

The Medical Industry in a Super-aging Society

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When surveying Japan’s super-aging society to come, the sustainability of social security is a major problem, one that requires drastic reform and greater efficiency in the social security system. On the other hand, a super-aging society is a society with a growing demand for medical services, and can also be seen as a growth opportunity for the medical and healthcare industry, one with the potential to lead Japan into economic growth. The new growth strategy put together by the Abe cabinet in June 2013 (“Japan Revitalization Strategy — Japan is Back”), based on the following thinking, positions the “health and longevity industry” as a strategic sector and commits to promoting “policies for developing industries that extend healthy life expectancy and the pharmaceutical and medical device industry”:

Social security sectors, including medical care, nursing care, childcare, and pensions, impose an increasing financial burden due to the declining birthrate and aging population. At the same time, depending on their institutional design, these sectors could become the driving force for growth as vast new markets.

This paper examines the validity of this view and considers the future course of the medical industry.

Advance of Super-aging

Japan is approaching full-fledged population decline and super-aging. The population of Japan — currently 127 million people — has been in decline since 2008, but this decline is expected to be relatively gentle through the 2010s. During the 2020s, however, the population is expected to fall by roughly 800,000 per year and then, after 2030, by 1 million per year, with Japan’s total population dropping beneath 100 million by 2050. But what will have an even greater socioeconomic impact than the decline in population itself is the change in the

composition of the population.

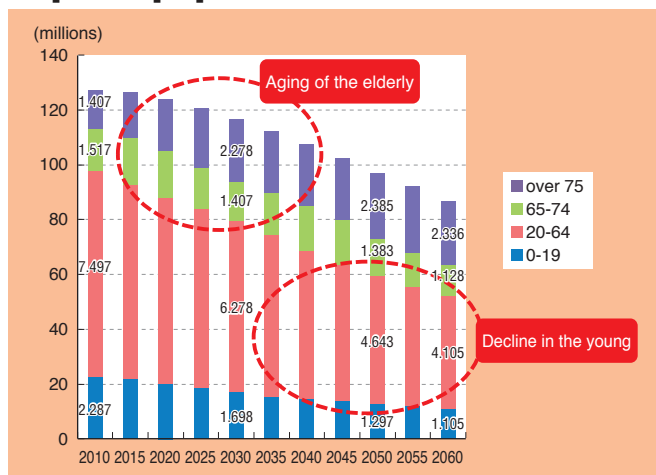
As *Chart 1* shows, even as the overall population declines, the elderly population (those aged 65 or over) actually continues to increase. In particular, the population of “latter-stage” elderly (those aged 75 or over) rises rapidly until about 2025, then continues to rise gradually until about 2050; the proportion of latter-stage elderly among the elderly also rises steadily. In 2050, two in five people in Japan are projected to be 65 or over, and one in four to be 75 or over. Not only is the increased proportion of the elderly a factor in increased pension payouts, the increased proportion of latter-stage elderly will have a particularly serious effect on the issue of medical and nursing care.

For the elderly population to increase even as the overall population declines means the non-elderly population will decline rapidly. As *Chart 1* shows, the decline in the population aged 20-64 is precipitous. Of course, the declining proportion of the population in this age group is not necessarily linked directly to a decline in the labor force. Sufficiently increasing the employment rate among women of all ages, for example, would probably slow the rate of decline in the labor force somewhat. Still, it will be impossible to stop the overall trend of labor force decline.

Accordingly, looking ahead through the next few decades, without a miraculous increase in productivity it will be difficult to achieve constant real economic growth. Meanwhile, the super-aging of the population will steadily advance such that the value of the population aged 20-64 divided by the population aged 65 or over will decline from 2.1 in 2015 to 1.7 in 2030 and then 1.2 in 2050, making it financially all but impossible to maintain the current social security system.

CHART 1

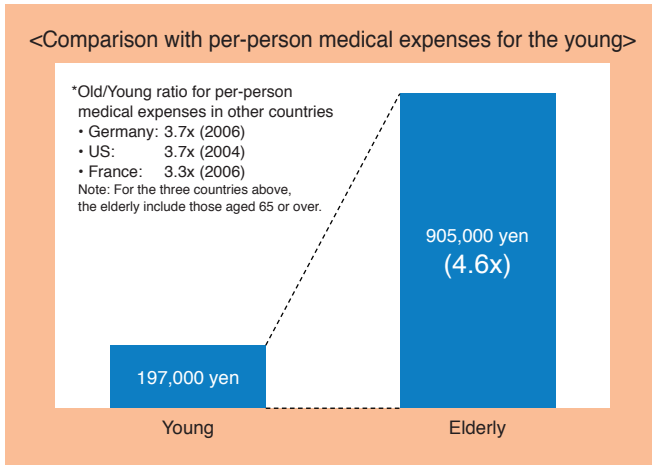
Changes in the composition of Japan’s population



