disadvantaged, and not ordinary persons in the society. The nursing care insurance system, based on the premise that long-term care of the elderly is considered to be an extension of daily life, aims to spread the costs through society.

Basically, people are free to access health insurance benefits, but with nursing care insurance a third party has to certify that an individual needs care, because care of the elderly is seen as an extension of daily life. During the nationwide trial of guidelines, certification was divided into six levels of care; those who need some assistance to live independently, and five levels of seriousness in need for care services. Various problems arose, and certification process came to be regarded as the Achilles' heel of the entire system. Still, eligibility for public welfare benefits so far has also been determined not just by the potential beneficiary's self-determination but by the application of criteria of some kind in each region; surely transparent unified national criteria, though premature at this stage are desirable compared with the system in the past. Nursing care insurance certification carried out by municipalities on the basis of unified criteria is in a sense a great social experiment, and along the way various local initiatives for improvements are likely to emerge. This makes transparency of certification criteria and reassessment procedures all the more necessary.

Under the existing system, fees for admission to institutions run by social welfare corporations are paid out of public funds. But admission is determined not by the degree of care an elderly person needs but simply on the basis of the availability of personnel and other conditions having to do with the institutions themselves. For this reason, institutions tend to admit people who require relatively little care. After the introduction of nursing care insurance, it is expected that a little under 10% of those in nursing homes will not be recognized as being in the severe need of care, and thus will not be eligible to receive sufficient benefits to enable them to stay. The situation will be reminiscent of the eviction of tenants of public rental housing whose income exceeds the maximum stipulated. How much consideration should be given to such existing residents of nursing homes who are not eligible for long-term care insurance will be a problem that local governments will have to resolve on their own.

A number of improvements in nursing care payments (the equivalent of treatment payments in health insurance) are under study. One is to set a ceiling on the level of benefits and make flat payments based thereon (unlike health insurance, where payments are based on a detailed accounting of treatment provided or fee for service). Another is to allow regions and providers some leeway for lowering fees for care services. A third is to enable providers some leeway for adding extra fees, on the grounds that users will find it easier to gauge the quality of care services than of

medical treatment. A fourth is to include payment for ancillary services, such as the cost of transporting people needing care and care givers' travel time.

Paying benefits in the form of cash to the families of people needing care is admitted under several constraints. This cash payment has been criticized as going against the principle of spreading the family burden of care through society. This is based on the argument that women in the Japanese family used to play major care givers, and allowing cash payments may rationalize the situation. However, nursing care insurance benefits should target those needing care, and if they themselves agree it should be acceptable to pay benefits to families providing care services. To avoid families pocketing the cash but not providing care, a unified system including legal controls will need to be put in place.

The nursing care payments, which vary by seriousness of individuals, differ substantially between private and public welfare corporation at the same level of seriousness. In future, nursing homes, too, may be treated as residential facilities, like public housing, and their connection with care services severed. What is necessary is that those in need of care be able to choose freely from diverse home care formats.

3. Reform of medical system in the 1990s and its effects

As national medical expenditures in Japan increased despite the sluggish economy, its ratio against GDP rose remarkably in the 1990s. Since the revenue decreased reflecting the trend of national income, the finance of the public health has almost collapsed. Hence, we must now control increase of medical expenses.

Japanese government introduced various policies to control the medical expenses since the early 1990s. It is impossible to choose the desirable policy mix without examination on the effectiveness of these policies. This paper examines economic effectiveness involved in these policies based on literature research.

The following polices were introduced in the 1990s. One type of the approach is to focus on the side of patients. ① Price policy for demand side, that is, increase of co-payment, ② Setting limits for free access. This includes introduction of family doctor as a gatekeeper function and charging higher fee on the patients without reference from the gatekeepers. The other type of the approach is regarding medical institutions (hospitals and clinics). ③ Introduction of fixed reimbursement system for supply-side instead of fee-for-service system, ④ Capacity control of hospital beds and physicians, ⑤ Restriction of medical services; that is separation of long term care and division of medical treatments and medicines.

(1) What we can learn from experiences of other countries?

Many policies introduced by the Japanese government were the policies that had functioned effectively to a certain degree in other advanced countries. They reconsidered strict regulation policies in the 1980s and shifted to such policies that utilize market function by the use of economic incentives.

Quantitative analysis by the OECD points out that the policies implemented by the advanced countries had both effective and less effective aspects. The effective aspect is that payment per a patient system, refund system (system that patients pay the total costs when they take medical treatment and are partly paid back as refunds afterward) and gatekeeper system reduces the medical expenses. On the contrary, increase in co-payment rate, strict ceiling of budget, control of increase in doctors and free fee system have little influence on the medical expenditures.
Reason for the above contradictory analysis can be considered as reflection of reverse relationship between causes and effects that countries with high level of medical expenditure tend to implement the policies to control medical.

As described so far, we can learn from these experiences of the advanced countries to some degree. Yet, we must admit that we should have difficulty if we directly apply specific policies worked effectively in other countries to Japan.

(2) What were the consequences of increase in co-payment rate?

When out-of-pocket is small, moral hazard tends that patients take medical treatment by low level of symptom to be. Accordingly, many countries requires patients certain amounts of co-payment to prevent waste of medical service.

