The Care Compact City Concept for an Aging Society

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The State of Japan's Population Aging

Japan is facing the problem of an aging society and decreasing population caused by a falling birth rate. There is a nationwide increase in people aged over 65, with a particularly strong trend in the Tokyo metropolitan area. Meanwhile, regional cities are grappling with decreasing populations. These dwindling populations mean that local economies are robbed of their vitality, while in mountainous regions elderly citizens are increasingly scattered across a wide area. In terms of households, while 28.5% of all households were single occupancy in 2005, this ratio is predicted to increase to 36.3% in 2030, meaning one in three households will be single occupancy. This portends that the function of caregiving within the home will disappear, and that elderly people requiring long-term care will not be able to receive it within their homes. Couple-only households are also increasing, and the near future will increasingly see single-person households becoming the norm *(Table)*. Predictions are that the aging rate of the population over 65 years old of 27.7% in 2017 will reach 30.3% and then 36.1% in 2025 and 2040 respectively, before stabilizing sometime beyond 2050.

Lamenting such a dire situation, however, achieves nothing. Considering demographic trends seen over a 200-year period from 100 years ago to 100 years from now, in terms of age composition (0-14, 15-49, 50-64 and 65+), while the population has increased over the last 100 years, the overall age composition ratio is pretty stable, and for the next 100 years also, while the population looks set to decrease, the age composition ratio is expected to stabilize. That is to say, we are approaching a transition period where systems and town planning which had up until now been focused on increasing populations will now have to be completely revamped to adapt to an increasingly elderly and shrinking population *(Chart 1)*. Under such circumstances, it will be difficult to surmount the difficulties of an aging society simply by building a hospital or care facility, and society will need to devise systems to underpin the overall community, and to approach town planning from a whole-area perspective. As the next era beckons, we are now at the stage of reconfiguring into a sustainable society.

A Safety Net for Aging

With aging, any and every person comes to need support with daily activities including eating, excretion and moving around. While parents and children often used to cohabit in three-generation households, the increase in single-person dwellings caused by the

TABLE

Change of household type for elderly & future projection (over 65 years old)

Single and couple-only elderly households are expected to increase in future.

(10,000 households)

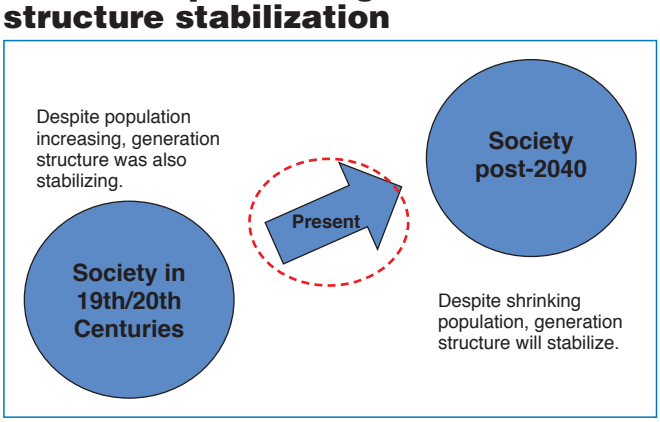
	2005	2010	2015	2020	2025	2030
General Households	4,906	5,184	5,290	5,305	5,244	5,123
Households where head of household is over 65 years old	1,355	1,620	1,889	2,006	2,015	2,011
Single households (ratio)	387 28.5%	498 30.7%	601 31.8%	668 33.3%	701 34.8%	730 36.3%
Couple-only households (ratio)	465 34.3%	540 33.3%	621 32.9%	651 32.5%	645 32.0%	633 31.5%

Note: Ratio accompanying single households/couple-only households is that occupied by "households where head of household is over 65 years old".

Source: "Current state of countermeasures for aging population in urban areas", May 20, 2013, Health and Welfare Bureau for the Elderly, Ministry of Health, Labour and Welfare)

