

## **Health System in Japan and the Netherlands: A comparative analysis**

Masahiro OMORI (OCHANOMIZU University)

### **I. Introduction**

The purpose of this paper is to clarify the differences between the health system in Japan and that of the Netherlands.

The content of my paper is as follows:

In section II, I briefly compare the health care system in Japan with that of the Netherlands from a cost-benefit point of view.

In section III, I argue for the possibility of introducing the efficiency mechanisms introduced by the health care system in the Netherlands, such as “Regulated Competition” into the health care system in Japan.

Finally, I summarize my discussion in this paper.

### **II. A cost-benefit analysis of the health system in Japan and that in the Netherlands: How effective is the health care system?**

When we compare the health care systems of different countries, analyzing from a cost-benefit perspective can grant us useful insights. Although rigid cost-benefit analysis requires a large volume of data, we will attempt a very primitive cost-benefit analysis as below. The theory is as follows: Better health care systems can realize improved performance without increased spending. A potential index for performance is life expectancy, and a potential index for cost is health care expenditure. If lower health care expenditure realizes longer life expectancy in a health care system, we can almost certainly say it is better health care system.

#### **1. Life Expectancy**

The effectiveness of a national health care system can be measured roughly by life expectancy. In Japan, the life expectancy of males and females aged 0 is 79.4 and 85.1 years respectively (2011), while the life expectancy in the Netherlands is 79.4 and 83.1.<sup>1</sup> People in both countries enjoy longer life expectancy, indicating that the benefits of both health care systems are superior worldwide.

#### **2. Health Care Expenditure/GDP (2011)**

Even if performance improves, we must confirm whether the cost is high or low. (Figure 1) shows how the total current health expenditure of both the Netherlands and Japan has changed.<sup>2</sup> Total current health care expenditure/GDP is higher in the Netherlands than that in Japan across all the years from 2000 to 2010. When we compare both countries, the cost in Japan is lower than that of

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<sup>1</sup> OECD Health Statistics.

<sup>2</sup> OECD Health Statistics.

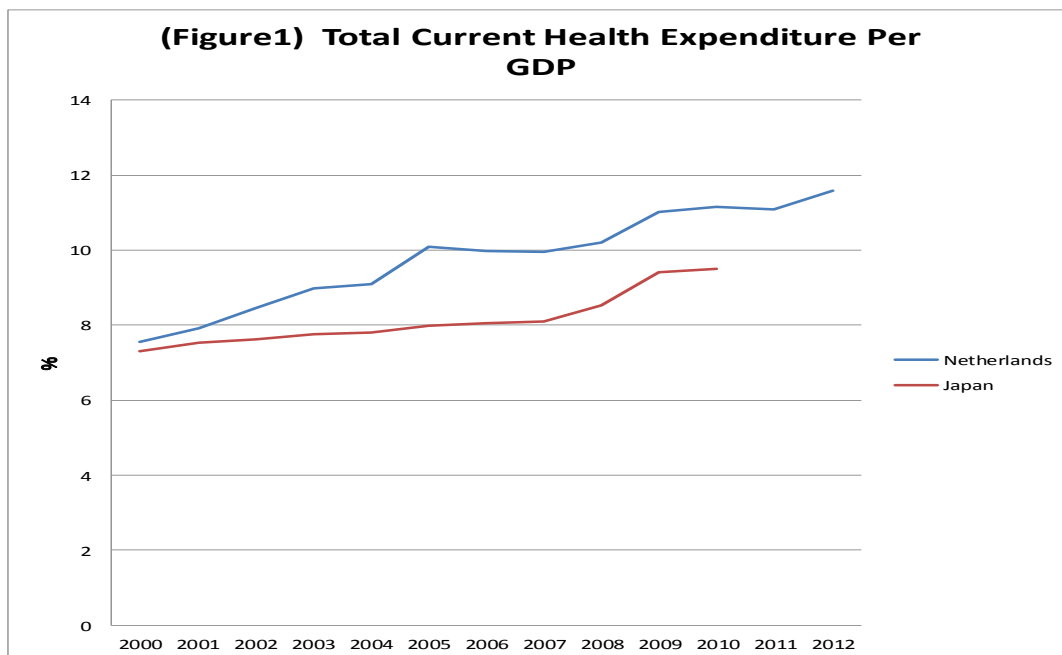
the Netherlands and the benefits in Japan are almost equal to that of the Netherlands.