In Japan, co-payment rate of the patients had decreased until the 1970s, and the government changed its policy towards increase in the early 1980s. Below table summarizes historical change of the co-payment rate. The price elasticity of medical demands was one of major topics among health economists and was frequently measured in the 1990s.

Table 1 Co-payment schedule

	Elderly people	Employee Insurance		National Health Insurance
		Principals	Family members	
1961	30% or 50%	Fixed price	50%	30%
(Universal public health insurance was achieved)				
1973	Free of charge		30%	
			Introduction of Payment Ceiling	
1975				Introduction of Payment Ceiling
1981		Introduction of Payment Ceiling	Inpatients 20% Outpatients 30%	Inpatients 20% Outpatients 30%
1983	Inpatients per day 300Yen Outpatients per month 400 Yen			
1984		10%		
1987	Inpatients per day 400 Yen Outpatients per month 800 Yen			
	:			
	(Payment rates was raised three times during the period)			
	:			
1997		20%		
	Inpatients per day 1,000 Yen Outpatients per visit 500 Yen			
	←— Introduction of additional contribution on medicines of outpatients —→			
1999	Abolition of additional Contribution on medicines of elderly outpatients			
2001	Inpatients 10% Outpatients 10% or 800 Yen per visit			

Price elasticity of medical demand of the elderly

As described in the table, co-payment rate of elderly people has changed as follows. ① The co-payment rate shifted from 30% (participants of the National Health Insurance) and 50% (dependents of the Employee Insurance) towards 0% by 1973. ② Shift towards fixed price system in 1983 (inpatients pay by fixed price per day, and outpatients pay by fixed price per month). ③ In 1997, fixed price system of the outpatients was reformed from per month to per each visit to doctor, and simultaneously additional contribution was introduced on medicines of outpatients. ④ Fixed rate of 10% was introduced in 2001 (outpatients can choose their payment method from fixed price system or fixed rate system). Analysis at the above occasions is summarized below.

Before medical service for elderly people became free, frequency of use of medical service by the elderly people was twice of that by young age. After the introduction of the free system, medical expenses of the elderly people reached to four times of that of young age. We can see that the free system stimulated the elderly to use medical service. In fact, price elasticity on the rate of medical service measured by aggregated time series data between 1955 and 1979 indicates above –0.3.

The price increased in 1983 was so small that it did not work effectively for reduction of demand. Some researchers argue that influence of the fixed price system was very small. Others point out that medical demand increased in spite of the price rise by mainly due to increased income. Ookusa (2002) reports low price elasticity of medical expenditures for elderly outpatients and inpatients as -0.016 and -0.051 respectively using micro data. Sawano (2000) analyses price elasticity on rate of outpatients in elderly population (-0.125 ～-0.085) and price elasticity on number of visits per case (-0.105～-0.085) using semi-aggregated data.

Tokita et al. (2000) finds that annual per capita medical expenses of age group above 70 years old decreased by around 500 yen, or 3.8 US dollars by effects derived from the price change in 1997. Especially number of medical treatment of chronic outpatients per month decreased 0.33 times

Price elasticity of young age

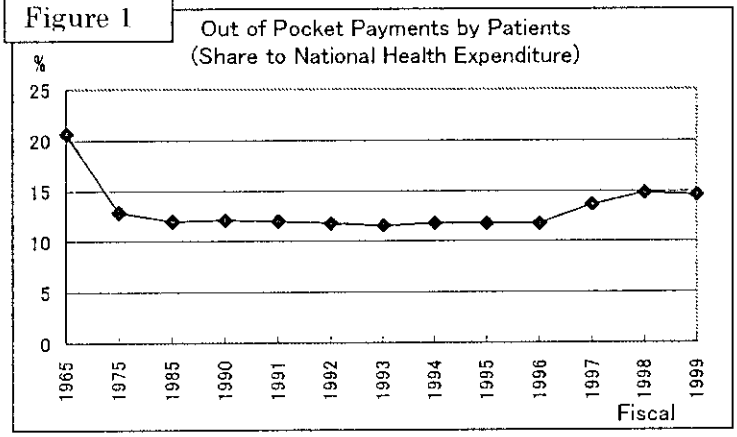
Co-payment schedule differs between the Employee Insurance and the National Health Insurance. The main reforms are; ① Co-payment rate for dependents of the Employee Insurance decreased from 50% towards 30% in 1973, ② Contribution rate of participants of the Employee Insurance increased from 0% towards 10% in 1984, ③ It further increased from 10% towards 20% in 1997, ④ Additional contribution on

medicines of outpatients were implemented for both types of the insurance systems in 1997. There are few analyses that focus on the price decrease in 1973 except the analysis by Maeda (1978) which reports that medical expenses per one person increased around 12%.

According to the measurement of Sawano (2001), elasticity on number of the days that an outpatient goes to medical institution is in the range of –0.044～-0.043 at the time of the 1984 reform, and is –0.087～-0.084 in the 1997 reform. Yamada (1998) reports that price elasticity on number of episodes of acute outpatients is -0.09～-0.11 in 1997. Further Yamada (1998) shows that price elasticity on number of the days of outpatients is –0.029～-0.124 in hospitals and -0.185～-0.325 in clinic. Ii and Ookusa (2002) focus on light medical service, and conclude that price elasticity of the total areas of the light medical service is relatively high as -0.123～-0.149, -0.23～-0.36 for flu, and -0.87～-3.69 in each area of the light medical service.

