians and Recent Trends." https://www.mhlw.go.jp/file/05-Shingikai-10801000-Iseikyoku-Soumuka/0000199734.pdf. Accessed December 4, 2020.

[41] Ministry of Health, Labour and Welfare. "Guidelines for Establishing Plans for Securing Physicians and Guidelines for Ensuring an Outpatient Care Provision System." https://www.mhlw.go.jp/content/000550063.pdf. Accessed December 4, 2020.

administrators of certain hospitals.[42]

The aforementioned initiative is chiefly concerned with correcting the uneven distribution of physicians among regions. Currently, measures to correct the uneven distribution of physicians by medical specialty have not yet been fully implemented. The fourth interim report states that, for the time being, the Government should estimate changes in physician demand by specialty while taking into account changes in demographics and disease patterns and, using current data, create nationwide and prefectural estimates for the future number of physicians that will be required in each medical specialty. Based on these estimates, the number of physicians needed in the future for each medical specialty will be estimated for each prefecture. It is likely that these estimates will be used to help each prefecture take measures to fine-tune the number of physicians dispatched from outside the prefecture, to allow physicians from the region to make better choices about specialties, and to set ceilings in the medical specialist system.

In addition, because there is a tendency for fewer physicians to choose to specialize in obstetrics and pediatrics and because specialists in these fields tend to work longer hours than other physicians, immediate action must be taken to address the uneven regional distribution of obstetricians and pediatricians. To do so, a tentative index of the uneven distribution of physicians by specialty was created and each prefecture has been obligated to formulate plans specifically targeting obstetricians and pediatricians. Based on that index, each prefecture will designate regions in the bottom 33.3% of secondary care regions as regions lacking in physicians and will examine measures for securing the target number of obstetricians and pediatricians.

As described above, prefectural and municipal governments are obtaining more authority and expanded roles in responding to these issues, and they have been obligated to make proactive efforts to secure physicians and ensure their even distribution using objective data while keeping local conditions in mind and while maintaining consistency with other healthcare policies.

3.3 Work style reform for physicians

Healthcare in Japan has been supported by physicians maintaining long working hours. MHLW estimates show that about 40% of the approximately 200,000 physicians working in hospitals work 80 hours of overtime per month (or 960 hours per year).[43] They also work many more hours per week compared to other workers. According to the Ministry of Internal Affairs and Communications (MIC) 2012 Employment Status Survey, 41.8% of physicians work more than 60 hours per week, which is the highest percentage among all types of employment.[44] To improve this situation, reforms targeting work styles for physicians are being advanced.

Against the backdrop of a shrinking working-age population due to the declining birthrate and population aging, and growing diversity in workers' needs, such as the need to balance

[42] Ministry of Health, Labour and Welfare. "Outline of System to Certify Physicians who Worked in Areas with Few Physicians." https://kouseikyoku.mhlw.go.jp/kantoshinetsu/20200901_seidogaiyou.pdf. Accessed December 4, 2020.

[43] Ministry of Health, Labour and Welfare. "Working Conditions for Physicians (Materials from the 9th Meeting of the Study Group on the Work Style Reform for Physicians)." https://www.mhlw.go.jp/content/10800000/000349220.pdf. Accessed December 15, 2020.

[44] Ministry of Health, Labour and Welfare. "Working Conditions, etc. for Physicians (Materials from the 1st Meeting of the Study Group on the Work Style Reform for Physicians)." https://www.mhlw.go.jp/file/05-Shingikai-10801000-Iseikyoku-Soumuka/0000173612.pdf. Accessed December 15, 2020.

employment with child-rearing or caregiving, work style reforms are being promoted for all workers, not only in the field of healthcare. To that end, the Act on the Arrangement of Related Acts to Promote Work Style Reform was promulgated in July 2018 and a revision to Labor Standards Act that introduced a limit on overtime working hours for all workers came into effect in April 2019. Taking into account the special nature of physicians' work, such as their obligation to respond to people requiring treatment,[45] it was decided that the new overtime regulations will come into effect for physicians five years later, in 2024.

On the topic of physicians' work practices, the Overview of the Survey on the Working Conditions of Doctors[46] published by the MHLW in July 2020 showed that 37.8% of full-time hospital physicians work over 60 to 70 hours per week (960 hours yearly) and that physicians in their 20s and 30s tend to work longer hours, regardless of gender. According to the Survey on Physicians' Working Conditions and Intended Work Styles,[47] which was conducted as a special MHLW research project in 2016, physicians work an average of 55 hours per week plus 16 hours of on-call or standby time for men and 12 hours for women. By discipline, emergency care physicians, surgeons, and clinical residents had especially long weekly working hours (including both examination hours and non-examination hours), which were 55.9 hours for emergency care physicians (including 18.4 on-call or standby hours), 54.7 hours for surgeons (including 16.5 on-call or standby hours), and 53.7 hours for clinical residents (including 13.5 on-call or standby hours).

In response to this situation, the MHLW established the Study Group on Work Style Reform for Physicians in August 2017, which compiled a report that was released on March 28, 2019.[48] That report raises the following three points as "specific measures for strongly promoting the reduction of working hours."

- Implement internal administrative reform at healthcare institutions (Including changing awareness among managers and physicians; transferring and sharing tasks (task shifting and task sharing) based on the consensus among healthcare staff; and improving efficiency and the working environment using information communication technologies (ICT) and other technologies).
- Promoting functional differentiation and cooperation in regional healthcare provision systems; enhance primary care; promote centralization and prioritization (including organizing and sharing medical information); and promote measures to prevent the uneven distribution of physicians.
- Build awareness of the best methods of utilizing healthcare among members of the public.

As for the limit on overtime that will come into effect in April 2024, it will follow the principles outlined in the "Standards to be applied for physicians engaged in medical practice from FY2024 (Level A)." At Level A, the maximum number of hours will be the same as the limit that applies to general employment described in Article 36, Paragraph 4 of the Labor Standards Act,

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[45] Article 19 of the Medical Practitioners' Act stipulates that physicians are obligated to respond to a patient's request for treatment, which means that physicians engaged in medical practice must not refuse requests for treatment without a valid reason.

[46] Ministry of Health, Labour and Welfare. "Reiwa 1 Overview of the Survey on the Working Conditions of Doctors." https://www.mhlw.go.jp/content/10800000/000653217.pdf. Accessed December 15, 2020.

[47] Ministry of Health, Labour and Welfare. "Survey on Physicians' Working Conditions and Intended Work Styles." https://www.mhlw.go.jp/file/05-Shingikai-10801000-Iseikyoku-Soumuka/0000161146.pdf. Accessed December 15, 2020.

[48] Ministry of Health, Labour and Welfare. "Report of the Study Group on Work Style Reform for Physicians." https://www.mhlw.go.jp/content/10800000/000526009.pdf Accessed December 15, 2020.

which is 45 hours per month or 360 hours per year. However, when necessary, the limit for physicians can be temporarily increased to 100 hours per month (with exceptions) with a maximum of 960 hours per year.

However, since it is assumed there will be cases in which it will be unavoidable for physicians to exceed the Level A limits to ensure stability for regional healthcare provision systems, the "Provisional special limit for ensuring regional healthcare stability (Level B)" has also been provided. As seen with Level A, standard limits at Level B will be 45 overtime hours per month and 360 hours per year, but Level B allows for temporary increases of up to 100 hours per month (with exceptions) with a maximum of 1860 hours per year. As FY2036 is the target year for eliminating geographical disparities in physicians among prefectures, the planned term limit for Level B exceptions is until the end of FY2035.

Furthermore, there are two "Intensive skill improvement standards" for physicians in training, Level C-1 and Level C-2. Level C-1 is to apply to initial and late-stage trainees participating in specialist training programs or curricula set by the Japan Medical Specialists Organization. Level C-2 will apply to physicians who have been engaged in clinical practice for six or more years and who are providing medical services related to the development of highly specific skills for certain periods in specific fields or at certain healthcare institutions. The maximum overtime limits for Levels C-1 and C-2 are the same as Level B. The results of these standards will undergo continuous examination so that appropriate limits for Level C can be determined.

In addition to measures to ensure employee health and welfare that employers are currently required to take when allowing labor outside of overtime limits, additional protective measures are also under consideration. Specifically, these include limiting continuous working hours, establishing minimum intervals between working hours, providing opportunities to receive in-person consultations and guidance, and implementing employment measures according to the health conditions of the physicians who have received in-person consultations and guidance.

Based on the report published by the Study Group on the Work Style Reform for Physicians, the MHLW established the Study Group on Promoting Work Style Reform for Physicians in July 2019 to continue the discussions on issues that required further consideration.

Efforts are also being made to promote work style reform for physicians and other medical professionals through revisions of the medical service fee schedule. The item given top priority in the basic policy for the FY2020 revision of the medical service fee was to "reduce burdens on medical personnel and promote work style reforms for physicians and other medical personnel." Specific items mentioned in the FY2020 revision of the medical service fee schedule are as follows.

- Evaluate emergency healthcare provision systems and other such systems to determine priority items to address from the perspective of securing regional medical care.
- Evaluate initiatives aimed at improving severe working environments facing physicians and other medical personnel, such as those requiring long working hours.
- Promote team treatment practices and similar practices to encourage task shifting and task sharing.
- Promote the use of ICT to improve operational efficiency.

However, due to the COVID-19 pandemic, a state of emergency was declared in Japan on April

7, 2020, delaying discussions at the Study Group on Promoting Work Style Reform for Physicians. Responding COVID-19 response has placed a heavy burden on the field of healthcare and has created pressure for many healthcare institutions. In response to this situation, the Japan Medical Association (JMA)[49] presented a report in June 2020 entitled, "Report of the Committee for Work Style Reform Based on the Special Characteristics of Physicians: Study on Work Styles That Contribute to Advancing Medicinal Science and Maintaining a Healthcare Provision System in Which Local Residents Can Live With Peace of Mind."[50] There are many issues that remain to be addressed to achieve reform, such as responding to concerns about the introduction of a limit on overtime work in 2024 and efforts to implement work style reform for physicians by 2024.

[49] Established in 1916, the Japan Medical Association is an academic professional organization organized by members of 47 prefectural medical associations. Membership for physicians is voluntary. https://www.med.or.jp/. Accessed December 15, 2020.

[50] Japan Medical Association. "Report of the Committee for Work Style Reform Based on the Special Characteristics of Physicians." http://dl.med.or.jp/dl-med/teireikaiken/20200617_2.pdf Accessed December 15, 2020.

4. Cooperation between patients and medical staff in clinical settings

4.1 Promoting awareness towards the best methods of utilizing healthcare among members of the public

Japan's healthcare provision system is a free access system based on UHC in which people are allowed to use any healthcare institution they choose. While this creates excellent healthcare access for the public, it also causes overwork for medical personnel for various reasons such as increased after-hours visits at night and during holidays. Therefore, it is up to members of the public, the beneficiaries of healthcare, to seek appropriate medical services based on correct information. One specific measure raised in the Study Group on Work Style Reform for Physicians report for reducing physician working hours is to "Promote awareness towards the best methods of utilizing healthcare among members of the public." It was with that background that the MHLW established the Roundtable on Promoting Skillful Interactions with Healthcare in October 2018, which presented the "Citizens Project Declaration on Protecting Lives and Healthcare."[51]

The Five Directives of the Citizens Project Declaration on Protecting Lives and Healthcare

- Prioritize efforts for relieving the concerns of people receiving healthcare and their families.
- Broadly inform the public about the current crisis facing those on the frontlines of healthcare.
- Introduce, publicize, and encourage widespread use of emergency consultation services provided over the phone or online.
- Provide trustworthy healthcare information in easily accessible formats.
- Thoroughly implement team treatment practices and establish a consultation system for people receiving healthcare and their families.

Based on this declaration, the MHLW has implemented various efforts to build awareness, which include providing information through websites and posters and by introducing a "Good Healthcare Usage Award" to recognize outstanding awareness-building activities and initiatives that contribute to better utilization of healthcare.

4.2 Empowering PLWNCDs

In September 2020, NCD Alliance Japan released a proposal on the establishment of a flat healthcare system that allows parties on both sides of healthcare to participate while making full use of their abilities. As mentioned in the report released by the Study Group on Work Style Reform for Physicians, ensuring members of the public can receive the healthcare they need with peace of mind cannot be achieved only through efforts taken by healthcare providers. Rather, it will require people receiving healthcare and their families – in other words, every member of the public – to understand how to best utilize healthcare services. We emphasized the importance of empowering PLWNCDs and recommended implementing health education to provide them with information on diseases and health information and to teach them how to effectively utilize healthcare institutions. We also made recommendations for the provision of accurate medical information by certifying and supporting trustworthy websites providing medical information, the development of Decision Aids and other decision-making guides, and the effective use of existing tools.

[51] Ministry of Health, Labour and Welfare. "' The Five Directives of the Citizens Project Declaration on Protecting Lives and Healthcare,' Fifth Meeting of the Roundtable on Promoting Skillful Interactions with Healthcare, December 17, 2018, Handout 2." https://www.mhlw.go.jp/content/10800000/000473642.pdf. Accessed December 21, 2020.

5. Community medicine and the roles of family doctors and general practitioners in countermeasures against NCDs

For many diseases classified as NCDs, early detection and early intervention are very important for prognosis. For cancer, stroke, acute myocardial infarction, diabetes, and mental disorders, which are designated as priority fields by the MHLW and are referred to as the "Five Major Conventional Disease Fields," the severe symptoms associated with these diseases can be prevented or improved by early detection and treatment achieved through regular medical examinations and testing.

Furthermore, population aging is advanced in Japan and many elderly Japanese people are living with multiple NCDs. According to a survey conducted by the Tokyo Metropolitan Geriatric Medical Center, more than 80% of people age 75 or over are currently living with multiple NCDs. Living with multiple NCDs leads to declines in physical and mental function and lowers quality of life. It also complicates needs concerning medical consultations, examinations, and treatment. This means responding to the needs of people with multiple NCDs requires the provision of cross-organ and cross-disease treatment, collaboration among multiple healthcare institutions and departments, and proper care to avoid the prescription of redundant or excessive medication.[52]

On the other hand, one of the chief characteristics of the Japanese healthcare system is that the system for training physicians specializing in primary care is insufficient compared to equivalent systems in other countries. Although "general care specialist" was added as the 19th option for specialist training programs in 2018, there are too few physicians specializing in family medicine or in general practice. From a global perspective, Japan's system is unique in that physicians specializing in specific organs are in charge of providing primary care.[53] The ideal role of primary care in an unavoidable topic in discussions considering effective ways for medical staff to respond to NCDs.

5.1 Family doctors

Defining "family doctor"

"Family doctor" has no widely agreed-upon definition and there are no specific qualifications a physician has to obtain to become a family doctor, but a joint proposal made by the JMA and the Four Hospital Associations Council (which includes the Japanese Association of Medical Care Corporations, the Japan Psychiatric Hospitals Association, the Japan Hospital Association, and the All Japan Hospital Association) in August 2015 entitled, "The Ideal Structure of the Healthcare Provision System" defined family doctors as "Physicians with comprehensive abilities who can be consulted on any topic, who possess the latest medical knowledge, who can refer patients to specialists and specialized medical institutions when necessary, and who are familiar with and can reliably provide guidance concerning community medicine, health, and welfare."[54] The JMA has also evaluated the ideal services family doctors should provide and is working to improve their capabilities through a training system. The JMA strongly recommends members of the public have family doctors. In addition, from the perspective

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[52] Mitsutake, S., Ishizaki, T., Teramoto, C., Shimizu, S., & Ito, H. (2019). Peer Reviewed: Patterns of Co-Occurrence of Chronic Disease Among Older Adults in Tokyo, Japan. Preventing Chronic Disease, 16. doi: 10.5888/pcd16.180170. "Tokyo Metropolitan Geriatric Medical Center Analysis of Data of 1.31 Million Medical Claims." Accessed December 17, 2020.

[53] Ii, M. "Characteristics and Problems of the Primary Care System in Japan." https://www.mof.go.jp/pri/publication/financial_review/fr_list7/r123/r123_02.pdf. Accessed December 17, 2020.