But this is an oversimplified cost-benefit analysis because many factors which affect the analysis are disregarded.

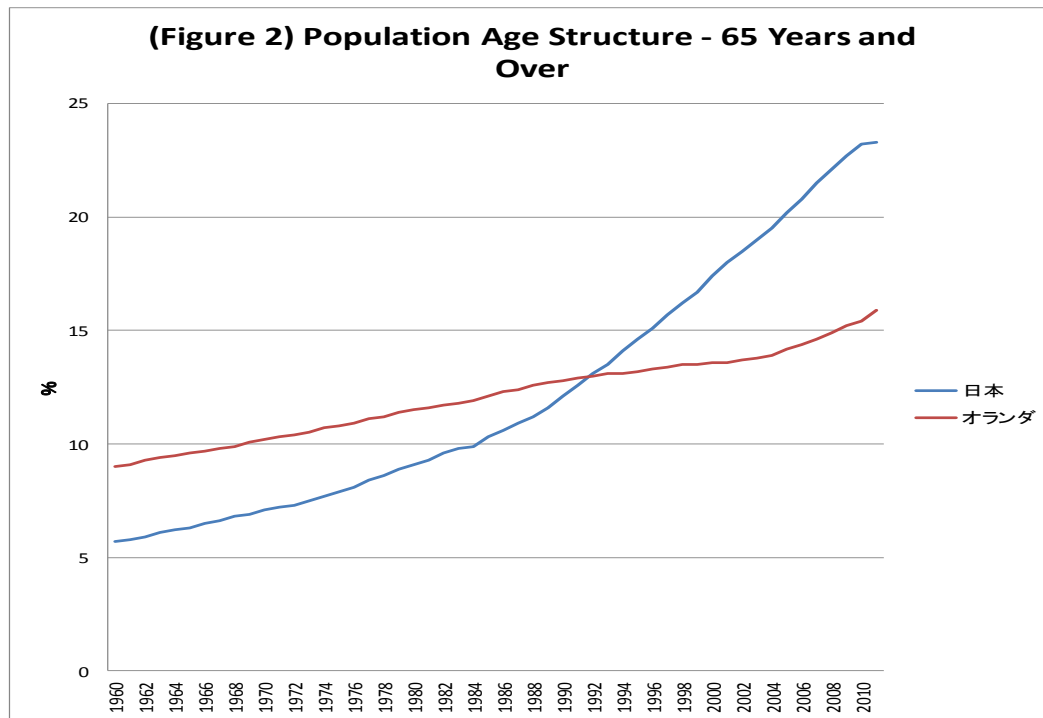
One important factor which has been omitted is the age ratio. Aging seems to affect health care expenditure as the elderly tend to visit health care institutions more often than the young. In Japan, more than half of health care expenditure in 2011 was spent on treatment of the elderly.<sup>3</sup>

(Figure 2) shows how population age structure for those 65 years and over has changed since 1960, both in Japan and the Netherlands. Although the ratio of those 65 and over is higher in the Netherlands from 1960 to 1991, the reverse is true between 1992 and 2011. We can confidently say that the cost-benefit ratio of the health care system in Japan is superior to that of the Netherlands and that this tendency becomes stronger at least from this simple analysis.

To draw a conclusion from this simple cost-benefit analysis, we would have to take the quality of care into consideration as higher-quality health care costs more. But measuring the quality of care is very difficult and it seems currently impossible to compare the quality of care provided by health care systems in Japan with that of the Netherlands.



<sup>3</sup> National Health Care Expenditure 2011.