The past researches revealed that price elasticity of demand for medical service was very small – the elasticity is about 0.1. There are two remained questions when we consider future trends of medical expenditure. The first is concerning how much the influence will be when fixed rate system is fully introduced for the elderly in 2002 instead of the present fixed price system. The second is regarding the influence of the ceiling of payment. The fixed contribution rate of 10% or 30% is applied to up to the maximum amounts of money set as a ceiling per one month, and the fixed rate of 1% is applied to beyond this maximum point. Although the co-payment schedule has been changed considerably, the share of out-of-pocket payment by patients to the total national health expenditure was almost constant in the last few decades. We guess that the main reason for the stability is the low ceiling. But any study has not been reported regarding how the ceiling affects patients' behavior.

Figure 1



(3) Restriction of free-access

One of the characteristics in Japanese medical system is the guarantee for free-access to medical institutions. However, the Japanese government starts to limit the extent of the access as far as the patients' choices are not severely restricted. Increase of co-payment that we discussed in the previous section will restrict the access of

low-income group, if the co-payment increase largely. This section examines a referral system and family doctor system. Purpose of the two systems is to prevent waste of valuable medical resource from less useful use of large hospital by patients with light symptoms.

Referral system for large hospitals

When patients take medical treatment by their family doctors, the family doctors introduce them to large hospitals according to the necessity. After the needed treatments are finished at the large hospital, the patients return to their family doctors. In order to establish this linkage between family doctors and large hospitals, the government introduced the system that patients must pay higher charge, if they access to large hospitals without referrals of their family doctors. The patients are required to pay extra charge in addition to the basic charge for the first consultation, if they directly visit large hospitals with more than 200 beds.

The government also provides incentives for the hospitals that they can get additional fee if more than 30% of their patients are referrals or if they decrease outpatients. Further, the government introduced a reverse referral system, which encourages large hospitals to return the patients to their family doctors.

There are no reports about how the new system changed the behaviours of the patients and medical institutions. However, some researchers argue that the introduction of the referral system facilitates effective use of resources in the large hospitals. The reason for it is that the referred patients tend to use medical resources more intensively than the patients who directly accessed to the large hospitals. On the other hand, other aspects are pointed out that the hospitals are not positive for control of number of outpatients.

Family doctor system

The family doctors are the doctors dealing with primary care to local residents. They are expected to cope with functions such as geographically good access, 24 hours access, dealing with all types of illness and having referral function to special treatments. Patients need referrals from their family doctors to get treatments at large hospitals without additional charges. Statements by the family doctors are necessary for judging the application of the public long-term care. From these situations, we can see that the family doctors are planed to play the role of gatekeepers who check access of patients to high level of medical service and to long-term care.

However, many patients have no family doctors. In addition, the gatekeeper function

does not work effectively, as large hospitals tend to accept any patient with referrals regardless of types of doctors who sent the patient. In this situation, the government has implemented a promotion campaign of family doctor system through local government with the cooperation of Association of Doctors since 1993. However, it should be noted that people do not well recognize this system and doctors do not sufficiently understand the system yet. Analysis has not been conducted under the situation because of the immaturity of the system.

(4) Partial introduction of inclusive payment system

As discussed above, even though the out of pocket payments by patients are raised, its influence is limited only on the reduction of patients' visits to doctors due to asymmetry of information in medical service market where it is doctors who have discretions about the amounts of supply of medical services.

In order to control the increase of medical expenses drove by the doctors, the government decrease the medical price through the consecutive revisions of fee-schedule – the price table for fee-for-service refund system in the 1980s. To cope with this, medical institutions prevented decrease of revenue by increasing volume of medicines. This defensive behavior of medical institutions has generated excessive use of medicines and medical examinations.

The government introduced inclusive, or bundled, payment system in order to stop the excessive supply of medical services. In the inclusive payment system, a fixed price is set for a series of medical examinations. That is, one series of the medical examination s are treated as one bundle. Accordingly, the inclusive payment system can limit cost of medical service unlike the fee-for-service system. Concurrently, the medical institutions have incentive for cost reduction. Therefore, we can expect higher level of efficiency in medical service supply under the inclusive payment. Nonetheless, it is concerned that sufficient amounts of medical service may not be maintained.

In the beginning, the inclusive payment was applied to only small parts of the medical services. However, the application areas had gradually spread out in the 1990s. Main inclusive payments were, bundling of blood tests (biochemical examinations) in 1982, hospital fee for the elderly chronic diseases including nursing, examination, dosing and injection in 1990, all-inclusive fee for outpatient of aged chronic diseases and pediatrics in 1996, and inclusion of general examinations and treatments into outpatient consultation fee in 2000.

Except for the bundling of blood tests, most of the inclusive payments introduced so

far failed in reducing medical costs according to Kawai and Maruyama (2000) and Ikegami (2001). They point out as the main reason for the failure that the inclusive payment was introduced as an alternative to fee-for-service payment. Under these circumstances, medical institutions choose one of the two payment systems so that they can make more profits. Those institutions whose average fee for a patient had been low chose the relatively high inclusive payment, and the institutions that had treated very sick and costly patients continued to remain in the fee-for-service system. As a result the introduction of the inclusive payment pushed up the medical costs. Another example of failure was the inclusive fee for outpatients of pediatrics. Since the fixed fee was set per a day, the institution that chose the inclusive system increased the number of the days per a patient.