[54] Japan Medical Association, the Four Hospital Associations Council. "The Ideal Structure of the Healthcare Provision System" Joint Proposal. https://www.ajha.or.jp/topics/4byou/pdf/131007_1.pdf. Accessed December 17, 2020.

making the most efficient use of limited healthcare resources while preserving free access to healthcare, the MHLW is actively promoting the dissemination of a system in which people receiving outpatient care at major hospitals are referred to family doctors for general outpatient consultations.[55]

The roles of family doctors in NCD countermeasures

One advantage of having a family doctor is that it allows one to receive comprehensive and continuous preventive care and treatment. If a physician has a clear understanding of the patient's normal health status, it can help lead to early disease detection and intervention, and they can refer the patient to specialist physicians or healthcare institutions as necessary. When a physician regularly provides care to an entire family, it helps them obtain a better understanding of the family's medical history and genetic factors, making more effective prevention of NCDs possible. Furthermore, in terms of social security costs, family doctors are important because they make healthcare provision more efficient, reducing the overall cost of healthcare.[56] In addition, family doctors understand the values and desired future lifestyles of PLWNCDs, allowing them to diagnose not only the disease but also the individual, resulting in high levels of satisfaction among PLWNCDs. A survey conducted by HGPI found that people with family doctors were more health-conscious and more careful about their lifestyles, while those without family doctors were less than half as likely as those with family doctors to "always talk to physicians about my opinions, preferences, daily routines, and desired future lifestyle when selecting treatment plans or medicines."[57]

Current conditions surrounding the use of family doctors

In a 2017 survey conducted by the Japan Medical Association Research Institute, 56% of all respondents had family doctors while over 80% of elderly respondents had family doctors. Seventy percent of those with family doctors felt that their doctor was taking responsibility for ensuring their overall health, suggesting they had good doctor-patient relationships. However, the expectations placed on family doctors are great and diverse, so those on the provision side of healthcare must further consider how to respond to those expectations and how to structure collaborative systems for spreading the use of family doctors in the future.[58]

The 2018 revision of the medical service fee schedule established a new premium for evaluating examinations provided by healthcare institutions reporting medical fees related to family doctor services provided at initial visits.[59] That premium also covers whether or not those institutions determine the need of the patient to visit a specialized medical institution. Thus, the Functional Enhancement Premium and the Integrated Community Care Fee are being used to provide a framework for evaluating services provided by family doctors. On the

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[55] Ministry of Health, Labour and Welfare. "Examining Fixed Copayments for Outpatient Visits From the Perspective of Promoting the Use of Family Doctors Use." https://www.mhlw.go.jp/file/05-Shingikai-12601000-Seisakutoukatsukan-Sanjikanshitsu_Shakaihoshoutantou/0000143289.pdf. Accessed October 4, 2020.

[56] Fukuoka Medical Association. "Medical Information Office Special Report: Thinking about General Practitioners." https://www.city.fukuoka.med.or.jp/jouhousitsu/report187.html Accessed October 4, 2020.

[57] Health and Global Policy Institute. "Proposal on Achieving Better Communication Between Healthcare Providers and Beneficiaries: Building a Flat Healthcare System That Draws Upon Both Sides of Healthcare Equally." https://hgpi.org/research/ncd2020.html Accessed December 17, 2020.

[58] Japan Medical Association Research Institute. 2017. "The 6th Public Opinion Survey on Healthcare in Japan." https://www.jmari.med.or.jp/download/WP384.pdf Accessed October 4, 2020.

[59] Ministry of Health, Labour and Welfare. "2018 Revision of the Medical Service Fee Schedule, Section 1-2: Differentiation of Outpatient Care by Function and Evaluating Family Doctor Services 3." https://www.mhlw.go.jp/file/06-Seisakujouhou-12400000-Hokenkyoku/0000197995.pdf. Accessed December 18, 2020.

other hand, a survey[60] conducted by the National Federation of Health Insurance Societies in 2017 found that 32.7% of respondents did not have a family doctor or healthcare institution they regularly visited, and in a survey[61] presented by HGPI in 2020, 27.2% of respondents answered that they do not have a family doctor. In short, about 30 to 40% of respondents in both surveys did not have a family doctor or a healthcare institution they regularly visited. One reason for this is because some people do not know how to find the right healthcare institution. Therefore, it is necessary to provide information to PLWNCDs in addition to providing incentives to healthcare institutions. In light of this issue, a new requirement was added to the requirements for the Functional Enhancement Premium for evaluating services provided by family doctors in the FY2020 revision of medical service fee schedule. After that revision, healthcare institutions must provide information to users about family doctor-related services they provide using notices posted in the facility or through other forms of communication to qualify for the premium.[62]

Future issues facing family doctors

While people are encouraged to have family doctors for preventive care, to promote overall health, and to enhance the overall efficiency of the healthcare provision system, expectations for family doctors are particularly high in Japan to respond to the needs of the growing number of people living with dementia, which is increasing as the population ages. Early detection and early intervention are important for dementia, so family doctors are expected to provide early detection, to encourage patients seek examinations at specialized medical institutions such as Medical Centers for Dementia, to provide routine treatments for diseases (including both diagnosis and treatment) and general health management, to understand the burden of care placed on family members and the anxiety they feel, and to coordinate with healthcare services in the community.[63] However, it cannot be said that every healthcare institution providing family doctor care is currently able to respond to each of these needs, so it is necessary to reinforce family doctor care by further improving training for physicians while deepening cooperation among family doctors in communities.

5.2 General practitioners

Defining "general practitioner"

While the differentiation of healthcare into specialized fields is advancing and growing more widespread, demand is increasing for physicians who can provide comprehensive, cross-organ diagnoses to respond to the growing number of elderly people with multiple diseases. However, physicians do not diagnose or treat diseases affecting organs surrounding the ones they specialize in. Rather, PLWNCDs are referred to other departments and they then visit the one which they think can provide the necessary treatment. However, they do not necessarily

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[60] National Federation of Health Insurance Societies. 2017. "Public Opinion Survey on Attitudes Towards Healthcare and the Health Insurance System." https://www.kenporen.com/include/press/2017/20170925_7.pdf. Accessed July 17, 2020.

[61] Health and Global Policy Institute. "Proposal on Achieving Better Communication Between Healthcare Providers and Beneficiaries: Building a Flat Healthcare System That Draws Upon Both Sides of Healthcare Equally." https://hgpi.org/research/ncd2020.html Accessed December 17, 2020.

[62] Ministry of Health, Labour and Welfare. "2018 Revision of the Medical Service Fee Schedule, Section 1-2: Differentiation of Outpatient Care by Function and Evaluating Family Doctor Services 3." https://www.mhlw.go.jp/file/06-Seisakujouhou-12400000-Hokenkyoku/0000197995.pdf. Accessed December 18, 2020.

[63] "Promoting an Early Diagnosis System for Dementia Using the Integrated Community Care System." Journal of the National Institute of Public Health. 2012 Vol.61 No.2 p.125－129 https://www.niph.go.jp/journal/data/61-2/201261020008.pdf. Accessed December 17, 2020.

always select best department for examining their symptoms, resulting in inefficiency.[64] To respond to this situation, the MHLW established "general practitioner" as the nineteenth medical specialty based on a report from the Study Group on the Ideal Roles of Medical Specialists published in April 2013. The new medical specialist system began in 2018 and the Japan Medical Specialty Board,[65] the body responsible for certifying medical specialists, began training general practitioners. In 2019, 177 physicians began practicing as general practitioners.[66]

The roles of general practitioners

General practitioners must examine patients from multiple perspectives, and consider factors such as their family history, life background (in cooperation with workplaces and other medical staff), and the community as a whole.[67] In other words, GPs have roles related to community health and welfare that require them to maintain comprehensive, holistic, and continuous responses to all health issues.[68] The strengths of GPs also include their ability to understand local healthcare resources and, through multidisciplinary cooperation, to support the discharge of hospitalized people with multiple diseases, in vulnerable social positions, or facing adverse lifestyle factors, all of which are common among elderly people. Physicians trained as general practitioners can provide non-organ-specific hospital care (including comprehensive care for elderly people receiving in-patient treatment; people with multiple health issues including psychological, social, and ethical issues; and palliative care for cancer and non-cancer patients) and non-organ-specific outpatient care (including comprehensive emergency and outpatient care for patients with multiple health issues) in hospitals with general practice departments (such as general clinical departments and general internal medicine departments). In addition, GPs can provide forms of guidance for NCD prevention that cut across medical specialties, such as encouraging smoking cessation or providing outpatient vaccination or traditional Chinese medicine.

Public understanding of and expectations for general practitioners

In the "Survey on Community Attitudes toward General Practitioners," which was conducted among approximately 4,000 citizens by the University of Tsukuba as part of the FY2017 Study on the Effects of General Practice on Specialists and Cooperation with Other Professions in Community Medicine, only 17.2% of respondents were aware of GPs. That group had a high level of recognition towards the comprehensive medical abilities possessed by GPs, but a low level of recognition towards a community-based approach to care, which places everyday living at the foundation and includes in-home care. Meanwhile, over 70% of respondents said they would like to have a physician qualified as a GP as their family physician or that they would like to have a physician close to them providing each of the services provided by GPs

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[64] Tokyo Medical and Dental University, Department of Family Medicine Field and Department Introduction. "Why Is General Medicine Necessary?" http://www.tmd.ac.jp/grad/fmed/information/column_why.html. Accessed December 17, 2020.

[65] Ministry of Health, Labour and Welfare. "The Japan Medical Specialty Board was established in May 2014 in response to a report from the Study Group on the Ideal Roles of Medical Specialists. It is meant to establish new standards for certifying and renewing the certifications of medical specialists as well as standards for training programs and training facilities and to evaluate and verify training programs and processes used to certify specialists in a unified manner." (Japan Medical Specialty Board Website https://jmsb.or.jp/). Accessed December 17, 2020.

[66] Ministry of Health, Labour and Welfare. "FY2019 Number of Physicians Employed." https://www.mhlw.go.jp/content/10803000/000491858.pdf. Accessed December 22, 2020.

[67] Japanese Primary Care Association. "The Option of Becoming a General Practitioner." http://sogoshinryo.jp/. Accessed December 17, 2020.

[68] Japanese Primary Care Association. "Overview of Certified Physicians, Specialists, and Supervisors." http://www.primary-care.or.jp/nintei/overview.html. Accessed December 17, 2020.

close to them, indicating high expectations towards GPs. However, among respondents who currently have family doctors, one in four reported that they have experienced redundant examinations, suggesting that family doctors are not yet sufficiently meeting the needs of patients.[69]

Future issues facing general practitioners

General practice is a new classification in Japan and GPs are expected to play an increasingly important role in efforts against NCDs. In the aforementioned "Survey on Community Attitudes toward General Practitioners," 96.6% of hospital administrators in hospitals that already had departments of general medicine said they would like to continue having one, and 76.5% of hospitals without departments of general medicine said they felt the need to have one.[70] There are high expectations towards the training of more GPs for handling situations in which the affected organ is unclear or in which large hospitals cannot assign primary physicians, and who can serve as human resources in situations when physicians are assigned patients with diseases outside their field of specialization.

5.3 The potential of family doctors and general practitioners in NCD prevention and early detection

Among NCDs, early detection and treatment is particularly beneficial for cancer in terms of recovery, survival rate, and cost. In Japan, screenings are recommended for stomach cancer, colorectal cancer, cervical cancer, and breast cancer.

In countries with well-established family doctor and general practitioner systems, people are required to register with physicians who will serve as their primary care physician. Primary care physicians and internists then conduct evidence-based medical checkups to maintain patient health.[71,72] Cancer screenings are conducted as part of the comprehensive care they provide. However, in Japan, medical checkups are conducted by insurers or employers. In most regions, municipalities also provide these checkups through public funding in accordance with the Health Promotion Act, but they sometimes require copayments. Although people are obligated to seek cancer screening in Japan's medical examination system, it is not obligatory for people enrolled in health insurance, and there are no uniform standards beyond those that apply to insurers and employers. Other problems with this system are that cancer screening at workplaces is conducted on a voluntary basis, that types of cancer screening provided and examination content differ among insurers and among employers,[73] and that standardized management methods for handling data obtained from screenings have not been established. In response to this situation, the MHLW developed a manual on cancer screening in the

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[69] Kusaba, Tesshu. 2018. "Study on the Effects of General Practice on Collaboration Between Specialists and Other Occupations in Community Medicine, Part 3: Public Opinion Survey on Attitudes Towards General Practitioners." Ministry of Health, Labour and Welfare Scientific Research Projects, 27-32. https://soshin.pcmed-tsukuba.jp/education/report/pdf/03_001.pdf. Accessed December 18, 2020.

[70] Kawashima, Atsushi. 2018. "Study on the Effects of General Practice on Collaboration Between Specialists and Other Occupations in Community Medicine, Part 5: Recommendations for the Future Roles of General Practitioners." Ministry of Health, Labour and Welfare Scientific Research Projects, 232-239. https://soshin.pcmed-tsukuba.jp/education/report/pdf/05_004.pdf.

[71] Canadian Task Force on Preventive Health Care. CTFPHC Guidelines. https://canadiantaskforce.ca Accessed December 18, 2020.

[72] U.S. Preventive Services Task Force. https://uspreventiveservicestaskforce.org/uspstf/. Accessed December 18, 2020.

[73] Ministry of Health, Labour and Welfare. "Issues and the Future Direction of Cancer Screenings in the Workplace." https://www.mhlw.go.jp/content/10901000/000514754.pdf Accessed December 18, 2020.

workplace which clarifies recommended cancer screening types and examination content.[74]

According to the Comprehensive Survey of Living Conditions conducted in 2016, cancer screening rates in Japan were 40% to 50% for stomach, lung, and colorectal cancer among men and 30% to 40% for the three aforementioned cancer screenings and cervical and breast cancer among women (Figure 2). Taking a detailed look at the data, we find that approximately 30-60% of those who underwent cancer screenings did so at their workplace. Cancer screenings provided at workplaces are conducted on a voluntary basis. We believe increasing the screening rate will increase early detection and lead to more effective NCD management.

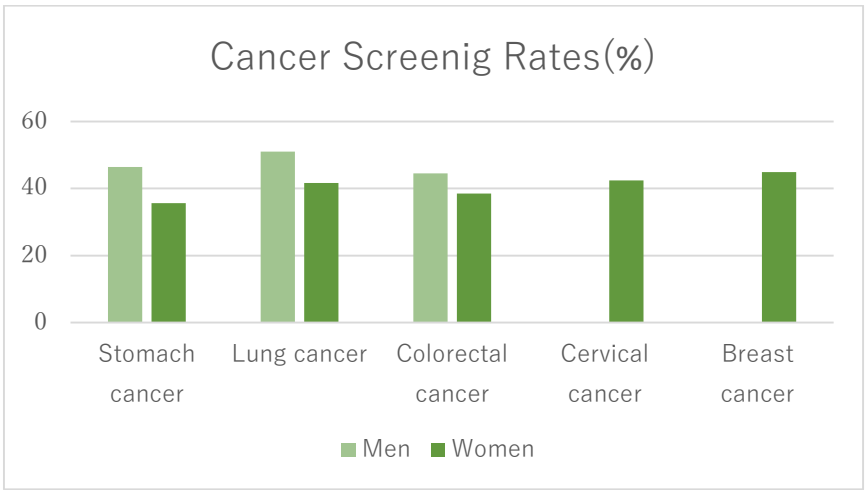

Figure 2 The 2016 Comprehensive Survey on Living Conditions

Medical checkups are treated as a non-medical activity by the medical service fee schedule, so if medical staff providing primary care were able to receive medical fee incentives for promoting medical checkups, it might enable efforts to promote medical checkups when people visit healthcare institutions. At the same time, for insurers, earlier cancer detection through screenings is likely to result in a lower burden on insurance fees compared to cases in which cancer is detected later. Incentives might be used to encourage people to regularly undergo cancer screenings. Examples of incentives might include reduced insurance premiums for insured people who undergo regular cancer screening or providing vouchers that can be redeemed for vaccinations requiring follow-up inoculations.

5.4 In-home care and NCD countermeasures

Providing in-home care through multidisciplinary coordination, the backbone of integrated community care

The Government's promotion of integrated community care has started work on the creation of an environment in which elderly people including PLWNCDs are cared for in their communities. Integrated community care is centered around basic municipalities, which work together with parties like healthcare institutions, long-term care facilities, and social workers to provide services efficiently. In-home care is an essential element in shifting from hospital-based care to integrated community medical and long-term care for PLWNCDs.

In-home care, which was approved as a system in 1992, was established to respond to the

[74] Ministry of Health, Labour and Welfare. “Workplace Cancer Screening Manual.” https://www.mhlw.go.jp/file/05-Shingikai-10901000-Kenkoukyoku-Soumuka/0000204422.pdf Accessed December 18, 2020.

increasing size of the elderly population due to demographic changes as the disease burden shifted from infectious diseases to NCDs. Today, physicians and other medical staff including nurses, pharmacists, nutritionists, dentists, and rehabilitation specialists visit homes and long-term care facilities to provide services. They treat not only the elderly, but all members of the public, including children who require medical care. The MHLW is working to promote multidisciplinary cooperation to provide healthcare that accurately responds to patients' conditions by allowing medical staff to share objectives and information, divide up the workload, and collaborate and complement each other based on specialty. This will enable them to cope with heavier workloads caused by the increasing sophistication and complexity of healthcare.[75]

Advantages of and issues related to in-home care

The advantage of in-home care is that PLWNCDs can receive treatments in their own homes and communities that systematically and regularly involve a variety of professionals. At the same time, however, providing in-home care places a heavy burden on medical personnel, and the construction of 24-hour response systems or establishing methods of providing team treatment are lingering issues. To help overcome those issues, the 2018 revision of the medical service fee schedule introduced a system to more accurately evaluate 24-hour response systems and reflect past progress in transitioning to in-home care.[76] It also eased standards for physician staffing. Although some regions have begun construction on information sharing systems to enable team treatment, such initiatives are still uncommon, and it is desirable that regions that have not begun building such systems do so in the future to help establish delivery systems for in-home care that are more sustainable for medical professionals.[77]

[75] Ministry of Health, Labour and Welfare. "Basic Concepts and Practical Examples for Promoting Team Treatment." https://www.mhlw.go.jp/stf/shingi/2r9852000001ehf7-att/2r9852000001ehgo.pdf. Accessed December 7, 2020.

