Community-based Integrated Care

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1. Background of why Community-based Integrated Care System is required

a. An aging society with fewer children

In Japan, the population peaked in 2008 at 128 million due to a declining birthrate that began in the 1970s, and it took a downward turn from that year on. The population of people aged 65 years or older stood at 29.25 million in 2010, accounting for 23.0% of the total population. The elderly population is expected to peak in 2042 at 38.78 million, comprising 36.8% of the total population. It

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is forecast that the elderly population will begin decreasing thereafter, but its ratio to the total population is expected to continue to increase.

The aging of society is mainly caused by an increase in longevity across the population. For example, around 1940, the rates of males and females who reached 65 years of age were 38% and 44% respectively. The data suggest that 87% of males and 94% of females lived to be 65 in 2010, indicating a dramatically increased longevity. It has been said that 2025 will see a rapid increase in the number of the old-old population. This increase will be brought about by the baby-boom generation born in the immediate postwar period as they will join the old-old population one after another around the year 2025. Naturally, life expectancy at birth (so-called "average lifetime") has also been increasing, marking the highest level in the world with life expectancies for males and females standing at 79.6 and 86.3 years of age respectively.

The aging of society differs substantially from region to region in Japan. Although the elderly population is close to reaching a peak in many regions, it will increase exponentially in and around Tokyo, Nagoya, Osaka, and

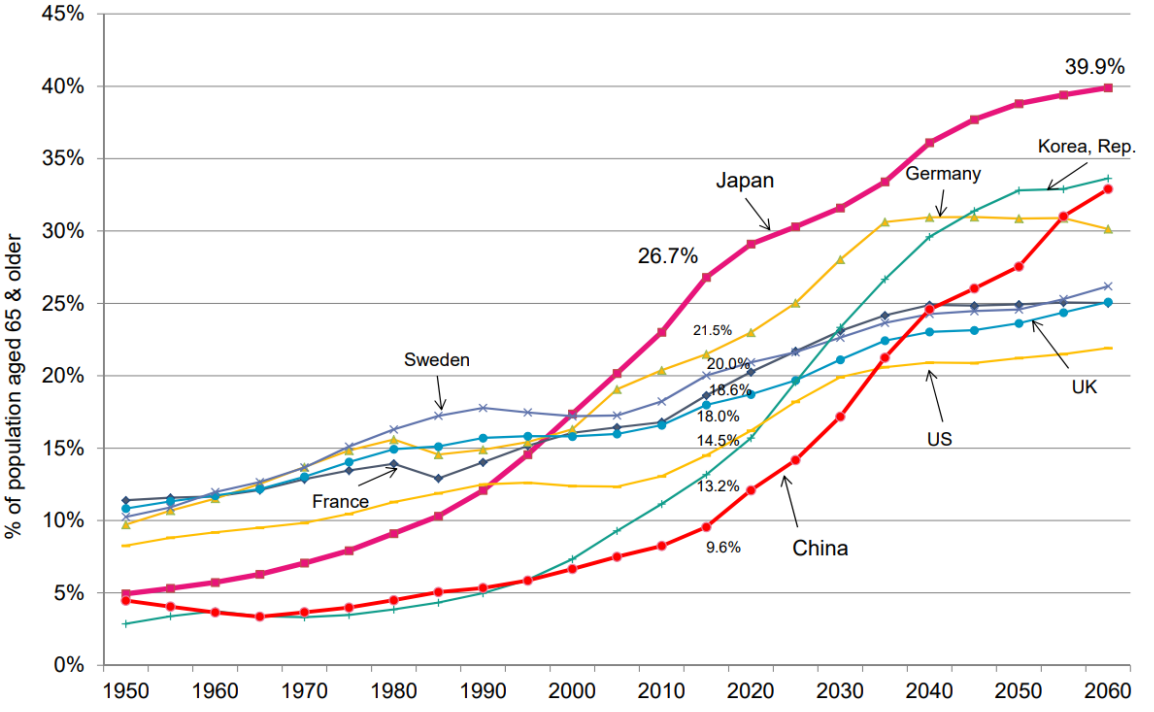


Figure. Changes in the Percentage of the Population Over Age 65

Sources: Japan – Ministry of Internal Affairs and Communications, Population Census; National Institute of Population and Social Security Research – "Population Projections for Japan (January 2012 estimate): Medium-Fertility & Medium-Mortality Assumption" (Figures as of Oct. 1 of each year); Other countries – United Nations, World Population Prospects 2010

Fukuoka until 2040. It is frequently said that these areas are in greater need of the Community-based Integrated Care System.

Health life expectancy is also among the best in the world as male and female health life expectancies reached 70.4 and 73.6 years of age respectively in 2010, showing a further extension from 2001 when male and female health life expectancies were 69.0 and 72.7 years of age respectively. However, when it comes to "a period during which people do not live a healthy life," which is obtained by subtracting health life expectancy from average lifetime, it extended by about 1.4 years of age for both males and females, compared to 2001. While the extension of health life expectancy should be welcomed, there is a possibility that the extension of an average lifetime will not necessarily be welcomed, given the need for long-term care and so on.

From the standpoint of disease structure, the leading cause of death before World War II was an acute infection. Tuberculosis ranked highest among death causes during and a few years after the war. Vascular brain disease was the top cause of death from the subsequent post-war period until 1980, and malignant neoplasm has been the top in the cause-specific death rate since 1980. Malignant neoplasm can be said to have been increasing in line with the aging of the population, and the age-adjusted death rate itself is peaking out. Furthermore, although they do not directly result in death, physical vulnerability such as sarcopenia caused by diminished skeletal muscles and mental infirmity as represented by dementia are emerging as new social problems. In addition, it seems that attention is gradually being paid to an attitude to seek for something to live for - whether you can eat food from your mouth even in the final stages of death or whether you can participate in social activities or make a social contribution, rather than just living life.

b. Changes surrounding life and death

Japanese society was originally formed around families. It appears that most of the reasons are derived from the Confucian thought and customs based it. In the past, the value that children and sick persons should be solely taken care of by their family took root, but such value changed substantially after World War II. One of the signs for it is a change in death rate by places of death. In the early 1950s, more than 80% of people died at their home. In 1975, the number of deaths at one's home became equal to that at medical facilities, and in 2005, the number of deaths at medical facilities accounted for 82.4%. As a result, the number of deaths at one's home

dropped to 12.2%. A change in family functioning is said to be a major reason for it. Take as an example the ratio of the number of households with elderly persons aged 65 or older. In 1975, three-generation households accounted for 54.4%, but in 2010, they fell to 16.2%. In contrast, elderly persons living alone increased from 8.6% to 24.2%, households of only a couple rose from 13.1% to 29.9%, and households of only parents and unmarried children rose from 9.6% to 18.5%. This indicates a reduction in the possibility that when people require medical and nursing care in their old age, their family can provide nursing care to them and support their household.

