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Evaluating Japan's Health Care Reform of the 1990s and Its Efforts to Cope with Population Aging

Naohiro Yashiro, Reiko Suzuki, and Wataru Suzuki

1.1 Introduction

In assessing Japan's overall health care system, it is important to balance its remarkable achievements in the past with its gloomy prospects for the future. On one hand, average life expectancy at birth, estimates of which were revised upward in early 2002, indicate further improvement relative to the highest-ranking Organization for Economic Cooperation and Development (OECD) countries. This has been achieved with a low ratio of health expenditures to gross domestic product (GDP) relative to other major OECD countries, implying to those who object to health care reform that the existing health care system is efficient. On the other hand, it is obvious that the current health system cannot cope with a rapidly aging society.

The effect of population aging is already reflected in the growing fiscal deficits in health insurance budgets. These budgets are burdened by an increasing number of elderly enrollees, who are heavy users of health resources. These effects are aggravated by features of Japan's health insurance schemes, including the following: Japan's health care system is universal, meaning that all citizens, including the self-employed, are supposed to have some form of health insurance as well as a public pension. This is based on the German social insurance model, but Japan, unlike many European countries, guarantees patients free access to hospitals with no gatekeepers. Also, once patients enter the hospital in Japan, certain medical services are provided under a fee-for-service health insurance

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arrangement. It is surprising, given the lack of incentives for efficiency, that Japan's national health expenditures have remained at a relatively low level.

One interpretation of the combination of low costs and generous access is that Japan has practiced a policy of egalitarian renumeration, with relatively low salaries of physicians.[1] The system has been efficient in providing basic health care services, reflecting people's strong preference for egalitarianism. With the aging of the population, however, the major burden of disease has shifted from infectious and acute diseases to chronic disease. This reduces the positive externalities of medical treatments as well as the extent of asymmetry of information between providers and patients. Also, the preferences of patients have shifted toward better quality health services with medical information. It is against this background that changes in the Japanese health care system are considered.

Japan's health system has some features in common with the Medicare program for the elderly in the United States, particularly in terms of how to reform the current welfarelike health scheme. The government of Japan made a series of health care reforms in the 1990s, including the recent 2003 health insurance reform. However, the favorable fiscal effects of the reforms, which raised the patient's share of medical costs, are quite limited, with the health budget falling into deficit again within five years. The major reform proposals include standardization of medical treatments, partial replacement of public health insurance with private health insurance, introduction of a partial managed care system, and introduction of for-profit hospitals to stimulate competition.

The first section of this paper explores recent demographic developments and outlines Japan's health system. The second section reviews the reforms of the 1990s and investigates the fiscal impacts of the 2003 health reform across different public insurers. The third section surveys the current major policy issues for health care reform. The final section concludes.

1.2 Outline of Japan's Health System and the Effects of Population Aging

1.2.1 Rapid Population Aging

Japan's official demographic projections are revised every five years, and the most recent 2002 population estimates support the more pessimistic scenario for the coming decades. Several factors contribute to pessimism regarding Japan's demographic trends. First, the total fertility ratio (TFR) has been revised downward repeatedly in the previous projections. The most recent medium projection (the most likely scenario) is that TFR will

1. The ratio of earnings of medical doctors to average employees was 2.5 in Japan compared with 5.4 in the United States in 1987, based on the OECD Health Data Base.

rise from 1.32 in 2001 and eventually stabilize at 1.4; this compares to a projected stable TFR of 1.6 in the 1997 estimates and 1.8 in the 1992 estimates. Contributing to these developments is the constant increase in the labor force participation of working-age women, resulting in increased opportunity costs of child rearing and decreased demand for children.[2] Thus, there is no concrete evidence that the fertility ratio will stabilize at the level officially projected in 2002. Unless there are major policy changes, the more pessimistic scenario (lower population estimates) is likely. In this scenario, TFR does not recover in the future and stabilizes at 1.1, the lowest level among OECD countries.

Second, average life expectancy at birth, which has continuously increased, is projected to rise from the current level of 77.7 years to 79.8 years for men, and from 84.6 years to 87.5 years for women in 2025. The recent increase is not due to a fall in infant mortality, but rather due to an extension in the life expectancy of the elderly. For example, males' life expectancy at age sixty-five is projected to increase from 17.5 years in 2000 to 18.9 years in 2025. Also, the gap between male and female life expectancy is projected to rise from 6.9 years in 2000 to 7.8 years in 2025. The factors behind the increases in longevity are still unclear but may be due to a mixture of nutrition, smoking behavior, and health service factors.

As a result, the rate at which Japan's population was aging was accelerating in the 1990s, far exceeding that of the United States (see figure 1.1). The accelerated rate of population aging, particularly the growth in the number of very elderly, is likely to impose increasing pressure on health costs.

1.2.2 Population Aging and Health Expenditures

The elderly account for nearly one-third of total health costs, but 90 percent of the annual increase in costs is attributable to the elderly, whose per capita costs were close to five times the average in 2000. This is mainly due to the fact that one-half and two-thirds of lifetime medical costs are spent for those aged seventy years and sixty years and above, respectively. It is natural that average medical costs increase with one's age and that the elderly generally have a higher risk of being hospitalized. The strong relationship between health expenditures and age is attributable to the following factors:

First, the elderly have longer hospital stays and, therefore, higher hospital costs. The average hospital length of stay in Japan is five times the aver-

2. The percentage of eighteen-year-olds who enrolled in college rose from 12.3 percent in 1980 to 33.8 percent in 2002. The percentage of female employees increased over the same period from 34.1 percent to 40.5 percent. This increases women's opportunity costs of raising children, particularly given the rigid labor market practices (e.g., long-term employment and seniority-based wages). A woman who leaves a firm to raise a child would find it difficult to be employed full time after the child-rearing period (Yashiro 1998).

