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# An Economic Analysis of Institutions and Regulations in the Japanese Healthcare System\*

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The purpose of this paper is to investigate the economic implications of the Japanese healthcare system that is one of the institutional arrangements for rationing medical resources. In addition, based on the view that a healthcare system is a non-market method for resource allocation that takes the place of the market, another purpose of the paper is to highlight the policy issues that will accompany the design of a new healthcare system in Japan.

A healthcare system is generally composed of various institutions and regulations that serve to allocate medical resources on both the supply and demand sides of the medical care market<sup>1)</sup>. An analysis of the economic implications of these institutions and regulations will therefore not only shed light on actual resource allocation through the healthcare system, but also contribute to building and maintaining trust relationship between patients and doctors. However, as there are lots of government interventions in the healthcare sector, the impact of the healthcare system on resource allocation is so much complex and complicated. This paper will investigate, both institutionally and theoretically, the economic implications of resource allocation through the two regulations that form the core of Japan's current healthcare system: the public insurance system and the medical fee system.

In Japan and other countries, there are various government interventions on both the supply and demand sides of the medical care market, and several economic reasons have been put forward for such government interventions<sup>2)</sup>. For example, in the healthcare market are many externalities in providing public health and in the treatment and prevention of infectious diseases, and asymmetric information exists between patients and doctors. Furthermore, because an individual cannot predict whether he or she will fall seriously ill, he or she is exposed to the risk of astronomical medical bills. Although private insurance offers a market-based way of alleviating such risk in the private insurance market, the reality is that asymmetric information results in problems such as moral hazard and adverse selection, which prevent the private insurance market from adequately sheltering people from such risk. Another problem with leaving things to the market is that fair access to medical services is hampered. It is for reasons such as these that the government intervenes on both the supply and demand sides of the medical care market.

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\* This research was funded partly by a grant from the Ministry of Education, Culture, Sports, Science and Technology.

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<sup>1)</sup> Institutions, regulations, and laws serve to allocate resources as markets do. This paper deals with the institutions and regulations that govern the field of medical care as non-market resource allocation methods. For a discussion of institutional economics and new institutional economics, see North (1990) and Alston, Eggertsson, and North (1996). For property rights theory, which is included under the title "a new institutional economics", see footnote 18.

<sup>2)</sup> Refer, for example, to Arrow (1963), a pioneering paper on health economics, and Hammer (2003), which examines the basis of Arrow's contentions from a modern perspective.

The methods and characteristics of government interventions are different in each country, which means that resource allocation through the healthcare system also differs. Health insurance systems, for example, have been classified, according to the way they are funded, as public systems, social insurance systems, and private insurance systems<sup>3</sup>. At the same time, these categorizations suggest basic differences from the viewpoint of the consumer (patient) in the mechanisms for rationing the use of medical services. In addition, even if systems are in the same health insurance system classification, the way medical services are rationed will also differ if the delivery system is different. For example, depending on whether services are delivered by public or private medical institutions, or some combination of the two, there will be regional differences in the supply conditions surrounding patients<sup>4</sup>. Therefore, even if the system is a social health insurance system where the patient's co-payment is so much low, these differences can, along with other factors, cause significant differences between regions in the consumption of medical services.

Under the insurance system categorizations, the Japanese healthcare system, which is the focus of this paper, would be classified as a social health insurance system. Everyone is covered by insurance of some kind, and patients are generally required to burden 30 percent of medical expenditures. This means a disparity between the prices for consumers and producers. As a result, the gap between supply and demand is not adjusted through the market price, but through the institutions and regulations within the healthcare system. This paper aims to clarify the rationing mechanism in consumption and production allocation by focusing on the two regulations that have formed the core of the Japanese healthcare system. Section 1 will focus on the health insurance system, which affects consumption of medical care, to examine the economic relationship between real costs to patients and the demand for medical care. Section 2 will deal with the supply conditions, which determine the real cost of medical care to patients, and will concentrate on the medical fee system, as this system has a direct impact on the behavior of medical institutions. Section 3 will explore the problems that the current medical fee system will face over the medium to long term as a result of ongoing and dramatic changes of demographic and socio-economic environmental conditions surrounding the healthcare sector. From a health policy perspective, this is a matter that will require special attention when designing a new healthcare system.

## 1. Medical Insurance System and Demand for Medical Care

The healthcare sector in Japan is characterized by public regulations on both the supply and demand sides, and these regulations have economic effects on resource allocation. Such non-market resource allocation differs from that through the market mechanism. In addition, public regulations result in hidden costs, which can lead to unintended burdens being imposed on unintended entities. This section will focus on public regulations on the demand side of the medical care market, and examine the costs that result from these regulations and the impact they have on the demand for medical care.