[76] Ministry of Health, Labour and Welfare. "2018 Revision of the Medical Service Fee Schedule, Section 1-2: Differentiation of Outpatient Care by Function and Evaluating Family Doctor Services 3." https://www.mhlw.go.jp/file/06-Seisakujouhou-12400000-Hokenkyoku/0000197995.pdf. Accessed December 18, 2020.

[77] Ministry of Health, Labour and Welfare. "Support for Reducing Burdens on In-Home Medical Staff" https://www.mhlw.go.jp/seisakunitsuite/bunya/kenkou_iryou/iryou/zaitaku/dl/h24_0711_02-02.pdf. Accessed December 7, 2020.

6. The roles of physicians in outpatient care for NCDs

PLWNCDs account for the majority of people receiving outpatient care

Looking at estimates of the number of people receiving outpatient care based on patient surveys, we find that the most common diseases treated through outpatient care are lifestyle-related diseases such as hypertensive disorders, diabetes, and dyslipidemia, and that they have been on an upwards trend over the last decade (Figure 3). Examining the group of people age 65-84, we find that the older the person is, the more lifestyle-related diseases they are affected by, and the higher percentages of them visited multiple healthcare institutions. We can conclude that NCD treatments account for a high percentage of outpatient care.

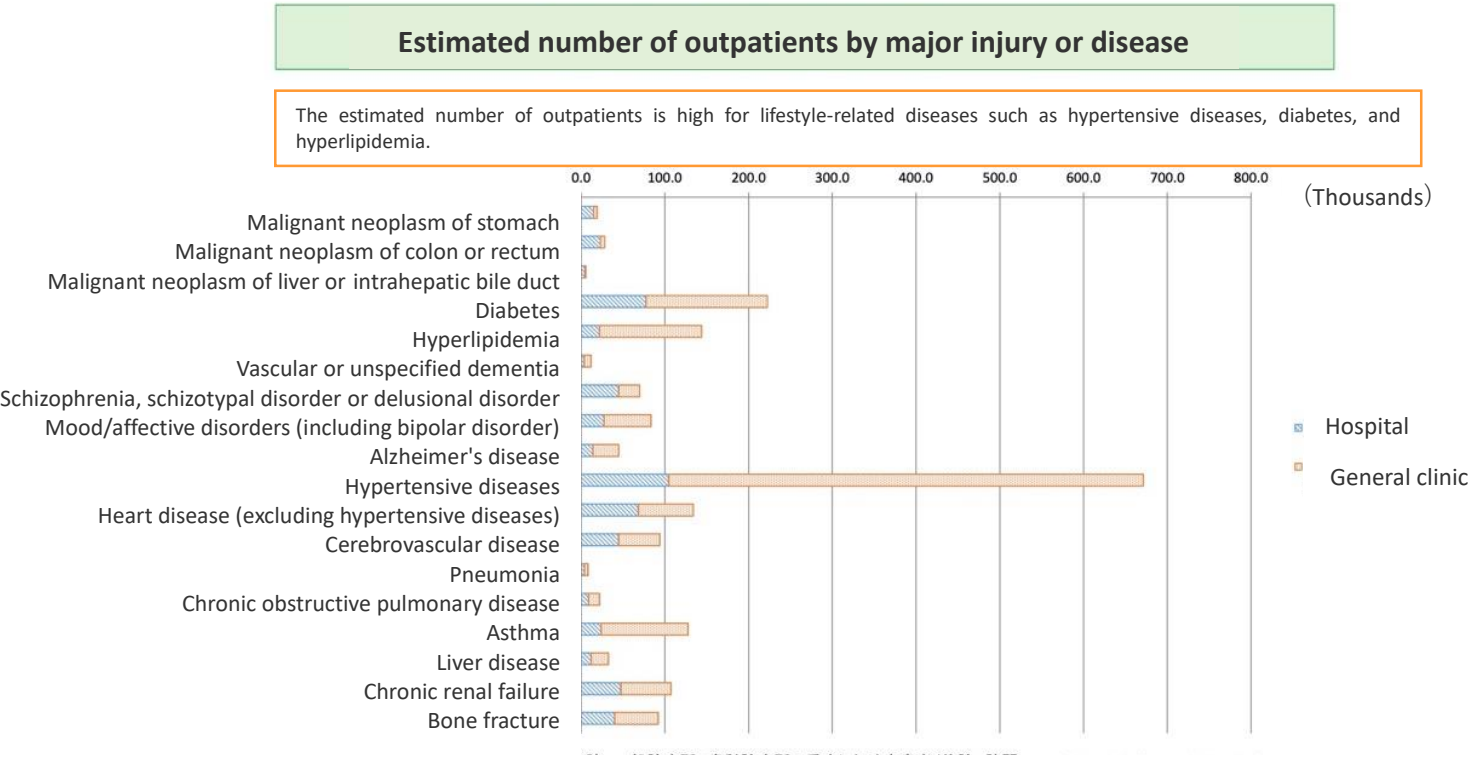

Figure 3: Outpatient Care (Part 1). Central Social Insurance Medical Council Meeting Materials, February 2017[78]

[78] Central Social Insurance Medical Council. "Outpatient Care (Part 1)." https://www.mhlw.go.jp/file/05-Shingikai-12404000-Hokenkyoku-Iryouka/0000154055.pdf. Accessed December 17, 2020.

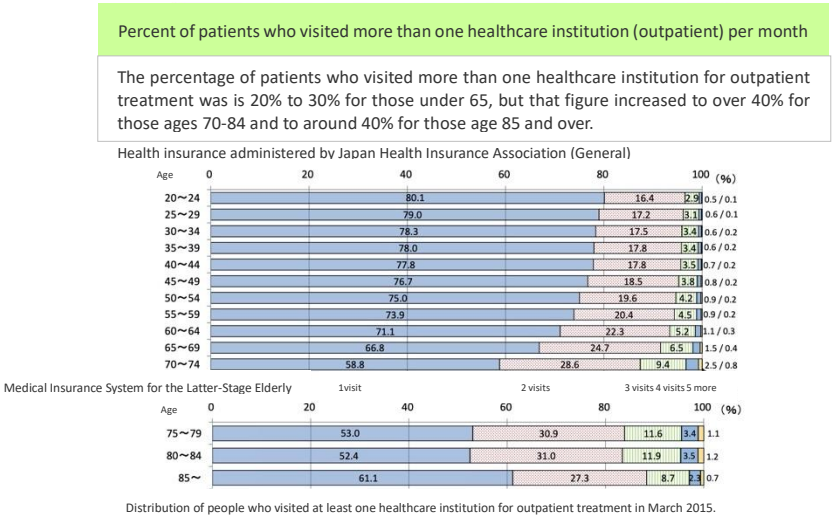

Figure 4 was prepared using a special tabulation of the 2014 Survey on the State of Current Medical Benefits

In inpatient care, a comprehensive evaluation and payment system based on Diagnostic Procedure Classification (DPC) was introduced in 2003. It requires all hospitals under the system to submit inpatient treatment data. This led to the creation of the National Database (NDB), improved the quality of care, and allowed for better cost control. Meanwhile, it has been pointed out that there is no system for evaluating and managing the quality and cost of outpatient care. Based on that, we would like to examine effective working methods of medical personnel providing outpatient care in terms of the outpatient care provision frequency and the quality of that care.

Characteristics of outpatient care – number of visits and examination times

First, we will analyze the number of outpatient visits and consultation times separately while referring to OECD health data from 2020 to examine the number of outpatient visits. According to that data, the annual number of outpatient visits per capita in Japan is 12.6, which is significantly higher than other countries. For example, the annual number of outpatient visits per capita is 7.8 in Australia and 3.8 in Denmark. Although frequent visits to healthcare institutions within short periods of time may be beneficial depending on the type of NCD treatment being provided, it is clear that the number of outpatient visits in Japan is generally high. It has also been pointed out that there are significant regional disparities in the number of outpatient visits, which suggests that outpatient care might not be standardized.

In Japan, the typical prescription length for outpatient care is 30 days. Starting in 2002, it became possible for people to receive longer prescriptions depending on the situation. Repeat prescriptions (also called refillable prescriptions) are not allowed in Japan. We can assume that Japan has a higher number of outpatient visits compared to other OECD countries because people tend to have shorter intervals between visits due to limitations on prescription length, and, because outpatient care in Japan is provided on a fee-for-service basis, that it is more beneficial for the administrative side of healthcare institutions if people visit more frequently.

As for consultation times, according to the MHLW's FY2009 Patient's Behavior Survey, 38.3% of total consultation times by hospital type was less than five to ten minutes, and 28.2% of visits were less than five minutes. By hospital type, 58.2% people who visited special function hospitals and 66.1% of people who visited large hospitals had consultation times of less than ten minutes. Among small hospitals, which we can assume to be the facilities that provide

primary care, 28.0% of visits took less than five minutes and 33.0% took five to ten minutes. In contrast, a cross-sectional study of GPs in six European countries found no country had an average consultation time of five minutes or less. Visit lengths were determined by factors related to the physician, the patient, or the country of origin, and patients with psychosocial issues tended to have longer consultations.[79]

As previously discussed, few studies have been conducted on the quality of outpatient care. This may be due to the difficulty of evaluating outcomes and establishing indicators of quality determined by outcomes. NCDs such as ischemic heart disease and mood disorders often have interrelated comorbidities that require a multidisciplinary approach instead of treatment from a single discipline. In addition to indicators for single diseases like blood pressure, blood glucose, and cholesterol levels, it may be possible to evaluate quality of care by establishing and measuring indicators that encompass multiple outcomes, like behavioral change among PLWNCDs and changes in need for long-term care over time. Such multiple outcome indicators may be able to serve as comprehensive indicators for managing multimorbidity. We look forward to future research on this subject.

The potential to improve physician work style by overhauling the outpatient care system

Many PLWNCDs, especially those whose conditions are stable and require disease management through outpatient care, can be treated at the primary care level. As previously discussed, it remains a point of concern if short five- to ten-minute consultations are sufficient for providing PLWNCDs with comorbidities adequate treatment through medication, lifestyle modification, and psychosocial assessment, but there are aspects of that issue that remain unclear and must be examined in future studies.

In Japan, the per capita average number of outpatient visits is higher and consultation lengths tend to be shorter than in other countries. To enable family physicians and primary care physicians to be able to provide NCD care in a more efficient and comprehensive manner, rather than having physicians simply focus on checking test results and writing prescriptions, it is necessary to establish a system using an approach that addresses the multifaceted issues faced by PLWNCDs, such as by providing comorbidity management and psychosocial support. This might be achieved by adding items to the medical service fee schedule that promote efforts to optimize the number of outpatient visits, to secure sufficient consultation time, or to establish systems providing more comprehensive treatment. It might also be effective to introduce a comprehensive payment system for outpatient care.

[79] Deveugele, M., Derese, A., van den Brink-Muinen, A., Bensing, J., & De Maeseneer, J. (2002). Consultation length in general practice: cross sectional study in six European countries. BMJ, 325(7362), 472.

7 The roles of paramedical staff in NCD countermeasures

7.1 Reinforcing the roles of paramedical staff

The roles of paramedical staff in responding to the needs of PLWNCDs

PLWNCDs must manage NCDs in daily life and do everything possible to prevent symptoms from suddenly worsening or complications from appearing. Therefore, medical staff supporting PLWNCDs must not only manage the disease, but also provide a variety of forms of treatment such observation, care, and support for long-term self-management. Therefore, team treatment that allows the proactive involvement of non-physician paramedical staff from various medical fields is being implemented in various healthcare settings to improve the quality of care, to provide efficient services, and to promote multidisciplinary cooperation.

The core members of paramedical staff in clinical settings in Japan

- Nurses: According to the Act on Public Health Nurses, Midwives, and Nurses (the Nursing Act),[80] nurses provide medical care for injured or sick people and expectant and nursing mothers as well as provide assistance during medical examinations. Nurses can provide patients nursing care at their own discretion, but the Nursing Act prohibits them from independently conducting medical activities without orders from a physician, and they are only allowed to provide medical care as assistance. There are exceptions, as it is possible for midwives to temporarily perform the same actions as physicians when providing emergency treatments and actions that are naturally a part of the duties of a midwife. In addition, to provide high-quality healthcare to the public, the Japan Nursing Association (JNA) has established and operates three certification systems for Certified Nurse Specialists, Certified Nurses, and Certified Nurse Administrators.[81] A training system for nurses to perform certain medical interventions (or "specified tasks") was also established in June 2014.[82] To further promote the expansion of the roles of nurses, discussions on the creation of a nurse practitioner (NP) system[83] similar to that in the U.S. and other countries are ongoing. In such a system, people with a foundation in nursing would be allowed to perform a certain level of diagnosis and treatment without first receiving orders from physicians.
  - Certified Nurse Specialists[84]: This is a qualification that can be obtained by passing the Certified Nurse Specialist certification examination after obtaining the necessary credits to complete a master's program at a nursing-related graduate school and after accumulating at least five years of experience as a nurse. Certified Nurse Specialists must possess a broad perspective and understand issues facing patients and their family members in a comprehensive manner and make appropriate judgements in response to those issues, as well as be able to fulfill the six duties of a professional nurse (to have excellent nursing practice; to be able to consult with other care providers; to be able to coordinate the concerned parties; to be able to provide ethical coordination; to be able to educate nursing staff; and to be able to conduct research) while demonstrating expertise in the field of nursing. They must also strive to improve nursing quality in the entire facility or community. Certified Nurse Specialists can

[80] Ministry of Health, Labour and Welfare. "Act on Public Health Nurses, Midwives, and Nurses." https://www.mhlw.go.jp/web/t_doc?dataId=80078000&dataType=0&pageNo=1. Accessed December 16, 2020.
[81] Japanese Nursing Association. "Certified Nurse Specialists, Certified Nurses, and Certified Nurse Administrators." https://nintei.nurse.or.jp/nursing/qualification/. Accessed December 16, 2020.
[82] Japanese Nursing Association. "Certified Nurse Specialists." https://www.nurse.or.jp/nursing/education/tokuteikenshu/index.html. Accessed December 16, 2020.
[83] Japanese Nursing Association. "Building a System for Nurse Practitioners (Tentative title)." https://www.nurse.or.jp/nursing/np_system/index.html. Accessed December 16, 2020.
[84] Japanese Nursing Association. "Certified Nurse Specialists." https://nintei.nurse.or.jp/nursing/qualification/cns. Accessed December 16, 2020.

specialize in thirteen fields: Cancer Nursing, Psychiatric Mental Health Nursing, Community Health Nursing, Gerontological Nursing, Child Health Nursing, Women's Health Nursing, Chronic Care Nursing, Critical Care Nursing, Infection Control Nursing, Family Health Nursing, Home Care Nursing, Genetic Nursing, and Disaster Nursing. In December 2018, there were 2,279 active Certified Nurse Specialists among the approximately 1.219 million nurses in Japan.

- Certified Nurses[85]: This is a qualification that can be obtained by having five or more years of experience as a nurse, completing 600 hours or more of Certified Nurse education specified by the JNA, and passing the Certified Nurse certification examination. Certified Nurses strive to provide better nursing care to patients and their family members by improving nursing care quality and demonstrating expertise in each Certified Nursing field while fulfilling the three roles of Certified Nurses: practice nursing at high level, instruct other nurses, and consult with other nurses. Twenty-one fields have been identified as Certified Nursing fields, including emergency nursing, infection control, and diabetes nursing. In December 2018, there were 20,960 active Certified Nurses among the approximately 1.219 million nurses in Japan.
- Certified Nurse Administrators[86]: This is a qualification that can be obtained by having five or more years of experience as a nurse and passing the Certified Nurse Administrator certification examination after completing 510 hours or more of Certified Nurse Administrator education specified by the JNA or after obtaining the necessary credits to complete a master's program in nursing administration. Certified Nurse Administrators strive to provide higher quality services to patients, families, and members of the local communities, to identify issues in the organizations they manage, and to improve the healthcare service delivery system of their entire organization by engaging various departments and people within the organization. In addition, they work to improve the quality of medical and nursing services in the entire region by promoting cooperation among local organizations. In December 2018, there were 3,328 active Certified Nurse Administrators among the approximately 1.219 million nurses in Japan.
- Nurses who have completed training to perform specific medical interventions: Nurses who have undergone training in certain medical practices are allowed to perform them as expanded medical practices according to the Nursing Act. Details on these specified tasks will be provided below.
- Nurse Practitioners: The U.S. and other countries have nurse practitioner (NP) certification programs that allow nurses to demonstrate their expertise in the medical field by providing certain diagnoses and treatments without orders from physicians. However, under current Japanese law, NPs are not allowed to provide medical treatments that have not been ordered by a physician, nor are they allowed to provide diagnoses or prescriptions. As such, Japan has no certification that is equivalent to NPs in the U.S. or other countries. NP certification can currently be obtained in Japan by passing a certification examination operated by the Japanese Organization of Nurse Practitioner Faculties (JONPF)[87] or the Japan Association of Nursing Programs in

[85] Japanese Nursing Association. "Certified Nurses." https://nintei.nurse.or.jp/nursing/qualification/cn. Accessed December 16, 2020.
[86] Japanese Nursing Association. "Certified Nurse Administrators." https://nintei.nurse.or.jp/nursing/qualification/cna. Accessed December 16, 2020.
[87] Japanese Organization of Nurse Practitioner Faculties. https://www.jonpf.jp/. Accessed December 16, 2020.