In the first place, the image of home and family themselves has changed drastically. Japanese society in the period before World War II had a family system in which any father as a family head was vested with absolute authority. The family system was more or less linked with the seniority system and the inequality between the roles of males and females. After the war, the family system was abolished, and the statuses of husband and wife became equal institutionally, but a change in the sense of values did not happen so rapidly. However, as wages rose in connection with the economic growth, the division of labor between husband and wife became common; a husband devoted himself to his work and a wife absorbed herself in housekeeping and child care. After the 1970s, high economic growth slowed down and the international trend for women's advancement and the realization of gender equality flew into Japan. In line with this trend, women's social advancement started to prevail gradually. Partly triggered by the fact that the co-payment of medical expenses by elderly persons aged 70 or older was exempted in 1973, the term "social hospitalization," which means that frail elderly persons were kept hospitalized, appeared around that time. Since 1983, the co-payment of medical expenses for elderly persons resumed and increased little by little. Nonetheless, the issue of social hospitalization continued until the introduction of a long-term care insurance.

Against this background, since 1980, Japanese society has changed into the one in which people place more importance on individual values. One example of such situation is that the sense of values of marriage has changed and the number of unmarried persons has increased. In 1960, the lifetime non-marriage rate (a percentage of unmarried people at 50 years of age) was 1.3% for men and 1.9% for women. It rose to 5.6% and 4.3% in 1990 and further increased to 20.1% and 10.6% in 2010 respectively. The number of a couple without any child has

also risen due to delayed marriage. Also, there have been an increasing number of families where a parent needs nursing care when their child is of marriageable age and where a child of productive age leaves his or her job to apply his or her parent's pension to his or her living expenses. Negatively speaking, it appears that there is an increased number of families in which children cannot sustain themselves without their parents. In the meantime, there is a growing number of elderly persons who have a sense of values that they wish to live alone or live with their spouse only without giving any sense of discomfort to their children. Then, whether they can live at their home when they become frail has become a new issue, which initiated such discussions as barrier-free home and in-home nursing care services.

In and after 2000, one change in medical care was observed. Sanatorium-type hospitals had used IVT for nutrition intake until around that time, but the way of nutrition administration changed from nasotracheal intubation to gastric fistula. However, probably because there was a growing number of cases where gastrostomy was performed under such conditions as a patient had dementia and low appetite, an expression that a patient "is forced to live" with nutrition from gastric fistula began to be used. In these instances, as it may be difficult to find out that the performance of gastrostomy is determined based on whose and what sense of values, there has recently been a rapidly growing sense of values that gastrostomy isn't a good choice in view of the dignity of each person. Like this, Situations surrounding life and death are changing fast.

2. A form of Community-based Integrated Care System

a. An outline of Community-based Integrated Care System

In the 1970s, Dr. Noboru Yamaguchi of Mitsugi General Hospital in Hiroshima saw as a problem the fact that there were many cases where elderly persons were taken to the hospital by ambulance due to vascular brain diseases and so on, and they were saved by emergency surgery and discharged after rehabilitation but ended up being hospitalized again after 1-2 years of bedridden periods. There were many patients who had bedsores, wore an adult diaper, and had advanced dementia. Because of insufficient in-home nursing care capacity, there were some patients who lived alone. Dr. Yamaguchi encouraged doctors, nurses, and public

health nurses to visit patients in their home. He enhanced rehabilitation and promoted activities by community residents as well as built a health management center at the hospital in the 1980s. By doing so, he established the system in which health, medical care, and long-term care are integrated. This model can be said to be a pioneer in the Community-based Integrated Care System.

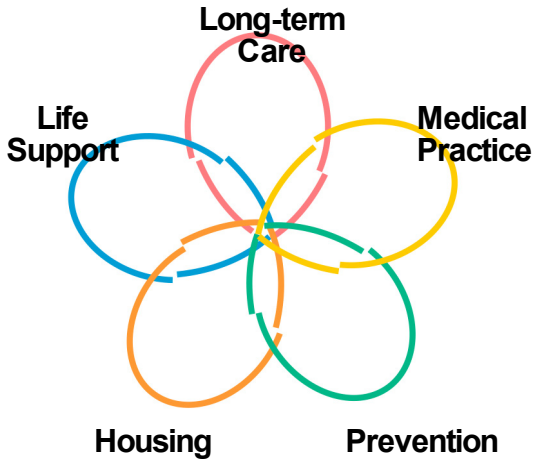
In 2003, the study group for elderly care set up by Director-General of the Health and Welfare Bureau for the Elderly at the Ministry of Health, Labour and Welfare issued a report titled "Elderly Care in 2015 - Toward the Establishment of Care to Support the Dignity of Elderly Persons -." This was the first case where the Community-based Integrated Care System was mentioned in official documents. As a consequence of the release of the report, a model including an assessment of problems in one's daily life, long-term care service planning, inter-professional collaboration between specialists involving in support, monitoring of service implementation status and of changes in the situation of elderly persons in need of long-term care came to be called the Community-based Integrated Care System.

In addition, the 2005 long-term care insurance reform made it possible to establish community general support centers, improve residential services such as housing facilities with long-term care service, establish new preventive benefits and preventive long-term care services as well as community-based care services such as multifunctional long-term care in a small group home, and review meal and housing expenses. The reform led to the current Community-based Integrated Care System. According to a report issued in 2008 by the community-based integrated care study group, the Community-based Integrated Care System is defined as a system in which elderly persons can continue to live in an area or their home familiar to them as long as possible even if they become in need of long-term care under the community system where various services such as medical care and long-term care can be properly provided to them within approximately 30 minutes in an area (equivalent to a junior high-school district).

The first model of the Community-based Integrated Care System was described as five circles of nursing care, medical care, prevention, home, and livelihood support (Figure). Based on this, in a report issued in 2012 by the community-based integrated care study group, the model commonly called an illustration of a flower pot was announced. The illustration comprises three leaves representing medical care/nursing, nursing care/rehabilitation, and health/prevention, soil representing local infrastructures/welfare

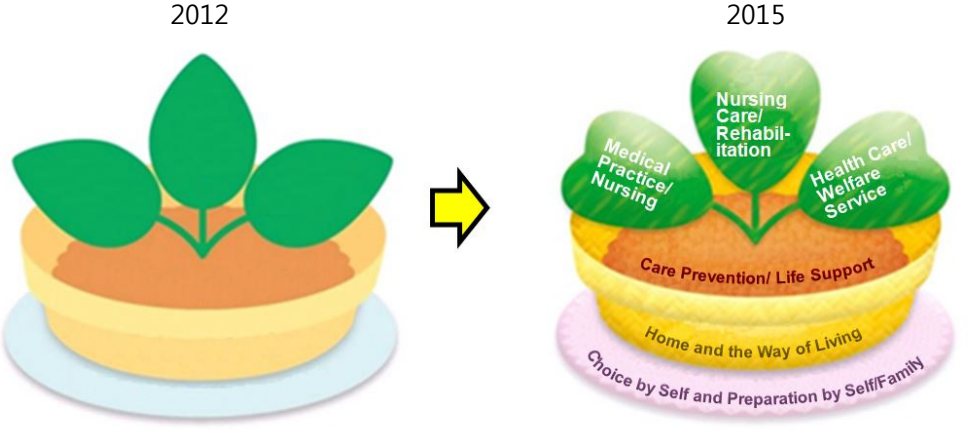
services, a flower pot representing a home and a change in the style of living, and a saucer representing a choice made by and mental attitude of elderly persons and their family. The flower pot also represents each family and a difference between each family (Figure 3).