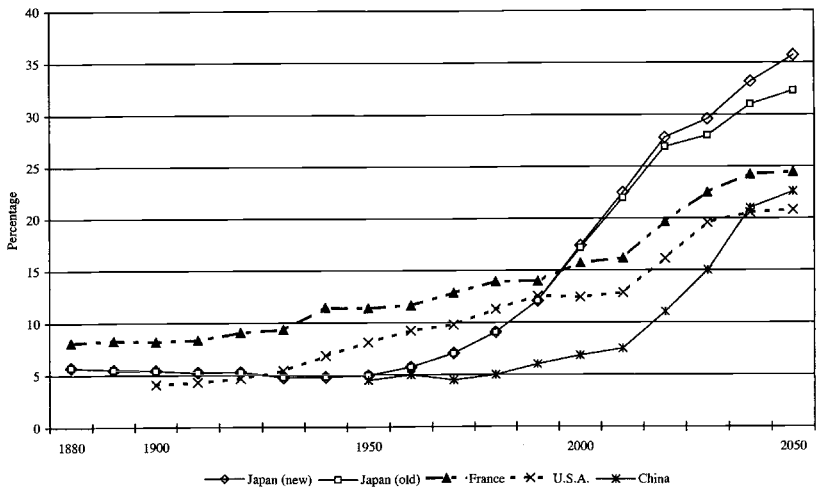

Fig. 1.1 International comparison of the elderly ratio (age sixty-five and above)

age in the United States. The number of hospital beds per capita in Japan is much higher than in other major OECD countries, which is related to the longer average length of stay (see figure 1.2). This partly reflects the fact that hospitals are used as nursing homes for the elderly, mainly due to the limited supply of other nursing care services for frail elderly and the fee-for-service reimbursement scheme. This misallocation of medical resources is a result of inconsistent policies, namely free access to certain health services but limited provision of nursing care services for frail elderly, resulting in the use of more costly services.

Second, end-of-life care is another factor in the relationship between age and medical costs. For example, hospital costs for those age seventy and over during the year before death account for 19.2 percent of total hospital costs for the elderly (Ogura, Fukawa, and Suzuki 1994). Another study shows that the health costs for the elderly controlling for end-of-life medical care costs are not different from those in other age groups (Suzuki and Suzuki 2002). This implies that the increase in medical costs with age may well be avoided if appropriate measures such as palliative care for the terminally ill are used in end-of-life care.

Third, the impact of population aging varies across health insurance plans. Unlike pension plans, employee health insurance plans are established at the firm level. Retiring workers who switch to the local authorities' insurance plan increase the burden on these plans. This raises the issue of how to construct a better risk-sharing mechanism across different insurance plans.

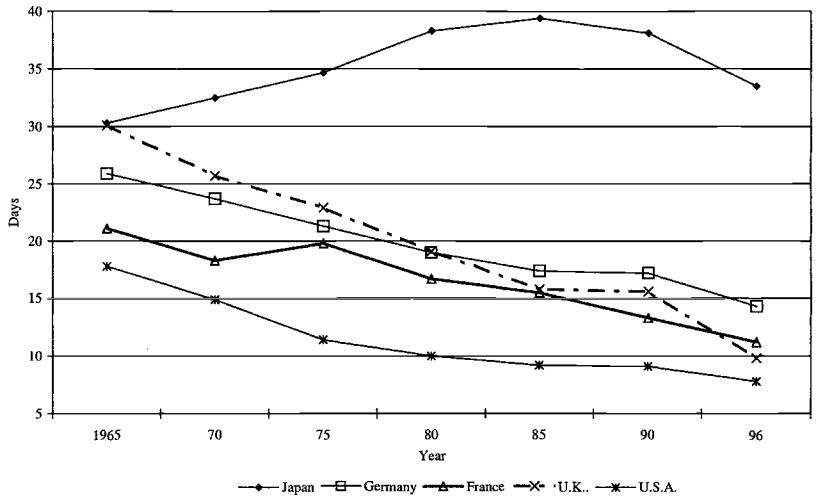

Fig. 1.2 Average duration of hospitalization
Source: OECD health data.

1.2.3 Health Insurance Schemes

The current health insurance plans have the following structure:

Coverage Rules

Japan's health insurance plans are entirely controlled by the government, including employer-provided plans and plans for individuals with low income and the elderly. Medical spending is shared by insurance (53 percent), government (32 percent), and out of pocket (15 percent). The coverage is identical across plans, including hospital services, physician expenses, laboratory tests, and outpatient prescription medications. Contributions to insurance are shared equally by employers and employees. The employee contribution is based on monthly earnings regardless of the individual's medical risk. The scheme has the effect of redistributing income from the poor to the rich, because contributions to health insurance are proportional to individual incomes, while benefits are not.[3]

Reimbursement System

Providers are paid on a fee-for-service basis, with fees for every medical treatment and drug determined by the government. The government con-

3. This is contrasted to the forced-savings of the earnings-related pension of which both contributions and benefits are related to the individual's wages.

trols health expenditures mainly through these fixed fees. A capitation system was partially introduced for hospital fees for the elderly with chronic diseases, though it still pays based on the day rather than the hospitalization. Diagnosis-related groups (DRGs) are now being used in some hospitals on an experimental basis, though the DRG system is difficult to use without standardization of medical treatments.

Access Rules

Access rules are the financial and nonfinancial barriers to receipt of health care. When out-of-pocket costs are low, patients consume medical care even when their symptoms are minor. Accordingly, many countries require patients to make copayments to prevent waste of medical service. The coinsurance rate in Japan is 30 percent, except for the elderly for whom it is 10 percent. This is relatively high by international standards, though there are no deductibles so that the insured are covered from the first dollar cost. Also, there is a stop-loss at 72,300 yen per month (40,200 yen for the elderly), and tax subsidies are granted with deductibles of 100,000 yen. On the other hand, free access is basically assured, that is, the insured need no physician's approval to enter a hospital.