Source: *Nihon no shōrai suikei jinkō [Population Projection for Japan] (January 2012)*, National Institute of Population and Social Security Research; *Jinkō dōtai tōkei [Vital Statistics of Japan]*, Ministry of Health, Labour, and Welfare

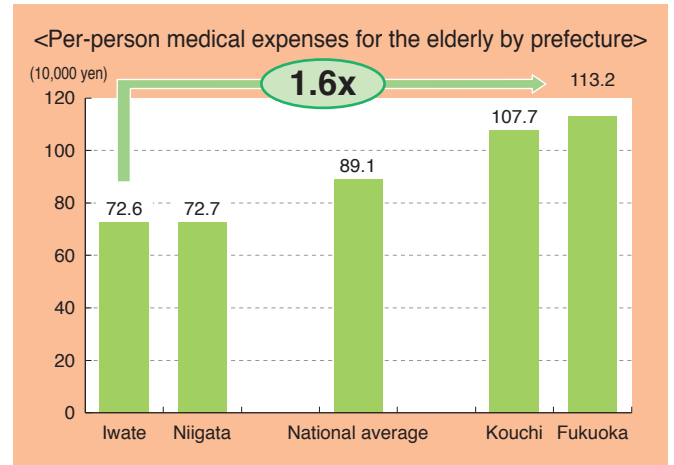
CHART 2

State of medical expenses for the elderly



Note: Here, "elderly" refers to members of the Latter-stage Elderly Medical Care System while "young" refers to those who are members of other medical insurance programs who are not latter-stage elderly (age 75 or over).

Source: *Kōki kōreisha iryō jigō nenpō [Annual Report on the Latter-stage Elderly Medical Care Business] (F2010)*



Note: "Medical expenses for the elderly" here means medical expenses under the Latter-stage Elderly Medical Care System.

Source: *Iryōhi no chūhisa [Regional Variation in Medical Expenses] (F2010)*, Ministry of Health, Labour, and Welfare

Increased Medical Expenses

There are concerns that the advance of super-aging discussed above will invite a rapid escalation in medical expenses. On average, the elderly tend to use larger sums of money on medical care than the young. *Chart 2* shows that per-person medical expenses for the elderly aged 75 or over is 4.6 times that of other people. Because everyone is more likely to become ill as they age, to some extent it is inevitable that medical expenses will be higher on average than for the young. It naturally follows that medical expenses will increase in a super-aging society. However, considering that average medical expenses for the elderly differ widely by region, there does seem to be room to take steps to constrain the increase in medical expenses for the elderly as much as possible.

Japan is already among the countries with the highest average life expectancy, but average life expectancy is projected to increase even further. That is, while average life expectancy in 2010 was 79.6 years for men and 86.4 for women, in 2050 it is projected to be 83.5 years for men and 90 years for women. Increased longevity itself, of course, is something desirable, but it also turns up the pressure on increased social security payouts (pensions, medical care, and nursing care).

Japan's national medical care expenditures for fiscal 2013 are a massive 41.8 trillion yen, broken down as follows: 38% public funds (taxes), 49% insurance premiums, and 13% patient out-of-pocket costs. That is, the proportion of out-of-pocket costs is minimal. In Japan, public medical care insurance provides universal coverage, with out-of-pocket costs pegged at 30% as a general rule. For those aged 70 or over, with the exception of those whose income is comparable to the working population, out-of-pocket expenses are 10%. (Although this ratio is expected to be raised to 20% for those aged between 70 and 74, there still exist political uncertainties in achieving this.) Out-of-pocket costs for major medical care are also capped. Of the national

medical care expenditures for fiscal 2013, 55% was disbursed to elderly people aged 65 or over, and 33% to people aged 75 or over.

If we continue with the current system, the increase in medical expenses for the elderly that results from super-aging will lead directly to a major increase in the burden on the citizenry from taxes and social insurance premiums. In order to constrain the increase in medical expenses for the elderly, it will surely be important for each individual to take care in maintaining their own health, to avoid illness wherever possible, and to strive to live a healthy life. Together with increased life expectancy, an increase — ideally an even greater one — in healthy life expectancy is desirable for both the individual and for society, and there is all the more need for efforts to prevent lifestyle diseases and the like. Surely the most important means of constraining the rapid rise in medical expenses and maintaining the social security system is for as many people as possible to undertake such efforts.