CHART 1

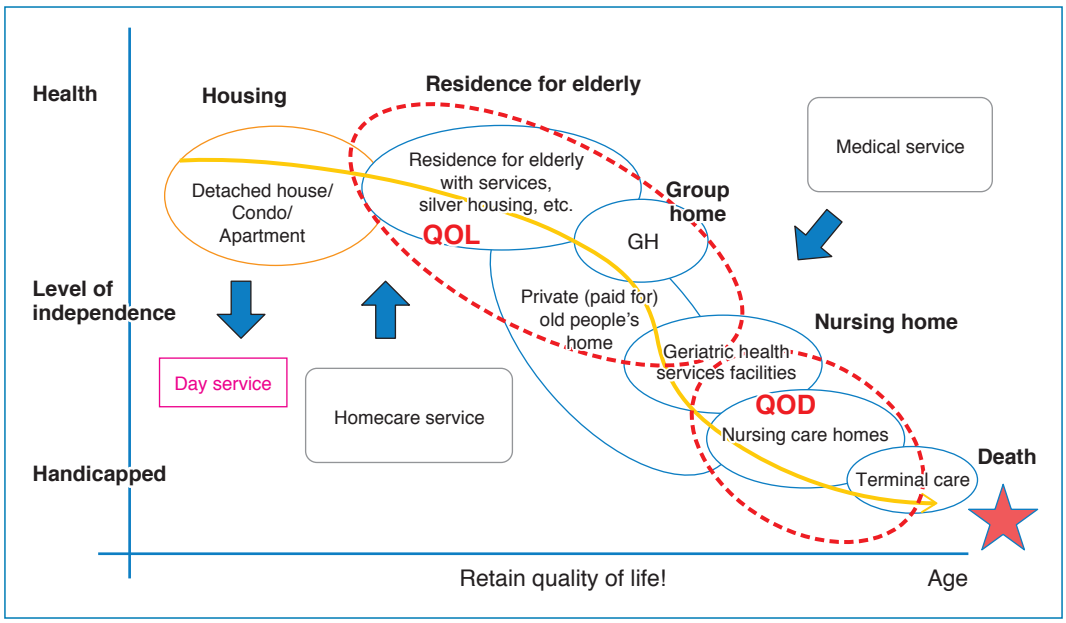
Transition period of generation structure stabilization



Source: Compiled by the author

CHART 2

Relation between residences & welfare facilities by aging



Source: Compiled by the author

nuclear family trend means that a social system for supporting lifestyles is now necessary. Compared to other developed nations, Japan has reached an aging society in a short amount of time, and has under pressure cobbled together a backup system to support daily lives. *Chart 2* plots the change in physical condition from healthy to disability on the vertical axis, with the horizontal axis plotting the time of older age. The yellow line through the middle of the chart represents how people weaken with aging, and how housing and welfare/medical facilities that underpin daily lives cope with the various changes in physical condition that aging citizens face, as well as economic factors and relationships with families.

While many live in condominiums and apartments during their younger years, the ratio of those in medical facilities increases with aging. Heart attacks and strokes mean many are in and out of hospital, with some sustaining permanent disabilities. In some cases, this will mean becoming bed-ridden. Such circumstances are becoming the rule, and represent a deflationary spiral that everybody will experience. Facing circumstances that change with aging, and cognizant of the need for a structure that can support our population come what may, we have built up a seamless safety net as our social system.

The History of Care Facilities

The year 1961 saw the establishment of medical insurance for the whole nation, covering the entire population, followed by the enactment of the long-term care insurance system in April 2000. The long-term care insurance system is an insurance system that guarantees care for the elderly at the societal level. At the time of enactment, the system was designed by reference to Germany, which was already implementing such a system. Before long-term care insurance appeared, welfare measures and policies had been handled by the government using tax revenues, yet after the effectuation of long-term care insurance, private companies began to enter the welfare field. In line with a widening span of service providers, the socialization of nursing care began. Long-term care insurance is an insurance system, meaning that contracts are entered into with servicer providers, with the weight shifting onto individual responsibility. When individuals over the age of 40 are paying insurance premiums, unless there is a system established concurrently to provide care for them when they do actually require nursing care, the overall system is not viable.

Thus, care facilities have been rolled out nationwide as mandated by the Public Nursing Care Insurance Law, to provide for elderly persons requiring long-term care. The three types of facilities prescribed under this law are: nursing care homes, geriatric health services facilities, and sanatorium medical facilities for the elderly requiring long-term care (these sanatorium medical facilities were abolished and became “integrated facilities for medical and long-term care” in April 2018).

To briefly explain each type of institution, nursing care homes are facilities designed for those over 65 requiring nursing care which they cannot receive in their own homes, while geriatric health services facilities are mainly designed to provide rehabilitation for

the transition between hospital and returning home. Sanatorium medical facilities for the elderly requiring long-term care provide recuperative care, nursing care and medical caregiving.