### 1.1 Japanese Medical Insurance System

Of all the regulations that influence the demand for medical services in Japan, the most important is the public medical insurance system. This system designates the types and scope of

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<sup>3</sup> See OECD (1987) (1994).

<sup>4</sup> The supply conditions of medical resources across regions will be affected not just by differences in the ownership of medical institutions, but also differences in the way they are reimbursed, i.e., fee-for-service, capitation, DRG(diagnosis-related group) or mixed reimbursement system.

medical treatments covered by public insurance, and the share of medical expenditures that must be paid by the individual. Medical treatments outside the scope of insured ones are not covered by insurance, and the entire medical expenditures involving both insured and non-insured treatments must generally be borne by the patient, even the portion that would normally be covered by insurance. This rule has been termed the “prohibition of mixed treatments,” and will be discussed in the next section in the context of recent healthcare reforms. This subsection will review the public health insurance system and institutional restrictions faced by patients in Japan briefly.

A universal insurance system was established in Japan in 1961, making it possible for all citizens to receive healthcare services anywhere in the country by paying part of medical expenditures<sup>5)</sup>. As of 2005, the patient's fixed-rate co-payment was generally 30 percent of medical expenditures for both the insured person and members of his or her family. However, there is a high cost medical care benefit system, which puts a cap on the total amount an individual has to pay. As for old people, a health service scheme for the elderly was launched in 1983, under which the patient's burden of medical expenditures were even lower. This scheme was originally open to persons aged 70 years or older (and bed ridden persons aged between 65 and 69). In 2002, however, the minimum age was raised to 75. As of 2005 their burden under this scheme was fixed-rate co-payment of 10 percent, or if their income was above a certain level, 20 percent<sup>6)</sup>. Under these public insurance schemes for non-elderly and elderly people, patients' co-payments (consumer price) are lower than medical fees reimbursed to medical care providers (producer price)<sup>7)</sup>. This means that a means of rationing other than the price of medical care is required particularly in the case of demand exceeding supply capacity.

Furthermore, in Japan there are no regulations directly restricting the selection of medical institutions by patients, i.e., patients are free to choose which medical institutions to go to. This freedom of choice means that Japan doesn't have a gatekeeping system like those seen in Britain, Scandinavian countries, and at Health Maintenance Organizations in the United States. In Britain, for example, since general practitioners (GPs), who are responsible for delivering primary care, function as the gatekeepers, patients must obtain a referral from their GP before they can see a specialist. The advantages of this system are that it keeps medical costs in check because the GP can prevent the patient from going for an unnecessary consultation and that the possession of information by GPs enhances the efficiency of advanced medical care resources<sup>8)</sup>. In Japan, on the other hand, where patients can go directly for consultations at medical institutions providing advanced medical care, these institutions are apt to attract flocks of patients, which impedes efficiency of medical care<sup>9)</sup>.

## 1.2 Full Price and Rationing

Under the current medical insurance system in Japan, what kinds of costs are really imposed on patients? The real cost (full price) to patients is a major factor in determining the demand for medical services. Therefore, even if the individual's co-payment (money price) is relatively low, if the real costs, of which the co-payment is just a component, are high, it can be said that price-based

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<sup>5)</sup> For a detailed discussion about the historical development of the Japanese medical insurance system, see Yoshihara and Wada (1999).

<sup>6)</sup> Although the share of the costs for elderly patients is generally 10 percent in 2005, elderly people whose income is as much as that of the working generation (at least 1.45 million yen in annual taxable income or 280,000 yen in average monthly income including bonuses etc.) must pay 20 percent and the total maximum amount they have to shoulder is also higher. In addition, people on low incomes whose households are not subject to local tax also have a different share of the costs. The Ministry of Health, Labour and Welfare (2005c) proposes dividing elderly persons into two groups and making each group liable for a different share of the costs. The first group would be younger elderly persons between 65 and 74, while the second group would be over 75.

<sup>7)</sup> As far as the national medical expenditure in 2004 is concerned, the sharing ratio of patients' co-payments is 15 percent, that of insurance premiums 50 percent, that of public funds 35 percent.

<sup>8)</sup> For a discussion of the GP-based gatekeeping system, see Scott (2000) and Brekke, Nuscheler and Straume (2005).