The illustration of the flower pot was revised in the 2005 report. A leave representing health/prevention changed to the one representing health/welfare, and 'prevention' moved to the illustration of soil as 'long-term care prevention,' along with 'livelihood support.' This signifies that more foundational position was given to the importance of preventive long-term care. Regarding the illustration of a saucer upon which a flower pot is placed, because this gave rise to a misunderstanding that families had the right to make a choice in place of elderly persons themselves, amendments were made to it so that the illustration could represent a choice made by elderly persons themselves and mental attitude of both elderly persons and their family (Figure 3). These changes indicate that the Community-based Integrated Care System is still in the process of developing and it takes time for the system to be established.



▌Figure ▌

Medical care/nursing, nursing care/rehabilitation, and health/welfare depicted as three leaves



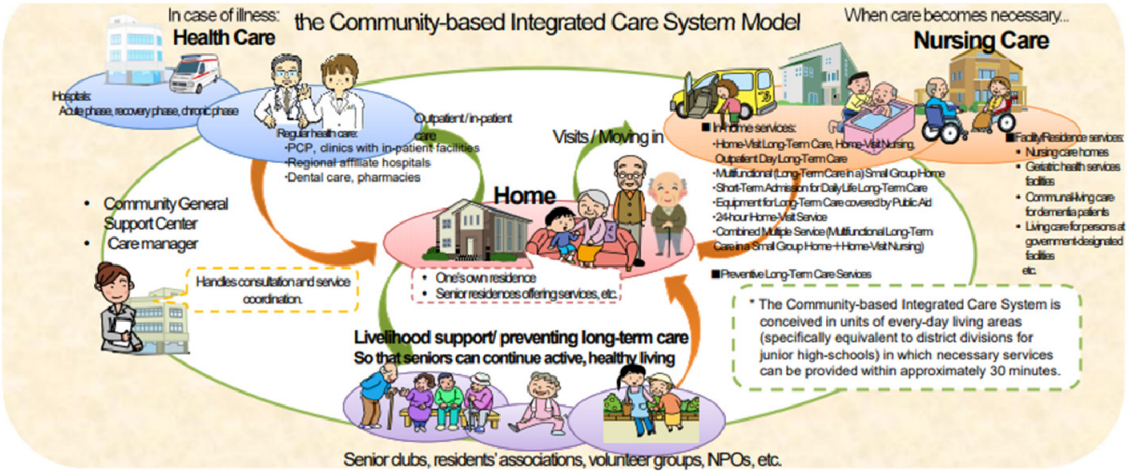
▌Figure3 ▌

are all performed by specialists, and inter-professional work is important. On the other hand, preventive long-term care includes services that are not covered by the insurance, such as exercises at gyms, participation in exercise classes for preventive long-term care, use of meal delivery services for ensuring consumption of meals. These activities are done mainly by elderly persons and their family, but some of them are supported by those in communities (volunteer groups, NPOs, etc.) and administrative bodies.

b. Medical care and long-term care insurance system

In Japan, the Health Insurance Act was enacted in 1922, and the system was launched in which the payment of premiums was withheld from salaries of employees at factories and mines (3% of the population). In 1938, the National Health Insurance Act, which covered farmers as well, was promulgated to settle an issue that illness impoverished people. Under these circumstances, political decision-making was made toward a universal healthcare insurance system during the economic boom in the postwar years of recovery. As a result, the principle of compulsory coverage was formed in which all the population was obliged to join either an employee health insurance or the national health insurance, and the universal healthcare insurance system was achieved in 1962.

Initially, the percentage of patients' payment was 50% for the national health insurance, a fixed amount for employees, 50% for dependent family members. In the case of the national health insurance, it dropped to 30% for a head of a household in 1963 and to 30% for household members in 1968. However, the risk of economic collapse



Figure

due to illness or accidents of dependent family members remained high. Meanwhile, in 1973 when the rapid economic growth peaked, the introduction of the high-cost medical care benefits system and the free medical care for the elderly as an epoch-making turning point was implemented. Under the system of the free medical care for the elderly, any amount of medical care costs exceeding 30,000 yen per month was paid by the insurance at that time. Medical care costs for the elderly became free of charge in Tokyo in 1969, which received overwhelming support from residents. Consequently, it was widespread across the nation. However, the free medical care costs system trigged substantial side effects, resulting in a rapid increase in the number of hospital visits by the elderly and the number of hospitals for the elderly, and social hospitalization aimed at long-term care also became a problem.

After the 1980s, a fixed amount of co-payment was introduced for the hospitalization of the elderly and for outpatients. In 2002, a fixed amount of co-payment of 10% was reintroduced. The co-payment under employee health insurances was set at a fixed amount of co-payment of 10% in 1984. It gradually increased to 20% in 1997 and 30% in 2003, and finally became the same level as that under the national health insurance. Under the high-cost medical care benefits system, too, the amount of co-payment was raised, and different amounts of co-payment depending on income levels were introduced in recent years.

Meanwhile, when social hospitalization became a problem after the introduction of free medical care for the elderly, how to draw a line between nursing care and medical care became a problem. Nursing care means long-term care for the elderly and can be said to be a contrary concept to short-term acute stage care. Therefore, in order to settle the issue of social hospitalization, it is necessary to reduce the ratio of premiums for long-term care in medical care costs for the elderly or to change financial resources. In the U.S., medical insurance itself is covered by private insurances, and official support can be only provided after the insured has used up his or her assets. In Northern Europe, on the other hand, long-term care is provided by social security if there is the need for care, but inconvenience may arise as users cannot select service facilities, and it is difficult for them to add services at their own expenses.

Now, we would like once again to clarify the position of public services on medical care and long-term care (nursing care). Firstly, in medical care, it is important for equal services to be provided as it affects our lives, but in long-term care, public sectors

only have to assume the minimum responsibility, and it is socially acceptable for high income earners to select high value-added facilities. Secondly, in medical care services, decision making tends to be dependent on medical service providers, but in long-term care, in principle, users make their own decision because it is possible for them to understand the contents of long-term care easily. Thirdly, it is difficult for long-term care services to be limited to qualified personnel and it is also difficult for such a rule as a business monopoly to be stipulated. For these reasons, long-term care has been entrusted to the market economy in which users make their own decision about service contents. Additionally, if cash benefits are mainly provided as in the case of Italy and U.K., immigrants will come in from abroad to provide long-term care as residents, which tends to cause such problems as cultural conflict and abuse. As a solution for these problems, it was decided that benefits would not be provided by cash and instead they would be provided in the form of services only.