(Figure 1),(Figure 2) Data Source: OECD Health Statistics

### III. Mechanisms of the Health Care System

How the health care system works can be evaluated from the point of view of efficiency and fairness. In this section, I compare some aspects of the health care system in Japan and that of the Netherlands.

#### 1. Health Insurance

Both countries adopted public health insurance based on the influence of the Beveridge Report. The public health insurance systems of both countries are structured within the framework of Social Insurance.

In Japan, most health care services except for some services such as advanced medical technology including some anticancer drugs, are covered by public health insurance which is compulsory for all residents in Japan.

There are ten kinds of public health insurance in Japan. One provides public health insurance for late-stage elderly persons aged 75 and over, seven provide public health insurance for the employed and their families, and the remaining ones are for the self-employed and the retired. All health insurers are not-for-profit corporations. Private health insurance has quite a limited role and is not compulsory, of course.

The role of private health insurance is very limited in Japan. There are a very small portion of health care services which are not covered by public health insurance. These can be divided into two types as follows: firstly, there are services called "Hyoukaryouyou" which are comprised of

high-tech medical treatment such as newly-developed anticancer drugs that have not yet to be assessed for effectiveness; Secondly, there are services called “Senteiryoyou” which are mostly luxury services such as private rooms in health care institutions, high-quality fillings for teeth, and so on.

Only some of these services are covered by private health insurance which is provided by for-profit insurance companies. The most popular private health insurance policies are ones which subsidize a part of out-of-pocket payment for inpatient services, high-tech medical care including newly developed anticancer drugs and the like.

In the Netherlands, public health insurance which is called “Compartment 2” covers most health care services, while private health insurance plays a more important role. The compulsory health insurance framework called “Compartment 2” is unified from 2006.<sup>4</sup> The health care services which “Compartment 3” covers include dental care and some additional rehabilitation services, and so on. Private health insurance, called “Compartment 3”, plays a more significant role than it does in Japan. In 2009, 91 % of the insured took out complementary voluntary health insurance. “Care insurers” which provide public health insurance services within the “Compartment 2” framework mainly provide private health insurance, while for-profit insurance companies are also able to supply private health insurance.

## 2. Health insurers

As mentioned in section 1, public health insurers differ from private health insurers in Japan, while in the Netherlands, these do not necessarily differ. That is, health insurers in “Compartment 2” also provide private health insurance services. It is possible then, for “Care insurers” to obtain customers in “Compartment 3” by informally taking advantage of their “Compartment 2” customer list and profile data.

Although the insurer and the insured conclude a contract in both the Netherlands and Japan, the reality of the relationship is very different. The insured in Japan cannot choose the insurer; rather the residents in Japan are assigned to the appropriate insurer depending on their social status such as job situation, which means health insurers cannot make efforts to get the insured by “animal spirit”. In the Netherlands, the insured can choose their insurer and, in principle, change provider each year, a fact which enables “Care Insurers” to make efforts to increase the number of the insured.

The organization of health insurers also differs between Japan and the Netherlands. All the insurers in Japan are not-for-profit corporations while for-profit companies are prohibited from acting as insurers of public health insurance. In the Netherlands, although most of the health insurers of “Compartment 2” (and “Compartment 3”) are not for profit, for-profit companies can be insurers of both “Compartment 2” and “Compartment 3”.

(Table 1) shows the scale of Care insurers from 2006 to 2012. In the Netherlands, the scale of

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<sup>4</sup> In this paper, “Care insurer” means a health insurer in the “Compartment 2” category in the Netherlands.