<sup>9)</sup> However, a revision of medical fees in 1996 has enabled hospitals with 200 or more beds to charge higher fees to un-referred patients for initial consultations.

rationing for the use of medical services plays a much greater role<sup>10</sup>. This subsection will focus on real costs faced by patients under the current system, and examine, from an institutional standpoint, the conditions that determine these costs.

The first cost is a fixed rate co-payment of medical expenditures that the patient is required to pay under the current medical insurance system (the consumer price). For the patient, this is a clear “money price,” and in recent years it has been increasing because of an aging population and worsening fiscal conditions. As mentioned earlier, the individual’s co-payment is currently set at 30 percent for the non-elderly, but the fact is that the real cost to the patient of medical care is higher than the co-payment. This is because medical treatment entails hidden costs explained below, which arise because of the mechanism described in the previous subsection. In the healthcare sector, regulations exist on both the supply and demand sides, so market-based resource allocation, characterized by autonomous adjustment through the price mechanism, does not occur. In other words, there is a disparity in the prices faced by patients and doctors, and these prices are unable to perform the role of adjusting supply and demand. The result is that although patients and doctors react to their own “official price,” the gap between supply and demand is adjusted in a different way. In Japan, where there is no rationing mechanism on the demand side, as might be provided by, for example, a gatekeeping system, excess demand results in hidden costs being imposed on patients (consumers), which in turn results in demand adjusting to match a certain level of supply capacity.

But what kinds of hidden costs are patients subject to? An important one is the cost of waiting times at a medical institution for a consultation: the queuing cost. If the queuing cost is high, it means that price-based rationing of consumption in the form of waiting time costs works in medical care. In addition to the queuing cost, there are also access costs of getting from home to the medical institution: time costs and travel expenses. Access costs depend on supply conditions for providing medical care, namely, what kinds of medical resources are available in the area where the patient lives. These queuing and access costs serve to adjust demand for outpatient care. Assume, for example, that individual’s co-payment is set at zero, meaning that medical services are free, and that excess demand results<sup>11</sup>. Thus, this excess demand could cause an increase in hidden costs to patients, which may discourage some people particularly with high opportunity costs from seeking a consultation<sup>12</sup>. The reason that such demand adjustment can occur through hidden costs is because there is no rationing system such as a gatekeeping system in place.

In addition, except in emergency medical care, there is normally a waiting period for services such as tests, hospitalization, and surgery. For example, if a medical institution has a waiting list for patients needing elective surgery, it means that demand for surgery at the institution is adjusted by the waiting period. But such economic function by waiting period differs depending on the healthcare system of each country<sup>13</sup>. For example, waiting periods for elective surgery in Japan are shorter than in other advanced countries such as Britain where they are extremely long. This is because of supply conditions in Japan such as plenty of beds and equipment<sup>14</sup>. However, although waiting periods are shorter, Japan has fewer medical staff per bed than other countries. This suggests that patients are receiving inpatient care that results in fewer human resources. Put another way, in the case of inpatient care in Japan, the gap between supply and demand is adjusted not by waiting periods, but

<sup>10</sup> For a discussion of the effect of full prices and money prices on demand for health care services, see Chino (1994).

<sup>11</sup> In 1972, actually, Japan introduced free medical care for the elderly, making an elderly patient’s share of medical expenditure zero. This resulted in a large increase in demand for medical care by the elderly.

<sup>12</sup> In reality, such adjustment may not necessarily be the number of patients going in for consultations. Crowded waiting rooms, for example, may encourage hospitals to shorten times for the consultations, which will reduce the quality of the care delivered.

<sup>13</sup> See Siciliani and Hurst (2003) and OECD (2004). Waiting lists are often a big political issue in Britain.

<sup>14</sup> According to the OECD (2005), in 2003 Japan’s figure of 14.3 beds per thousand people was the highest in the OECD. Next was the Czech Republic with 8.8, followed by Germany with 8.7. In Britain there were 4.2 and in the United States 3.3. Japan also had the most CT scanners per million people in 2002, with 92.6. South Korea was next with 30.9, followed by the United States with 13.1. In Britain there were 5.8 CT scanners per million people in 2001. Hospitalization periods in 2003 were longest in Japan, at 36.4 days. Next was South Korea at 13.5, followed by France at 13.4, Britain at 7.6, and the United States at 6.5 days.

by human resources.