In the end, the bill of the Long-Term Care Insurance Act was enacted at the end of

▌Figure. Development of welfare policies for the elderly ▌

	Major topics	Aging %	Major policies
1960s	Beginning of welfare policies for the elderly	5.7% (1960)	1963 Enactment of the Act on Social Welfare Services for the Elderly ➢ Intensive care homes for the elderly created ➢ Legislation on home helpers for the elderly
1970s	Expansion of healthcare expenditures for the elderly	7.1% (1970)	1973 Free healthcare for the elderly
1980s	"Social hospitalization" and "bedridden elderly people" as social problems	9.1% (1980)	1982 Enactment of the Health and Medical Services Act for the Aged ➢ Adoption of the payment of co-payments for elderly healthcare, etc. 1989 Establishment of the Gold Plan (10-year strategy for the promotion of health and welfare for the elderly) ➢ Promotion of the urgent preparation of facilities and in-home welfare services
1990s	Promotion of the Gold Plan	12.0% (1990)	1994 Establishment of the New Gold Plan (new 10-year strategy for the promotion of health and welfare for the elderly) ➢ Improvement of in-home long-term care
	Preparation for adoption of the Long-Term Care Insurance System	14.5% (1995)	1997 Enactment of the Long-Term Care Insurance Act
2000s	Introduction of the Long-Term Care Insurance System	17.3% (2000)	2000 Enforcement of the Long-Term Care Insurance System

1997, and it came into force in 2000. The features of the Act include: 1) Premiums are paid by all the population aged 40 or older, 2) Anyone aged 65 or older can use the insurance, but in the case of persons aged 40-64, only patients with specified diseases can use the insurance, 3) As stated earlier, service benefits are provided without cash benefits being paid, 4) Services previously categorized in the welfare/medical category care are provided after they are regrouped into the residence/facility category, 5) Long-term care service providers are selected by a long-term care support specialist (care manager), 6) Users pay the co-payment at the fixed rate of 10%. Users can be issued a certification of needed long-term care and receive care at a fixed rate up to the maximum amount of benefits, depending on a total of seven levels of needed support and needed care. Another feature is that if benefits exceed the maximum limit, additional services can be added at one's own expense. Additionally, the co-payment borne by users under the long-term care insurance system rose to 20% for some users in 2015 in accordance with the amount of their income, and it further rose to 30% for those with higher income in August 2018, raising a new concern among users and their family.

c. The Act on Promotion of Comprehensive Securement of Health and Nursing Care

Under the government of the Democratic Party of Japan in 2012, "the National Council on Social Security System Reform" was established, and according to a report complied in August 2013, "the Act on the Promotion of Reform for the Establishment of a Sustainable Social Security System" and "the Act on the Establishment of Acts Relevant to the Promotion of Comprehensive Securement of Medical and Nursing Care in Communities" were enacted in 2013 and 2014 respectively. These Acts clearly define the Community-based Integrated Care System as one of the central challenges to integrate future medical care and welfare.

"The Act on Promotion of Reform for the Establishment of a Sustainable Social Security System" (so-called the Social Security Program Act) enacted in December 2013 stipulated the Community-based Integration Care System in law for the first time. This Act was intended to clarify the whole image and the procedure of the reform for "the comprehensive reform of social security and taxation systems" promoted by the entire government, and it was based on the report compiled in August 2013 by "National Council on Social Security System Reform." In the Act, the Community-based Integrated Care System was defined as "a system in

which medical care, nursing care, preventive long-term care, home, and support for an independent daily life are secured in a comprehensive manner so that elderly persons can live an independent daily life in areas familiar to them long as possible in accordance with actual circumstances of communities.

In the figure drawn by the Ministry of Health, Labour and Welfare, "home" that includes senior residences offering services and their own residences is placed in the center. Three main pillars are placed around it, comprising "Livelihood support and Preventing long-term care" that includes senior clubs, residents' associations, volunteer groups, NPOs, etc., "Nursing Care" that includes in-home services and facility/residence services placed in the back, "Health Care" that includes regular health care and hospitals placed in the back. It also notes that community general support centers and care managers handle consultation and service coordination and that the Community-based Integrated Care System is conceived in units of every-day living areas in which necessary services can be provided within approximately 30 minutes.

In June 2014, "the Act on the Establishment of Acts Relevant to the Promotion of Comprehensive Securement of Health and Nursing Care in Communities" (the Act on the Promotion of Comprehensive Securement of Health Care and Nursing Care) was enacted. The gist of the Act includes: the establishment of a fund for reinforced collaboration between health care and nursing care at the prefectural level, the establishment of regional medical support centers that handle information management of clinical medical care function, medical planning, and support for the securement of doctors at the prefectural level, the focus on persons in need of a moderate-to-intensive level nursing care in special long-term care health facilities, a change in the share of burden in proportion to one's affiliation, the launch of a training system for nurses who perform specified conduct, the research system on medial accidents, and measures to secure human resources for nursing care.

d. Economy and Community-based Integrated Care System

The free medical care for the elderly mentioned earlier was introduced in January 1973. In October of the same year, the first oil crisis occurred, which led to a deficit in revenue. As a result, deficit-covering government bonds were issued. This led to the introduction of the consumption tax in 1989 for the purpose of mainly maintaining social security. At the time of the introduction, the tax rate was 3%, but it increased to 5% in 1997, 8% in

2014, and it is scheduled that the tax rate will rise to 10% in 2019. In the course of this tax reform discussion, in 2012, the then Democratic Party of Japan, the Liberal Democratic Party, and New Komeito reached a tripartite agreement, and the comprehensive reform of social security and taxation systems was executed. In 2013, the Liberal Democratic Party recaptured the reins of government, but the comprehensive reform of social security and taxation systems continued, and discussions mainly led by the National Council on Social Security System Reform are still underway.

It may be a major issue for each country whether or not the introduction of the Community-based Integrated Care System is intended to curb medical and nursing care costs. In the 1970s to 1980s, analyses were made, focusing on costs borne by medical insurances and costs of public welfare and nursing care services. As a result, it was understood that community and in-home care were less expensive than impatient and facility care, and a reduction in medical and nursing care costs was initially clamored for in Japan. However, it became known that community and in-home care would be more expensive, given costs of family caregivers, etc. In the systematic review published by Weissert et al. in 1994, the cost-effect analysis was made on care and rehabilitation in a community and at home (hereinafter called "community and in-home care") for persons and patients in need of intensive level nursing care and it was found that the costs of community and in-home care were on average 15% higher. The integrated review by Grabowski in 2006 confirmed a welfare level improvement and an increase in costs. Perhaps as a result of these analyses, the Ministry of Health, Labour and Welfare made statements acknowledging that in-home nursing care costs are not necessarily less expensive than hospitalization costs.