Japan's health insurance schemes are complicated, reflecting their long-run historical development. Originally, public servants and employees in large firms (including their family members) were covered by employer-sponsored plans. A government policy of universal health care was then established, and employees in small firms and the self-employed began receiving health insurance from the Ministry of Health, Labor and Welfare and the local authorities, respectively.

The Society-Managed Health Insurance (SMHI) was established in 1922, consisting of individual company-based insurers. Their fiscal balances have been favorable for many years due to the growing number of young employees and generous employer contributions, reflecting high rates of economic growth. The Government-Managed Health Insurance (GMHI) was established for the employees in small companies that do not have their own plans. Third, the Citizens' Health Insurance (CHI), established in 1938, is regionally organized with cities and towns as insurers. The majority of members in these plans are self-employed and generally have lower incomes.

In Japan, health insurance schemes differ from public pensions in that most enrollees in SMHI and GMHI switch to CHI after retirement. As the result, the elderly share of enrollees is 25 percent in CHI compared to 3 percent in SMHI and 6 percent in GMHI. Thus, there are various mechanisms needed to keep contributions per household level across health insurance schemes, despite the differences in the elderly shares (see table 1.1).

First, there are subsidies from general government revenues. The largest subsidies are to CHI, accounting for half of the health costs of CHI en-

Table 1.1 **Health insurance schemes in Japan, 2000**

	Membership	Average age	Average household annual income (yen)	Contributions per household ([added by employers' contributions] 1,000 yen)	Medical expenses per individual (1,000 yen)	Subsidies from the government (billion yen)
Society-Managed Health Insurance (SMHI)	32 million (25.2%)	33.6	3.8 million	159 (364)	102	Fixed amount (26.2)
Government-Managed Health Insurance (GMHI)	37 million (29.3%)	36.9	2.5 million	152 (303)	123	13% of medical expenses (959.2)
Citizens' Health Insurance (CHI)	47 million (36.5%)	51.3	1.8 million	154	164	50% of medical expenses (3,057.7)
Mutual Aid Associations (MAAs)	10 million (7.9%)	n.a.	n.a.	n.a.	n.a.	n.a.
Others (sailors and minimum income assistance)	1.3 million (1.0%)	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Ministry of Health and Welfare.
Note: n.a. = not available.

rollees. The rationale is that the majority of enrollees are self-employed, with relatively low incomes and without employers' contributions.

Second, there are income transfers among insurance plans. The Health System for the Elderly (HSE) was introduced in 1973 as a system for pooling the health costs for individuals age seventy and older across various health insurers. This system partly compensates for the adverse effects of the differences in elderly shares across insurers. Other insurers fund 70 percent of the costs of HSE, with contributions based on an estimate of what they would have paid in benefits if their elderly shares were the same as the national average. To cover the remaining revenues, 20 percent comes from the national government, and 10 percent comes from local governments.

Third, there is an additional income redistribution mechanism through the Retirees' Account in the CHI, which was introduced in 1984. It is designed to reduce the burden on the CHI, which still suffers from an increasing number of individuals age sixty to sixty-nine who switch from an employer-sponsored plan. Both SMHI and GMHI transfer funds to CHI in proportion to the former employees who joined the CHI (and are under age seventy).

With the increase in the elderly population in CHI, the transfers to CHI from SMHI and GMHI have increased and now equal 4.6 trillion yen for HSE and 1.1 trillion yen for the Retirees' Account in CHI. The redistribution scheme is a compromise between two contrasting ideas. One idea is to finance the HSE from the general government budget and make it entirely independent of other health insurance plans. Another idea is for employees to remain in their employer-sponsored plans after retirement, like a pension, so that the plans can negotiate the conflicting interests across generations. This would have an advantage over the current scheme in which SMHI and GMHI share revenue with HSE but take no part in governance.

1.2.4 Quality and Costs of Medical Services

Even accounting for the favorable demographic composition of the past and the high level of incomes and egalitarian distribution of incomes, it is still difficult to account for the relatively low health expenditures under the fee-for-service system in Japan. According to Ikegami and Campbell (1999), the comprehensive and mandatory fee schedule is a major factor in Japan's low health spending. Under this system, expensive procedures such as surgery and other capital-intensive treatments are often priced well below the U.S. level. Also, most surgeries are conducted in public-sector hospitals with rigid prices (though there are subsidies from the general budget to public-sector hospitals that are not counted as medical costs).[4] This con-

4. There are varieties of the public-sector hospitals managed by the local authorities as prefectures and cities, national universities, labor injury insurance, and so on.

Table 1.2 **International comparison of indicators relating health care provision, 1995–1996**

	Hospital beds per 1,000 population	Average duration of hospitalization days	Number of medical staff per patient	Number of doctors per 1,000 population	Number of nurses per 1,000 population
United States	3.37	6.5	5.5	2.59	8.04
Norway	3.29	6.3	4.35	2.79	13.92
Canada	3.62	7.5	2.8	2.13	8.92
Italy	5.13	8.4	3.15	5.37	5.47
France	4.46	5.8	1.52	2.93	5.89
Germany	6.74	11.5	1.88	3.35	9.0
Japan	10.16	29.2	1.15	1.84	7.38

Source: OECD Health Data.

trasts with the prices determined in the market for health service (except for Medicare and Medicaid) in the United States.

A key to understanding the relatively low medical costs in the past is the low intensity of services per patient. An international comparison of health services indicators show that Japan's medical staff per patient is quite low and is almost one-fifth the level in the United States (see table 1.2). However, this does not mean that the number of doctors and nurses is insufficient, given that the number of medical staff per capita is only slightly below most major OECD countries. The excessive number of hospital beds per capita, reflecting long hospital stays, is a major factor in the low intensity of hospital care with insufficient medical staff. Although the average number of days of hospitalization has been declining, the gap relative to other major countries has not narrowed. This is why the health insurance reform is closely related to the institutions for the nursing care of the elderly.