Universities (JANPU)[88] after two years of medical study in a master's program at a graduate school designated by JONPF or JANPU.

- Pharmacists[89]: Pharmacists dispense pharmaceuticals based on prescriptions written by physicians and dentists in accordance with the Pharmacists Act. They also provide patients or their family members detailed explanations on the pharmaceuticals dispensed and provide the necessary usage guidance based on their pharmaceutical expertise. If there is anything unclear about a prescription, they also make inquiries to the physician or dentist.
- Clinical Laboratory Technicians: In accordance with the Act on Clinical Laboratory Technicians,[90] clinical laboratory technicians gather a variety of biological information about the body's structure and function under the direction of a physician or dentist. The biological tests they conduct include electrocardiograms, pulmonary capacity tests, electroencephalograms, and ultrasonography, as well as laboratory tests using blood, urine, or cell samples.
- Clinical Radiologists: In accordance with the Radiology Technicians Act, [91] clinical radiologists irradiate the body under the direction of a physician or dentist. They perform radiography, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), ultrasonography, and Radio Isotope Examination (RI). They also provide radiation therapy.
- Physical Therapists: In accordance with the Physical Therapists and Occupational Therapists Act,[92] physical therapists provide therapies such as exercise therapy and physical therapy to people with physical disabilities caused by injury or illness as well as people who are likely to develop physical disabilities. This is to help them recover and maintain basic movement abilities and to prevent physical disabilities from worsening, allowing them to retain independence in daily living.
- Occupational Therapists: In accordance with the Physical Therapist and Occupational Therapist Act, occupational therapists provide tasks including those involving handicrafts to people with physical or mental disorders to help them regain their ability perform certain movements or adapt to society.
- Speech-Language-Hearing Therapists: In accordance with the Speech-Language Hearing Therapists Act,[93] speech-language hearing therapists provide specialized support services to people with verbal communication problems so they can build the lives they wish to lead. They also help with physical contact and swallowing problems.
- Registered Dieticians: In accordance with the Dietitians Act,[94] registered dietitians work in hospitals and elder care facilities where they help maintain and improve patients'

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[88] Japan Association of Nursing Programs in Universities. "Nurse Practitioner Certification Examination Guide lines." https://www.janpu.or.jp/np/. Accessed December 16, 2020.

[89] Ministry of Health, Labour and Welfare. "Pharmacists Act." https://www.mhlw.go.jp/web/t_doc?dataId=81001000&dataType=0&pageNo=1. Accessed December 16, 2020.

[90] Ministry of Health, Labour and Welfare. "Act on Clinical Laboratory Technicians." https://www.mhlw.go.jp/web/t_doc_keyword?keyword=%E8%87%A8%E5%BA%8A%E6%A4%9C%E6%9F%BB%E6%8A%80%E5%B8%AB%E7%AD%89%E3%81%AB%E9%96%A2%E3%81%99%E3%82%8B%E6%B3%95%E5%BE%8B&dataId=80020000&dataType=0&pageNo=1&mode=0. Accessed December 16, 2020.

[91] Ministry of Health, Labour and Welfare. "Radiology Technicians Act." https://www.mhlw.go.jp/web/t_doc?dataId=80012000&dataType=0&pageNo=1. Accessed December 16, 2020.

[92] Ministry of Health, Labour and Welfare. "Physical Therapists and Occupational Therapists Act." https://www.mhlw.go.jp/web/t_doc?dataId=80038000&dataType=0&pageNo=1. Accessed December 16, 2020.

[93] Ministry of Health, Labour and Welfare. "Speech-Language Hearing Therapists Act ." https://www.mhlw.go.jp/web/t_doc?dataId=80998053&dataType=0&pageNo=1. Accessed December 16, 2020.

[94] Ministry of Health, Labour and Welfare. "Dietitians Act." https://www.mhlw.go.jp/web/t_doc?dataId=78317000&dataType=0&pageNo=1. Accessed December 16, 2020.

nutritional and medical status by providing diets that meet their nutritional needs and are appropriate for their physical conditions. They also provide guidance on healthy eating habits and nutrition so that people can manage their own diets at home.

- Medical Social Workers: While there is no legal framework for qualifying medical social workers, in accordance with the Operational Guidelines for Medical Social Workers[95] which were presented in 1989 and revised in 2002, medical social workers provide support in solving and adjusting for psychological and social problems during treatment. Other forms of support they provide include discharge support, support for social reintegration, support for people seeking medical examinations and treatment, and assistance for resolving economic problems or coordinating around economic issues.

7.2 Providing team treatment to support PLWNCDs

Coordination in healthcare and long-term care

Team treatment in the convalescent stage: During the convalescent stage, which refers to the period lasting one or two months following surgery or the onset of disease during which the patient's condition has begun to stabilize, it is necessary to provide bedsore prevention, nutritional management, and infection control. Many facilities employ more rehabilitation staff (physical therapists, occupational therapists, and speech-language hearing therapists) than required by medical service fee schedule standards. They also employ staff for which staffing requirements are not included in the medical service fee schedule, such as registered dietitians and certified social workers. Such wards are well-staffed by a variety of professionals who exchange and discuss information on a daily basis and who conduct evaluations and create programs based on each member's expertise. They hold regular team meetings referred to as "conferences" to ensure that necessary information is exchanged among team members and that tasks are smoothly handed off to members of following shifts or to other members of staff who will be responsible for providing care. This team approach allows all team members to progress towards a unified goal.

Team treatment during rehabilitation: During rehabilitation, rehabilitation teams provide a holistic approach to help people receiving treatment recover their ability to perform various activities in daily life. Information is shared and coordinated through team conferences with both rehabilitation staff and various professionals to establish common goals as a team and to build consensus on family participation. It is particularly important for team members to share information to those in related professions and for all team members and related professionals to respect each other.

Coordination among healthcare, long-term care, and welfare

Team treatment during in-home care: Establishing systems for providing patients and their family members who have received care in hospitals and other facilities with the necessary in-home care and support in a seamless manner after discharge will be important to further shorten hospital stays in the future. Teams called discharge support coordination teams that include physicians, nurses, pharmacists, certified social workers, public health nurses, and other professionals make plans for discharge from the time of admission by sharing team goals and strengthening cooperation to make it easier for people receiving treatment to adjust to their environments after discharge, thereby contributing to earlier returns to home life. Because speed in responding to patients is required and there are various treatments to be provided, it

[95] Ministry of Health, Labour and Welfare. "Request for Cooperation for Dissemination of Operational Guidelines for Medical Social Workers."https://www.mhlw.go.jp/web/t_doc?dataId=00ta4496&dataType=1&pageNo=1. Accessed December 16, 2020.

is important to enable collaboration between physicians and nurses during in-home care. Therefore, the healthcare institution responsible for in-home medical care and the institution responsible for in-home long-term care must share philosophies and information concerning how care is to be provided. In-home care requires a team approach that involves in-home medical care, in-home dental care, in-home medication guidance, in-home nursing, in-home rehabilitation, and in-home long-term care. It is particularly important for there to be collaboration for tasks that involve both long-term care and medical care, such as when installing care beds in homes. Since the variety of medical equipment being used to provide in-home care is growing and since that equipment is becoming more sophisticated, it is also necessary for clinical engineers and other professionals to teach patients and their family members on how to properly use that equipment, check its operational status, and perform maintenance and inspections.

7.3 Past efforts in task shifting and task sharing

To achieve team treatment as described above, each healthcare institution must have sufficient staff specializing in healthcare-related fields. However, in the early 2000s, the extremely difficult work environments facing physicians was recognized as a problem. This was especially the case for young and mid-career physicians working in hospitals. A number of people said that one factor for the situation was that physicians were required to perform tasks that could be handled by non-physicians.[96] Another issue was that nurses and other medical professionals were not able to utilize their expertise. To respond to these issues, the Director of the MHLW's Medical Policy Bureau issued a notice in December 2007 entitled "Promoting the Division of Roles Between Physicians, Medical Professionals, and Administrative Staff" which outlined tasks that can be performed by staff members who are not physicians to enable physicians, nurses, and other medical staff to focus on tasks requiring their expertise, making operations more efficient. It outlines methods of dividing roles according to the three following methods.

(1) Clearly identify which tasks are to be conducted by medical staff such as physicians and nurses and administrative staff (such as document preparation, making beds, transporting and restocking hospital supplies, transporting patients to labs and other test rooms , providing guidance during admission, and serving meals).
(2) Have a clear division of roles between physicians and midwives.
(3) Clearly identify which tasks are to be handled by physicians and which are the responsibility of nurses and other medical professionals (such as pharmaceutical dose adjustment, intravenous injections, setting treatment priorities during emergencies and other such times, handling of daily living during hospitalized treatment, providing explanations to patients and their family members, providing explanations about sampling and other tests, pharmaceutical management, and management of medical equipment).

Based on a 2010 report by the Study Group on the Promotion of Team Medical Care,[97] it was determined that medical staff other than physicians are to be allowed to perform the following tasks.[98]

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[96] Ministry of Health, Labour and Welfare. "Notice on Promoting the Division of Roles Between Physicians, Medical Professionals, and Administrative Staff." https://www.mhlw.go.jp/stf/shingi/2r98520000025aq3-att/2r98520000025axw.pdf. Accessed December 16, 2020.
[97] Ministry of Health, Labour and Welfare. "Promoting Team Medical Care." https://www.mhlw.go.jp/shingi/2010/03/dl/s0319-9a.pdf. Accessed December 16, 2020.
[98] Ministry of Health, Labour and Welfare. "Notice on the Promotion of Team Medical Care Through Collaboration and Cooperation of Medical Staff." https://www.mhlw.go.jp/stf/shingi/2r98520000025aq3-att/2r98520000025axw.pdf. Accessed December 16, 2020.

(1) Pharmacists: Changing pharmaceutical type and dosage, providing prescription suggestions, pharmacological management, etc.
(2) Rehabilitation-related occupations: Providing aspiration (of sputum, etc.), providing ADL training for daily life, etc.
(3) Registered dietitians: Determining general meal content, proposing content of meals for people undergoing special treatment, providing nutrition guidance to patients, etc.
(4) Clinical engineers: Providing aspiration (of sputum, etc.), collecting blood from indwelling arterial catheters, etc.
(5) Radiology technicians: Providing assistance when reading diagnostic images, providing explanations and consultations on radiological examinations, etc.
(6) Others (including medical social workers, medical information managers, and medical clerks): Preparation of documents such as medical certificates and attending physicians' written opinions; transportation of specimens, documents, slips, etc.

To promote team treatment, the Amendatory Law to the Related Acts for Securing Comprehensive Medical and Long-Term Care in the Community was enacted and promulgated in 2014.[99] It included the establishment of a training system for nurses to perform specified tasks and expanded the scope of tasks medical radiologists and clinical laboratory technicians are allowed to conduct. The term "specified tasks" refers to 38 tasks that assist in medical treatment and require practical understanding, thinking and judgment, and advanced and specialized knowledge and skills that are to be performed by nurses according to specified procedures.[100]

Main specified tasks include:
- Adjusting the positions of oral or nasal tracheal tubes
- Changing settings for invasive positive pressure ventilation
- Changing settings for non-invasive positive pressure ventilation
- Adjusting sedative medication doses for people on ventilation
- Ventilator weaning
- Replacing tracheal cannula
- Operating and managing temporary pacemakers

On the other hand, to reduce the burdens on nurses and other paramedical staff who receive tasks from physicians, the FY2020 revision of the medical service fee schedule included measures to promote the work style reform not only for physicians but for all medical staff. The main measures include the following.

(1) The medical administrative support system establishment premium and the admission and discharge support premium
These premiums have been increased to help facilities secure medical office staff and nurses (or certified social workers) who can coordinate hospital transfers.

(2) The acute nursing care assistance premium
For some time, the placement of nursing assistants has been recommended as a measure to

[99] Ministry of Health, Labour and Welfare. "Cabinet Order on the Revision of Relevant Cabinet Orders and Transitional Measures in Line with Partial Enforcement of the Amendatory Law to the Related Acts for Se curing Comprehensive Medical and Long-Term Care in the Community." https://www.mhlw.go.jp/web/t_doc?dataId=82ab4710&dataType=0&pageNo=1. Accessed December 16, 2020.
[100] Ministry of Health, Labour and Welfare. "Defining Specified Tasks." https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000050325.html. Accessed December 16, 2020.

reduce the burden on nurses. Under the guidance of nurses, nursing assistants play important roles in managing patients' meals, hygiene, elimination, bathing, and transportation, as well as making beds and making environmental improvements to hospital rooms. However, many hospitals are having difficulty securing nursing assistants. To respond to that situation, the FY2020 revision of the medical service fee schedule increased the points assigned for acute nursing care assistance and simplified the requirements for nurse assistant training.

(3) The nursing staff night assignment premium
Because securing sufficient numbers of nurses for night shifts has been a major challenge for many hospitals, the number of points assigned when nurses work night shifts has also been increased. "Utilization of ICT, AI, IoT, and other such technologies" has also been listed among facility criteria for this premium. This is meant to encourage the use of tools like sleep sensors and intercoms to streamline night shift work and reduce the burden on nurses working night shifts.

7.4 Recent discussions on task shifting and task sharing

The establishment of study groups on work style reform for physicians

The issue of long working hours for physicians was brought up once again in 2019, when calls for reduced working hours and work style reform for physicians and led to the establishment of the Study Group on the Promotion of Task Shifting and Task Sharing to Promote Work Style Reform for Physicians. To prepare for the regulation on overtime hours for physicians that will come into effect in April 2024, that study group is holding discussions on methods for shortening physicians' working hours, how to promote task shifting to the greatest extent possible under the current system, and how to establish a system that allows each paramedical staff member to utilize their expertise and respond to the needs of people receiving treatment more actively.[101]

Current progress of the system for specified task training system for nurses

In light of the new regulations for achieving work style reform for physicians come into effect in April 2024, interest in the specified task training system for nurses has increased significantly among hospitals over the past one or two years. However, in contrast with the MHLW's goal of 100,000 training program graduates by FY2025, only 2,646 nurses completed the training program as of July 2020 (as of December 2018, there were approximately 1.219 million active nurses in Japan).[102] As of August 2020, there were only 222 training institutions nationwide providing the program.[103] Two reasons for this lack of progress that have been pointed out is a lack of understanding of nurses' specified tasks among physicians and that there are few opportunities for nurses to engage in specified tasks. On the other hand, a questionnaire that was conducted when the specified task training system was introduced in 2015 showed that 60% of nurses wanted to receive specified task training.[104] There is an urgent need to improve the training systems used in healthcare facilities so that nurses who wish to receive specified task training can be more active in real-world clinical settings.

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[101] Ministry of Health, Labour and Welfare. "Sixth Meeting of the Study Group on the Promotion of Task Shifting and Task Sharing to Promote Work Style Reform for Physicians." https://www.mhlw.go.jp/content/10800000/000597765.pdf. Accessed December 16, 2020.
[102] Ministry of Health, Labour and Welfare. "Concerning Nurses Who Have Completed Specified Task Training for Nurses." https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000194945.html. Accessed December 16, 2020.
[103] Ministry of Health, Labour and Welfare. "Status of Designated Training Institutes, Etc. Providing Specified Task Training." https://www.mhlw.go.jp/content/10800000/000685477.pdf. Accessed December 16, 2020.
[104] Nikkei Medical A Nursing. "60% of Nurses Want Specified Task Training." https://medical.nikkeibp.co.jp/leaf/mem/pub/anursing/report/201510/544199.html. Accessed December 16, 2020.

From April 2019, training packages (in which common subjects and training exercises for frequently-performed, specific tasks are organized in packages) were introduced in three areas to shorten training time: in-home and chronic care, postoperative surgical ward management, and intraoperative anesthesia management. A training package for emergency care was added in October 2019. In addition to increasing the number of training facilities, it is important that the entire medical community, particularly nursing associations, treat specified task training as a method of establishing career paths for nurses, promote participation in specified task training, and encourage the appropriate utilization of nurses who have completed specified task training.

8. The use of online medical examinations within NCD countermeasures

8.1 Defining terms related to online medical examinations

In this section, we will examine the potential of online medical examinations to respond to NCDs. Online medical examinations used to be referred to as telemedicine, but in recent years, it has come to refer to all medical treatment provided via the Internet or IoT devices[105]. However, According to the definitions given by the MHLW in the Guidelines on the Appropriate Implementation of Online medical examinations published in 2018, "telemedicine" refers to promoting health and providing medical care using information and communication devices and includes online medical examinations, online medical references, and remote medical consultations. [106] Figure 1 shows how the main terms relate to each other.