In addition, it is not clear whether preventive long-term care and rehabilitation can reduce medical costs in the long term. For instance, it has been indicated that, in the case of stroke patients, total medical and welfare costs can be reduced by rehabilitating them from the early stage through coordination between hospitals and facilities, compared to a six-month hospitalization in a general hospital that doesn't provide rehabilitation. However, a study of an anti-smoking program in the Netherlands suggested that the medical costs decreased in the short term, but the whole medical costs increased after a lapse of 15 years due to increased medical costs arising out of an extended life expectancy of smokers. As far as preventive long-term care and rehabilitation are concerned, in the long term, it is quite possible that the total medical costs of them will increase, but no

persuasive study has ever been conducted with regard to this point.

e. The gist of Community-based Integrated Care System

Two concepts, namely, community-based care and integrated cape, are incorporated into the concept of the Community-based Integrated Care System. It is important that community-based care is built based on characteristics and a sense of values in communities in order to meet community needs for health, and participation by residents holds the key. Meanwhile, integrated care is aimed at reducing a disconnection in medical care and enhancing continuity and coordination among services provided by different organizations. It features the involvement of administrative bodies, community health and medical welfare personnel, and community residents.

It is said that there are two types of community-based integrated care: one centering on medical care and the other centering on welfare and administrative bodies. The case of the aforementioned Mitsugi General Hospital and the case of Sawauchi village of Iwate Prefecture where medical care in hospitals and healthcare activities were unified are both a pioneer for what focuses on medical care. On the other hand, as examples of what focuses on welfare and administrative bodies, the initiatives taken by Nanto City of Toyama Prefecture and Higashiomi City of Shiga Prefecture expanded residents-based preventive long-term care activities due to a decline in medical care function. It is not possible to decide which is better, one centering on medical care or the other centering on welfare and administrative bodies. Yet, in the case of the one centering on welfare and administrative bodies, if cooperation among medical service providers, especially doctors, remains insufficient, there will still be a problem that it will be difficult for it to function properly as a system.

Another important issue is who provides medical care for community-based integrated care and how it is provided. In the 2009 report by the community-based integrated care study group, medical service providers included as integral parts of the Community-based Integrated Care System were limited to outpatient care at clinics and home-visit medical care, but in the 2013 report by the National Council on Social Security System Reform, a major change was that hospitals were included as integral parts. This can be seen as an indispensable approach to making up for situations where, for example, in-home medical care cannot control symptoms sufficiently, and outpatient care at clinics are unavailable at night and on holidays and

to comforting patients and their family.

Another important point stated in the report is that medical care shifted from "medical care to cure" and "medical care completed within the hospital" to "medical care to cure and support" and "medical care completed within a community." Firstly, this signifies that the hospital plays a bigger role in the preparation of in-home medical care, rather than being a facility from which patients are required to leave as soon as acute-phase treatment is completed. Secondly, it can be observed that the hospital providing secondary and tertiary care in communities is expected to play the central role in community-based integrated care in collaboration with clinics providing primary care. Consequently, there appeared cases where medical associations strengthened cooperation between communities at the municipal level.

Community-based integrated care tends to be misunderstood as a concept that it is given more importance in regional communities because of the word "community." The issue of a rapid increase in the number of the old-old population, as mentioned earlier, should be addressed more in urban areas. Additionally, another issue is that the number of hospital beds and the capacity of nursing care facilities per population is in shortage in urban areas. The Ministry of Health, Labour and Welfare assumes that they establish the uniform nationwide system for both medical care and nursing care, so they don't mention that the Community-based Integrated Care System also apply to urban areas. However, it should be made known that the system is designed with importance given to urban areas.

To put it plainly, although the words "Community-based Integrated Care System" are used, it is not intended that it should be uniformly implemented by the government across the nation through municipalities. One community may design medical care-based integrated care centering on the hospital, and another community may form a network that involves nursing care facilities as well as in-home medical care mainly under the initiative of administrative bodies.

The Ministry of Health, Labour and Welfare points out that the purpose of the Community-based Integrated Care System is to improve the threshold of in-home living. Because the aforementioned decline in the percentage of deaths at home also involves a change in family lifestyles, the improvement of the percentage of deaths at home is not set as a direct target. It means that the system is designed so that a longer period of staying at one's familiar home will lead to a happier life. In fact, the percentage of deaths at home stood at the lowest ever point at 12.2%. It slightly rose to 12.5% in 2010 and 12.9% in 2013, but dropped to 12.7% in 2015, keeping

the leveling-off trend.

By prefecture, the data in 2013 shows that Tokyo has the highest percentage of deaths at home at 16.7%, followed by Hyogo at 16.4%, Chiba at 15.8%, Kanagawa at 15.5%, and Osaka at 15.2%, which means that the top five are large metropolitan areas. However, a detailed analysis of the data on Tokyo suggests that out of 18,483 deaths, the number of abnormal deaths at home is 7,440, out of which 4,515 is a single-person household, revealing that a single-person household's abnormal death at home accounts for 24.4% of the total deaths. The bereaved family often feel unhappy about their family member dying alone. Therefore, it should be an important issue to prevent solitary death regardless of an increase in the percentage of deaths at home.

f. A perspective for community management

Community management is positioned as an advanced form of the Community-based Integrated Care System. Social intervention in social determinants of health (SDH) holds the key to it. In the 2008 report by the commission of on social determinants of health of the World Health Organization (WHO), the commission made three recommendations, i.e., to improve daily living conditions, to tackle the inequitable distribution of power, money, and resources, and to measure and understand the problem and assess the impact of action and reaffirmed an indispensable value of health equality. It corresponds to the "health for all" principle specified in the Declaration of Alma-Ata on primary health care advocated by WHO and UNICEF in 1978. It also doesn't conflict with Sustainable Development Goals, which are the post-2015 development targets.

Regarnding how large the social impact on health is, a comparative study between Japan and the United Sates provides interesting data. Comparing Japanese people in Japan, Japanese descendants in Hawaii, and Japanese descendants in California, the rate of their possible coronary artery diseases was 2.5%, 3.5%, and 4.5% respectively and the order of their cholesterol level was Japan, Hawaii, and California in ascending order, although it was originally considered that they were genetically the same. Health risk can be changed under the influence of the social environment of a new place to which they migrate.