(5) Controls on supply capacity

Regional differences of health expenditures have strong relationship with medical supply capacity such as density of beds and doctors. The government has been keen on the reduction of excess capacity of medical supply.

The government believes that the larger number of beds equipped per population, the longer the hospitalization prolongs, consequently it started control in 1985. It was to deny the principle of free entrance for doctors to medical market. Making a precise plan for needed number of beds in several hundreds areas, the government prohibited the doctors to open new hospitals or to increase beds in areas where the number of existing beds exceeds the planed number. As a result, we cannot expect the improvement of medical services because competition among hospitals was diminished due to the lack of new entrance of hospitals in the regions that have excess beds.

The government also forecasted that a serious excess of doctors would occur in the future, if the number of medical school graduates was kept by level of the early 1980s. The government asked medical schools to reduce the number of students in 1986 and again requested 10% reduction of students in 1994. However, only 7.7% reduction was achievement by 1996.

If doctors are actually inducing medical demand in Japan, capacity control policy will support reduction of the excess medical expenditures made by the doctors. If the high density of doctors make it easier for patients to access to health services by reducing time costs such as waiting time and transportation time, control of doctor numbers are not preferable. An analysis on aggregated data by region report the small figure of 0.19 as the elasticity of elderly outpatient medical demand on doctors' density. Another analysis using micro-data report that the elasticity of the demand

is not statistically different from zero and that the induced demand is not observed in the elderly outpatient medical market.

(6) Limitation of scope of health services

Concentration on acute care

It is well known that average length of hospital stay in Japan is the longer than any other advanced countries. The main reason for this is that hospitals accept chronic disease patients who need long-term care. Those patients spend huge amounts of expensive health resources. In order to eliminate the wasteful use of the resources, the government has been trying to exclude the patients who stay in hospitals for a long time without serious treatments. One measure of the exclusion is to give hospitals an economic incentive by reducing hospital fee paid per a patient who stays longer than a certain period of time. Another measure is the introduction of public long-tem care insurance. These measures are expected to divide patients into two groups, one is that in need of long-term care and another is that in need for acute medical care. The scope of health insurance is restricted to latter group of patients.

Gradual reduction schedule of hospital fee

Stepwise reduction schedule was introduced to consultation fee and nursing fee for hospitalized patients, which are major components of fees that hospitals can obtain from the public insurance, according to the length of stay in the late 1980s. In order to make the downward step steeper, an inclusive payment was introduced in 1998 for the elderly patients who stay in general hospitals for six months or longer.

In 2000, hospital fee system was totally reformed and new "basic fee" for hospitalization was established. The basic fee is differentiated by hospital according to the average length of stay. Under this fee system, hospitals have to discharge patients leaving hospitals earlier in order to shorten the hospital days. Those measures have strong incentives to hospitals to decrease the long-term stays, though the studies have not been made on what have happened to the hospitalization.

Moving the long-term care away from health insurance and to new insurance

To cope with increased number of the elderly chronic patients, the government admitted designated hospitals, which do not meet the required level of health resources, as geriatric hospitals to provide inpatient care for the elder people in the late 1980s as an exception for the qualified hospitals prescribed by the medical law. In 1992 beds for sanatorium are authorized by the medical law as one category of hospital beds for the exclusive use of elderly chronic patients. Furthermore, ordinary beds, whose formal name is "miscellaneous", are classified into two sub groups in the

revision of the medical law in 2001. One group is for acute patients and the other for chronic patients.

In 2000, the government started the public long-term care insurance. Under the new insurance the patients can choose the places to stay among the variety of hospitals and clinics as well as nursing homes and institutions for rehabilitation service. In order to meet the new demands, hospitals and clinics are hastily shifting their beds to be qualified by the law of long-term care insurance. As a result we can see a mixture of patients who are financed by health insurance and those financed by long-term care insurance in the same hospital building.

The government expected 1,980 billion yen would shift from health insurance to long-term insurance in 2000 fiscal year. The Japan Medical Association estimated the actual amount of shift was 1,600 billion yen or 12.7% of medical expenditures for the elderly, a slightly smaller than the government had anticipated.

Division of pharmacy from medical care

Division of pharmacy has introduced for the purpose of prevent hospitals from prescribing excess drugs under the fee-for-service payment system. It also has a merit for patients that pharmacists could check the suitability of the prescription as the second authority after doctors.

Consecutive price cut of pharmaceuticals as well as the spread of inclusive payment made it less attractive for hospitals to have own pharmacy. The less profitable the in-hospital pharmacy became, the larger number of hospitals closed the pharmacy, and the division gradually advanced. However, only 30% of total prescriptions were sent to pharmacy from hospitals and clinics, mainly because the patients have not gained much advantage. Patients do not like to devote a lot of time to visit pharmacies after the consultation at hospitals. Patients dislike the additional cost of "out-of hospital prescription fee" to pay to doctors and "compounding medicine fee" to pharmacists, these costs will raise health expenditures by 5.7% if the division of pharmacy is accomplished.