1.3 Reform of the Medical System in the 1990s and Its Effects

Medical expenditures as a share of national income in Japan rose from 5.9 percent in 1990 to 7.9 percent in 2000, despite the economic stagnation. With the decline in government tax revenues, financing health care becomes quite difficult. Hence, controlling the increase in government-managed medical expenditure has been a critical issue recently. The Japanese government has introduced various policies to control medical expenditures since the early 1990s. It is difficult to choose a desirable policy mix without having examined the effectiveness of these policies. This paper examines the economic effectiveness of various policies based on a literature review.

Two types of policies were introduced in the 1990s. One type focuses on patients' demand for services. An example of price policy on the demand

side is an increase in patient copayments. Another policy is to limit free access to care. This includes the introduction of the family doctor as a gatekeeper and charging higher fees to patients without a gatekeeper's referral. The second type of policy focuses on suppliers, that is, medical institutions such as hospitals and clinics. Examples of supply-side policies include the introduction of a fixed reimbursement system instead of fee for service, limits on the number of hospital beds and physicians, and separation of long-term care from medical treatments.

1.3.1 What We Can Learn from Experiences of Other Countries

Many of the policies introduced by the Japanese government were similar to policies that had functioned effectively, to a certain degree, in other advanced countries. In the 1980s these other countries reconsidered their strict regulations and shifted to market-oriented policies based on economic incentives.

Quantitative analysis by the OECD points out that the policies implemented by the advanced countries had both effective and less-effective features. Examples of policies that have been effective in reducing medical expenses include the capitation system (in which doctors are paid per enrollee rather than per service), the refund system (in which patients pay the full cost of treatments up front and are partially reimbursed afterward), and the gatekeeper system. Policies that have little influence on medical expenditures include increases in copayment rates, strict budget ceilings, limits on the number of doctors, and the free-fee system.

The reason for the preceding contradictory analysis is that it reflects reverse causation, meaning that countries with a high level of medical expenditure tend to implement policies to control medical expenditures.

The experiences of other advanced countries are informative to some degree. Yet difficulties would arise if specific policies that worked effectively in other countries were applied directly to Japan.

1.3.2 Price Elasticity of Demand for Medical Care

In Japan, cost sharing decreased until the 1970s, but in the 1980s the government began increasing cost sharing. The price elasticity of demand for medical care was studied intensively by health economists in the 1990s. Cost sharing for the elderly in Japan has changed as follows: (a) Prior to 1973, the copayment rate was 30 percent for participants of the National Health Insurance and 50 percent for dependents of the Employees' Health Insurance. In 1973, the copayment rate shifted to 0 percent for both groups, (b) in 1983, free care (no copayment) was replaced by a cost-sharing system where inpatients paid a flat sum per hospital day, and outpatients paid a flat sum per month, (c) in 1997, the outpatient cost sharing arrangement was replaced with a per-visit copayment, and copayments were introduced for outpatient medicines, and (d) a 10 percent copayment

was partially resumed in 2001 (outpatients choose either the 10 percent copayment or a fixed sum per visit).

These policy changes led to research on their effects. Before medical care for the elderly people became free in 1973, per person medical expenditures among the elderly were twice as high as among the young. After the introduction of the free care system, this ratio increased to four times. This shows that the free care system stimulated the elderly to use more medical services. The price elasticity of demand for medical care, measured using aggregated time series data from 1955 through 1979, is over –0.3.

The increase in out-of-pocket payments in 1983 was so small that it did not effectively reduce demand. Some researchers argue that the fixed-price system had very little influence. Others argue that medical demand increased in spite of increasing out-of-pocket payments, mainly due to higher incomes.[5]

The copayment schedule differs between the Employees' Health Insurance and the National Health Insurance. The main reforms to the Employee Insurance have been (1) the coinsurance rate for dependents was reduced in 1973, from 50 percent to 30 percent, (2) the contribution rate for participants in the Employees' Health Insurance was increased in 1984 from 0 percent to 10 percent, (3) the contribution rate was increased again in 1997, from 10 percent to 20 percent, (4) additional copayments for outpatient prescription drugs were implemented for both types of insurance systems in 1997. There are few analyses that focus on the effects of the 1973 coinsurance decrease, except the analysis by Maeda (1978), which reports that medical expenses per person increased by around 12 percent.

These studies showed that the price elasticity of demand for medical care was very small, generally around –0.1. There are two remaining questions relating to future trends in medical expenditures. The first is the effects of the phasing in of the 10 percent copayment for the elderly, which, by 2002, had replaced the fixed-sum system. The second question relates to the effects of the stop-loss provision. The copayment rate of 10 percent or 30 percent is applied to up to a monthly stop-loss, and a copayment rate of 1 percent is applied beyond this limit. Although the copayment schedule has been changed considerably, out-of-pocket payments as a share of total national health expenditures has been almost constant over the last few decades. We suppose that the main reason for the stability is the low stop-

5. Ii and Ookusa (2002), using microlevel data, report price elasticities of medical expenditures for elderly outpatients and inpatients as –0.016 and –0.051, respectively. Sawano (2000) calculates the price elasticity outpatient visits in an elderly population (–0.125––0.085) and the price elasticity on the number of visits per case (–0.105––0.085) using semiaggregated data. Tokita et al. (2000) find that the price change in 1997 led to a decrease in the annual per capita medical expenses of those age seventy of around 500 yen, or 3.8 U.S. dollars. In particular, the demand for chronic disease care decreased remarkably. Average patient visits per month to doctors' offices fell by 0.33.

loss limit. But no study has been reported on the behavioral effects of the stop-loss provision.