“Care insurers” increased as regulated competition developed. As for Japan, it is very difficult for public health insurers to increase the number of the insured, as the insured are automatically assigned according to their social status. Residents in Japan are unable to choose public health insurers, which brings about variance of scale in public health insurers in Japan. For 114 of the 1711 national health insurers, the number of insured is less than 1000.<sup>5</sup>

(Table 1) Scale of “Care insurers” in “Compartment 2”

	ZVW						
	2006	2007	2008	2009	2010	2011	2012
Number of the insured							
1000000–	5	5	5	5	5	5	5
500000 —100000	5	3	6	6	4	4	4
400000 —500000	3	4	1	1	1	2	2
300000 —400000	4	5	4	4	5	4	3
200000 —300000	1	0	1	1	0	2	2
100000 —200000	6	7	7	7	9	7	7
50000 —100000	5	5	3	3	2	2	2
—50000	4	3	3	3	2	1	1
Total	33	32	30	30	28	27	26

VEKTIS (2007) P.22, VEKTIS (2008) P.20, Jaarcijfer 2011, Jaarcijfer2011.

In order to stabilize the management of health insurance, a certain scale of insurance is required, that is, sufficient numbers of insured persons. From this point of view, while Care insurers in the Netherlands adapt to this, public health insurers in Japan do not.

I would also like to discuss the contract between public health insurers and health care providers. In the public health insurance system in Japan, public health insurers cannot refuse to conclude a contract with a health care provider who approaches them. The price of health care and pharmaceutical services are regulated and fixed by a council appointed by the central government to set these prices. Accordingly, there is no room for discretion in a contract between a public health insurer and health care provider. In contrast, in the Netherlands, Care insurers can enter into contracts with health care providers at their discretion<sup>6</sup>. Price of health care service is regulated by the Health Care Market Regulation Act(WMG,Wet Marktordening Gezondhedizorg).

While the price of some part of health care services in hospitals(“B-Segment”) is regulated by DBC(Diagnose Behandel Combinatie) which is a DRG type price regulation, the price of other part of health care services in hospitals(“A-Segment”) is based on functions which hospitals serve to the community<sup>7</sup> and the price of pharmaceutical services out of hospital is regulated by the Medicine

<sup>5</sup> kokuminkenkouhokenjittaityousa 2010.

<sup>6</sup> Excluding health care institutions including hospital.

<sup>7</sup> This is so called “Functional Budgeting System”.

Reimbursement System (GVS)<sup>8</sup>, the price of GP(General Practitioner) services is generally set based on negotiation between the Care insurer and health care provider and the price of specialist services is based on negotiation between specialists and hospitals.<sup>9</sup>

### 3. Finance of public health insurance

Table 2 shows finance of National Health Expenditure in Japan. In 2010, 48.5 % of health expenditure was from insurance premiums, 13.4 % was mainly from copayment and 38.1 % was from public expenditure. Public expenditure is comprised mainly of national government subsidies and prefectural and local government subsidies for both national health insurance, whose participants are the self-employed and the retired, and public health insurance for the elderly 75 and over.

There is also transfer (support grant) from public health insurers whose participants are the employed, to public health insurers whose participants include many retired persons. The latter insurers include national health insurance and public health insurance for the elderly 75 and over.

Table 2 National Health Expenditure in Japan: FY2010

Finance	Estimation (Billion yen)	Share (%)
National Health care Expenditure	374 202	100.0
Public expense	142 562	38.1
State 1)	97 037	25.9
Prefecture and local	45 525	12.2
Income-related	181 319	48.5
Employer	75 380	20.1
The Employed	105 939	28.3
Other 2)	50 322	13.4
Out of pocket 3)	47 573	12.7

Ministry of Health, Labor and Welfare  
*National Health Expenditure*

On the other hand, in the Netherlands, about 51% of health expenditure was financed from income-related premiums and about 38% from flat-rate premiums in 2009.<sup>10</sup> A very small part of expenditure was from government subsidies ex post. It is interesting to find that there is almost no copayment by the insured.<sup>11</sup> The share of both premiums in public health insurance revenue is higher in the Netherlands, while the share of government subsidy is higher in Japan. We also find that the share of flat-rate premiums is increasing which indicates that flat-rate premiums become

<sup>8</sup> Willemijn Schäfer et al. Health Systems in Transition 2010 the Netherlands.

<sup>9</sup> Price cap regulation is adopted to services provided by individual practitioners such as General Practitioners. The price of health care provided by hospitals is regulated by DBC which is a DRG type price regulation.