According to a survey conducted by the Ministry of Health, Labour and Welfare, the admission capacities for each of these (as of 2016) was 530,000 (nursing care homes), 370,000 (geriatric health services facilities) and 60,000 patients (sanatorium medical facilities for the elderly requiring long-term care) respectively. On a national level, demand is largely being accommodated outside of the Tokyo metropolitan area, with no likely provision for more facilities in future.

Dignity of the Elderly & Design of Care Facilities

The architectural design of care facilities has changed in line with the era. Given that the conventional multi-bed rooms of the latter 1990s did not ensure privacy, individual rooms that prioritized the dignity of the elderly began to emerge. The design of care facilities centered upon multi-bed rooms was based on the hospital model that prioritized cleanliness and the efficient handling of patients. However, rather than short-term admission hospitals, care facilities were reconceived as being "homes" where people spend their daily lives, promoting a shift to individual rooms. Similarly, instead of group care-giving where meals and bathing are administered on a group basis, individual care aligned to the lifestyles of each individual became the standard. Groups of private rooms became units where each have their own eating and living areas, providing a quasi-family feeling. In terms of the quality of care also, improvements were made to both "hard" and "soft" elements, such as administering bathing and mealtimes tailored to the physical and mental state of the occupant. Meanwhile, the shift to individual rooms has resulted in an increased burden on the users themselves. An individual room provides a higher quality of living than a four-bed room, and in turn this higher livability translates into higher costs for occupants.

From Care Facilities to Home Care

Twenty years have elapsed since the launch of the long-term care insurance system, and it is safe to say that nationwide the provision of facilities for elderly people requiring nursing care has been largely achieved. Looking ahead, the focus is now shifting to whether people can continue to live in their own homes, and indeed whether they can spend their dying moments there. There are questions as to whether elderly people can continue to lead their lives at home while receiving medical and nursing care after being discharged from hospital, and indeed whether such a safety-net function actually exists in each community. While continuing to live at home relies upon a suitable support system, in the background to this is the idea of "aging in place".

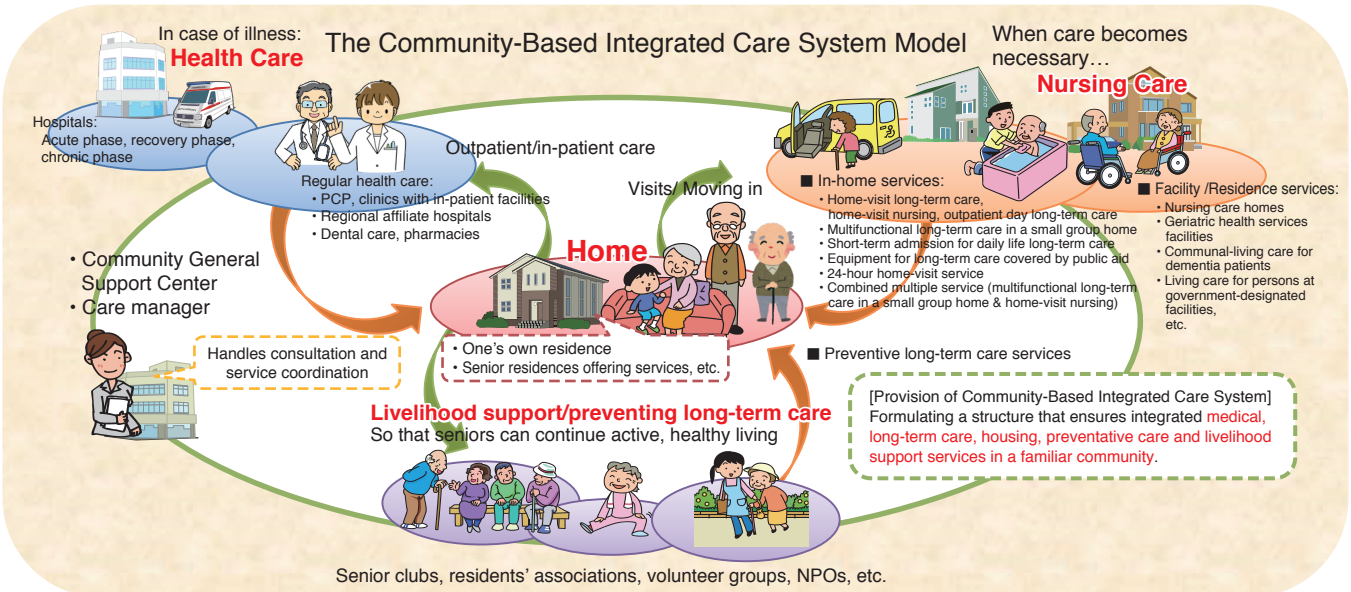
This involves elderly people being able to continue to live in a community that they are used to, in safety and comfort. In various surveys conducted by the government and private companies, more than 60% responded that they would like to continue to live in a community that they are familiar with, and many wish to spend the remainder of their lives there even if they require nursing care. The Ministry of Health, Labour and Welfare attempted to expedite this by proposing a system called "Community-Based Integrated Care". The Community-Based Integrated Care System provides integrated housing/medical/nursing care/preventative care/livelihood support to enable even those requiring intensive long-term care to live out their lives in a community that they are used to and in a way that is familiar to them. The aim is to provide one system for each junior-high school district with a population of 20,000 people *(Chart 3)*. Multi-function hub facilities encompassing home-visit nursing, short-stay service, day service etc. will be built in each junior-high school district, providing in-home service to the local area. Junior-high school districts are human-scale spheres, where all journeys can be made on foot. As people get older, it is less safe for them to get behind the wheel, meaning that it is ideal to have every facility that they require within walking distance.