- Telemedicine
  Activities related to health promotion and medical care using information and communication devices
- Online medical examination
  Online medical examinations are a form of telemedicine in which medical activities (such as consultation and diagnosis, notification of diagnostic results, and providing prescriptions) are conducted between doctors and patients in real time through information and communication devices.
- Online medical reference
  Online medical references are a form of telemedicine that occurs between a physician and a patient in which a medical consultation takes place over an information communication device in real time and the patient is referred to a medical institution for further examination. Based on the patient's reported symptoms or information gathered on their physical or mental state acquired through an interview or other methods, the physician decides the likely disease or affliction, names possible diseases, suggests the appropriate medical fee for the recommended examination, and recommends an examination that fits the patient's physical and mental condition. The physician provides the minimum necessary amount of information required for a medical judgement.
- Remote medical consultation (with physicians)
  Remote medical consultations are a form of telemedicine that occurs between a physician and a person seeking consultation in which information obtained through the use of information and communication devices is exchanged and the necessary medical advice that fits the physical and mental condition of the patient is provided. Such consultations do not include specific judgments, such as diagnoses based on the individual circumstances of the person seeking consultation.
- Remote medical consultation (with healthcare professionals other than physicians)
  This type of telemedicine occurs when information is exchanged between a person seeking consultation and a healthcare professional that is not a physician using information and communication devices, but consultations are limited to the provision of general medical information and general recommendations for consultation. They do not include medical judgments such as diagnoses or suggestions of likely diseases based on the individual condition of the person seeking consultation.

[105] Internet of Things

[106] Ministry of Health, Labour and Welfare. "Guidelines for the Proper Implementation of Online medical examinations." 000534254.pdf (mhlw.go.jp). Accessed December 16, 2020.

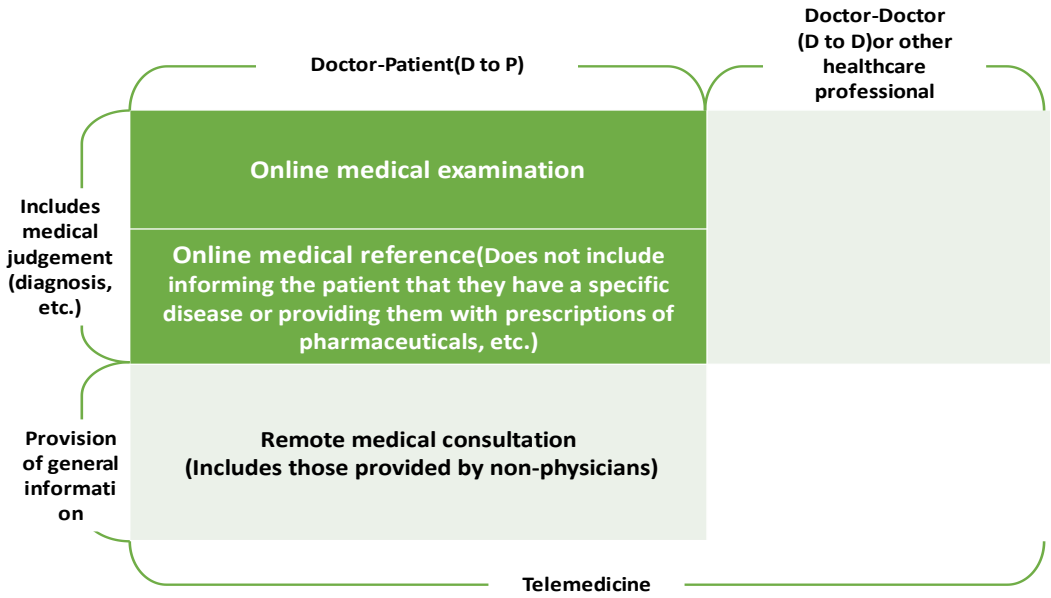

Figure 5: The relationships between telemedicine, online medical examinations, online medical references, and remote medical consultations[107]

8.2 The compatibility between online medical examinations and PLWNCDs

One characteristic of NCDs is that they are often of long duration, so many PLWNCDs must make regular visits to healthcare institutions over long periods of time to receive consultations, treatments, and examinations. The proactive utilization of online medical services for NCDs can reduce the physical and mental burdens caused by those visits, encouraging more regular use of healthcare facilities. When an opinion survey[108] conducted by the National Federation of Health Insurance Societies asked respondents about their willingness to use online medical examinations for follow-up visits, 9.6% of respondents with pre-existing conditions answered "Very willing" and 41.5% replied "Willing" (for a total of 51.1%). This result was much higher than the 34.9% of respondents who said they would like initial medical consultations to be provided online. If using online medical examinations for follow-up visits can reduce the burden on patients and encourage people to seek consultations regularly, it will contribute to continuous self-management and the provision of appropriate treatment. It can therefore be assumed that online medical examinations can contribute to improving disease prognoses, such as by preventing the onset of severe symptoms.[109]

On the other hand, for certain NCDs like hypertension and diabetes, where subjective symptoms are often rare and disease progression is often slow, there are many cases in which initial medical consultations are delayed and treatment is not started. In HGPI's 2016 Survey on Public Awareness of Medical Information and Communication Technology (ICT) in Japan,[110] more than half of the untreated people with lifestyle-related NCDs and other NCDs surveyed supported the

[107] Created based on Ministry of Health, Labour and Welfare's "Guidelines for the Proper Implementation of Online medical examinations." 000534254.pdf (mhlw.go.jp). Accessed December 16, 2020.
[108] National Federation of Health Insurance Societies. "Survey on Attitudes Towards Medical Examinations during the COVID-19 Pandemic (Preliminary Version)." https://online-m.org/wp-content/uploads/3037b6153ad716a64a268479ee1b72b5.pdf. Accessed December 16, 2020.
[109] Japan Online Medicine Research Association. "A Guide to Online Clinical Practice." https://online-m.org/wp-content/uploads/3037b6153ad716a64a268479ee1b72b5.pdf. Accessed December 16, 2020.
[110] Health and Global Policy Institute. "2016 Survey on Public Awareness of Medical ICT in Japan." https://hgpi.org/en/research/644.html. Accessed December 16, 2020.

use of telemedicine for the treatment or prevention of NCDs for PLWNCDs in stable conditions. In addition, 58% of untreated PLWNCDs cited the trouble caused by frequent hospital visits as a reason for why they wanted to try using telemedicine. The results of the study suggested that telemedicine may provide opportunities for untreated PLWNCDs to begin treatment by eliminating factors that prevent them from doing so, such as the trouble caused by hospital visits.

8.3 Changes in online medical examinations

Figure 6 below shows changes in Government policy for online medical examinations and in the environment surrounding the operations of online medical examinations.

Date	Event
1996	Telemedicine research team established at the then Ministry of Health and Welfare
December 1997	The then Ministry of Health and Welfare releases notice saying, "Telemedicine should be conducted as a supplement to in-person treatment" and that telemedicine is not considered medical care without medical examination under the Medical Practitioners' Act. - Examples of applicable parties also shared (people in remote islands and remote areas or with stable medical conditions, such as those with chronic diseases (non-hospitalized patients))
March 2003	The then Ministry of Health and Welfare releases notice saying telemedicine may be used when appropriately combined with in-person treatment.
July 2008	The Ministry of Internal Affairs and Communications (MIC) and the MHLW release interim report of the Panel on Telemedicine Promotion Measures which addresses: - The need to clarify that telemedicine is generally an option for "chronic conditions (specifically, repeat examinations related to chronic conditions), health management, preventive medicine, and lifestyle-related conditions." - The need to examine the appropriate use of medical service fees for telemedicine.
August 2015	The MHLW issues administrative circular stating that remote islands and remote areas are "merely examples of regions where telemedicine can be used."
July 2017	Notice issued allowing for more flexibility regarding which cases require in-person treatment for people seeking smoking cessation outpatient treatments provided by insurers.
March 2018	Guidelines on the Appropriate Implementation of Online Medical Examinations enacted. - Said guidelines state that, as a general rule, initial consultations must be conducted in person.
April 2018	The FY2018 revision of the medical service fee schedule comes into effect. - Said revision includes new listings for online medical examinations and other such services.
February 2020	COVID-19 countermeasures come into effect. - Providing initial medical consultations to people suspected of being infected with COVID-19 online is determined to be difficult (remote medical consultations and online consultation references were allowed). - Online medical examinations can be provided to people with chronic diseases who make regular visits to healthcare facilities by calculating telephone charges and other such costs. Prescription writing is also allowed.
April 2020	The FY2020 revision of the medical service fee schedule comes into effect. - Requirements for online medical service fees and related fees are reviewed and patient eligibility is expanded. - Online medication guidance is added as a new evaluation item from September 2020.
April 2020	Requirements for in-person initial consultations and exceptions are temporarily revised Telemedicine (provided over both information and communication devices and telephone) is allowed for the following cases: (1) When a patient who has been diagnosed and is undergoing treatment for a chronic disease is provided a new treatment or prescription for new and different symptoms. (2) When providing returning patients treatment and prescriptions for new symptoms. (3) When providing medical treatment to a patient who has no history of previous medical visits (relaxing the requirement for initial consultations to be provided in person) (4) When diagnosing new symptoms or providing prescriptions to patients with no past medical history based on information received from the patient's family doctor.

September 2020	Ban on online medication guidance lifted (this decision was made prior to the creation of COVID-19 countermeasures) - Providing online medication guidance for prescriptions received during online medical examinations becomes possible. - Adjusting prescriptions made during in-home visits becomes possible.
October 2020	The Ministers of the three related Ministries agree to lift the ban on online medical examinations, including initial consultations.

Figure 6: Changes in Online medical examinations[111]

The COVID-19 pandemic led to the relaxation of rules regarding in-person initial consultations in April 2020, effectively lifting the ban on online medical examinations. Looking at real-world circumstances, however, we find that as of the end of October 2020, only 16,587 of the 110,916 healthcare institutions in Japan were registered as having systems for providing remote online consultations over telephone or the internet. This is only about 15% of healthcare institutions.[112] Furthermore, at the end of May 2020, 5.6% of healthcare institutions reported they were able to handle initial consultations online. That number increased slightly to 6.3% (6,996 institutions) by the end of October 2020. Suggested reasons for that small increase include the fact that the medical service fee added in 2020 is less than that for treatment provided in person, and that instead of Specified Disease Care Management Fees,[113] which are paid per disease during in-person treatment, every disease is assigned the same online medical management fee of 1,470 yen.

8.4 The advantages and disadvantages of online medical examinations

Below, we will examine the advantages and disadvantages of online medical examinations for both patients and for healthcare institutions in terms of access and quality of care.

Access

The foremost benefit of online medical examinations is improved access for patients. Online medical examinations eliminate the need to spend time and money to visit a healthcare institution, making it more convenient for patients. Another benefit is that they allow healthcare institutions to continuously monitor a patient's condition and rapidly detect any changes. For in-home visits, they reduce the time required to conduct the visit, allowing for more patients to be seen. The usefulness of online consultations care is also being evaluated from the viewpoint of infection control in response to the COVID-19 pandemic.

On the other hand, one disadvantage for patients is the need to operate information devices like computers and smartphones. This can present high hurdles for elderly people and people unaccustomed to using such devices. In addition, when a malfunction or other problem occurs with the device, the patient is responsible for solving it. Also, due to the fact that information technology is constantly evolving, it is highly likely that significant amounts of effort will be required to develop and maintain communication environments, especially for people who are not familiar with information devices. As for disadvantages for healthcare institutions, if use of online medical services by patients increases beyond necessity, it may lead to increased burden within healthcare facilities. It has also been mentioned that improved access may lead to an

[111] Figure 6 was created by HGPI based on Japan Medical Association Research Institute Research Essay No. 93, "About Online Medical Treatment and Online Health Consultation." published No.93 https://www.jmari.med.or.jp/download/RE093.pdf. Accessed December 16, 2020.

[112] Ministry of Health, Labour and Welfare. "Telephone and Online Medical Services July-September 2020 Verification Results." https://www.mhlw.go.jp/content/10803000/000690548.pdf. Accessed December 16, 2020.

[113] Ministry of Health, Labour and Welfare. "Specified Disease Care Management Fees." https://www.mhlw.go.jp/content/12400000/000603749.pdf Accessed December 16, 2020.

increase in the number of medical visits, causing healthcare spending to increase.

Quality of care

In the a survey of the general public entitled "Usage Status of Domestic Healthcare Institutions and Online Medical Examinations During the COVID-19 Pandemic" conducted by the Deloitte Tohmatsu Group,[114] only 16% of respondents thought online medical examinations could be serve as a method for improving the quality of healthcare. This demonstrated the tendency of members of the public to perceive online medical examinations as an ineffective method for providing high-quality healthcare. Reasons for this include that online medical examinations do not allow physicians to perform palpation or to see patients' facial complexions directly.

Among disadvantages for healthcare institutions, concerns about the quality of medical services have been raised at various conferences, including those held by the JMA.[115] Compared to direct, in-person care, there are concerns that online medical examinations will make it more likely for physicians to overlook medical conditions or provide mistaken diagnoses because they cannot perform palpation or because it they may be unable to accurately grasp the patient's condition using devices like remote monitors.

8.5 The future potential of online medical examinations

In 2018, the Working Group on Medical Care and Long-Term Care[116] of the Council for the Promotion of Regulatory Reform expressed the opinion that the use of online medical examinations can improve treatment sustainability and make it easier for medical staff to grasp the daily living conditions of people receiving treatment.[117] For PLWNCDs, determining how to continue treatment and care as part of daily life is a crucial point. Later, in 2020, that Working Group suggested that online medical examinations should be recognized as a new form of healthcare rather than being viewed as a complementary or partial form of in-person care. To further promote online medical examinations, it is urgent that evidence is established concerning which diseases, symptoms, and situations can be treated more effectively by making the most of the unique features of online medical examinations.

Examining the use of the latest technology for PWNCDs, in addition to online medical examinations, self-management tools using smartphone applications and IoT hold further potential. For example, continuously providing vital information like blood pressure to medical staff and increasing opportunities for them to view information without in-person contact may enhance care, provide earlier detection of abnormalities, and create more possibilities for early treatment. In addition to improving health outcomes and QOL for PLWNCDs, optimizing medical examination frequency may contribute to the improved work efficiency for medical staff. It is desirable that such a system is implemented in parallel with the development of methods for providing sufficient personal information protection.

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[114] Deloitte Tohmatsu. "Usage Status of Domestic Healthcare Institutions and Online Medical Examinations During the COVID-19 Pandemic" survey results. https://www2.deloitte.com/jp/ja/pages/about-deloitte/articles/news-releases/nr20200817.html. Accessed December 16, 2020.

[115] Japan Medical Association Research Institute Research Essay No. 80. "Current Status of Online Medical Care." https://www.jmari.med.or.jp/download/RE080.pdf Accessed December 16, 2020.

[116] This Working Group was established in accordance with Article 37, Paragraph 2 of the Act for Establishment of the Cabinet Office. Their main task is to comprehensively examine and discuss fundamental matters related to regulatory framework reform necessary for promoting the structural reform of the economy and society in response to requests from the Prime Minister.

[117] Cabinet Office. "Minutes of the 20th Working Group on Medical and Long-term Care." https://www8.cao.go.jp/kisei-kaikaku/suishin/meeting/wg/iryou/20180918/gijiroku0918.pdf. Accessed December 16, 2020.

Chapter II

Qualitative study: The voices of medical staff on task shifting and task sharing

1. Background and purpose of study

As discussed in Chapter I, prominent issues facing healthcare in Japan include a shortage of physicians, nurses, and other medical staff; overwork of medical staff; and the uneven distribution of medical staff both geographically and by specialty. To correct these issues, various policy discussions are underway. Looking at the state of the healthcare provision system in 2040, the Trinity Reform of Healthcare aims to promote three initiatives simultaneously: Regional Medical Care Visions, work style reform for medical staff, and measures against the uneven distribution of physicians and other medical staff. Among the measures being discussed, task shifting and task sharing have attracted a great deal of attention as specific measures for reducing physicians' working hours. The MHLW has placed high expectations on the specified task training system for nurses as a measure for achieving task shifting and reducing physicians' workloads, and has set a goal of having 100,000 nurses complete the training by FY2025.[118] However, as of July 2020, only 2,646 nurses have completed specified task training.[119]

Task shifting and task sharing are not just measures for shortening physicians' working hours. They also hold the potential to allow us to reassess the roles and duties most suited to each healthcare professional and expand them, so this is a topic that should be discussed extensively. There are some who believe these measures can contribute greatly in fields where physicians have less involvement, such as in-home care and long-term care, that advanced and specialized medical care can be provided if comprehensive instructions are given, and that they will enable nurses who have completed specified task training to fully demonstrate their expertise as professionals.[120] However, specified task training is currently biased toward the acute care field and only about 7% of nurses have completed training in the field of in-home care, so there is a gap between the intended direction of policy and the actual situation.[121]

Although the specified task training program began in 2014, it is still a new program. There is still little evidence on the situation surrounding the use of the newly-acquired skills among nurses who have completed the training, current progress on task shifting and task sharing, and the effects on physicians' work styles, patient outcomes, and the healthcare provision system itself. As a result, discussions on policy have been lacking in input from nurses who have completed specific task training and are active in clinical practice; NPs, a new specialty that has been drawing attention recently; and physicians who have worked with nurses who have completed specified task training, particularly among the younger generation of medical staff who will shoulder healthcare for the next generation.

Based on the current state of policy discussions on task shifting and task sharing described above,

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[118] Ministry of Health, Labour and Welfare. "Concerning the Specified Task Training System for Nurses." https://www.mhlw.go.jp/file/06-Seisakujouhou-10800000-Iseikyoku/0000189894.pdf. Accessed December 24, 2020.