<sup>10</sup> CVZ.th

<sup>11</sup> Low copayment has the risk of inducing the insured to make unnecessary visits to the hospital. We will refer to this point in a later section.

important as regulated competition is introduced in the Netherlands.<sup>12</sup>

The role of insurance premiums and government subsidies differ slightly between Japan and the Netherlands.

With regard to insurance premiums, income-related contribution exists in Japan while income-related contribution and flat-rate contribution exist in the Netherlands. In both countries, income-related contributions are basically set by the government, taking the burden of the patient into account.<sup>13</sup> While the share of income-related premiums in Japan is almost as large as that in the Netherlands, other burdens differ. In the Netherlands, 38 % of expenditure is from flat-rate premiums and, in Japan, 13.4 % is from copayment. The concept behind the former is copayment by the insured which compensates for the difference between real health expenditure and the risk-adjusted budget from the insurance fund. The concept behind the latter is that part of health care expenditure must be paid by the patient who uses health care service himself (or herself). The share of flat-rate premiums in the Netherlands is almost 3 times as large as copayment in Japan. Although it seems at a glance that the insured in the Netherlands bear the health care expenditure, this is not the case. We have to refer to government subsidies.

As for government subsidies, these are also set by the governments of both countries, taking patients' burden into account. But the role of government subsidies in each country is different. Government subsidies for health care expenditure in Japan include many kinds of public expenditure. One is for special purposes such as health care for public assistance recipients, patients of some incurable diseases, victims of pollution and so on. The second is for compensation for permanent loss of some health insurers including national health insurance managed by local government. This is legally and typically executed as loss is systematic and inevitable. As the majority of those insured under national health insurance are self-employed or retired, the average income of the insured is lower, and the average age is higher than that of those insured under public health insurance for the employed. These conditions bring about a permanent shortage of revenue and increase health care expenditure. Although this type of subsidy is *ex ante*, there is another type of *ex post* subsidy. If national health insurance makes a loss after receiving subsidies from central, prefectural and local governments, the local governments give subsidies from general expenditure to compensate for loss *ex post*.

We also have to explain more about the finance of public health insurance. The health insurance program managed by the Japan Health Insurance Association is public health insurance which provides cover for employees of medium and small corporations, and the families of those employees. We have to pay attention to the fact that 14.5 % of expenditure was spent on the support fund for the first-stage elderly (from 65 to 74 years old) in 2011, the majority of which goes to national health insurance.<sup>14</sup> Every public health insurer has to pay into this fund, with the amount

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<sup>12</sup> CVZ.

<sup>13</sup> The exceptional cases are some health insurance schemes for the employed in Japan.

<sup>14</sup> Japan Health Insurance Association (2011).

dependent on the ratio of persons aged 65-74 to the number of the insured. Furthermore all public health insurers have to pay into the support fund for the health insurance scheme for the late-stage elderly (75 years old and over). As for the health insurance program managed by the Japan Health Insurance Association, 17.2 % of its expenditure was spent on this in 2011.<sup>15</sup> In total health insurers have to bear almost 40% of its expenditure except for copayments by the insured (people who are 75 years and over).

The problems with the financial aspect of public health insurance in Japan are as follows: Firstly, the national health insurance systematically makes a loss as it covers people whose income is relatively low and whose average age is higher. To compensate for the loss, public health insurers have to provide a support fund for the first-stage elderly, which is detrimental to the public health insurers' financial condition. Secondly, finance of the health insurance scheme for the late-stage elderly relies heavily on subsidies from central, prefectural and local governments, and support funds from public health insurers. The former subsidy comes from tax and the latter support fund is from income-related premiums. In either case, the ultimate source of the funding is the young who are working. This type of finance does not seem sustainable as the proportion of the elderly to the total population is increasing while the ratio of young persons to the total population is decreasing.