The Care Compact City Concept

The "Care Compact City Concept" is a neologism made by combining the Community-Based Integrated Care System with the "compact city". The compact city is the concept of a virtual city proposed by two mathematicians, George B. Dantzig and Thomas L. Saaty, in the early 1970s toward realizing a sustainable city, and is seen as a model for urban policy. Japan's falling population has prompted the shrinking of regional cities, and failure to render these more efficient and compact will only mean wasteful consumption of energy. Mountainous regions in particular face decline, with elderly citizens dwindling and no end to the flight of children to urban areas. In the near future as populations continue to dwindle, towns will have to "smart shrink" in order to continue to thrive. While compactness offers various advantages, alongside more efficient energy consumption, various functions can be consolidated to allow for human scale. In rural areas, there are many households where a car is required to go anywhere. The fact that people need a car to go to their nearest neighbor is something that is hard to understand for city dwellers. However, driving by elderly people is dangerous, and there are cases on an almost daily basis of accidents caused by the elderly including driving on the wrong side of the road, confusing the accelerator and brake pedals, and collisions caused by distraction of attention. While it is still somewhat acceptable to have elderly people with heavy onset dementia walking around, the moment they step into a vehicle it becomes a lethal liability that causes major damage. Some areas are already tackling this problem, including implementing new transport systems such as small local buses that follow a circular route around the community. A shift is urgently

CHART 3

"Community-Based Integrated Care System" Model



Source: "Regarding formulation of community-based integrated care system", Section 3, Health and Welfare Bureau for the Elderly, Ministry of Health, Labour and Welfare

required from a car-centric society to a people-centric one.

Equally important are the roles played by day service centers which provide a place for the elderly (in particular men) to get out and about. Elderly people are prone to staying cooped up in their homes, drinking alcohol from the morning and living a hermit-like existence which then robs them of their health. Getting out and enjoying a chat with other people brings enormous benefits both physical and mental. To allow this to happen, there must be an emphasis on a transition to compact cities, including the provision of streets that are conducive to walking, such as parks and green pathways. Streets should be widened and adorned with plants and street furniture to better cater to elderly people who find walking for a long time difficult. Elderly people are often very attached to the land passed down to them from their ancestors, and many simply do not wish to uproot. However, they are now faced with the choice of uprooting to live in a "compact" town, or to remain where they are and to put up with the inconvenience. While a case example that could serve as a model is yet to emerge, there are several budding initiatives which I will introduce next.

Pioneering Initiatives

Firstly, "Share Kanazawa" (Kanazawa city in Ishikawa Prefecture), which is seen as the model for the Japanese version of a Continuing Care Retirement Community (CCRC) and where not only the elderly but also people with disabilities, students, and various other people from multiple generations live altogether with the aim of creating a coexisting community. The spacious grounds and one-story houses inspire a sense of calm. The Japanese version of CCRC is partially based on the US version, aiming to achieve a Japanese-style multi-generation community with an emphasis on the elderly moving into the community while they are still in relatively good health.

The second is "Nakama Well Park Hills" (Nakama city, Fukuoka Prefecture), which successfully combines a hospital, nursing care homes, recuperative facilities, and private old people's home with a supermarket, sports club, and other services – all within the heart of a regional city. All services are combined in one space, allowing anybody who goes there to access shopping, health and leisure.