1.3.3 Restriction of Free Access

One of the characteristics of the Japanese medical system is the guarantee of free access to medical institutions. However, the Japanese government does limit the extent of access, as long as patients' choices are not severely restricted. Increases in copayments, discussed previously, will, if they are large enough, restrict the access of low-income individuals. This section examines the referral system and the family doctor system. The purpose of the two systems is to prevent the waste of valuable medical resources from patients with minor symptoms using large hospitals.

Referral System for Large Hospitals

Ideally, patients receive medical care from their family doctors who admit them to large hospitals when necessary. After required treatments are received in the large hospital, the patients then return to their family doctors. In order to strengthen this linkage between family doctors and large hospitals, the government introduced a system in which patients must pay higher charges if they access care in large hospitals without a referral from their family doctor. In addition, patients are required to pay extra charges (beyond the basic charge) for their first consultation if they directly visit large hospitals with more than 200 beds.

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

No studies have been done on how the new system changed the behavior of patients and medical institutions. However, some researchers argue that the introduction of the referral system facilitates the effective use of resources in large hospitals. The reason is that referred patients tend to use medical resources more intensively than patients who directly accessed large hospitals. On the other hand, hospitals do not control the number of outpatients.

Family Doctor System

Family doctors provide primary care to local residents. They are expected to provide good access geographically, be available twenty-four hours a day, deal with all types of illness, and make referrals to specialists. Patients need referrals from their family doctors to get treatments at large hospitals without additional charges. A statement from a family doctor is necessary for judging applications for public long-term care. In these situ-

ations, the family doctor is intended to play the role of a gatekeeper who limits patients' access to high-level medical care and long-term care.

However, many patients do not have a family doctor. In addition, the gatekeeper function does not work effectively, as large hospitals tend to accept patients with referrals, regardless of which type of doctor referred the patient. Given this situation, the government has, since 1993, promoted the family doctor system through local governments with the cooperation of the Association of Doctors. However, it should be noted that patients and doctors still do not understand this system sufficiently. Because it is relatively new, the effects of the family doctor system have not been analyzed.

1.3.4 Partial Introduction of Inclusive Payment System

As discussed in the preceding, patients' out-of-pocket payments were increased. We expect this policy only to affect patients' decision regarding whether to visit a doctor. Because of information asymmetries, once a patient enters the medical care system, doctors have a great deal of discretion in the supply of medical services.

To control the increase in medical expenditures driven by doctors, the government in the 1980s decreased the prices paid for medical care through a series of revisions to the fee schedule—the price table for fee-for-service reimbursement to the doctors. Medical institutions, in order to maintain their revenues in the face of price decreases, increased the volume of medicines provided. This self-defense behavior by medical institutions has resulted in excessive use of medicines and medical examinations.

The government introduced an inclusive, or bundled, payment system in order to limit 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 medical examinations is treated as one bundle. Accordingly, the inclusive payment system can limit the cost of medical services, unlike the fee-for-service system. At the same time, medical institutions have an incentive to reduce costs. Therefore, we expect a higher level of efficiency in the supply of medical services under the inclusive payment system. Nonetheless, there is a concern over whether medical institutions will continue to provide adequate services.

At first, the inclusive payment was applied only to a limited set of medical services. However, the use of inclusive payments gradually spread in the 1990s. Inclusive payments were implemented as follows: blood tests (biochemical examinations) in 1982; hospital care for the elderly with chronic diseases including nursing, examination, dosing, and injections in 1990; all-inclusive fee for outpatient care for the elderly with chronic diseases and pediatrics in 1996; and general examinations and treatments were included in the outpatient consultation fee in 2000.

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

introduced so far have failed to reduce medical costs, according to Kawai and Maruyama (2000) and Ikegami (2001). They point out that the main reason for the failure to control medical costs is that the inclusive payment was introduced as an alternative to fee-for-service payment. Under these circumstances, medical institutions can choose one of the two payment systems, which allows them to earn profits. Those institutions where the average fee for a patient had been low chose the relatively high inclusive payment, and the institutions that were treating very sick and costly patients remained in the fee-for-service system. As a result, the introduction of the inclusive payment actually increased medical costs. Another example of failure was the inclusive fee for outpatients of pediatrics. Since the fixed fee was set per day, the institution that chose the inclusive system increased the number of the days per patient.

1.3.5 Supply Controls

Regional differences in health expenditures have a strong relationship with the supply of medical providers, such as the number of beds and doctors per capita. The government, recognizing this, has sought to reduce the excess capacity in the medical system.

The government believes that having more hospital beds results in longer hospital stays, and, with this in mind, began to control the number of beds in 1985. This type of control denies the principle of free entrance into medical service markets. The government developed a detailed plan that specified the required number of hospital beds in several hundred areas. Doctors are prohibited from opening new hospitals or adding beds in areas where the number of existing beds is thought to exceed the originally planned number. As a result, we should not expect improvement in medical services because competition among hospitals was diminished due to the lack of new entrants in regions with excess beds.

The government also forecasted that, if the number of medical school graduates were frozen at the level of the early 1980s, there would be an excess supply of doctors in the future. The government asked medical schools to reduce the number of students in 1986 and requested a further 10 percent reduction in the number of students in 1994. However, only a 7.7 percent reduction was achieved by 1996.

If doctors are actually inducing demand for medical care in Japan, then supply control policies will help reduce excess medical expenditures by doctors. If a high density of doctors makes it easier for patients to access health services by reducing time costs, such as waiting time and transportation time, then limiting the number of doctors is not preferable. Nishimura (1987), using aggregated regional data, reports that the elasticity of elderly outpatient medical demand on the density of doctors was small, only 0.19. On the other hand, Suzuki (1998) using microdata, reports 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.