The method of a prophylactic approach has changed with the passing of time. The Lalonde Report of Canada adopted a high-risk approach in which a group of people whose health risk such as high blood pressure, high blood sugar, and hyperlipemia was confirmed by medical examinations was subjected to

preventive measures. However, it was considered problematic that the high-risk approach didn't provide any preventive effect to those subject to the high risk in the future. Rose advocated the population approach that would contribute_ to the improvement of the health level of a whole social group based on the idea that more people can benefit from an approach to whole society, leading to a substantial change in public health strategy. Furthermore, Frohlich and Potvin pointed out that the population approach would increase health inequality based on evidence that women with higher income receive uterine cervix cancer screening and highly educated people receive more information from health campaigns and advocated the vulnerable population approach. Thus, it can be said that, as the current prophylactic measures, a social approach has been taking on greater importance in addition to due consideration for health inequality.

If this is applied to preventive long-term care, importance will be placed on an approach not only to frail elderly persons but also to the entire elderly persons in a community as well as on an approach partially focused on a community with a larger problem with social determinants of health (SDH). With respect to community intervention, evidence for health outcome is gradually beginning to be reported. For example, in Taketoyo Town, Aichi Prefecture, a community salon was opened, and the elderly residents were encouraged to participate in such activities as handicrafts, craftwork, games, and interaction with kindergarten children. By comparing 246 people who joined activities more than three times (participation group) with 2,175 people who joined them not more than twice (control group) five years later, it was found that the percentage of persons who received a certification of needed long-term care was 7.7% for the participation group and 14.0% for the control group, indicating that the participation group was 6.3 percentage points lower than the control group.

3. A mechanism of inter-professional collaboration sustaining Community-based Integrated Care System

a. Home-visit nursing

Home-visit nursing means in-home medical care or assistance for necessary medical care provided to a person whose care is considered necessary by his or her attending physician under the medical insurance system such as the Health Insurance Act or the Long-Term Care Insurance Act. While diseases, etc., stipulated by the Minister of Health, Labour

and Welfare are covered by the medical insurances, home-visit nursing trends to be principally a major source of treatment under the long-term care insurance. Details of nursing include observation of medical conditions, guidance on treatment and nursing care, rehabilitation, inspection of the state of cleanliness, medication management, care for dementia and mental disorder, nutritional and diet guidance, pressure ulcer prevention and treatment, enema and disimpaction, airway suction, indwelling bladder catheter management, and tubal feeding, etc.

A comprehensive direction by a doctor is required to carry out home-visit nursing. Such a doctor can be not only a doctor who provides home-visit care but also a doctor who provides outpatient care to that patient at clinics or at the hospital. A nurse makes a report about patients with severe symptoms and changing disease conditions by telephone, fax, or e-mail. Recently, patient information sharing in cloud storage is spreading. In the cloud data sharing, it is becoming possible to take a picture of a patient's condition and transmit it online.

A visiting nurse is stationed at a home-visit nursing station. A home-visit nursing station requires at least 2.5 qualified nurses on a full-time conversion basis, but the data for 2015 shows that nursing stations with less than five nurses account for 46%. Like this, it is well known that there are many small facilities. Although it is highly possible that 24/7 services will be required to maintain seamless community-based integrated care system, it has been known that facilities with fewer qualified nurses on a full-time conversion basis have a lower percentage of nursing stations which have applied for additional insurance benefits for 24/7 services.

b. Rehabilitation specialists

In recent years, a problem of frailty in elderly persons has been increasingly emphasized. It is essential to assess not only physical frailty focusing on sarcopenia but also mental frailty due to mental and psychological factors and social frailty due to social factors and to maintain their livelihood through rehabilitation. Amid such a situation, there types of rehabilitation specialists, namely, physical therapists, occupational therapists, and speech-language-hearing therapists, are taking on an increasingly important role in the Community-based Integrated Care System.

The role of a physical therapist is to perform physical therapy and give advice on ways of movement and assistance based on movement analysis, assessment of paralysis, muscle weakness, a series of basic movements from getting up from the bed to the standing position, activities of daily living, and walking,

and prognosis prediction as a specialist for movement. The role of occupational therapists is to perform occupational therapy and give advice on ways of movement and involvement based on assessment of brain damage, higher brain dysfunction such as mental disorder, paralysis, muscle weakness, activities of daily living such as eating and bathing, housework, job and its environment, and leisure activities, and prognosis prediction as a specialist for livelihood and work. The role of speech-language-hearing therapists is to perform speech therapy and give advice on ways of involvement based on an assessment of higher brain dysfunction (e.g., aphasia and memory disorder), articulation disorder, and deglutition disorder, and prognosis prediction as a specialist for speaking, hearing and eating.

In community-based integrated care, rehabilitation specialists often take charge of outpatient rehabilitation at the hospital and clinics, but they sometimes perform home-visit rehabilitation from the hospital and clinics. They also have been having a greater opportunity to provide outpatient rehabilitation at facilities called day care. Occasions are increasing for rehabilitation specialists to perform home-visit rehabilitation from home-visit nursing stations. However, because an establisher of home-visit nursing stations must be a nurse, the operation of them is a little complicated.

It is also problematic that the application of medical insurances to rehabilitation is considerably limited. For a disease such as a stroke on which rehabilitation has a discernible effect, medical insurances can be applied for a certain period of time, but in the case of rehabilitation for disuse during hospitalization due to pneumonia, medical insurances are only partially applicable, and the rest part is covered by the long-term care insurance.

c. Care managers

As stated above, the system allows users to select nursing care services of their choice within the maximum benefits. However, as it was difficult or cumbersome for users to arrange for services when the long-term care insurance system was introduced, a profession called a care manager was established. At the early stage, many medical professions obtained the qualification of a care manager, but the pay standard of care managers is moderate, and at present, in many cases, formerly nursing care professions with a lower pay standard obtain the qualification of care managers to engage themselves in the service.

Until 2018, an eligibility to take an examination to become a care manager was a nursing care qualification and five years' hands-one experience in nursing care, etc. or ten years'

hands-on experience in nursing care, etc. After 2018, the eligibility for the examination will be five years' hands-on experience based on national qualifications for medical care and welfare or five years' consultation service at nursing care facilities, meaning that the examination to become a care manager is expected to be highly competitive. Previously, examinees without hands-on experiences in medical and nursing care were eligible to take the examination to become a care manager. As a result, it has been frequently pointed out that when a patient had a health problem, a care manager couldn't assess the patient sufficiently.

After passing the examination, a care manager needs to receive a 15-day (87 hours) training such as lectures and exercises as well as a 3-day practice at in-home support facilities before taking on actual services. Because of its nature as a welfare profession, care managers provide their service from the viewpoint of self-reliance support for users. So, its nature of the service is somewhat different from that of medical professions in that medical professions conduct clinical practice by deciding the details of intervention based on their own judgment and obtaining the consent from patients through the explanation about them to patients and users. Additionally, it has been pointed out that there is a possibility that care mangers only play a role as "order-takers" who decide the details of the services in accordance with requests from users and their family.