In sum, the real cost (full price) of medical care to the patient includes not only the individual's co-payment of medical expenditures, but also the waiting time for consultations (queuing costs), the time taken and money spent getting to medical institutions (access costs), and the waiting period for tests, hospitalization, or surgery. Because these costs depend on the conditions of providing medical services, the real cost to patients will be affected by the supply conditions in the area where they live. Medical care facilities in Japan comprise private clinics and hospitals, which can be opened freely, and public medical institutions, which are supposed to supplement the private institutions. However, there are regional differences in the number of medical institutions, the number of beds, and the range of medical services on offer<sup>15</sup>. This means that the extent of the role that real costs play in rationing medical care differs from place to place.

## 2. Medical Fee Schedule and Medical Institutions

The previous section showed how resources were allocated to patients under the current health insurance system taking supply capacity as a given. In addition, medical services received by patients were influenced by the supply conditions in the areas where they lived such as the capacity of medical institutions to deliver medical services, the type of institutions, and so on. This section will examine the medical fee schedule, which, among all the regulations governing the medical care delivery system, has a particularly large influence on the behavior of medical institutions<sup>16</sup>. Medical fees faced by medical care providers function as price incentive and have an impact on their decisions relating to medical resource allocation. By determining supply conditions in this way, medical fees indirectly influence the real cost of medical care to patients. The section will then go on to highlight some characteristics and problems of the current medical fee system.

### 2.1 Medical Fee Schedule and the Behavior of Medical Institutions

Although the medical fee schedule is a way of controlling the prices faced by medical care providers, it differs from typical price controls for other goods and services in one important way: in the case of medical care, the elements that are regulated for price control are inputs (or interim outputs) employed to produce medical care rather than medical care itself (final output). These are listed and priced as medical treatments on the list such as examinations, tests, dispensing, surgeries and so on. The number of these items is above several thousands and, as for the drug pricing system, the number is by far more than 10,000 drugs<sup>17</sup>. All these prices are listed on the medical fee schedule. The schedule actually gives points for each type of medical treatments or medicine, with one point currently worth 10 yen. Medical institutions are therefore paid 10 yen multiplied by the points for all the medical services they have provided to the patient. This is referred to fee-for-service payment system.

In the field of medical care the pursuit of profits is prohibited by the Medical Care Law in Japan, but medical institutions generally have to earn enough revenue to cover their costs and thus are by no means immune to price incentive. However, ownerships of medical institutions are diverse and their

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<sup>15</sup> According the Asahi Shimbun (January 18, 2006), a Japanese newspaper, the government is planning to address large regional disparities in the availability of medical services by revising the Medical Care Law to make working in a sparsely-populated area or a field of medicine with a shortage of doctors a condition for opening a private practice.

<sup>16</sup> This paper will examine a simplified version of the basic system of compensation used in Japan, i.e., fee-for-service system. Other reimbursement systems, such as capitation and diagnostic procedure combination (DPC) are also used partly. This DPC system is different from DRG/PPS that are used in the United States.

<sup>17</sup> See Social Insurance Research Center (2004), and Jiho, Inc. (2005).

institutional environmental conditions are different, so that the extent to which an institution is motivated by price incentive will differ. The Ministry of Health, Labour and Welfare (MHLW) classifies ownerships as national or public-sector organizations (which include prefectural and municipal governments, the Japanese Red Cross Medical Center, Social Welfare Organization Saiseikai Imperial Gift Foundation Inc., and the Federation of Agricultural Cooperatives), social insurance organizations (e.g. the Federation of National Social Insurance Associations, health insurance associations and federations, and mutual aid associations and federations), medical corporations, individuals, and others (benevolent corporations, educational corporations, and other judicial persons). Among these institutions, public-sector organizations can receive public subsidies and contributions, while private institutions run by medical corporations and individuals should rely on revenues from medical services for management as well as for income. Thus private medical institutions respond to medical fees more sensitively compared with public counterparts<sup>18</sup>. Furthermore, regardless of nondistribution constraint in the field of medical care, there is possibility for private institutions to seek a kind of profits (economic surpluses below, which are transformed into residual surpluses or income) in the current healthcare system<sup>19</sup>.

In the Japanese medical care delivery system characterized by diversity in the types of ownerships of medical institutions, the price incentive effect of medical fees will differ depending on the type of ownership. Private institutions will be more likely than public ones to concentrate on providing medical services that can earn them economic surpluses<sup>20</sup>. After all, in a system in which private medical institutions can be opened freely, surpluses are the key to their behavior in the field of medical care. The medical fee schedule will therefore influence their behavioral decisions about where to locate practices and what services to offer. The decisions made by private institutions result in a phenomenon called “cream skimming,” and lead to differences in market structures between public and private institutions<sup>21</sup>. These differences then give rise to regional differences in supply conditions. As a result, private institutions play a particularly large role in the hospitalization and treatment of senior citizens, and regional differences in the number of beds available to them were, before the establishment of the nursing care insurance system in 2000, an important factor behind regional differences in medical expenditures for the elderly<sup>22</sup>. This is related to patients requiring long-term hospitalization (so called “social hospitalization”), which is on the borderline between nursing care and medical treatment. Even since the launch of the nursing care insurance system, under which long-term care beds are being classified as for either nursing or medical care, it is almost impossible to tell which bed is occupied by which type of patient despite its official classification<sup>23</sup>.