Medical Care Delivery System

The characteristics of Japan's medical care delivery system are shown in *Chart 3*. Japan is sometimes said to have fewer physicians than other advanced countries, which leads observers to remark upon a shortage of physicians or in some cases, using a more extreme phrase, the "collapse of the medical care system". Indeed, *Chart 3* shows the number of physicians per 1,000 people does seem slightly low, relatively speaking, but it is not much different from that of the United States and is actually higher than in Canada and South Korea (although figures for these countries are not shown). The fundamental problem with Japan's medical care delivery system is not its *number* of physicians.

Rather, what *Chart 3* shows is that medical care in Japan is characterized by a number of hospital beds per 1,000 that greatly exceeds that of other countries, and a much longer average length of

CHART 3

International comparison of medical care delivery systems (2010)

	A: Average days in hospital	B: Number of hospital beds per 1,000 people	C: Number of physicians per 1,000 people	D: Number of nursing employees per 1,000 people
Japan	32.5	13.6	2.2	10.1
Germany	9.6	8.3	3.7	11.3
France	12.7	6.4	# 3.3	# 8.5
UK	7.7	3.0	2.7	9.6
US	6.2	3.1 (2009)	2.4	# 11.0

Note: “#” indicates the inclusion of personnel working at research institutes and the like in addition to actual clinical personnel.

Source: *Health Data 2012*, OECD

stay in hospitals. In Japan, there is a tendency for many people to stay for long periods of time in hospitals. Accordingly, there are a large number of hospital inpatients per physician; there is a strong likelihood that this is what generates the problem of “insufficient physicians” (from the patient’s perspective, less service by physicians; from the physician’s perspective, a rough working environment).

Another notable characteristic of Japan’s medical care delivery system is its high capital equipment ratio. OECD data for 2010 show that Japan has by far the highest number of MRI and CT scanners per capita, with three times the number of MRI apparatus and four times the number of CT scanners, compared with the OECD average. By itself, having a larger number of medical devices may not seem to be a problem, but there are those who suggest that unnecessary tests are being conducted in order to recover the cost of purchasing and maintaining such expensive medical equipment.

Importance of the Medical Industry

A variety of problems have been noted with medical care in Japan; below I would like to address a number of issues related to the further development of the medical industry. First, by way of assumptions, I wish to confirm that providing medical services is an economic activity, and that improving the quality and efficiency of the medical services provided must be at the core of the medical industry’s development. This may seem self-evident. Yet in Japan (perhaps because of the saying “medicine is a benevolent art”), medical care is not positioned as an industry, and mention of the “medical industry” often refers primarily to the pharmaceutical industry or the medical device industry.

The “health and longevity industry” referred to in the government’s recently compiled growth strategy is said to include “health promotion, preventive care, and living assistance industries” and “pharmaceutical, medical device, and regenerative medicine-related industries”. Furthermore, these “health and longevity industries” are positioned as sectors in which to “unleash the power of the private sector to the fullest extent” through “regulatory and institutional reform and the opening up of government enterprises.” Still, medical care itself is not

positioned in this way. Furthermore, in the Regulatory Reform Implementation Plan compiled at the same time as the growth strategy, in the medical sector it is medical devices that are targeted for regulatory reform while medical care itself, although subject to calls to accelerate the use of information and communication technology (ICT), is not directly targeted for regulatory reform. (ICT is discussed in more detail below.)

In essence, is it not actually the delivery system for medical services that we should resolve to develop as an industry through regulatory and institutional reform? Pharmaceuticals and medical devices are intermediate products used by physicians in the course of providing medical services (naturally, simple cold medicines, digestive medicines, thermometers and the like share the

qualities of ordinary final consumption goods), but ultimately what the patient receives as a consumer is the medical service itself. Unless medical service itself is improved, the medical industry cannot be said to have developed. And if the system for delivering medical services remains inefficient — if it is only the production of pharmaceuticals and medical devices that expands — there is even the danger of simply ending up with even more excessive medication and unnecessary testing.

Need for Reform of Medical Care System

Seeking the development of a medical industry that can cope with the super-aging society to come surely requires embarking on a radical reform of the current medical system. Looking at the performance of Japan’s medical care, despite the country’s progressive aging, its total medical expenses (national medical expenditures plus certain nursing care costs and payouts from private-sector medical insurance) as a share of GDP are not high relative to other countries (at 9.5%, total medical expenses as a share of GDP are comparable to the OECD average). Further considering that the country has the world’s highest average life expectancy, this is often deemed sufficiently good. And yet, this high life expectancy is certainly also influenced by factors other than medical services (such as diet). Rising medical expenses are held in check to some extent through price controls. However, price controls themselves have a harmful effect, and if things continue as they are now the super-aging to come will result in an unavoidable increase in medical expenses.