Thirdly, a soft budget problem exists, especially in the national health insurance scheme. The national health insurance scheme receives not only financial support in the form of government subsidies and support grants from public health insurers ex ante, but also compensation for loss from local government ex post.

As local government compensation functions as a last resort for the national health insurance scheme, the insurers of the national health insurance system do not seem to have much incentive to balance the budget.

On the other hand, in the Netherlands, the role of subsidies seems to be different from that in Japan. When the central government drafts a "macro budget", they determine what level of subsidy must be factored into it, taking fairness into consideration. "Fairness" means the insured's ability to pay the income-related contributions and flat-rate contributions, taking their income and assets into account. From the "Macro budget" then, every public health insurer has a budget in the form of a risk-adjusted capitation payment according to the insured's risk profile. The inevitable transfer from the young to the aged is done via risk-adjusted payment, in contrast to the observable transfer via support grants and subsidies that is seen in the health care system in Japan. A very important point is that the risk-adjustment mechanism is applicable to all residents: the insured including the elderly. It seems that the support grants for the health insurance scheme for the first-stage elderly and subsidies and support grants for the health insurance scheme for the late-stage elderly bring about conflicts between the young and old generations in Japan due to the fact that they are observable.

In the Netherlands, the share of flat-rate contributions in revenue for "Compartment 2" has been

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<sup>15</sup> Japan Health Insurance Association (2011).



increasing, which is the result of introduction of “Regulated Competition.”<sup>16</sup> Flat-rate contributions differ among Care insurers, reflecting both the efficiency with which the company is managed and errors in forecasting the cost of the insured. The total burden of income-related contributions and flat-rate contributions can be too high for some low-income patients. We must be aware that the level of flat-rate contribution does not depend on the income and assets of the insured, which means flat-rate contributions are regressive. This is why the central government has provisions for supporting these people.

#### 4. Primary care, Secondary care, Tertiary Care

To realize efficiency in the health care system, price mechanisms alone are insufficient, as price is regulated due to market failure in the health care market. In the Netherlands, the government has been making efforts to allow market mechanisms work in health care market, by introducing “Regulated Competition” and permitting Care insurers and health care providers to negotiate the prices of health care services.

But it is difficult to make demand-side pressure operate effectively in the health care market as an asymmetry of information exists. In other words, customers themselves cannot accurately determine their real demand. Demand for health care is determined both by the health care providers, especially medical doctors, and patients. Health care providers who have knowledge of medicine can affect patients’ demand for health care.

It is well known that the GP system has been adopted in the Netherlands. This system forces patients to visit a General Practitioner (GP) first and gives patients access to hospital services if a GP refers them. The GP diagnoses and advises patients, and controls their demand for hospital services. On the other hand, in Japan, patients can go either to clinics or directly to hospital, a fact which makes it possible for risk-averse patients to visit hospital directly because hospitals can diagnose and treat both serious and slight illnesses. Hospitals which have more than 200 beds can impose additional charges for first contact, and the hospital itself can optionally set charges for patients who directly come to hospital without referral letter. Although this policy induces patients to go to clinic, patients can go directly to hospital if they pay the extra charges.<sup>17</sup>

There are almost 9,000 hospitals in Japan, 70 % of which have less than 200 beds while in the Netherlands, there are almost 100 hospitals.<sup>18</sup> Even taking into account the fact that the population of Japan is almost seven times as large as that of the Netherlands, the number of hospitals in Japan is too large. The reason there are so many hospitals in Japan seems to be as follows: Firstly, private organizations played an important role in increasing hospital services after World War II because public provision for hospital services couldn’t keep up with increasing demand for hospital services. As for management organization, the “Medical Corporations” and “Individuals” whose share is

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<sup>16</sup> CVZ.

<sup>17</sup> Special payment is generally between 2,000 yen to 5,000 yen.