1.3.6 Limitations on the Scope of Health Services

Concentration on Acute Care

It is well known that average length of hospital stays in Japan is longer than any other advanced country. The main reason for this is that hospitals accept patients with chronic diseases who need long-term care. These patients require huge amounts of expensive health resources. In order to eliminate the wasteful use of these resources, the government has been trying to reduce the number of patients who stay in hospitals for long periods without receiving intense treatments. One approach has been to give hospitals an economic incentive by reducing the fee paid to a hospital for patients who stay longer than a certain period of time. Another approach is the introduction of public long-term care insurance. These measures are designed to divide patients into two groups, one in need of long-term care and another in need for acute medical care. The scope of health insurance is restricted to the latter group of patients.

Gradual Reduction Schedule of Hospital Fee

In the late 1980s, fees paid for extended hospital stays were reduced according to a stepwise schedule. The reductions were applied to consultation and nursing fees, which are major components of the fees that hospitals receive from public insurance. In order to make the fee cuts steeper, an inclusive payment was introduced in 1998 for elderly patients who stay in general hospitals for six months or longer.

In 2000, the hospital fee system was totally reformed and a new basic fee for hospitalization was established. The basic fee is set higher for hospitals where the average length of patients' stay is short. Those measures create strong incentives for hospitals to decrease the length of stays, though studies have not been done on the effects.

Shifting Long-Term Care to a New Insurance Scheme

To cope with the increasing number of elderly chronic patients, the government in the late 1980s designated certain hospitals, which did not meet a required level of health resources, as geriatric hospitals that provide inpatient care for the elderly. This policy was an exception to the laws governing the supply of medical facilities. In 1992, sanatorium beds were authorized by the medical law as one category of hospital beds for the exclusive use of elderly chronic patients. Furthermore, with the revision of the medical law in 2001, ordinary beds (formally known as *miscellaneous beds*) are now classified into two subgroups, one group for acute patients and the other for chronic patients.

In 2000, the government implemented a new system of public long-term care insurance. With the new insurance, patients can choose among a variety of hospitals and clinics as well as nursing homes and institutions for rehabilitation services. In order to meet the new demands for care, hospitals and clinics are rapidly recertifying their beds so that they qualify under the new long-term care insurance. As a result, we see a mixture of patients in the same hospital building, some financed by health insurance and others financed by long-term care insurance.

According to a government projection for fiscal 2000, 1,980 billion yen would be shifted from the old health insurance system to the new long-term care insurance. The Japanese Medical Association estimated that the actual amount shifted was 1,600 billion yen or 12.7 percent of the medical expenditures for the elderly, slightly smaller than the government had anticipated.

Separation of Pharmacy From Medical Care

Pharmacy services have been separated for the purpose of preventing hospitals from prescribing excess drugs under the fee-for-service payment system. It also benefits patients by prompting pharmacists to check the suitability of prescriptions as a second authority after doctors.

Consecutive price cuts for pharmaceuticals as well as the spread of inclusive payments made it less attractive for hospitals to have their own pharmacies. The less profitable the in-hospital pharmacy became, the more hospitals closed their pharmacies, and the separation gradually spread. However, only 30 percent 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 the "out-of hospital prescription fee" paid to doctors and the "compounding medicine fee" paid to pharmacists; these costs will raise health expenditures by 5.7 percent if the division of pharmacy is accomplished.

As has been shown, 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. Another important policy to curb the health expenditure is to establish long-term nursing care insurance for the frail elderly for shifting the hospitalized elderly to nursing care services as discussed in the following section.

1.4 Long-Term Nursing Care Insurance for the Frail Elderly

1.4.1 Background

Public nursing care insurance was established in April 2000 as a major pillar of set measures designed to improve the system of long-term care for

the frail elderly. In Japan, welfare has made up a relatively small share of total social security expenditures, compared with health insurance costs and public pension. For the elderly in 2000, welfare costs were only 9 percent as large as the public pensions and 34 percent as large as the health expenditures. This reflects the general acceptance that the family should play a major role in providing elderly care services. Nevertheless, inconsistent policies between health and welfare policies have resulted in an overuse of health resources. Until the year 2000, people needing care and their families have tended to make use of health insurance, which allows unlimited coverage of care costs with no gatekeepers. Public welfare, on the other hand, is limited and certain requirements must be met in advance. As the result, many people not actually in need of medical treatment have been hospitalized. This is mainly attributed to a limited supply of long-term care facilities and a lack of support for families taking care of the elderly. The insufficient supply of long-term care services compared with medical services results from the different sources of funds, that is, medical costs are based on insurance premiums directly linked to wages, while public welfare is based on general tax revenues with severe budget constraints.

In the new system of the public nursing care insurance, applicants for benefits will be assessed to determine the level of care they require. A ceiling will be put on the benefits to be covered by the insurance, and people needing care will be shifted from hospitals to care-providing institutions or their own homes (to receive care there). This would contribute not only to reducing medical costs but also to improving the living conditions of elderly needing long-term care by moving them out of the hospital setting.

1.4.2 Overview of Nursing Care Insurance

Long-term care for the elderly, which used to be financed from general revenues, is now funded by insurance premiums. This changes people's costs and benefits in various ways. It is expected that improved services will lighten the load on families, and reduced treatment costs should make it possible to reduce health insurance premiums. Also, stimulating competition among providers will make the provision of care services become more efficient. The introduction of nursing care insurance will also reduce the load on the state and local governments, which so far have borne the entire cost of nursing care from general revenue.

Nursing care insurance premiums will be withheld from the health insurance premiums of people forty years of age and over and from the public pensions paid to people sixty-five years of age and over. The average premium level is set at 2,900 yen per month per individual. In the case of people whose pension benefits are too low to allow such withholding, premiums will be collected directly from the individuals by municipal governments, taking into account their economic background. Only people over forty are required to pay into the system, on the grounds that young people

are unlikely to require care before that age. This is a result of political compromise, but is not consistent with the rationale behind long-term care insurance, which is to lighten the care load on families. Also, exempting young people is inconsistent with the fact that they have to pay health insurance premiums even though they are at relatively low risk of falling ill.