[119] Ministry of Health, Labour and Welfare. "The Specified Task Training System for Nurses – Concerning Nurses who have Completed Training." https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000194945.html. Accessed December 24, 2020.

[120] GemMed. "Nurses With Specified Task Training Can Fully Demonstrate Their Abilities in in-Home Care and Long-Term Care Settings – Chairman Takahisa, Japan Association of Medical and Care Facilities." https://gemmed.ghc-j.com/?p=37092. Accessed December 24, 2020.

[121] GemMed . "Nurses With Specified Task Training Can Fully Demonstrate Their Abilities in in-Home Care and Long-Term Care Settings – Chairman Takahisa, Japan Association of Medical and Care Facilities." https://gemmed.ghc-j.com/?p=37092. Accessed December 24, 2020.

we conducted focus group interviews with physicians and nurses active in various fields of healthcare. During those interviews, we discussed the real-world situations surrounding the use of task shifting and task sharing, the effects of task shifting and task sharing, and future prospects for task shifting and task sharing. Based on the actual circumstances in the field of healthcare and the voices of medical staff, we want to encourage efforts to correct current policies and systems and to build the new policies and systems that will be required in the future.

2. Study Overview

2.1 Interview subjects and selection method

The subjects of this study were six physicians and five nurses who are currently working or have worked in clinical settings in Japan. Selection was performed with a nonrandom sampling method using the network of the HGPI project team. Participant ages ranged in the 30s to 40s and were selected based on gender, department or field of specialty, facility size, and regions of residence (to balance the number of participants living in major cities with the number of participants living in rural areas).

2.2 Ethical considerations

Participants were provided with advance written and verbal explanations of the study's purpose, data handling methods, how the results of the survey would be publicized, their right to withdraw during the interview without disadvantage, and their right to withdraw their consent to participate in the study afterwards without disadvantage.

2.3 Survey period

November 29, 2020 to December 6, 2020.

3. Survey method and content

3.1 Focus group interviews

Online focus group interviews were conducted using the Zoom video conferencing system. A total of four interviews were conducted, each with three physicians and two or three nurses. Each group was interviewed for about one hour. After asking participants' background information and about the healthcare institutions where they were currently or most recently employed, we asked about the current situation surrounding task shifting and task sharing, future prospects for task shifting and task sharing, and issues facing task shifting and task sharing.

3.2 Interview content

The main questions asked during the interviews are as follows. Both physicians and nurses were asked the same questions.

1. (Current situation) How do PLWNCDs benefit from the promotion of task shifting and task sharing in your department, field, or region?
2. (The transition process from past systems to the current ones) What kinds of processes have been used to promote task shifting and task sharing in your department, field, or region?
3. (Issues) What issues related to task shifting and task sharing do you see right now or expect to see in the future?
4. (Issues) Please share any differences that occurred in your work style after completing specified task training or after obtaining NP certification compared to your expectations or ideals beforehand.
5. (Issues) During attempts to implement task shifting and task sharing, how is consideration being paid to aspects related to safety or to the clarification of duties?

6. (Future prospects) In your opinion, for which fields, departments, and regions should task shifting and task sharing be promoted in the future?

4. Analysis method

A verbatim transcript of the audio data from the recorded interviews was created and coded using the NVivo 11 analysis software system.[122] Thematic analysis was used to extract comments addressing the themes of the study, and each comment was labeled using open coding. The necessary labels were extracted and cohesive comments were sorted together using focal coding. The participants were split into a physician group and a nurse group and analysis was conducted separately for each group.

5. Study Results

Focus interviews were held with six physicians and five nurses, details on whom can be found in Figure 7 and Figure 8. Results of the interviews are described below.

ID		A	B	C	D	E	F
Age		30s	50s	30s	30s	30s	30s
Gender		Male	Male	Male	Male	Male	Female
Field of Specialty (Including certifications)		Diabetes	Emergency medicine	General Medicine, Emergency Medicine	General Medicine	Respiratory Medicine	General Medicine
Information on Current Healthcare Facility* of Employment	Type	National University Hospital	Public Hospital	Public Hospital	Municipal Hospital	Private Hospital	National University Hospital
	Care Beds	500 or more	500 or more	500 or more	500 or more	500 or more	500 or more
	Main Care Bed Type	Acute	Acute	Acute	Acute, Convalescent, Chronic	Acute, Convalescent	Acute
	Administrative Division	City	City	City	City	City	Ward
	Approx. Population	300,000	1.53 Million	1.53 Million	40,000	1.5 Million	21,000
Experience working with NPs** or nurses who have completed specified task training		Works with nurses who have completed specified task training	Works with nurses who have completed specified task training	Works with nurses who have completed specified task training	Works with NP (who has completed specified task training)	Works with nurses who have completed specified task training	None
Past experience in other healthcare settings, etc.		Acute care in urban area	Secondary and tertiary emergency care, intensive care, acute care in urban area, air ambulance	Secondary and tertiary emergency care, intensive care, acute care in urban area, remote island clinic, remote area core hospital, dispatch care, facility for elderly people, overseas study	Secondary and tertiary emergency care, acute care in urban area, remote area clinic, remote area core hospital, dispatch care, facility for elderly people	None of particular note	Tertiary emergency hospital, acute care in urban area, remote island clinic, dispatch care, facility for elderly people

Figure 7: Characteristics of physicians in the study

[122] QSR International Pty Ltd. (2015) NVivo (Version 11), https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home.

ID		A	B	C	D	E
Age		30s	30s	30s	40s	40s
Gender		Male	Male	Female	Female	Female
Type of Nursing Certification		Completed specified task training	NP**, Completed specified task training	Nurse	NP	Nurse
Information on Current Healthcare Facility* of Employment	Type	Private Hospital	Private University Hospital	Home Nursing Station	Municipal Hospital	Home Nursing Station
	Care Beds	500 or more	500 or more	-	200-300	-
	Main Care Bed Type	Acute, Convalescent	Acute	-	Acute, Convalescent, Chronic	-
	Administrative Division	City	City	Ward	City	Town/village
	Approx. Population	1.5 Million	1.53 Million	500,000	40,000	10,000
Past experience in other healthcare settings, etc.		None of particular note	Core hospital in remote area, remote area clinic, acute care in urban area, intensive care	Acute care in urban area, facility for elderly people	Intensive care, acute care, facility for elderly people, dispatch nursing, overseas work	None of particular note

Figure 8: Characteristics of nurses in the study

*In Figures 7 and 8, most recent employers have been included for participants who are temporarily studying or residing abroad and are therefore not currently working in a clinical setting in Japan.

**Nurse Practitioner (NP) is a nurse who has completed two years of medical study in a master's program at a graduate school designated by the Japanese Organization of Nurse Practitioner Faculties (JONPF) or the Japan Association of Nursing Programs in Universities (JANPU) and has received NP certification.

5.1 Benefits for PLWNCDs

- **Both physicians and nurses felt that introducing nurses with specified task training and NPs benefitted both physicians and PLWNCDs significantly by improving the quality and speed of care provided.**
  We confirmed that the presence of nurses and NPs who have completed specified task training and can act in place of physicians allows for more rapid, complete care to be provided in situations where physicians are unavailable or busy, such as during night shifts, whether the care is provided in the acute, chronic, or recovery phases. The study also showed that nurses were able to more fully utilize their skills when working in rural or remote areas, where there is a relative shortage of physicians compared to large, urban hospitals.

  Physicians
  - ✓ Providing better, faster care to PLWNCDs
    - ✧ It allows the patient to feel that there is always someone there providing treatment, even when a physician is not present.
    - ✧ At my facility, there are nurses who have been certified to provide certain treatments for diabetic foot gangrene and nurses with specified task training. When they are involved in treating wounds, patients are provided with

evidence-based treatment.
- ✧ Nurses with specified task training set up ventilation when the physicians are busy.
- ✧ When a nurse with specified task training is there, they can correct mistakes made by physicians, which is a great help.
- ✧ Their contributions to ward management improve overall quality of care for patients even though the patients themselves are not aware of it.

✓ Enhancing holistic care
- ✧ They can help physicians access information about patients, like family history, that physicians were not able to obtain from patients in sufficient detail.

"To share one example, there was a time I was unable to set up a ventilator for its next use. A nurse who has completed training on mechanical ventilation was there, and they set everything up immediately. They also took care of the settings while I was away for a while to write medical records. I think there are times like that, when they can prepare the ventilator or handle other tasks. So, to answer the main question, I think there are times when task shifting or sharing is extremely beneficial to the patient." (Physician B)

Nurses

✓ Providing better, faster care to PLWNCDs
- ✧ They can respond rapidly to patients in critical conditions.
- ✧ They can respond to the needs of patients in a timely manner.
- ✧ Among medical staff, patients feel closest to nurses. If nurses can provide a broader range of care, it makes patients feel more secure.
- ✧ In particular, they can provide care to elderly people with multiple NCDs at a fitting pace.

✓ **Enhancing holistic care**
- ✧ Nurses with specified task training can touch upon more deep-rooted issues than can be covered in the shorter consultations provided by physicians, such as the details behind a disease, hidden health issues, and family history.

"If I, the NP, handle everything in the morning, the patient does not have to wait until evening to begin receiving treatment. Instead, it starts in the morning and they get their results in the evening. This might make it easier for nurses to say, "That's what the NP handles, not the doctor," and it might be that in practice, this might allow patients to receive full days of bedside care rather than half-days." (Nurse B)

5.2 Examples of successful implementation processes

- **Factors that can influence the successful implementation of task shifting and task sharing are gradual introduction and efforts to facilitate understanding and communication between medical staff. Said efforts should target understanding and communication among physicians and nurses with specified task training or NPs as well as among nurses with specified task training or NPs and other nursing staff or healthcare administration staff.**

  Although we can assume that the introduction and successful implementation of task shifting and task sharing is still limited when considering all healthcare institutions in Japan, there are some healthcare institutions that have successfully incorporated nurses

with specified task training or NPs. We were able to grasp factors that contributed to that success, mainly through our interviews with physicians.

Physicians

- ✓ Gradual introduction
  - ✧ Conflict occurred between members of medical staff at first. It made for a smoother transition when nurses with specified task training and NPs handled the same duties as nurses for the first month or so, while we gradually handed the specified tasks off to them while they were learning together with everyone.
  - ✧ The point is to gradually introduce the system over the course of the second and third generations of nurses with specified task training and NPs, with the first generation serving as the core.

- ✓ Facilitating understanding and communication among medical staff and other staff
  - ✧ It is unclear whether or not we should have a clear distinction between nurses with specified task training and nurses without specified task training.
  - ✧ In rural areas, there are cases when job titles or descriptions like “specified task” and “NP” create barriers for medical staff and PLWNCDs, so we adopted more familiar-sounding terminology. Rather than focusing on the job titles and descriptions, we want people to perceive them as nurses who can handle many tasks. To that end, our physicians are making active efforts to inform wards and people receiving outpatient treatment about what those nurses can do.
  - ✧ Before NPs were introduced, we interviewed hospital department heads and division heads and asked what problems may occur during their introduction. We then summarized their answers in writing and decided on what outcome to target through discussion. We are now slowly collecting data on the effects of introducing NPs.
  - ✧ Someone has to be the key person to manage nurses or to facilitate communication between physicians and nurses. Better communication, management, and governance among nurses ultimately benefit patients.
  - ✧ Conflicts arise between physicians and nurses due to differences in approach, so we are having other physicians intervene to help find compromises.
  - ✧ Due to the shortage of physicians in our region, our director and operations manager understood that it would be good to increase the number of people who can perform like NPs.

    “Quite a few conflicts occurred, at first . . .so from the beginning, we decided to have them work as nurses for about a month. Then, we had them come in and handle the specified tasks little by little while studying with everyone. Once everyone knew their capabilities to some extent, we had them work with nurses while handling a portion of the specified tasks, and everyone became more compatible with each other. Very compatible, actually.” (Physician D)

    “They talk about this frequently in community-based integrated care, but when (physicians) tell (NPs) how important it is to do things a certain way, they do it with a sense of fulfillment.” (Physician D)

Nurses

- ✓ Use gradual introduction to educate nurses
  - ✧ Rather than having nurses trained in specified tasks handle those tasks

immediately, they are being placed where they can enhance nursing education because they have undergone more training than the other nurses.

5.3 The Lack of Understanding and Awareness Towards Task Shifting and Task Sharing

- **Both physicians and nurses support the introduction of nurses with specified task training and the implementation of task shifting and task sharing, but are concerned there will be insufficient understanding from certain medical professionals or communication gaps.**

Through the interviews, it became clear to us that physicians welcome the introduction of even more skilled nurses, and that task shifting and task sharing is supported. However, we also saw that there is a general lack of awareness towards what nurses with specified task training can do and how they can be utilized. Meanwhile, nurses want to fulfill their duties and exercise their abilities to the fullest, but there were also several comments regarding a lack of understanding from physicians or expressing concern about communication with physicians who value hierarchy in the medical community.

Physicians

- ✓ Hope for the further promotion of task shifting and task sharing
  - ✧ Among the physicians, nobody was particularly opposed to the introduction of nurses with specified task training.
- ✓ Lack of understanding towards nurses with specified task training among physicians
  - ✧ At the outset, physicians and other nurses are unaware of what kind of training nurses with specified task training have undertaken and what their specialties are. They do not know what people can do after specified task training or what kind of training system they participated in.
  - ✧ Many physicians may be of the type that do not want to leave much up to others. It may be difficult for them to delegate tasks.
- ✓ Conflicts among nurses that concern physicians
  - ✧ If nurses handle too many medical tasks, it might increase conflicts among nurses.
  - ✧ Giving certain nurses special treatment can cause certain difficulties that feel like infighting.

"To begin with, we do not know what kind of training the other person has undergone, or what kind of expertise they possess . . . We do not know what a 'specified task' is in the first place, or what the person certified to do one can do, nor do we know what kind of training system they have completed to be able to do that task in a real-world setting . . . Given the current conditions, I think it is difficult to envision how much can be left up to the person with specified task training." (Physician F)

Nurses

- ✓ Concerns towards conflicts with or lack of understanding from physicians and other nurses
  - ✧ I have heard that there are physicians who say they do not need nurses' assessments or for nurses to do any decision-making, or that think nurses who try to share such knowledge are being pretentious.
  - ✧ Physicians ignore the opinions of nurses.
  - ✧ I experienced situations in which physicians ignored the opinions of nurses with specified task training.

- ✧ Understanding varies among physicians and steps to inform them are not advancing.
- ✧ Surrounding parties do not understand what nurses are doing when performing the tasks they have been certified to perform.

"There was one physician who said he did not need a nurse's assessment . . . I think there are quite a few physicians who think that they basically do not need support diagnosing someone, or that nurses should not be the ones making decisions, or that nurses' opinions are unnecessary." (Nurse D)

5.4 Environments are Insufficiently Prepared for Task Shifting and Task Sharing

- **When attempting to introduce nurses with specified task training and implement task shifting and task sharing, both physicians and nurses are struggling with the facts that there are few situations in which nurses can apply their high-level skills in clinical settings, and that environments and systems to help them do so are not in place.**

The total number of nurses with specified task training is still small, and as mentioned above, there is still insufficient recognition among PLWNCDs, physicians, and other medical personnel. This results in limited opportunities for nurses to utilize the abilities and skills they have acquired. While both physicians and nurses want to promote task shifting and task sharing in clinical settings, various issues were cited as obstructing factors to that. Those factors included the educational burden on physicians, the lack of opportunities and a suitable environment for training nurses, and issues related to the design of the specified task training system.

Physicians

- ✓ The burden of educating nurses with specified task training placed on physicians
  - ✧ There are protocols based on the guidelines published by the JNA (for working with nurses with specified task training) that we are supposed to follow, but there were many stumbling blocks. The physicians held a meeting and asked questions like if it was really necessary for them to follow each item in the protocols every single time.
  - ✧ Physicians are willing to help, but they sometimes do not have the time. The number of people who can provide education is limited.
  - ✧ Physicians have to spend more time providing education and it consumes their days off.

- ✓ Systems, opportunities, and the environment are insufficient for allowing nurses with specified task training to actively use the skills they have acquired
  - ✧ Even if everyone is aware of what sorts of tasks can be left to nurses with specified task training, when we actually try to do so, hospital rules sometimes prevent it.
  - ✧ Even if someone has potential, there is not much of an environment to develop nurses with specified task training. As a result, they do not get opportunities to acquire skills. There is not even enough time to begin training for the specified tasks. It takes a long time for someone to become qualified.
  - ✧ The first problems are determining what goals to set, what kind of work to assign to the nurses ahead of time, and how to support them as an organization.

- ✓ Issues Related to the Design of the Specified Task Training System

- ✧ The range of specified tasks is narrow. The tasks you can do are restricted in such a way that you can only receive opportunities for clinical training in limited situations under certain conditions. Since the range of tasks being advocated for is so narrow, I think many people avoid investing the time needed to complete the training process and get certified. The number of applicants is not increasing, either.
- ✧ There are no specific examples showing a clear grasp of specified tasks and their effective use.
- ✧ There are no prefectural hospitals in Okinawa Prefecture that offer specified task training. In places where nobody has completed specified task training, the people who can do the tasks, do them. That way, they develop their skills, whether they undergo the training or not.