Under Japan’s medical care system, the power of price controls over medical services and the enormity of subsidies are major bottlenecks impeding the development of the medical industry. First, the power of price controls retards competition based on the quality of medical services. When the unit price of medical procedures is regulated, performing a greater number of tests or other procedures leads to greater income while improving the quality of the services provided does not. Furthermore, the existence of subsidies lowers the cost of medical services covered by public medical insurance, generating excessive demand for them. That is, because patients themselves bear

only 13% of medical expenses (as noted above), demand for medical services grows without sufficient cost-consciousness. Low cost-consciousness reduces the incentive to maintain one's own health. Furthermore, although the price of medical services that are not covered by public medical insurance can be set freely, because prices are very high there is no increase in demand, which also stands in the way of the development of the medical industry.

Professor J. Mark Ramseyer of Harvard University has noted that government price controls may constrain the cost of medical services under Japan's public medical insurance system such that talented physicians fail to garner sufficient income. He argues, using evidence based on statistical analysis, that this leads to the ironic result that talented physicians tend to congregate in sectors such as cosmetic surgery that are not covered by public insurance because they are not fundamentally necessary. ("The Effect of Cost Suppression under Universal Health Insurance on the Allocation of Talent and the Development of Expertise: Cosmetic Surgery in Japan", *Journal of Law and Economics*, 52(3), 2009.)

Directions for Reform

In seeking to develop the medical industry, the important thing is surely to ease regulations and adjust pricing in the medical service delivery system itself. To do this requires building a mechanism that enables, as much as possible, setting the price of medical services freely. Of course, it is impossible to completely eliminate subsidies through public medical insurance but it is appropriate to increase patients' out-of-pocket costs relative to the current mechanism. In addition, broader application of so-called "mixed medical services" (combining medical services covered by public insurance with voluntary treatments not covered by insurance) should be actively encouraged from the standpoint of easing price regulations for medical services.

On its own, raising the proportion of out-of-pocket costs for receiving medical services is economically damaging for patients. However, lower out-of-pocket cost means a higher burden of taxes and social insurance premiums. The advance of super-aging makes an increase in medical expenses unavoidable, but in order to maintain the social security system it is essential to constrain as much as possible the rise in the tax and social insurance burden for medical expenses, making increased out-of-pocket costs for patients inescapable. Given a higher rate of out-of-pocket costs, patients will be more exacting in evaluating medical services. Combined with price liberalization wherever possible, this will promote competition among medical institutions and can be expected to encourage greater efficiency in the medical industry. This is likely to bolster the international competitiveness of Japan's medical industry and promote the export of medical services (for example, wealthy foreign patients visiting Japan to receive medical services).

In addition, the promotion of ICT in medical care is also an important issue for the development of the medical industry. The digitization of patient case records and the ability to share them makes

it possible to provide appropriate medical care to each patient and leads to improved productivity for the medical industry. Of course, because each person's medical data is important personal information, there is a need to take sufficient care in ensuring its confidentiality, but this is exactly the reason to bring ICT into play. Promoting ICT in medical care will make it possible to utilize the common identification number (for taxes and social security) currently being adopted. The common identification number system incorporates protection of personal information. Certainly it would be inadvisable to inefficiently assign individual special numbers for medical care despite common identification numbers to become available in the near future.

Will Development of Medical Industry Lead to Economic Growth?

Even granting that super-aging will cause growing demand for medical care, if this leads only to an increase in public payouts, it will not lead to economic growth. In such a situation, an increase in disbursements for medical expenses is only made possible by increasing the tax and insurance premium burden, which ends up reducing the income and consumption of those who bear the burden. Development of the medical industry in a way that leads to economic growth will be possible when the medical industry is able to efficiently generate greater added value than it has before.

However, we should not let our hopes get too high for Japan's future economic growth. Whether in the medical industry or in other industries that might be considered to contribute to economic growth, greater efficiency at the micro-level is certainly possible and presents a necessary policy challenge. Such micro-level efficiencies, however, do not greatly change the macro conditions revolving around economic growth. Micro-level institutional reforms, of course, may lead to economic growth but their quantitative effect is limited. The argument that the advance of super-aging is an opportunity to achieve economic growth through the development of the medical or healthcare industry has to be called groundless optimism.

Furthermore, during the process of regulatory reform of medical care there is a need to avoid markedly disadvantaging those with low income. Yet this is a matter that really should be addressed under the general problem of income distribution; to attempt to do so through excessive subsidies or unreasonable price or business controls invites inefficiency and a greater tax burden, which works to the detriment of all, including those with low income. The reform of medical care should be undertaken not from the perspective of particular stakeholders but from the perspective of society as a whole.

In closing, I wish to reemphasize that in order to build a medical care system capable of coping with the super-aging to come, the development of the medical industry, and regulatory reform to this end, is indispensable. **JS**

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