Eligibility for nursing care insurance benefits is limited to individuals age sixty-five and over and those age forty and over who require care because of aging-related causes. The grounds for limiting the benefit on the basis of age is shaky. An alternative approach would be to provide care for anyone age twenty or over who requires it, regardless of cause. The fact that this sort of setup has not been adopted seems to reflect one of the flaws of the present segmented welfare system, which puts people with physical disabilities into a separate category of welfare.

Still, the nursing care insurance system does aim to provide services without regard to income level or other socioeconomic considerations and to determine the kind and level of services solely on the basis of need. It allows people to pay additional amounts out of their own pockets for services not covered by the insurance benefit; this is prohibited in the health insurance system, which is based on uniformity-driven egalitarianism. Also, it marks a major departure from the present public welfare system, the major aim of which is relief for the disadvantaged, not ordinary persons in the society. The nursing care insurance system, based on the premise that long-term care for the elderly should be considered an extension of daily life, aims to spread the costs through society. Unlike health insurance, though, the eligibility for the nursing care insurance has to be certified by a third-party gatekeeper.

1.4.3 Major Remaining Issues

A number of proposed improvements in nursing care payments (the equivalent of treatment payments in health insurance) are being studied. One is to set a ceiling on the level of benefits and make flat payments to the elderly individual 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 in lowering fees for care services. A third is to enable providers some leeway in adding extra fees, on the grounds that users will find it easier to gauge the quality of nursing care services than medical treatments. A fourth is to include payment for ancillary services, such as the cost of transporting people needing care and caregivers' travel time.

Nursing care payments, which vary with the seriousness of individuals' needs, differ substantially between private and public nursing care homes for the same level of seriousness. This is mainly because private nursing homes are treated as a sort of residence, and so-called hotel costs are not included in the benefits. Ideally, those in need of nursing care would be able

to choose freely from diverse care settings.[6] The lack of equal footing between public and private nursing homes could be eliminated by treating the public care homes as homes that provide a combination of both public housing and care services at the same time.

1.5 Effects of the 2003 Health Reform

1.5.1 Major Components

The health reform implemented in 2003, which was designed to limit increases in medical expenditures, had the following major components:

First, the copayment rate was increased from 20 percent to 30 percent uniformly across health insurance schemes, though copayments for individuals seventy and over were kept at 10 percent, and copayments for children under three years old is set at 20 percent. Also, for the first time, an income criterion was introduced and the copayment rate for elderly individuals above the middle-class income level (6 million yen per year) is set at 20 percent, accounting for 11.3 percent of the total.[7]

Second, the insurance premium was raised with widening of the tax base from 8.5 percent of the monthly wages to 8.2 percent of annual wages including biannual bonuses (9.5 percent of monthly wages). The effect of widening of the tax base is important, as biannual bonuses account on average for nearly 14 percent of annual wages.[8]

Third, the HSE is to be applied gradually to those who are age seventy-five and above instead of the current age seventy and above, with the change phased in over five years. At the same time, the ratio of the subsidy from the general budget is to be raised from the current rate of 30 percent to 50 percent over the same phase-in period. The revision has a positive impact on the budget of the SMHI and GMHI by significantly reducing their transfer payments to the HSE. The effect on the CHI budget is uncertain, however, 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, medical fees were reduced by 2.7 percent on average, of which the prices of drugs and doctor's fees are reduced by 1.3 percent, respectively. The fiscal impact is unclear because under the fee-for-service system

6. Paying benefits in the form of cash to the families of people needing care is basically not allowed. This is based on the argument that women in the Japanese family used to play the major caregiving role, and allowing cash payments may prevent improvements from the current situation.

7. The copayment rate for the elderly before the reform was also 10 percent, but the quite low ceiling on out-of-pocket payments was removed after the reform, which resulted in a de facto increase in the copayment rate.

8. This revision is necessary with growing number of part-time workers and specialists who do not have a typical division of monthly wages and biannual bonuses.

doctors could easily recover lost income by increasing the quantity of medical services provided. 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, with the average fee in the following year automatically lowered to attain the target level.

1.5.2 Fiscal Impacts of the Proposed Medical Reform

Because the fiscal impacts of these reforms were not presented by the Ministry of Health, Labor and Welfare, we estimate the effects based on our own health insurance budget model. We use the revised version of Suzuki (2000), which reflects the recent institutional changes as well as an updating of the data. The major features of the model are the following:

First, the model consists of five blocks: the SMHI, the GMHI, the CHI, the Retirees' Account of the CHI, and the HSE. The data on health expenditures are based on five-year age groups[9] so that the changing age compositions in respective groups are reflected in their aggregated fiscal balance. In the first three blocks—SMHI, GMHI and CHI—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 HSE. The workers' contributions are calculated from the age composition and their wages, which are summed to the other revenues, leading to the total revenues. The fiscal balances in the three groups are shown by the difference between revenues and expenditures. The expenditures and revenues in the Retirees' Account of the CHI and the HSE are estimated by the population by age, and the transfers with the preceding three blocks.

Second, we use the population scenario from the Population and Social Security Institute to project the population in each age group based on the assumption of the fixed spending ratio across each group. The baseline for the national health expenditures is exactly the same as what was projected by the Ministry of Health, Labor and Welfare.[10] The effect of an increase in the ratio of the patients' payments on medical expenditures is measured based on the elasticity of demand of patients with respect to the price.