Nursing care services coordinated by care managers are divided into 1) in-home services, such as home-visit nursing care, home-visit nursing, outpatient nursing care (day service), short-term admission for daily life long-term care (short stay), and welfare equipment, 2) facility and residence services, such as nursing care homes, geriatric health services facilities, communal living care for dementia patients, living care for persons at government-designated facilities, and 3) preventive long-term care services, such as day care. Home-visit nursing sometimes requires an emergency response from the standpoint of medical care. In case home-visit nursing as one of long-term care insurance services is not reported to a care manager, there may arise a risk that the maximum monthly long-term care insurance benefits will be exceeded.

d. Community general support centers

A community general support center is defined in Article 115-45 of the Long-Term Care Insurance Act as "a facility that aims to provide comprehensive support for the improvement of health and medical care

and promotion of the public of local residents by providing assistance necessary for maintaining mental and physical health and for stabilization of the lives of local residents." It consists of at least three members, namely, a public health nurse, a chief care manager, and a certified social worker, and it is positioned as a key organization to achieve community-based integrated care. Although it is a facility with fairly public nature, in some of the municipalities, it can entrust its service to external legal bodies.

The expected functions of a community general support center are: 1) a function to build a community network, 2) a function as a one-stop service window, 3) a function to protect rights, 4) a function to support a long-term care support specialist. In building a community network, a community care meeting will play the most important role. It has a strong function to connect various relevant people including health and medical welfare professions as well as administrative bodies and the general public to a network in considering individual case focusing on difficult cases or community issues. The one-stop service window, whose function was previously borne by municipal in-home support centers, plays a role as a place where elderly persons who are uncertain whether to receive the long-term care insurance service can consult tentatively. Protection of rights includes responses to fraud and fraudulent businesses to elderly persons, early detection and prevention of abuse of elderly persons, and support for procedures for the adult guardianship system. As a function to support long-term care support specialists, it deals with such cases where care managers feel it difficult to handle.

e. Home-visit and outpatient nursing care services

Home-visit type nursing care services include home-visit nursing care (so-called home help), home-visit bathing nursing care, home-visit nursing, and home-visit rehabilitation. Home-visit nursing is roughly divided into physical nursing care such as meal assistance, excretion assistance (moving to toilet and changing diapers), walking assistance, dressing assistance, postural change (mainly, a change in body position on a bed), and moving assistance (a move between a bed and a vehicle) and livelihood support such as cleaning a house, laundry, meal preparation, moving assistance, and consultation procedure. For example, accompanying a person to shopping falls under walking assistance which is included in physical nursing care and going shopping on a person's behalf falls under livelihood assistance. In view of the importance placed on self-reliance

support, the insurance system is designed so that higher benefits are provided to physical nursing care. Previously, services for both needed support and needed long-term care were covered by the long-term care insurance, but in and after May 2017, home-visit nursing for persons in need of support went under the umbrella of the General Program for Preventive Long-Term Care and Daily Life Support (general program). In addition, the service beyond the scope of nursing care such as a minor repair of appliances, medical practice such as injury care, meal preparation for family members, and housekeeping services are excluded from home-visit nursing care service. The rules about medial practice are a little complicated. For example, encouragement of oral administration is permitted, and a helper who completed special training is allowed to perform sputum suction.

Home-visit bathing nursing care is to be performed by at least three people including a nurse. Home-visit nursing is to provide medical treatment or to assist in medical care under the direction of a doctor. It includes considerable medical practice, but most of its services are provided under the long-term care insurance. Outpatient rehabilitation is performed by physical therapists, occupational therapists, and speech-language-hearings to recover motility function and life function, etc., in accordance with each specialist's feature.

For the encouragement of home care, it is also important for welfare equipment to be used effectively. A chair and its accessories, a care bed and its accessories, a walker, and a stick are well-used equipment. Besides, depending on a decline in walking ability and a decrease in eyesight and sensory perception, home remodelings, such as an installation of a handrail or a grab bar, a change of flooring, installation of a slope to uneven floors, may be required. Part of such work is compensated by the long-term care insurance, depending on the level of care needed.

There are many users for outpatient nursing care who comes to a care facility (if they can't move by themselves, a vehicle is often used for transportation.) to receive care services. Day services are services in which users receive training to improve their daily life function through eating, bathing, and recreation. Even if their family is absent from home for work during the day, day service users can talk with their friends, eat a meal and have a bath comfortably, and thereby they can maintain their life rhythm, and their family can rest from care. In this case, too, users who received a certification of needed support became subject to services under the umbrella of the General Program in and after May 2017. Although its naming

is confusing, outpatient rehabilitation is called day care and is positioned as the service that a person who received a certification of needed support can receive for the purpose of preventive long-term care. Short-term admission for daily life long-term care (short stay) is basically the service for users to be taken care of by a facility for a few days (up to 30 days) and it is used for such reasons as sickness of family members, ceremonial occasions, and a rest from tiredness due to the provision of care.

f. Places of in-facility service and each feature

There are many cases where users voluntarily move into a facility in such cases where an elderly person living alone becomes increasingly frail, or the progress of dementia causes various troubles, making it difficult for the demented person to live with his or her family. However, as the use of a facility involves costs and facilities vary a great deal in the scope and quality of their services, users often face some difficult choices. This section describes the features of relatively frequently used facilities, such as special long-term care health facilities, health centers for the elderly, fee-based homes for the elderly, group homes for persons with dementia, and senior residences offering services.

At present, a special long-term care health facility is a public facility for a person who received a certification of needed long-term care of care levels 3-5. This can be said to be the most popular facility because it is less expensive to use than other long-term stay facilities in which users often stay for the rest of their life. Consequently, many special long-term care health facilities have a very long waiting list for admission and it is not rare that a person wishing to move into the facility waits for admission for a few years. A full-time nurse is available (a 24-hours service may not be provided.), and a doctor is stationed on commission, etc. Therefore, it is possible to receive a certain level of medical care for the chronic phase.

A health center for the elderly is a public facility in which users can receive rehabilitation, nursing care, and a certain level of medical care for the chronic phase for the purpose of recovering the health that enables them to live a life at their home. The biggest difference from a special long-term care health facility is that a health center for the elderly, in principle, makes a judgment every three months on whether it allows a user to keep staying or not. However, some people move into a health center for the elderly and stays there for a relatively long term on the condition of waiting for admission to a special long-term care health facility. It

features slightly more generous medical care and rehabilitation than a special long-term care health facility.

A fee-based home for the elderly is a facility intended to provide services such as nursing care, etc. under the management of private business operators. Basically, a private room with a toilet is available and, in many cases, a room has a floor space of about 18 square meters. Depending on the availability of a 24-hour service by a nurse and the quality of nursing care, and so on, the payment structure varies in each facility and some facilities charge a higher admission fee. When receiving medical care, a user goes to the hospital or a clinic accompanied by a nurse, or a doctor's visit to a patient or home-visit medical care is used. This facility differs from public facilities in that it can be available regardless of the level of care needed.