(7) Comprehensive analyses are needed to assess the consequences of policies

As has been shown above, a variety of policies are implemented in order to control health expenditures by means of the efficient use of resources. The analyses on the policies have been accumulated steadily, though it does not reach a sufficient level. Such studies concerning the equality of provision of health services among the different income groups are especially needed, when the cost of patients becomes heavier with the increase in co-payment rate and patients' free access is going to be

limited.

4. Effects of the Medical Reform Proposal in 2003

(1) Proposed reform

The major content of the proposed reform to abate the expansion of the medical expenditures to be implemented in April 2003 are the following:

--- First, the increase in the patient's co-payments to 30% uniformly across health insurance schemes, though the rate for age group above seventy years old is set to 10%, and the one for age group below three years old is 20%. Also, for the first time, the criterion with respect to income is introduced and the rate for those who are above the middle class income (6 million yen annually and above) is set as 20% accounting for 11.3% of the total. The co-payment ratio for the elderly before the reform was also 10%, but the quite low ceiling on payment was removed after the reform, which means de fact increase of the co-payment;

--- Second, the insurance premium is raised with widening of the tax base from 8.5% of the monthly wages to 8.2% of annual wages corresponding to 9.5% of monthly wages. This widening of the tax base is important in Japan, as bi-annual bonus accounts for nearly 14% of annual wages but is not applicable to growing number of part-time workers, and specialists who do not have typical division of monthly wages and bi-annual bonuses.;

--- Third, the Elderly Health System (EHS) is to be applied gradually to those who are age of 75 and above instead of the current age 70 and above, which takes 5 years to be completed. At the same time, the ratio of the subsidy from the general budget is to be raised from the current rate of 30% to 50% at the same pace. As the EHS is heavily subsidized both from the government and other health insurance schemes, the narrowing of the membership coverage means re-distribution of transfers among the related groups. This revision should have a positive impact on the budget of (the) SMHI and GMHI whose transfer payments to the HSE would be significantly reduced. On the contrary, the effect on the CHI budget is uncertain, because the reduction of the transfer payments to the HSE is offset by the negative impact from an increasing number of the elderly moving from HSE.

--- Fourth, the reduction of medical fee by 2.7% on average for the first time, of which prices of drugs and doctors fees are reduced by 1.3% respectively. The more effective method of constraining the expenditures for the elderly originally proposed is not included in the final proposal.

(3) Fiscal impacts of the proposed medical reform

As the fiscal impacts of these reforms are not clearly shown by the Ministry of Health and Welfare, we estimate the effects based on our own Health Insurance Budget Model which the revised version of Suzuki(2000)[5] to reflect the recent institutional changes as well as updating of the data. A major feature of the model is the following:

First, the model consists of the five blocs of the Society-Managed Health Insurance (SMHI), the Government-Managed Health Insurance (GMHI), the Citizens' Health Insurance (CHI), the Retirees' Account of the CHI, and the Elderly Health Scheme (EHS). The data on health expenditures are based on the age-group bracket by five years[6], so that the changing age compositions in respective groups are reflected in their aggregated fiscal balance. In the first three blocs of SMHI, GMHI and CHI, the total health expenditures are derived from the age composition of the population and the health expenses by respective age groups. Total expenditures in these groups are the sum of the health expenditures and the transfers to the Retirees' Account of the CHI, and the Elderly Health Scheme (EHS). The workers' contributions are calculated from the age composition and their wages, which are summed to other revenues, leading to the total revenues. The fiscal balances in the three groups are shown by the difference between revenues and expenditures. On the other hand, the expenditures and revenues in the Retirees' Account of the CHI, and the Elderly Health Scheme (EHS) are estimated by the population by age, and the transfers vis-à-vis the preceding three blocs. .

Second, in projecting for the future, the population scenario by the Population and Social Security Institute is used to estimate the membership by respective age group based on the assumption of the fixed ratio across each group. The baseline of the National Health Expenditures is set exactly the same as what or the plan that is projected by the Ministry of Health and Welfare, which is consistent with the sum of the expenditures by health insurance schemes, excluding the Mutual Aid Associations (MAAs) due to unavailability of the data. The effect of an increase in the ratio of the patients' payments on medical expenditures is based on the elasticity of demand of patients with respect to the price.

The major results are the followings:

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[5] A Proposal for Removing Intergenerational Inequity from the Japanese Health Insurance System, JCER Economic Journal, No.40 March 2000

[6] The Mutual Aid Associations (MAAs) is not included as the data on age groups for are not available.

First, the baseline case with no institutional changes indicates continuously widening budget deficits toward 2025 mainly by doubling health care expenditures with aging, while the revenues are not increasing at the same speed[7]. This gap between expenditures and revenues is common to all health insurance schemes; and the aggregate budget deficits are projected to grow from 1.4 trillion yen in 2002 to 16.9 trillion yen in 2025 (Figure 4).

Secondly, after these various reforms discussed above are implemented, the aggregated health insurance budget would be improved, particularly in the coming few years, though the budget deficit would be widening again beyond that. As the result, the aggregate deficit in 2025 would be close to 13 trillion yen, which is still significant deficit. Comparing individual impact of the reform, the largest effect comes from the increases in premiums and co-payments in the immediate future, but the effect of reducing transfers to HIE is growing with time (Figure 5).