✓ Proposals for promoting understanding of the specified task training and building systems for utilizing nurses who have completed it

- ✧ We must create systems in which working groups are formed in each ward and assigned key physicians so that nurses with specified task training can be coordinated within real-world clinical settings. It is likely that such systems will not operate effectively unless everyone builds them together.
- ✧ When I work with nurses-in-training at hospitals offering specified task training, I find that many of them are skilled and highly motivated, so I think understanding will improve for anyone who even watches them.
- ✧ I think one easy way to build awareness towards the training system would be to express it in terms of profit and loss. For example, employers could be told what kinds of benefits they will gain by hiring someone who has undergone specified task training. I think efforts to raise awareness could focus on that aspect a bit more.
- ✧ It is best if nurses with specified task training and NPs have partner doctors. The partner doctor can collaborate on things like managing tasks and setting personal goals.

"Currently, there are quite a number of hurdles for specified task training, and even if someone completes the training and becomes able to perform the specified task, I cannot think of many specific examples when someone fully grasped the specified task and is handling it well." (Physician A)

Nurses

✓ Inadequately-prepared environments and insufficient opportunities for nurses with specified task training to be educated and utilized

- ✧ Even when there are situations in which nurses with specified task training can play active roles, some university hospitals and other large hospitals set aside certain treatments or tasks for training residents, and educational opportunities for nurses are lost.
- ✧ Even after completing specified task training, some nurses have not been able to utilize the knowledge and skills they gained, nor have they made progress in learning how to complete new tasks on their own.

" . . . In the end, people do not understand what nurses with specified task training are doing. Meanwhile, the nurses themselves feel that they are not making use of the training they received. I think this is probably because we do

not all have a common understanding of where problems lie from the patient's perspective, in terms of patient outcomes." (Nurse D)

- **Physicians and nurses believe that physicians are the ones responsible for medical procedures performed by nurses and for ensuring the safety of those procedures**
  In the current state of affairs, every physician and nurse thought that responsibility lies with physicians. However, as previously discussed, the current system and division of roles does not create an environment in which NPs and nurses with specified task training can take responsibility for their own work. Some nurses expressed a desire for more autonomy and to be entrusted with more responsibility.

  Physicians
  - ✓ Ensuring safety and determining who shoulders responsibility
    - ✧ The current Japanese system is designed in a way that responsibility is placed on physicians.
    - ✧ The physician who gave an order is ultimately the one responsible for the outcome.
    - ✧ Looking at if the current system in Japan allows nurses with specified task training to possess some degree of autonomy while working, we see that it does not. Nurses must wait for physicians' orders and work cautiously.
    - ✧ I think that if physicians would just accept the situation and work with nurses, everyone could enjoy working together.
    - ✧ There is a need for certain physicians to serve as partner doctors for nurses and others who have completed specified task training. Partner doctors would set goals and shoulder responsibility for medical procedures.

      "I feel that trying to discuss how to ensure safety and clarify responsibilities is getting ahead of where we currently are by about ten steps. As for whether people can work with a certain degree of autonomy, given the current system in Japan, . . . we are not ready for that at all. I think most nurses are working very cautiously while waiting for a physician's orders." (Doctor E)

  Nurses
  - ✓ Ensuring safety and determining who shoulders responsibility
    - ✧ In the current system, the responsibility for medical procedures rests with the physician who gave the order to the nurse.
    - ✧ It may be necessary for physicians to find the courage to leave tasks up to nurses.
    - ✧ Nurses must also be mentally prepared to act with a sense of responsibility.

      "If there is an incident or an accident, like if a complication arises from the insertion of a central venous (CV) catheter, then who takes responsibility? Such procedures are done under the supervision of the physician who gave the instruction or the order, or the physician who directly supervises dangerous, no, difficult activities . . . Although this is also the case with specified tasks, such procedures are done under a physician's supervision, so if something happens, the physician takes responsibility." (Nurse B)

      "I can do things like change a tracheal cannula by myself, but right now, I have to consult with a physician to arrange a time to do it together, so progress has not been made on allowing nurses to do tasks on their own." (Nurse A)

- **Mechanisms to encourage nurses to acquire new skills and motivation them are insufficient**

  Participants in this survey included nurses who have and have not undertaken specified task training as well as NPs, but each participant felt motivated by fully demonstrating their abilities in the field, collaborating effectively with understanding physicians and nurses, and contributing to providing high-quality care to PLWNCDs. However, unlike in other countries such as the U.S., for example, where the salary of a Physical Assistant (PA) is almost twice that of a general nurse, the system in Japan is different in that there are almost no incentives in terms of salary and treatment to encourage nurses to acquire new skills. We found that creating incentives to encourage nurses to acquire new skills and motivate them was desired by both physicians and nurses to further increase the number of nurses and other healthcare professionals who have completed specified task training and to promote task shifting and task sharing.

  Physicians

  ✓ Designing incentives to motivate nurses to acquire new skills
  - ✧ People are motivated by desire, so there should be an incentive or something that benefits nurses. It should be something that others would be envious of, or else they will not feel motivated.
  - ✧ The physician's requested task should be something that is appropriate for the skills of a nurse with specified task training, or else it will lead to a loss of motivation.
  - ✧ Nurses are gaining more certifications and becoming more accredited, so there should be more frameworks in place to reward them not only in terms of satisfaction, but also in terms of salary.

  ✓ Hopes regarding training NPs and nurses who have complete specified task training and making them visible
  - ✧ Too few of our nurses have completed specified task training. I would appreciate it if we had a few more.
  - ✧ I want to know where the NPs are.
  - ✧ There is an uneven distribution between departments, an uneven distribution of human resources within the hospital, and uneven distribution of physicians in remote areas, so I think this can be one solution for overcoming those issues.
  - ✧ Due to the issue of incentives, I think that there are people who can actually handle specified tasks but have not undertaken specified task training and therefore do not have certification. They have hidden potential and I think we need an additional system to certify them.
  - ✧ Basically, to promote task shifting and task sharing, we need nurses with specified task training and NPs. If there was widespread recognition that their presence increases quality of medical care and patient satisfaction, then the number of such systems and people would increase. First, it is important to set up systems.

    "The income part is quite difficult to solve, because we created a position that was not originally there. So, we are currently making some adjustments to provide more money, and I think it will change again if we can verify the nurse's results and effectively tell the hospital staff about them." (Physician D)

Nurses

- ✓ Current sources of motivation
  - ✧ As an NP, I can perform at the level of a late-stage resident (ride along for medical transport, provide consultations, give presentations, provide substitute prescriptions, order certain lab tests, etc.), which is motivating.
  - ✧ When working with an understanding physician, I feel freedom, motivation, and potential.
  - ✧ There is something interesting about making nursing decisions independently.
  - ✧ The other nurses rely on me frequently.
  - ✧ Being able to handle more tasks increased my satisfaction towards my job.

- ✓ Designing incentives to motivate nurses to acquire new skills
  - ✧ Our salaries are determined by years of experience rather than by ability, such as being certified to perform a specified task. This makes it difficult to stay motivated.
  - ✧ Currently, even if we can perform a specified task, our salaries do not change much from general nurses. For example, we might receive an extra 10,000 yen per month as a certification allowance.
  - ✧ Our pay is not determined by the content of our work, but by time, so I would like to see more transparent reimbursement for care provided.
  - ✧ In the U.S., NPs are allowed to run their own clinics, where they shoulder the responsibility for performing specified tasks.

    ". . . The other nurses rely on me frequently, and I am often asked to handle tasks that are outside of the norm, so I suppose I could say that is my source of motivation. For now." (Nurse A)

- **While introducing task shifting and task sharing has the potential to contribute to better hospital administration, there are many healthcare institutions that do not have a firm grasp of current issues and needs.**

  The total number of NPs and nurses with specified task training is still small, task shifting and task sharing have yet to become common, and recognition towards these systems among healthcare administrators is insufficient. The ways these systems can benefit hospital administration were mainly discussed during the interviews with nurses.

  Nurses

  - ✓ Administrative issues at hospitals
    - ✧ Needs assessments are not being conducted at hospitals. Hospital administrators need to grasp what problems exist within their own hospitals.
  - ✓ Benefits to hospital administration
    - ✧ Task shifting and task sharing can reduce labor costs.
    - ✧ It is likely that reflecting task shifting and task sharing in the medical services fee schedule will get people working in hospital administration to start thinking about task shifting and task sharing.
    - ✧ Introducing task shifting and task sharing caused a real change in attitudes at our hospital.
    - ✧ If the hospital understands the problems, it is likely that the physicians who are currently opposed (to the introduction of task shifting and task sharing) will change their minds.
    - ✧ In the U.S., nurses are paid less than PAs or physicians, so task shifting and task sharing can benefit hospitals by helping them secure human resources at lower

costs.

"From the position of hospital and facility managers, labor costs make finances quite tight. I think task shifting is sorely needed to reduce overall labor costs while continuing to meet the needs of patients, so I think it is highly necessary for us to promote the introduction of task shifting in the future." (Nurse C)

- **To promote task shifting and task sharing, the roles of physicians and nurses must be redefined and expanded, and systems to educate nurses and help them acquire new skills must be established.**
  Introducing nurses with specified task training and NPs has had positive effects in all aspects, including better patient care, optimized work styles for medical staff, and better hospital management, so there are high expectations for them in the future. However, there is no national qualification for NPs at present, and the roles of nurses with specified task training are extremely limited compared to those of NPs and PAs in Europe and the U.S. It was clear that nurses with specified task training and NPs are currently unable to fully exercise their abilities.

  Physicians
  - ✓ Successful examples of nurses with specified task training must be showcased.
    - ✧ I have not seen many examples of people aiming to further their careers by taking specified task training. I think it will be important to highlight specified task training and continuously share real examples of success and increase the number of people who have taken the training.
  - ✓ Redefining the roles of physicians, nurses, and other medical staff
    - ✧ In addition to the acute, convalescent, and chronic phases, the roles in various fields like in-home care have yet to be worked out. If the system to train physicians continues as it is now, in which physicians specialize in certain organs, it will be necessary to rearrange various aspects of Japanese healthcare to match future needs. That might include determining what should be left up to physicians, what can be handled by non-physicians, and how much discretion nurses can exercise in fields like convalescent phase care.
    - ✧ Current systems like the hospital system and the Diagnosis Procedure Combination (DPC) system focus on one disease, one organ, and one specialist. There is a structural mismatch between these systems and the needs of the patients we will be seeing in the future: multi-disease patients who require multidisciplinary treatment. The fundamental questions are who will fix that mismatch, and how. I think nurses highly skilled in assessment might be able to fill the gaps in those fields in the future.
    - ✧ Another issue is segregation between paramedics and nurses. If we do not establish an effective system for determining what to do with nurses with specified task training, people will not know who is supposed to do what. A bit more coordination is needed.
    - ✧ It is more than likely that physicians are handling tasks that do not need to be handled by physicians. We need to prioritize which tasks must be handled by physicians and which tasks must be handled by nurses, and then work to organize and redistribute the tasks that do not necessarily need to be done by physicians through task shifting.

    "There are some aspects that are limited. Our roles are not comprehensive, so

we have to approach the conditions of the patient in a series. It is not as if there is a general approach. To take a look at part of what we do, in our field, it would be responding to dehydration, or adjusting catecholamine. The tasks we could shift or share would be extremely limited" (Physician B)

Nurses

- ✓ Establishing a national NP qualification
  - ✧ I want for a national NP qualification to be established so more task shifting can happen.
  - ✧ I would like for a national qualification and legal definition for the NP position to be established.
  - ✧ It is difficult for nurses to work independently without a national qualification, prescriptive authority, and discretionary authority.
- ✓ Redefining the roles of nurses and implementing systemic reform
  - ✧ The concept of "nurse" is rigid and has little potential for development.
  - ✧ In the U.S., there are companies that dispatch NPs specializing in night shifts. They can make flexible placements where there are shortages of medical personnel and allow people to work in ways that suit their own lifestyles.
  - ✧ We must develop an educational system to train NPs.

"If NPs are going to be included in task shifting and task sharing in the future, they will need discretionary authority, or some kind of authority granted by a national certification that lets them act autonomously. It might grant them prescriptive authority. I think it will be difficult to establish NPs as a position if they are not granted that sort of authority, so that is one of our future challenges." (Nurse B)

5.5 The potential to further improve the healthcare provision system through task shifting and task sharing

- **Both physicians and nurses believe there is demand for the introduction of nurses with specified task training and the implementation of task shifting and task sharing in every specialty and region, with particularly high demand in NCDs countermeasures in rural and remote areas, in-home care, and long-term care facilities.**

  Our study found that both physicians and nurses think that increasing the number of nurses with specified task training will benefit all PLWNCDs in every field of NCD treatment in every region, and that doing so will contribute to improving satisfaction towards the quality of care. There is ample potential to further expand the activities of skilled nurses, who are needed to bridge the gaps between healthcare and the community, particularly in areas where there is a shortage of physicians, as well as the gaps in in-home care, at long-term care facilities, and during the convalescent and chronic phases of NCD management.

Physicians

- ✓ Fields, regions, and other situations where task shifting and task sharing should be promoted
  - ✧ I think they should be promoted in various regions and fields, such as in-home care. They should be promoted more in chronic care management, outpatient management, and in-home care. There are also areas that are difficult for physicians to approach, such as lifestyle management.
  - ✧ I think task shifting is welcome in every field. In-home care is extremely important, so it is important to have people who will be responsible for

providing it in the future.

- ✧ In remote areas, there are certain tasks that do not get done if physicians do not do them. There is also room for people in outpatient care to address needs that are currently going unmet. The ability to entrust health checks to nurses and others who have completed training on certain specified tasks will be a good tool for enabling physicians to focus on the tasks that require a physician.
- ✧ If a nurse has a good understanding of medicine, care, and the community, they can act as a hub for collaboration between in-home medical and long-term care, which might be very good.
- ✧ It would be helpful if some special nursing home for the elderly developed a good model.
- ✧ Looking at which specified tasks are permitted, I think the system is suitable for medium to large acute care hospitals that are short on staff.
- ✧ It is still difficult for hospitals in Japan to adjust. I think there is a high demand for these systems in in-home care, at special nursing homes for the elderly, and at clinics in regions with physician shortages.
- ✧ The duties of nurses in large hospitals with many physicians and the duties of nurses in remote areas are different to begin with. In places where there are personnel shortages, task shifting occurs naturally. I feel that having abundant human resources only makes it more difficult for large hospitals to adopt task shifting.
- ✧ Task shifting and task sharing are suitable for healthcare institutions that are short on anesthesiologists.

✓ The potential for nurses with specified task training to contribute even more actively

- ✧ Nurses with specified task training can contribute even more in areas where there are gaps in medicine between cure and care.
- ✧ The closer you are to the community, the easier it is to see the benefits for patients. In facilities like special nursing homes for the elderly, where nurses have a lot of discretion in general, nurses with specified task training are particularly helpful in the sense that they can help standardize the level of treatment to a certain degree while also providing care.
- ✧ I think nurses would find it the most rewarding if they first studied for certain periods at places with many physicians and eventually transitioned to working in the community.

"I work at a secondary hospital that is somewhere between secondary and tertiary, like at 2.5, and social workers lack medical knowledge and are not specialists at providing care, so if there is an NP or a nurse (who has completed specified task training) there with them, it becomes possible to provide treatment that combines or crosses, to a certain degree, between care and cure. Transitional care has been a frequent topic of discussions lately, and since that is specialized, and I think they could play very useful roles if they were able to process information in a comprehensive manner from their position, where they could consider what might happen if the patient goes on to a tertiary hospital, or is moved to another secondary hospital, or if they are transferred to a rehabilitation clinic, or even if they return home and begin receiving in-home care. On that topic, I have recently been thinking that it would be very helpful for us, as a secondary hospital, if tertiary hospitals had offices for handling community relations.

"Also, maintaining anesthesia has been permitted as a specified task. Even though there are many highly-specialized aspects to that field, I think it would be good if there was task shifting and task sharing in that field because many facilities are short of anesthesiologists." (Physician D)

- ✓ Limits how much NPs and nurses with specified task training can be utilized
  - ✧ It is necessary to provide some unique benefit to each area based on specified tasks.
  - ✧ It is difficult to match the concept of nurses who can only perform certain tasks and to a certain extent within medical support or with regions facing shortages of physicians.
  - ✧ I think that even if large hospitals with enough physicians are good places for training, they might be difficult places for nurses to actively contribute.