In short, the medical fee schedule, through its price incentive effect on the behavior of private medical institutions, tends to form medical supply conditions of local regions in Japan, and, as described in the previous section, this in turn determines the real costs of medical care to patients there. In other words, such hidden costs of medical care tend to have extremely economic roles especially in a country, like Japan, where patients are largely free to choose which medical institutions

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<sup>18</sup> Generally differences in ownership influence the economic behavior of medical institutions. For property rights theory behind this economic contention, see, for example, Alchian (1965), Demsetz (1966) (1967), Alchian and Demsetz (1972), Furubotn and Pejovich (1972), Cheung (1974), and Barzel (1997).

<sup>19</sup> Healthcare services offered by medical institutions in Japan are subject to not-for-profit requirements set forth in Article 7 of the Medical Care Law. In addition, Article 54 of the same law prohibits private medical institutions from distributing surpluses earned from the provision of medical care. However, under the present system governing medical corporations, requests by equity contributors in such corporations for the distribution of surpluses may be exempt from such not-for-profit requirements. For more detailed information on this, see Chino (2004). For a discussion of the objectives and behavior of not-for-profit medical institutions, see Chino (1988).

<sup>20</sup> Medical corporations and private medical institutions account for 71 percent of all hospitals and 55 percent of all hospital beds. Nearly all outpatient clinics are private.

<sup>21</sup> See Chino (1995) (2003).

<sup>22</sup> See Chino (2003a) (2005) and Chino and Sugino (2004).

<sup>23</sup> Refer, for example, to Institute for Health Economics and Policy (2001). In December 2005 the government announced that long-term care beds would be scrapped in fiscal 2012, and that medical fees for long-term care beds for medical care would be determined based on the needs of the patient.

they use. These costs are an important means of rationing the use of medical care<sup>24</sup>.

## 2.2 Characteristics of the Medical Fee System and Key Issues

This subsection will now examine, from a resource allocation perspective, the characteristics and problems of the current medical fee system where the fee-for-service reimbursement is mostly used. With the dramatic changes surrounding recent medical environments such as the aging of the society, the advancement of medical technology, the improvement of living standard, and changes in ways of thinking of people, and so on, this fee-for-service system is believed to further reduce the efficiency of resource allocation in medical care. In the context of institutional economics, at least three key issues should be pointed out as far as the current medical fee system is concerned.

First, because the medical fee schedule represents the official price of medical services, it plays an important role for medical care providers in income distribution as well as in resource allocation. Individual fees on the schedule is officially determined by the Central Social Insurance Medical Council (CSIMC), a body whose members include representatives from the medical profession. This regulation generally results in quasi-rent for producers and there is a tendency for the rent-seeking activities of interest groups to develop in the political process. Tokita (1995) focused on the Japan Medical Association (JMA) as an interest group for Japan's healthcare sector, and used JMA News (Nichii News) to shed light, quantitatively and empirically, on the JMA's activities. He indicated that the JMA's activities also played a certain role of an interest group as for the determination of medical fees. The finding lends support to the view that the current medical fee structure is advantageous to private clinics and hospitals and disadvantageous to relatively large-sized public hospitals<sup>25</sup>. This result should be considered with the following reasons: (1) the JMA's core members are doctors in private practice and from small- or medium-sized private hospitals, and (2) medical fees are closely related to their revenues from healthcare services (and their income)<sup>26</sup>. The current medical fee structure therefore reflects the political bias that results from the involvement of these doctors in the decision-making process.