The third example worthy of mention is "Gifu City Tower 43" (Gifu city in Gifu Prefecture), developed next to the train station. This is an example of a redevelopment project next to a station in a regional city, incorporating medical and welfare functions in one space. The 43-floor condominium offers both family-type and elderly-oriented rental accommodation, with the lower floors housing a clinic, day service, private old people's home, home-visit nursing center and nursery. This provides an example of taking the various functions scattered around a town and integrating them in a vertical space. The projects created in these regions constitute an attractive option to the baby-boomer generation who will become very elderly in 2025, and wish to move to another area at an early stage due to a lack of available care facilities in the Tokyo metropolitan area after 2025.

Present & Future Issues

While various issues exist, I will focus here on the three issues of people, information and money. First of all is the lack of personnel to provide long-term care, a problem that afflicts both the Tokyo metropolitan area and other regions equally. Even if it is possible to construct the buildings that provide the "hard" element, a huge issue remains of there not being enough caregiver human resources who can provide the crux of the "soft" operations. While the lack of human resources is becoming a prominent issue in various occupations outside of the welfare domain, people working in care-giving and welfare services require specialist knowledge and training, and therefore cannot be quickly sourced and put to work.

The second issue is the unifying of information. I have previously outlined how a system is already in place to support the livelihoods of people even if their family composition or economic circumstances change. However, going to hospital, day service or care facilities every time they take a turn for the worse can be a major source of inconvenience for the individual, who receives multiple types of medical and caregiving information from the various bodies providing the services that they require. When someone is looking to learn the optimal course of action for their situation from a wide variety of experts, if information is not unified then it is not possible to respond accordingly, including the correct administration of medicines.

The third issue is the limits of public finance. The rising number of elderly persons requiring nursing care is massively increasing the costs associated with medical and nursing care. According to the Ministry of Health, Labour and Welfare, Japan is expected to have in excess of ¥140 trillion in social welfare liabilities by 2025. Despite being told to begin with that individual premiums for long-term care insurance would not be that high, rising demand is seeing insurance premiums rise steadily. In addition to the long-term care insurance premiums paid by those enrolled in the program, tax monies are also being funneled into the financial resources behind long-term care insurance, and the increase in social insurance costs is putting serious pressure on the public purse. We are surely overdue a rethink of the relationship between the financial burden shouldered by individuals and the services provided.

Community Building Toward 2040

While the picture I have painted above depicts the society of 2025 when baby-boomers become elderly aged 75 and over (Advanced Elderly), initiatives are in fact under way for the year 2040 when the children of baby boomers become Advanced Elderly themselves. Preparations are being made for 2040 which is the next turning point after 2025 when baby boomers join the ranks of the very elderly.

The year 2040 will be one in which IoT, AI, drones and driverless cars are all part of daily life, amid predictions that the structure of industry will undergo enormous changes. AI will make it possible for medical diagnosis and treatment by robots, and will also help support determinations related to health promotion to prediction and prevention of illness. The aim for 2040 is to realize a "community coexistent society" where the elderly and persons with disabilities can live together. To make this a reality, the basic strategy revolves around community integrated care, which allows those requiring support and nursing care to continue living in their communities, and a transition to compact regional cities with a Community-Based Integrated Care System. In any case, the challenges presented by an ultra-aging society cannot be surmounted unless systems and laws are put in place to provide facilities that act as a safety net, and unless we reconfigure the awareness of elderly people themselves regarding their lifestyles and community bonds, based upon a concept of community building that moves away from seeing medical and welfare facilities as being separate entities. This will require a completely new approach to how towns are designed overall.

Japan cannot escape the fact that its population will continue to decline. Solutions will not be found by continuing on the same trajectory of the systems and plans that were formulated during the 20th century which saw the population undergo growth. It is high time to consolidate systems and approaches that are in line with the elderly of the 21st century, and the care compact city is one concrete choice available to us. Up until now, we have attempted to create an in-home welfare system to meet the considerably high needs of elderly people who wish to remain living in their homes. However, this approach has evidently not resulted in the materialization of an in-home centered system. We built care facilities across the nation, and then private operators entered the market. We implemented the long-term care insurance system, and over time built up a system to support communities by making reference to other welfare-developed nations. Put simply, it was not built in the course of a day.

For other countries in Asia facing a greying population, one would like to see the construction of systems, policies and customs that correspond to the particular circumstances of each nation, and that fit well with their respective situations. I fervently hope that when doing so, these nations will be able to draw on valuable examples of systems and policies provided by Japan, a veritable front-runner in confronting an ultra-aging society. JS

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