Third, the effects of the reform on health budgets are asymmetric between employees' health insurance (SMHI and GMHI) and the self-employed (CHI). In the former, the fiscal balance will be largely improved until 2010, though falling again beyond that. This is mainly due to decreases in transfer payments to the HSE by raising the age criterion from the current level of 70 to 75 as well as an increase in revenues by expanding the tax base. On the contrary, the reform would not contribute to the fiscal balance of the CHI, mainly because the positive effect from lowering of the transfer payments to HSE would be more than offset by the negative effect of the gradual increase in the population of age 70-74 to be covered by CHI by this reform (Figure 6).

In accessing the results above, the following:
First, the major effect of the HSE reform comes from limiting the targeted elderly group from the current age 70 to 75 and increasing the subsidies from the general revenue. This is simply a policy of shifting around the burden between individual health insurance schemes and government, and not an effective measure to constrain the health expenditures.

Second, the relatively small estimated effect by an increase in patient's co-payments to 30% is not surprising. Higher ratio of co-payment is usually considered to stimulate

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[7] This projection is consistent with the government projection based on the national health expenditures (30.7 trillion yen) in 2001. The basic assumption of the real economic growth is set to 2% in 2004 and beyond.

the cost-consciousness in using medical resources, thereby can be considered effective in curbing wasteful medical expenses. However, the effectiveness depends upon the content of medical services and differs between drugs and others.; the outpatient may well be affected, but not for hospitalized patients who have less alternatives. Indeed, when the patient's share was raised from 10% to 20% in 1997, there was once for all falling of the medical expenses without any significant changes in the trend growth. Also, the "safety-net" for patients to avoid an excessive burden by setting a certain ceiling of the co-payments the patients should lower "effective rate" of co-payment. As this "safety-net" ceiling of co-payment is to be raised only by 10 percent despite the increase in co-payments from 20% to 30%, one can reach this ceiling more easily with the health expenditures fixed, and beyond which there would be no more co-payments needed, thereby lowering "effective" co-payment ratio as a result. Thus, compared with the current ceiling system, an introduction of deductibles would be better with decreasing ratio of effective co-payment with the medical costs increase.

Third, the overall impact of lowering the fee schedule for health service by 2.7% on constraining the expenses, however, is uncertain, because under the fee for service system one would easily recover the doctors' income by increasing the medical service in quantity. This is why the ceiling on medical expenses for the elderly was implemented in the first draft of the reform, though it was removed in the final stage. The original scheme consisted of setting a target growth of medical expenses based on the growth in GDP and elderly population, and the average fee in the following year is to be automatically lowered to attain the previous target level.

Figure 1:

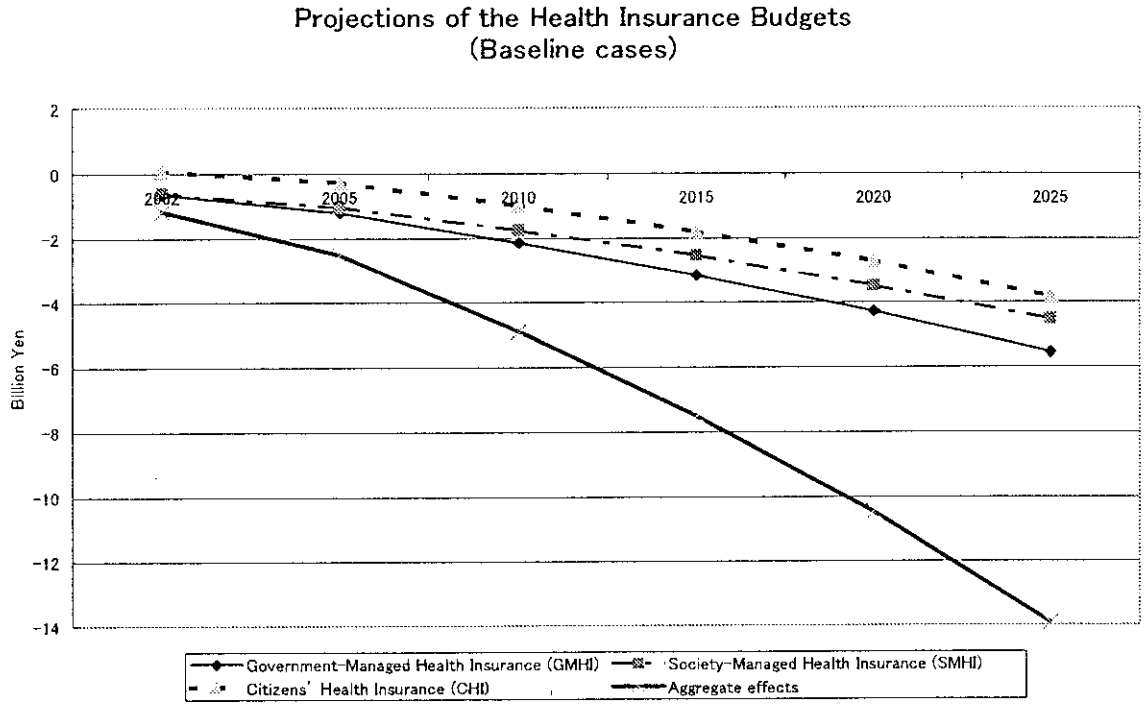


Figure 2:

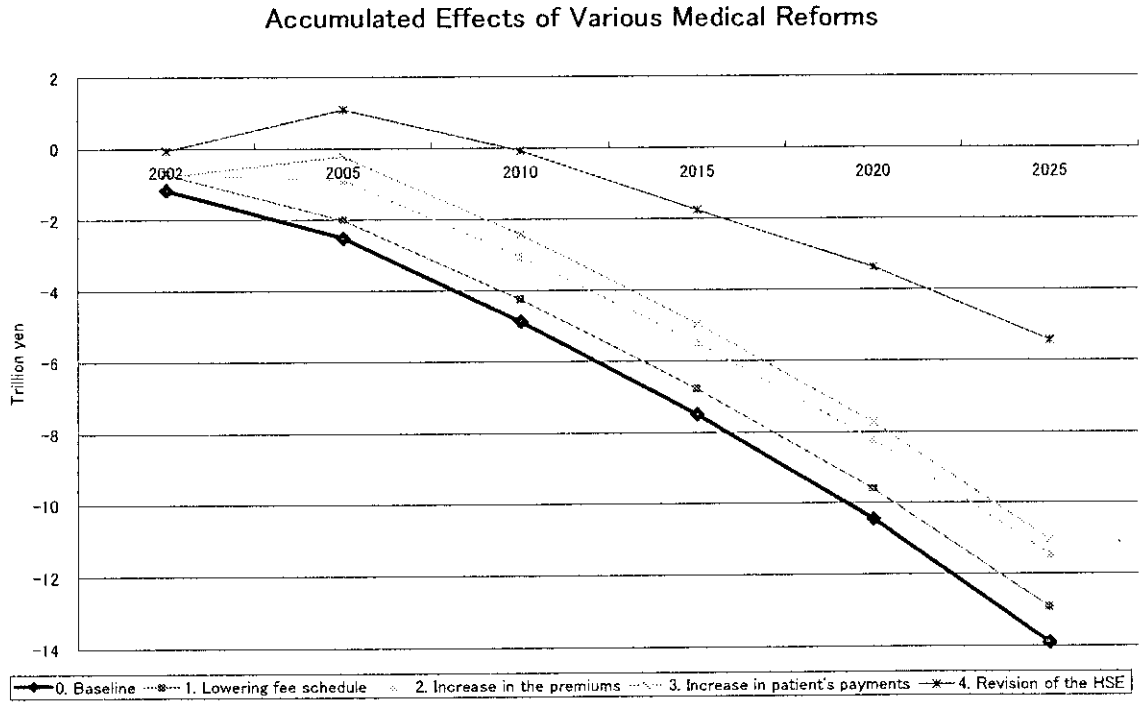
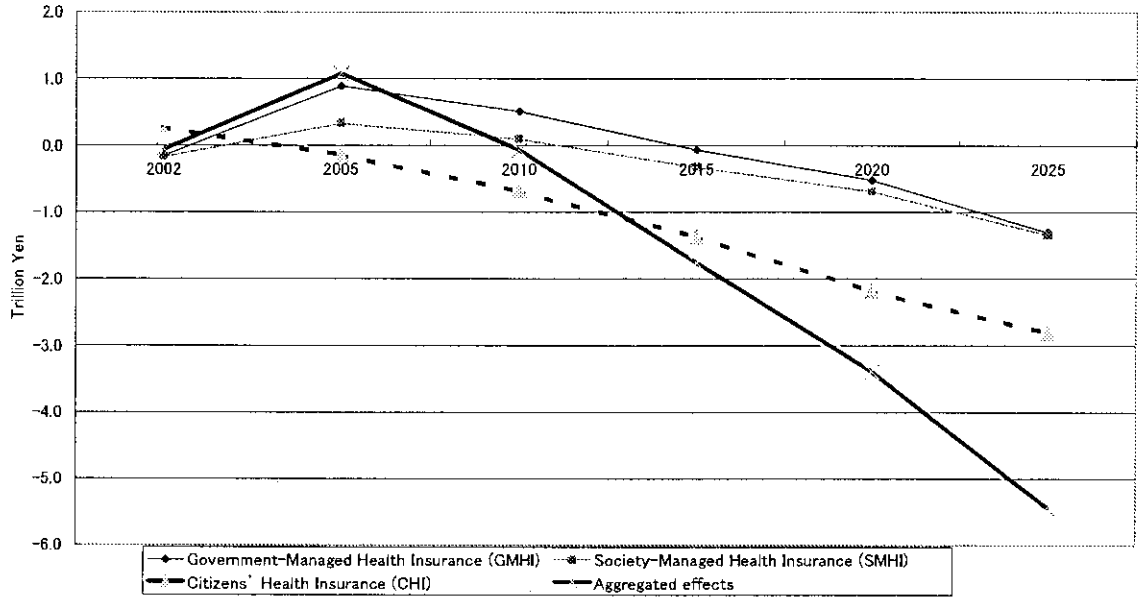


Figure 3:

Accumulated Effects of Medical Reform
on Respective Health Insurance Schemes



A major implication of the above analysis indicates that an increasing co-payment ratio and revenue-sharing mechanism between individual health insurance providers are not sufficient for attaining the sustainable fiscal balance in the long-run. What is more important is the structural reform in the "supply-side" of health services as the following: one, standardization of the medical treatments and revision of the current system of fee for service to prospective payment; two, free combination of public and private health insurance schemes for a series of medical treatments; three, free entry of for profit hospitals to stimulate the competition.