Second, there exist transaction costs influencing the ways medical fee points are calculated and set. Almost all medical institutions are reimbursed under the medical care insurance system, so that they have to use medical services appraised on the medical fee schedule and sum up the points for each patient to bill the insurer every month. In addition, this schedule is uniformly applied to any medical institution regardless of the scale around the country. Thus, when CSIMC appraises a new item of medical activity and evaluates it on the schedule, the methods and means of setting points tend to be simple because it is necessary for any medical institution to be easily able to follow the official procedures for billing<sup>27</sup>. This leads to medical activities (or treatments) that are easy to measure and monitor being adopted due to costliness. As a result, some problems will be caused in terms of resource allocation. For example, there is a tendency for medical activities including human services provided by doctors and nurses to be measured in a more straightforward way than counterparts such as drugs or equipment. As a result, relative prices between these two activities

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<sup>24</sup> Generally, as for services sectors including medical care, production and consumption occur simultaneously, so services can only be delivered if the producer and the consumer are in the same place at the same time. However, this constraint on the delivery of services has receded because of advances in IT. The next section will try to examine what kinds of incentives are needed in the healthcare field to reap the benefits of IT.

<sup>25</sup> In addition to Tokita (1995), also see, for example, Takagi (2005), which examines Japanese policy on medical fees.

<sup>26</sup> The JMA's political power is reflected in the composition of the CSIMC, with five of the members from medical care providers being recommended by the JMA, although since 1999 one of them must be someone from the All Japan Hospital Association (Ministry of Health, Labour and Welfare (2005a)). It means that financial conditions at large hospitals are often not properly taken into account when determining medical fees, and this can result in these hospitals struggling financially. See Tokita (2001), for an examination of Japanese healthcare policy, including political influences of the JMA, from a public economics perspective.

<sup>27</sup> For more details, see Chino (2003b).

result in being distorted and the schedule cannot adequately evaluate, from an economic perspective, qualitative aspects of the services being offered<sup>28)</sup>. At present, thousands of medical activities and over 10,000 drugs are eligible for medical fees. Given the way that treatments and drugs are actually appraised, and their sheer numbers, the current medical fee schedule may not always enable the correct selection, from an economic perspective, of optimal diagnostic and treatment services for patients.

Finally, as the current medical fee schedule defines, through the medical fee points list, the scope and quantity of insured medical treatments, it imposes severe constraints on the production process of medical care. But, with technology in the healthcare sector advancing at a blistering pace, this will hamper efficiency and quality of medical care over the medium to long term. The fee schedule provides prices (points) for every kind of insured treatments, and payments to medical care providers are based on the schedule. This means that providers will only get paid if they limit the treatments appraised on the schedule, which obviously imposes severe restrictions on the treatments they can offer. In addition, if medical care includes both insured and uninsured treatments, the patient generally has to pay the entire cost, including the cost of the treatments that would normally be covered by insurance. The prohibition of mixed treatments does hold in this case<sup>29)</sup>. Thus, the current medical system severely limits the input choices by providers and their production methods<sup>30)</sup>, and does not offer any incentives for them to keep up with environmental changes surrounding medical care.

### 3. Changing Conditions and Institutions and Regulations

The previous section showed that the medical fee system plays an important role in allocating medical resources, but there is another system that complements the role. Known as a specific medical care benefit system, its purpose is to respond to new technology and meet new patient needs under the current healthcare system. Critics, however, have argued that it has failed to keep up with the dramatic changes in conditions of the healthcare sector that have occurred in recent years. This issue has been included in the debate about the rule, i.e., the prohibition of mixed treatments, between the Regulatory Reform and Privatization Promotion Council and the Ministry of Health, Labour and Welfare with focus on whether the use of new technologies and medicines is promoted and new patient needs are met under the specific medical care benefit system.

This section will examine the institutional framework of the specific medical care benefit system and some economic problems concerning the introduction of new technology under the current system. These problems are more evident and serious about the introduction of information technology (IT) in the medical care, which has a wider impact on the development and delivery of medical services, than that of medical technology (e.g. new treatment methods, equipment, and drugs) itself.

#### 3.1 Specific Medical Care Benefit System and Mixed Treatments

Resource allocation in the market economy is generally performed through the price mechanism. New technology is no exception; decisions on whether new technologies should be adopted

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<sup>28)</sup> The reason is that information costs for evaluating quality exactly are high. But, these costs will decline by recent events such as the easing of regulatory restrictions on medical information, and by the adoption of IT, and so on.

<sup>29)</sup> There is, however, a specific medical care benefit system, which will be discussed later. Under this system, even if uninsured treatments are included, the rule doesn't hold. The system was revised in 2005 to expand the number of such uninsured treatments.

<sup>30)</sup> As the measures to ensure product safety, there are two methods; one is implemented by performances of output and another by specifications for producing output. The medical fee system would probably correspond to the latter.



for production are made through the market evaluation. The market therefore performs resource allocation automatically, and this extends to the adoption of new technology. In the healthcare sector, however, the allocation of medical resources is performed not by a market, but by institutions and regulations. Therefore, these institutions and regulations, along with the nature of government intervention, affect the efficiency and efficacy of medical resources in adapting to new conditions. This subsection will review the function of the medical fee system, and examine the characteristics and problems of the specific medical care benefit system that complements it.