"In some remote areas, there are some things that do not get done if physicians do not do them. I think there is room for NPs and nurses with specified task training to meet currently unmet needs in outpatient care. The same is true for dispatch care. The number and frequency of home visits specified in the medical service fee schedule is once every two weeks, and it is difficult to see every patient with multiple diseases in limited amounts of time. We have to work around time limits like that. I think being able to delegate health checks to some extent, such as to an NP or a nurse who has completed a specified task training, can serve as a good tool to enable physicians to concentrate on the tasks that must be performed by physicians. There is a lot of potential, but there is still a gap between that potential and reality." (Physician C)

"When a partner doctor tries to get a cross-sectional view of medical care in the community in terms of general practitioners or hospitals . . . it is extremely easy for (nurses who have completed specified action training) to visit anywhere, so if physicians first set aside opportunities to properly communicate, then the nurse can take over and handle communication from then on. They can do it very smoothly, so they play a very useful role. Their presence increases the tasks that do not have to be performed by physicians more and more. There are also situations that are difficult for physicians to perform or track, such as coordinating a discharge and checking on a patient's living situation at home after discharge. We can probably reduce readmissions if nurses get involved in those areas. Although patients might not notice it, we can see this just by looking at the current data from our hospital. It also results in a clear reduction in polypharmacy after hospitalization." (Physician D)

Nurses

- ✓ Fields, regions, and other situations where task shifting and task sharing should be promoted
  - ✧ They should be introduced in every field and region where they are needed.
  - ✧ There is great need in the field of in-home care.
  - ✧ There opportunities at hospitals with few emergency physicians for nurses with specified task training to actively contribute.
  - ✧ There is not much demand for nurses with specified task training at facilities with many physicians.
  - ✧ Rather than having them work at a single healthcare institution, NPs and nurses with specified task training need a framework where they can share regions.

"In the end, I think that in addition to thinking of the roles that nurses with specified task training and NPs can play at single hospitals, it will also be necessary to determine what sorts of human resources will be needed in the community in the future, or to create a framework for sharing human resources in the community." (Nurse D)

- **The potential to further optimize the work styles of medical personnel by enhancing the environment with the latest technology**
  During the interviews with the nurses, we learned that some people believe there is a high degree of potential to further improve the work styles of medical personnel while contributing to higher care satisfaction levels among PLWNCDs by combining systems deploying nurses with specified task training with the use of technology.

  Nurses
  - ✓ In regions with physician shortages, it would be good if a system was established that allowed nurses with high levels of skills to readily consult with certain physicians in specialized fields.
  - ✓ We need a standardized medical network that would allow us to do things like check test results from any hospital.
  - ✓ I would like there to be an app that would allow nurses to provide online medical examinations from physicians so people can access physicians even in remote areas without clinics.

  "Rather than focusing on a field or specialty . . . we are in a remote region, so I think it would be nice if there was a system that would allow us to flexibly connect with physicians in a certain field." (Nurse E)

- **The introduction of NPs and nurses with specified task training and the implementation of task shifting and task sharing have yet to cause significant work style reform for medical professionals in real-world clinical settings, but medical staff who are slowly becoming aware of the effects of these initiatives realize their future potential.**
  Although the introduction of NPs and nurses with specified task training and the implementation of task shifting and task sharing had clear benefits for PLWNCDs and hospital management, in terms of work style reform, they did little to lighten workloads for physicians and there was no particular evidence that indicated nurses were handling heavier workloads. On the other hand, however, some physicians felt that the content of their duties was in the process of changing.

  Physicians
  - ✓ Changes in workload
    - ✧ While the workload will not decrease, the content of the work will change.
    - ✧ While they will not decrease the workload, they might allow us to spend more time with each patient.
    - ✧ Work got easier after an NP was introduced.
  - ✓ Improving the healthcare provision system by enabling smoother communication in clinical settings
    - ✧ We have created a situation in which the NP can say things that nurses could not bring themselves to say to physicians, and the quality and speed of care provided to PLWNCDs has improved.

"I was able to see a bit of the beginning of the implementation process for task shifting and task sharing, and I was given no impression at all that they would shorten working hours for physicians, including for residents." (Physician C)

"Work for me is easy. I like to learn about new professions, and I think it is fun to broaden my perspective by having a discussion on something with someone from that profession." (Physician D)

Nurses

- ✓ Changes in workload
  - ✧ Work-life balance is good in emergency care.

"We get overtime pay, and even if we start to handle the same tasks as doctors in emergency care, we can maintain a good work-life balance. That is because the new regulations under Article 36 (of the Labor Standards Act) have the situation under control." (Nurse B)

- **There are expectations for Government agencies to take steps other than task sharing and task shifting to optimize work styles of medical staff and improve efficiency.**
  During one of the interviews with physicians, there were statements made that expressed high expectations for the Government to serve as mediator in efforts to allocate human resources to regions facing physician shortages, to provide subsidies for new medical equipment, and to introduce new items to the medical service fee schedule that promote task shifting and task sharing. We were given the impression that, in general, few clinical physicians fully understand Government discussions on work style and measures that have been implemented to encourage work style reform.

  Physicians

  - ✓ I wish the Government provided some dispatch system like Hello Work, but for physicians.
  - ✓ Since every hospital is operating in the red, if they were to provide some subsidies that allowed us to buy new medical equipment, it would thrill the people working there and lead to better healthcare.
  - ✓ I think it would be good if something was added to the medical service fee schedule to encourage efforts for task shifting.

  ". . .on the topic of dispatching human resources, when talking about more horizontal and vertical staffing, I wonder if anyone has a good idea of a way the Government could help people who want to work in a certain prefecture or in a certain field, or that want to temporarily move somewhere else for training. If there was, I would not mind going to a prefecture where there is a shortage of physicians." (Physician B)

6. Opinions/Recommendations

The results of this study indicated that task shifting and task sharing have not become widespread enough to correct the main issues facing Japan's healthcare provision system, such as heavy workloads for physicians, medical personnel shortages, and uneven distributions of medical personnel, nor have they improved work styles.

On the other hand, some medical professionals are gradually feeling the effects of task shifting and task sharing, and both physicians and nurses had high expectations that task shifting and

task sharing will contribute to correcting the aforementioned issues while still enabling medical staff to provide prompt, high-quality care to PLWNCDs. It is apparent that there is a need for task shifting and task sharing in all specialties, regions, and healthcare settings. Particularly in the field of NCDs, there are many situations where nurses with specified task training can play active roles. These roles are not limited to care in the acute phase; they also include the recovery and chronic phases, in-home care, and in long-term care facilities and healthcare facilities in rural and remote regions, where healthcare demand is expected to increase in the future due to population aging. Although the Trinity Reform of Healthcare aims to integrate and reorganize medical institutions through functional differentiation, at healthcare institutions that have no choice but to operate using part-time physicians, quality of care is currently being maintained almost entirely by full-time nurses. We believe nurses who have completed specified task training can play active roles at healthcare institutions that are unable to secure enough physicians due to geographical conditions or governance issues.

To truly optimize the work styles of medical staff and enable them to maximize their respective roles through task shifting and task sharing, three main issues must be addressed. First, concrete measures must be made to implement task shifting and task sharing in clinical settings. Second, the number of nurses with specified task training must be increased. Finally, the effects of task shifting and task sharing on the health of PLWNCDs and on the work styles of medical staff must be verified.

Based on the study results described above, the opinions of the survey team and measures to be promoted in the future are described below. The parties that we anticipate will implement each measure are indicated in parenthesis and in bold.

6.1 Perspective 1: There is a need for specific introduction measures in clinical settings and training opportunities for nurses who can perform specific actions to promote task shifting and task sharing.

Even if a healthcare institution has nurses with specified task training and NPs on staff, physicians, nurses, and other medical staff do not know exactly which tasks they can handle, and there are few opportunities and medical cases for practical training. Successful examples of healthcare institutions that have introduced the system must be shared more broadly so more healthcare professionals can be educated on aspects to keep in mind when implementing or expanding task shifting and task sharing. Awareness must be promoted among both medical staff and members of the public.

- **Related survey findings**
  - ✓ We were able to confirm examples of successful implementation of task shifting and task sharing in emergency medical services in urban areas and in in-home care and chronic care in rural areas. In these examples, nurses with skills gained from specified task training were able to play active roles because physicians acted as key persons in mediating between them and other physicians and general nurses.
  - ✓ It is ideal for nurses with specified task training to gain experience by training at large hospitals in urban areas. However, we found that nurses at such institutions can only play active roles in limited clinical situations and under certain conditions, and that there are insufficient training opportunities as well as physicians to provide the training.

- **Measures that should be promoted in the future**
  - ✓ Make successful examples visible and spread awareness among medical staff and the public.

- ✧ (**The national Government and municipal governments**) The number of successful examples is extremely limited, and it is likely that there are many healthcare institutions who wish to adopt these measures but are struggling to do so because they do not understand effective implementation processes and methods. Success stories should be made visible by sharing them online or in print.

✓ Define procedures, establish guidelines, and provide consultation to enable smooth implementation.

- ✧ (**The national Government, municipal governments, and private companies**) Procedures should be defined to enable smooth implementation and guidelines should be developed that cover each stage and healthcare setting. At the same time, consultation should be provided to ensure smooth implementation.
- ✧ (**The national Government, municipal governments, and healthcare institutions**) Communication gaps with other medical staff must be bridged. This can be accomplished by establishing partner doctors for nurses with specified task training and setting up working groups for physicians and nurses. Competency criteria should be set and training opportunities for partner doctors and other people who can act as hubs for promotion should be provided.

✓ Create visible examples showing the presence of nurses with specified task training and NPs in the institutions that have accepted them.

- ✧ (**The national Government, municipal governments, and healthcare institutions**) Since there are few nurses with specified task training and NPs overall, a platform that can be approached by medical staff and people working in hospital administration who want to hire them in the future should be built. Providing visible examples of regions and fields in which such nurses can play active roles would also be an effective way to help nurses seeking employment, and it will allow for more efficient matching of nurses to healthcare institutions that have established environments to accept them.
- ✧ (**The national Government, municipal governments, and healthcare institutions**) Because there is a great degree of potential for nurses with specified task training and NPs to contribute to care in special nursing homes for the elderly, community medicine, and care in rural areas, a showcase of nurses actively participating in these fields should be given wide-reaching publicity.

✓ Establish nurse training opportunities in real-world clinical settings.

- ✧ (**The national Government, municipal governments, and educational institutions**) A system for educating nurses and for training physicians who can provide that education should be built.

6.2 Perspective 2: The number of participants in specific action training should be increased through incentives and educational system reforms.

There are very few nurses with specified task training and NPs. Various reasons for this became clear from the study. Nurses face significant hurdles to receive specified task training and, even if once they complete it, many cannot play active roles using their new skills. Furthermore, they lack incentives in terms of compensation or treatment and, as a result, do not feel motivated to become specialists in certain skills. Although physicians feel there is

high demand for nurses with new skills, and nurses themselves feel the significance of their roles, systemic improvements are required to increase the number of such nurses.

Related survey findings

- ✓ Improving compensation and treatment
  - ✧ Physicians and nurses agreed that it is difficult for nurses to work with autonomy without a national certification, prescriptive authority, and discretionary authority. They also require incentives in the forms of compensation and treatment.

- **Measures that should be promoted in the future**
  - ✓ Improve compensation and treatment.
    - ✧ (**The national Government**) Medical service fee premiums that improve compensation and treatment for nurses should be considered.
    - ✧ (**Municipal governments and healthcare institutions**) Measures to improve compensation and treatment for nurses with specified task training should be considered.
  - ✓ Establish legal status for nurses with specified task training and NPs.
    - ✧ (**The national Government**) To truly achieve work style reform and reduce workloads, the scopes of the roles of physicians and nurses to must be reviewed, rearranged, and expanded; specified task classifications must be revised to fit real-world circumstances; and the responsibilities of each party and the authority they possess must be clarified. One item that might be considered is the establishment of a national certification for NPs.
    - ✧ (**The national Government**) A system to track and certify nurses in remote areas who have learned to perform specified tasks out of necessity should be built.
  - ✓ Provide training through educational system reform.
    - ✧ (**Educational institutions**) In addition to training nurses at large hospitals in urban areas, educational institutions such as universities and nursing schools should design programs to train nurses in rural and remote areas, where they will have more opportunities to perform specified tasks. Best practices for nurse training that combine education and real-world practice should also be established.
    - ✧ (**The national Government and municipal governments**) The national Government and municipal governments should create scholarships and support systems to help human resources like these to find rewarding lives in rural areas.

6.3 Perspective 3: It is necessary to measure the effectiveness of task shifting and task sharing to visualize and better understand its utility.

Our study showed that promoting task shifting and task sharing improves the work styles of medical staff, and participants felt these measures made real contributions to better health outcomes and care for PLWNCDs. However, the number of domestic studies that clearly demonstrate the usefulness of these initiatives is still limited, so further evidence will be necessary in the future. We anticipate that demonstrating the effectiveness of task shifting and task sharing using scientific evidence will encourage understanding and action among medical staff, hospital administrators, and policy makers. We also expect that the potential for task shifting and task sharing will expand beyond physicians and nurses, the subjects of this study, and eventually be implemented in all clinical settings and include all professions.

- **Related survey findings**
  - ✓ When doctors are unavailable or busy, patients are being cared for by nurses with specified task training. Said nurses are providing holistic care while serving as hubs between healthcare institutions and their communities.
  - ✓ Patients feel healthier and polypharmacy is being avoided.

- **Measures that should be promoted in the future**
  - ✓ Research should be promoted and further evidence should be established.
    - ✧ (**The national Government and research institutions**) Efforts to verify the effects of task shifting and task sharing on work styles and outcomes for PLWNCDs should be further expanded.
    - ✧ (**The national Government, municipal governments, and research institutions**) Special districts should be established in regions facing depopulation and other such areas where task shifting and task sharing should be introduced. The effects of task shifting and task sharing should then be verified for each healthcare institution and region.

7. Study limitations

7.1 Selection bias

Considering the total number of physicians and nurses in Japan, there were very few participants in this survey. Furthermore, participants were selected through convenience sampling. Because it is difficult to recruit participants directly using this method, participants were gathered through recommendations from acquaintances. Due to the limited number of participants, the survey conducted in this study may not be representative of the opinions of all physicians and nurses, and may not be generalizable to the opinions of the population.

7.2 Generalizability

Due to the limited number of participants, the survey findings cannot be extended to the same degree as a quantitative analysis. In that sense, it is unclear if the findings are representative of a survey of medical staff, so a larger number of opinions must be extracted through quantitative surveys and other such studies in the future. The findings demonstrated the opinions of physicians and nurses who tend to respond favorably to task sharing and task shifting to nurses with specified task training and NPs. As such, we were unable to refer to negative opinions.

7.3 Researcher bias

In qualitative research, the biases of the interview facilitators and researchers and how they phrase questions may lead to biased responses from interview participants. This study included a total of four interviews that were conducted by three different facilitators, which may have increased the likelihood such bias occurred.

7.4 The effects of using an online conference system

Considering the situation surrounding the ongoing COVID-19 pandemic, all interviews were conducted using the Zoom online conferencing system. As such, the occurrence of technical issues such as poor internet connection may have prevented the correct interpretation of interview content.

7.5 Separating “nurses with specified task training” and “nurse practitioners”

Survey participants included nurses with NP certification, nurses with specified task training,

and physicians with experience working with nurses possessing that certification or training. In the survey results, “nurses with specified task training” and “nurse practitioners” are described as faithfully as possible based on the attributes of the speaker and the context of each statement. However, in discussions on challenges, future prospects, and measures, there are portions of the statements in which there is no strict separation between the two. Further surveys and research is needed to further clarify the differences in attributes among these types of nurses.

Despite the above limitations, we were able to collect a great amount of data in this study. Our survey findings allowed us to learn about real-world circumstances for task shifting and task sharing and how physicians and nurses perceive task shifting and task sharing in clinical settings, which enabled us to conduct a detailed analysis on this theme.

Project Team and Contact Information

The project team at HGPI, which serves as secretariat of NCD Alliance Japan, served as leader in designing and conducting the survey, collecting and analyzing the data obtained, and compiling the results. Outside experts who assisted in this study include Dr. Ryota Ochiai (Associate Professor of Adult Nursing, School of Medicine: Nursing Course, Yokohama City University), who provided assistance in survey design and implementation as well as advice on opinions concerning the findings; and Mr. Masahiro Nishimoto (Director, Public Health Consulting LLC), who assisted with survey design and data analysis.

Health and Global Policy Institute Project Team

Eri Yoshimura (Senior Manager, HGPI)
Yuko Imamura (Manager, HGPI)
Yuiko Kondo (Senior Associate, HGPI)
Go Aso (Associate, HGPI)
Akira Shimabukuro (Intern, HGPI)
Maya Fujimura (Intern, HGPI)
Hatsune Kido (Intern, HGPI)
Ryoji Noritake (CEO, Board Member, HGPI)

Survey Collaborators (Titles omitted)

Ryota Ochiai (Associate Professor of Adult Nursing, School of Medicine: Nursing Course, Yokohama City University)
Masahiro Nishimoto (Director, Public Health Consulting LLC.)

特定非営利活動法人 日本医療政策機構

〒100-0004

東京都千代田区大手町 1-9-2

大手町フィナンシャルシティ グランキューブ 3 階

グローバルビジネスハブ東京

TEL: 03-4243-7156 FAX: 03-4243-7378

Info: info@hgpi.org

Website: https://www.hgpi.org/

Health and Global Policy Institute (HGPI)

Grand Cube 3F, Otemachi Financial City,

Global Business Hub Tokyo

1-9-2, Otemachi, Chiyoda-ku, Tokyo

100-0004 JAPAN

TEL: +81-3-4243-7156 FAX: +81-3-4243-7378

Info: info@hgpi.org

Website: https://www.hgpi.org/en/