A group home for persons with dementia is a facility in which demented elderly persons live in a group under the assistance of nursing care specialists. This facility is available to those who received a certification of needed long-term care of care level 2 or over. Therefore, it can be applied widely. The space of a room is almost the same as that of a fee-based home for the elderly, but a nurse is not always stationed, and it is less expensive than a fee-based home for the elderly. For this facility, too, a doctor's visit to a patient or home-visit medical care is available.

A senior residence offering services is a residence based on a lease agreement in collaboration with nursing and medical care. Basically, it can be used regardless of the level of care needed, but there may arise a possibility that in case of an increased level of nursing and medical care, a user will relocate to a different facility. The feature of this facility is that it has spacious rooms and it is easier for a user to increase the quality of life, but a problem such as inflexibility of nursing care services trends to occur, compared to other nursing care facilities.

g. The position of the hospital in community-based integrated care

As stated earlier, various reforms in connection with community-based integrated care are mainly responses to a rapid increase in medical and nursing care for the elderly because of the free medical care for the elderly. In and after 1973, at the level of the hospital, "the hospital for the elderly" grew in number, meaning that hospitals with fewer doctors and nurses played a role as facilities. Lon-term hospitalization for nursing care for the elderly was called "social hospitalization" and resulted in an increase

in medical costs.

In 1983, the hospital for the elderly was positioned as "a designated hospital for the elderly" under the Medical Service Act, and it was determined that it would be evaluated in the form of a reduction in the number of doctors and nurses and an increased number of nursing care staff. In 1993, sanatorium medical facilities were established to respond to an increase in the number of long-term inpatients at the general hospital. In 2001, in response to the establishment of the long-term care insurance, an additional amendment to the Medical Service Act was made in order to unify designated hospitals for the elderly and sanatorium medical facilities into sanatorium long-term care beds. The condition of application of sanatorium long-term care beds was set to be a patient who received a certification of needed long-term care and who needs long-term medical treatment as well as medical supervision.

Sanatorium long-term care beds were originally intended to be covered by the long-term care insurance, but it was determined that conventional sanatorium long-term care beds covered by the medical care insurance would remain, given the shift of the burden onto the long-term care insurance premiums. The original purpose of sanatorium long-term care beds covered by the long-term care insurance was for long-term medical treatment, and medical treatment beds were intended for patients to return to a life at their home. However, there was no substantial difference in conditions between patients in these hospitals, and in 2006, it was determined that sanatorium long-term care beds would be abolished in 2011, triggering a conversion into health centers for the elderly and special long-term care health facilities.

After that, community-based integrated care beds were introduced in 2014. In case the condition of a patient receiving medical treatment at home rapidly deteriorates and the patient is hospitalized, in most cases, the patient is admitted to an acute hospital. In order for the patient to return to a life at his or her home, coordination such as the enhancement of nursing care is often required. Community-based integrated care beds became a new system, which clearly aims for patients to return home and for care coordination to be made, under which additional insurance benefits are given to an enhanced function for patients to return home in accordance with the actual performance of the number of patients who returned home. To be recognized as community-based integrated care beds, it is required to accept not only patients from acute hospitals but also accept emergency patients from the same hospital after designated as a secondary emergency hospital. This more easily allows us to have

an image that the medical care system is completed within a community.

Meanwhile, recovery phase rehabilitation wards have been introduced since 2000. This is a system in which patients are temporarily hospitalized due to disuse syndrome caused by resting conditions after acute diseases such brain and nerve system disorders, especially stroke, fracture, injuries or operations related to them, surgery, or pneumonia and in which they receive rehabilitation within a facility. The medical care insurance can be applicable to the system, but the number of days of hospitalization is limited in accordance with diseases or conditions of patients.

Sanatorium long-term care beds have not been completely eliminated because of a concern over a possible increase in the number of "nursing care refugees." The deadline for the elimination originally set at the end of 2011 was extended to the end of 2017, and it was again extended for 6 years as a transitional period to the end of 2023. They are scheduled to be converted into integrated facilities for medical and long-term care.

Community-based medical collaboration can be described as follows with the hospital placed in the center. In case of diseases or injuries requiring hospitalization, a patient is taken to the hospital by ambulance or is admitted to the hospital on referral from a clinic or hospital. This can collectively be called a pre-hospital linkage. In the hospital, doctors, nurses, clinical tests, pharmacists and other professions collaborate with each other around a medical practice linkage unit to form a so-called in-hospital linkage. After that, in some cases, the patient is discharged from the hospital and continues to receive medical treatment at a clinic or an in-home support clinic, but in other cases, the patient is transferred to any one of hospitals for rehabilitation, long-term care, and specialized. If transferred to a rehabilitation hospital, the patient can receive monthly rehabilitation under the medical care insurance depending on diseases, and then, the patient collaborates with each section of in-home medical care through an in-home support clinic, or the patient enters a nursing care facility. These can be called a post-hospital linkage. If a stable medical treatment is maintained, the patient can stay at this stage, but there are many cases in which a patient returns to the pre-hospital linkage.

h. Typical venues of inter-professional collaboration in community-based integrated care

Discharge coordination is an essential function to effectively manage hospital beds, which are expected to be reduced, for

as many patients as possible. After discharge from the hospital, when using in-home medical treatment or long-term care insurance services, it is necessary to integrate opinions from many people concerned, and a discharge coordination nurse or a medical social worker (MSW) plays a major role as a coordinator. When a day of discharge comes closer, a conference is often held by a doctor, a nurse, a pharmacist, and various therapists from the hospital as well as a doctor working at a clinic, a nurse, a home-visit nurse, and a care manager from the in-home medical and nursing care field in addition to a patient and his or her family in order to discuss the ways of recuperation after discharge from the hospital. This conference is called a discharge support conference, and both the hospital and a clinic can claim for it on the insurance.

A service representative meeting is a meeting in which, in the in-home medical and nursing care field, services representatives discuss the contents of a care plan of which draft is prepared by a care manager. A care manager presides the meeting. A user (once returning home, he or she is not called a patient.), and his or her family members, a doctor, a nurse, a rehabilitator, a pharmacist, a helper, and, depending on cases, customer representatives of nursing care equipment and medical equipment get together for discussion. The meeting can be held at a user's home, an in-home nursing care office to which a care manager belongs, or a public facility. Without the presence of a user and his or her family members, a case study meeting is often held for training purpose and for enhancing an inter-professional collaboration team.

A community care meeting is presided by a community general support center or municipalities and used as a venue to examine actual cases or discuss community issues. The meeting fulfills its functions: a "community planning and community development function" to form the kind of relationship that enables them to work face-to-face with the presence of all concerned people from health, medical and nursing care, welfare fields in a community and a "policy formation function" to discuss initiatives on how to improve care in the community. It is often mentioned that this meeting is the most symbolic venue for community-based integrated care in order to strengthen "community characteristics" in community-based integrated care.

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