As shown in the previous section, medical fees perform an important role in resource allocation. Under the current medical fee system, the scope of insured treatments is defined, and medical institutions provide medical services that are within this scope<sup>31</sup>. If insured and uninsured treatments are delivered together, the patient generally has to pay for the entire cost of medical care, even the portion that would normally be covered by insurance. This rule is a prohibition of mixed treatments as described in 1.1 and 2.2. The scope of coverage by public insurance is determined by the MHLW's Central Social Insurance Medical Council (CSIMC). The CSIMC revises medical fees every two years and makes decisions on changes in the scope of insured treatments at the same time. After being screened and approved by the CSIMC, new medical technology or drugs are made subject to insurance coverage and added to the medical fees points list or the drugs price points list.

This appraisal process of insurance coverage with the prohibition of mixed treatments makes it difficult to deliver up-to-date medical services particularly in the fast-changing times. Furthermore, this cannot meet the emergence of new patient needs. To deal with these problems, a specific medical care benefit system, which permits mixed treatments that meet certain criteria, was introduced in 1984. Under this new system, even if some uninsured treatment is provided to patients together with insured treatments, the prohibition of mixed treatments doesn't hold. That is, the patients don't have to pay the total cost of insured treatments, but are allowed to pay only the co-payment. The specific medical care benefit system is operated by the CSIMC and permitted uninsured treatments are categorized into two: (1) highly advanced medical treatments and (2) patient-oriented treatments. The former responds to the development of highly advanced medical technologies in the medical arena, the latter does to the changes of patient preferences (in convenience, amenities, etc.) for medical care. For example, highly advanced treatments include living donor liver transplants, which were appraised in 1992 and became covered by insurance in 1998, and the re-implantation of a patient's own, artificially-activated lymphocytes (a kind of immune therapy), which was appraised in 1997 but is not yet covered by insurance. Among patient-oriented treatments, meanwhile, are extra bed charges and clinical trials for new drugs which are not covered by insurance but permitted together with insured treatments.

As far as the specific medical care benefit system is concerned, whether it is succeeding in facilitating the adoption of new technologies and satisfying new patient needs is a key issue, and has also been highlighted during the debate on the prohibition of mixed treatments by the MHLW and the Regulatory Reform and Privatization Promotion Council. This is because the specific medical care benefit system only permits an extremely limited range of uninsured treatments<sup>32</sup>. There are also problems with the administration of the system, and with the function and role of the CSIMC which are now seen as opaque and unclear<sup>33</sup>. From the health policy point of view, the end result has been

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<sup>31</sup> This paper deals with medical institutions that provide medical care under the public insurance system.

<sup>32</sup> For some theoretical economic research on the mixed treatment issue, see Hayashi and Yamada (2003) which contains an economic analysis of the rule of banning mixed treatments, and Saito and Tokita (2003), which offers a clear assessment of both the efficiency and fairness of resource allocation.

<sup>33</sup> The Ministry of Health, Labour and Welfare (2005a) recommends that debate on basic health policy concerning medical fee revisions should be handled by a separate advisory body, and that the CSIMC should focus on what treatments should be covered by insurance and how many points they should be worth. Such moves to reform the CSIMC probably have their roots in the role that politics plays in medical fee revisions, and the fact that some incidents of bribery related to these revisions have recently come to light. For the 2006 medical fee revisions, it was decided that the Cabinet determine the percentage increase, the Social Security Council's health insurance and healthcare sections determine a basic policy on medical fee revisions, while the CSIMC use this basic policy to determine how many points each treatment would get.

that the MHLW has proposed scrapping the system and replacing it with a new framework which will be allowed to include a wide range of uninsured treatments. The MHLW's attitude reflects the fact that patient needs are diversifying and that medical technology is becoming more and more advanced, and demonstrates the importance it places on allowing patient choice to drive improvements in medical services<sup>34</sup>.

### 3.2 Healthcare System Reform and Promotion of IT in Medical Care

The issue of mixed treatments under the specific medical care benefit system should be examined not just from a resource allocation perspective, but also in the context of income distribution. However, as the chief focus of the paper is resource allocation, this subsection will investigate possible replacements for the specific medical care benefit system from economic efficiency in medical care, and refer to promotion of information technology (IT) in the medical sector with demographic and socio-economic changes in our society.