First, the standardization of medical treatments has not been established, and medical costs largely vary across hospitals in Japan (Kawabuchi and Shigehara 2003). It is mainly because the way medical doctors are trained is compartmentalized and the best practice on medical treatment is in most cases not established. Also, it is difficult to accumulate the data on health costs for health insurance providers. A major factor behind is a primitive method in reviewing the bills for reimbursement by intermediary clearing organizations. Bills are printed in papers in hospitals, and sent to the government intermediary clearing organizations for check, and then sent again to insurance providers for additional checking. If medical bills are directly sent from hospitals to insurance providers by the Internet, health cost data are more easily accumulated with much less costs. The administrative barriers against using the IT network for treating health bills are gradually removed recently. This is a step

toward accessing the standard cost for medical treatment leading to the prospective payment system.

Second, allowing the combined use of private insurance with public health insurance schemes is called for. Currently, patients have to choose either to use public health insurance alone or not to use it at all for a series of medical treatments in hospitals with a few exceptions such as amenities, medical treatments with high technology[8], dental materials, reservation etc. This restriction that doctors are not allowed to ask patients to pay additional medical costs not covered by public insurance makes it quite difficult to use a variety of medical treatments different from a uniform formula under the current fees for service system. Also, the private health insurance can provide with resources for financing the health services with the better quality, thereby stimulating the incentives for improving the health care services of hospitals. One way to introduce the mixed cost financing between public and private insurances is to allow it for those hospitals which have high evaluation in health service provision.

Third, allowing the entry of for profit hospitals. The current law prohibits hospitals for profits, i.e. the distribution of profit as a form of dividends is not allowed. However, the also allows private hospitals for accumulation of profits and the distribution to investors at its dissolution. Also, as a means for financing capitals hospitals can use bank lending and the leasing of the building are not prohibited. More efficient regulation for maintaining the quality of health care while stimulating the competition between for profit and not for profit hospitals should be more important.

Conclusion

Japan's health care system, which has been successful in the past-war period, is now facing a series of structural problems mainly arising from the aging of the population. The combination of fees for service with free-access to health services has a potential pressure on increasing budget expenditures particularly with an increasing number of the elderly. The government has tried to alleviate the pressure by raising the co-payment ratio, and established the Health System for the Elderly but it had only once for all effect. Our fiscal simulations indicate that the recent reform on health insurance schemes is not an exception, and is merely to shift the fiscal costs between

[8] When a new medical treatment with high technology is first introduced, the costs for using are not usually covered by the public insurance. Instead, the patients are subsidized a part of the costs by the public insurance until the technology is widely used and eventually fully-covered by the insurance.

government and various insurance providers.

In order to establish the health care system to be sustainable even at the peak of aging, the current fee for service system has to be changed into prospective payment system based on the standardization of medical treatment. Also, limiting the expansion of the public health insurance by substituting partly with private health insurance is another policy goal. The 2003 reform in health insurance is just a first step toward the supply-side reform in the health care services.

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「医療保険給付における公平性と削減可能性に関する実証的研究」

日本の医療制度をどう改革するか

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研究要旨　2003 年度（平成 15 年度）健康保険法等改正案は、われわれがすでに昨年の報告書等で批判した厚生労働省「医療制度改革試案」（2001 年 9 月 25 日）を踏襲したものであり、現行医療制度の問題点を放置したままで、その延命策を図るものに過ぎない。

本分析では、2003 年度（平成 15 年度）健康保険法等改正案の保険財政面への影響を計量的に分析するとともに、その妥当性を検討した。それとともに今年度以降、政府が本腰を入れて取り組むべき医療供給面の構造改革のあるべき方向を展望している。

保険財政の将来推計の主な結果は、改正案が実行されれば 2005 年には保険財政全体で 3.22 兆円の収支改善効果が見込まれ、0.69 兆円の黒字となるというものである。ただし、この財政収支の黒字化は一時的なものにとどまり、その後赤字幅は再び拡大して、2025 年の赤字幅は 6.54 兆円に達すると見込まれる。構造改革をともなわない保険制度改正は、患者と保険者、および被用者保険と国民健康保険間の負担の付回しに過ぎない。

A．研究目的

2003 年度（平成 15 年度）健康保険法等改正案は、現行医療制度の問題点を放置したままで、その延命策を図るものに過ぎない。

すでにわれわれの研究グループでは、2001 年 9 月 25 日に発表された厚生労働省「医療制度改革試案」に対して、医療財政モデルを用いた再検証を行ったところであるが（昨年の報告書を参照されたい）、本年度においては、その後変更された改正案を織り込み、また、厚生労働省から次々と明らかになった前提地などを詳細に織り込む形で計量モデルを作成し、より直近時点の予測が可能となった。

B．研究方法

本分析では、2003 年度（平成 15 年度）健康保険法等改正案の保険財政面への影響を計量的に分析するとともに、その妥当性を検討した。それとともに今年度以降、政府が本腰を入れて取り組むべき医療供給面の構造改革のあるべき方向を展望している。

計量モデルについては、昨年度に作成した日経センター医療財政予測モデルを用いる。