<sup>18</sup> Ministry of Health, labor and Welfare. 2012. *Iryousisetutyousabyouinnhoukoku*.

almost 70 % are private constituents. Secondly, not-for-profit private entities are hard put to enjoy scale merits because their main means of finance is borrowing from bank, a fact which generates many small-scale private hospitals. Currently, most of these small-scale hospitals have the regulated beds for rehabilitation, which really function as a sort of bed for long-term care. It is said that hospitals, especially small hospitals in Japan also provide health care services which correspond to primary care.

#### IV Health care reform in Japan.....Suggestions from Dutch health Care Reform

In conclusion, I will consider the problems posed by the health care system in Japan and propose health care reform plans in Japan, taking the ideas suggested by the Dutch health care reform into consideration.

The most important feature of Dutch health care reform is “Regulated Competition”. The basic conditions for effective “Regulated Competition” are as follows: Firstly, conditions which give Care insurers incentives to work for the insured must be established. The price and quality of health care services supplied by health care providers and the level of insurance premiums<sup>19</sup> are the most important factors for the insured, the patients. What factors will give public health insurers an incentive to work for the insured is a question which requires more thought. Profit motive, objectives of organization other than profit motive or other objectives are candidates for providing the right answer. In the Netherlands, for-profit companies are permitted to be Care insurers, and their corporate objective might be profit maximization. On the other hand, in Japan, this isn’t permitted. What incentives can be used to drive public health insurers to work for the insured is an important question. In any case, the entrepreneurial spirit of the Care insurer is what is needed.

The ability of the Care insurers to work for the insured is dependent on being granted the discretion to negotiate the price and quality of health care services with health care providers. In the Netherlands, the price and quality is set almost based on free negotiation between Care insurers and health care providers. In Japan, public health insurers do not have the freedom to negotiate the price and quality with health care providers. Public health insurers may neither set the price of health services, as price is regulated by central government, nor refuse to enter into contracts with health care providers who want to provide health care services which are covered by public health insurance.

Secondly, as regulated competition has aspects of competition among Care insurers, Care insurers must have means of competition. Insurance premiums are a strategic tool for Care insurers. As income-related premiums are regulated by central government, Care insurers compete on a platform of flat-rate premiums.

Thirdly, “Regulated Competition” ensures Care insurers have the power to compete with each other. For this to be possible, the scale of Care insurers must not be too small. While the scale of

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<sup>19</sup> In the Netherlands, flat-rate contribution.

Care insurers has been increasing in the Netherlands, public health insurers in Japan are not favored with appropriate conditions to enlarge their scale (increase the number of the insured), as the insured are assigned to their public health insurer according to their job and social status.

Fourthly, the self-sufficiency and management independence of public health insurers is also very important, not only for “Regulated Competition” but also for the public health insurance system as a whole. In the Netherlands, Care insurers have to ask the insured to pay flat-rate premiums if they make a loss, and this encourages Care insurers to make efforts to prevent inefficiency and balance the budget. In Japan, some public health insurers, such as national health insurance, can be compensated for their loss ex post if they make one. Thus Care insurers in the Netherlands seem more independent than public health insurers in Japan. The reason for this is that risk-adjusted payments and the following adjustment mechanism is more highly legislated and emphasized on in the Netherlands.

In Japan, although a sort of risk-adjustment for public health insurers exists, it is more complicated, and provision is made for compensation from tax which works as a last resort for some public health insurance such as “Kyokai Kenpo” and national health insurance.

Ex post compensation must be abolished and risk-adjusted payment system must be enriched in health insurance system in Japan.

We also have to refer to the supply side of health care system. As discussed in the previous section, in the Netherlands, the GP system has already been adopted, and this has realized a division of the roles of primary care and secondary care (in some cases, tertiary care). This system contributes to solve consumer misuse of secondary care (hospital service) as the GP plays a gatekeeper role for secondary care. This is why there are only about 100 hospitals in the Netherlands while there are almost 9,000 hospitals in Japan as discussed. As it is almost impossible for consumer to have an accurate grasp of his or her needs, the GP system must be introduced in Japan.

On the other hand, how to solve the issue of waiting lists must be considered, as it is a prevalent phenomenon in countries which adopt a GP system.

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