The MHLW announced its basic stance on the prohibition of mixed treatments in 2004. It recommended a thorough review of this prohibition rule with respect to the range of uninsured treatments and the decision process, and the swift implementation of patient-focused policies<sup>35</sup>. Some of the measures (drugs not yet approved for use in Japan, treatments using new technology, and treatments in excess of those normally permitted) controversially discussed between The MHLW and the Regulatory Reform and Privatization Promotion Council later were approved as possible mixed treatments under the specific medical care benefit system. Furthermore, the MHLW also recommended scrapping the specific medical care benefit system altogether<sup>36</sup> and proposed a new system which included the following policy judgments: uninsured treatments should extend from highly advanced medical technologies to advanced (but not necessarily leading-edge) ones and include the treatments that need the patient's consent but will not necessarily be covered by insurance in the future. These uninsured treatments would be divided into two: (1) treatments which should be covered by insurance in the future and (2) treatments which need the patient's consent (treatments that are unlikely to be covered by insurance but need the patient's consent). Furthermore, the reform of the CSIMC was also proposed and has been implemented described in 3.1.

Actually, these reforms will enable resource allocation to adjust more nimbly to changes in environmental conditions surrounding the medical sector, so improve efficiency of delivering medical care. However, factors that influence resource allocation are not only these reforms but the current medical fee payment system. This payment system has a great impact on the behavior of medical institutions and causes differences in medical resources among regions. Using the terminology of the Council of Experts on the Nature of the CSIMC<sup>37</sup>, the "price lists," which set the official price of insured treatments, and the "item lists," which define what treatments are insured, are the major determinants of resource allocation. These lists are determined by the CSIMC. Thus, the failure for the CSIMC to perform its role adequately described in 3.1 will hamper efficiency and quality of medical care.

Advancement in IT as well as in medical technologies makes contribution to efficiency in the healthcare sector, but IT deployment should be promoted through government intervention because resource allocation of the sector is controlled by non-market methods such as institutions and regulations<sup>38</sup>. The use of IT in the healthcare sector can not only enable insurers to be billed

<sup>34</sup> See Ministry of Health, Labour and Welfare (2005b) (2005c).

<sup>35</sup> See Ministry of Health, Labour and Welfare (2004).

<sup>36</sup> See Ministry of Health, Labour and Welfare (2004) (2005b) (2005c)

<sup>37</sup> See Ministry of Health, Labour and Welfare (2005a).

<sup>38</sup> The government's e-Japan strategy features some "e-Health" policies for promoting the use of IT in health care, with the computerization of billing and patient records being one such policy. Targets and dates for achieving them are set, and government support is provided. See Ministry of Health, Labour and Welfare (2001).

electronically and patient records to be computerized, it can also make the delivery of medical services more efficient and provide much wider range of services for patients. This is because it can allow services to be delivered in new ways and new delivery systems to be implemented and, moreover, service-related information to be accessed and used in new ways. The possibilities are huge<sup>39</sup>. Such IT-driven innovation will need changes in public regulations and their methods. The current policies concerning the medical fee payment system, however, provide poor economic incentives for promotion of IT with medical institutions. This is because although economic incentives need to be artificially built into the system, such internalization policies haven't been sufficiently discussed with taking economic implications of public regulations into consideration.

Increasing the use of IT in the healthcare sector is essential to enhance quality and efficiency of medical care in our society with the sheer speed of advances in IT. For example, the Institute of Medicine (2001) recognized that the construction of IT-based healthcare delivery system would guarantee quality and efficiency improvements in medical services over the medium to long term, and advised the government to build a healthcare information infrastructure. Such healthcare systems as a public good benefit not only individual patients, but also society as a whole through enhancing quality and efficiency of medical care. These systems also safeguard the safety and security of the people. Therefore, in the debate on the creation of a mechanism for introducing IT innovation into the healthcare sector, it is requisite to take economic implications of public regulations in the Japanese healthcare system into account.

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<sup>39</sup> To enhance access to information, IT can be used in electronic patient record systems, electronic bill processing systems. To raise quality, it can be used in evidence-based medicine (EBM), electronic patient record systems, and long-distance treatment. To improve efficiency, it can be used in electronic patient record systems, ordering systems, electronic bill processing systems, logistics systems. And to improve safety, it can be used in ordering systems (see Ministry of Health, Labour and Welfare (2001) and refer to the debate by the Study Group on Health and Medicine Information Systems). Because such IT use will necessitate changes in the methods and systems of health care delivery, the healthcare system has come under scrutiny. In this paper I am focusing my attention on the medical fee system.

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