The major results are the following: First, the baseline case with no institutional changes indicates continuously worsening budget deficits through 2025. This is mainly due to the aging factor, while revenues from

9. The Mutual Aid Associations (MAAs) is not included as the data on age groups are not available.

10. This is consistent with the sum of the expenditures by health insurance schemes, excluding the MAAs due to unavailability of the data.

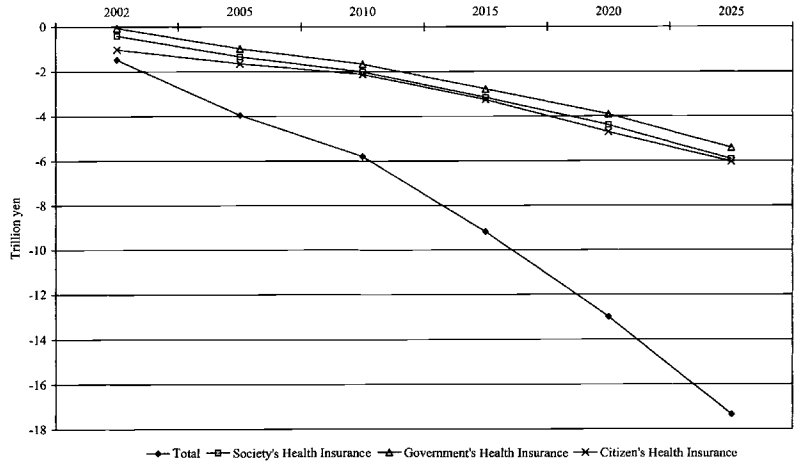

Fig. 1.3 Projections of health insurance budgets (baseline cases)

fixed premiums are not increasing at the same rate.[11] This trend—a widening gap between expenditures and revenues—is common to all health insurance schemes. The aggregate budget deficits are projected to grow from 1.4 trillion yen in 2002 to 16.9 trillion yen in 2025 (see figure 1.3).

Second, after the various reforms discussed previously are implemented, the aggregate health insurance budget will be improved, particularly in the coming few years. However, the budget deficit will begin widening again beyond that, and the aggregate deficit in 2025 would be close to 13 trillion yen, which is relatively lower than the baseline case but is still significant.

Comparing the individual elements of the reform, the largest effect comes from the increases in premiums and copayments in the immediate future, while the effect of reducing transfers to HIE grows over time (see figure 1.4). This is mainly because the major effect of the HIE reform comes from limiting the targeted elderly group from the current age of seventy to seventy-five and increasing the subsidies from the general revenue. This is simply a policy of shifting the burden between individual health insurance schemes and government and not an effective measure to constrain total health expenditures.

On the other hand, the relatively small effect from increasing patient copayments to 30 percent is not surprising. A higher copayment rate is usually assumed to stimulate cost consciousness toward the use of medical re-

11. 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 percent in 2004 and beyond.

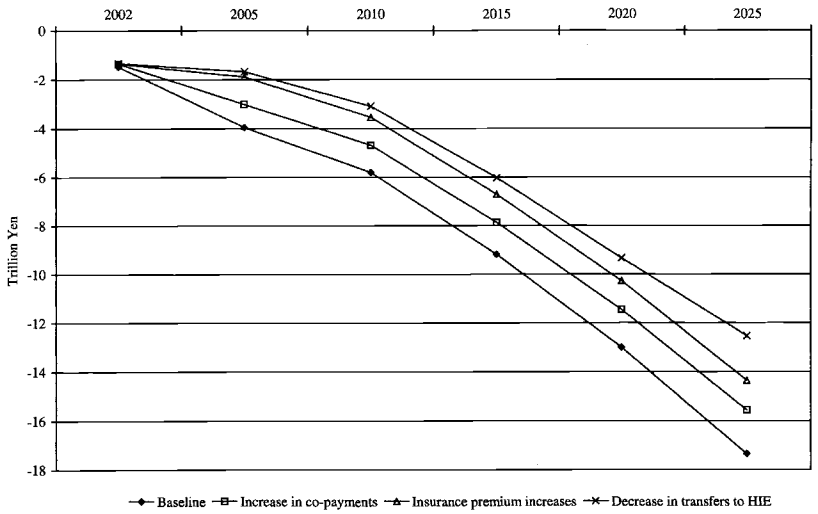

Fig. 1.4 Effects of the health insurance reforms (contributions of various reforms)

sources, and is, therefore, considered effective in curbing wasteful medical expenses (Newhouse and the Insurance Experiment Group [1993], Manning et al. [1987], Zweifel and Manning [2000]).[12] However, the effectiveness of copayments depends upon the content of medical services; the outpatient care may well be affected, but not hospital services for which there are fewer alternatives.[13] Also, the copayment ceiling, designed as a safety net to avoid excessive burdens on patients, lowers the effective copayment rate.[14] Compared with the current ceiling system, deductibles have an advantage in that the effective copayment rate drops as an individual's medical costs increase.

Third, the effects of the reform on health budgets are asymmetric between the health insurance for employees (SMHI and GMHI) and for the self-employed (CHI). In the former, the fiscal balance will be largely improved until 2010 but will fall again after that. This is mainly due to decreases in transfer payments to the HSE from raising the age criterion from the current level of seventy to seventy-five, as well as an increase in revenues

12. Zweifel and Manning (2000) offer the broadest and most detailed discussion of this theme. For a Japanese case, Tokita et al. (2002), Yoshida and Takagi (2002), and Battacharya et al. (1996) analyze it in detail.

13. This is consistent with the previous experience when the patient's share was raised from 10 percent to 20 percent in 1997. There was a one-time drop in medical expenses without any significant change in the trend growth.

14. Though the copayment ceiling safety net will be raised by 10 percent at the same time as the increase in copayments from 20 percent to 30 percent, patients can reach this ceiling more easily with the higher copayment ratio. Beyond the ceiling patients pay no more copayments, thereby lowering the effective copayment rate as a result.

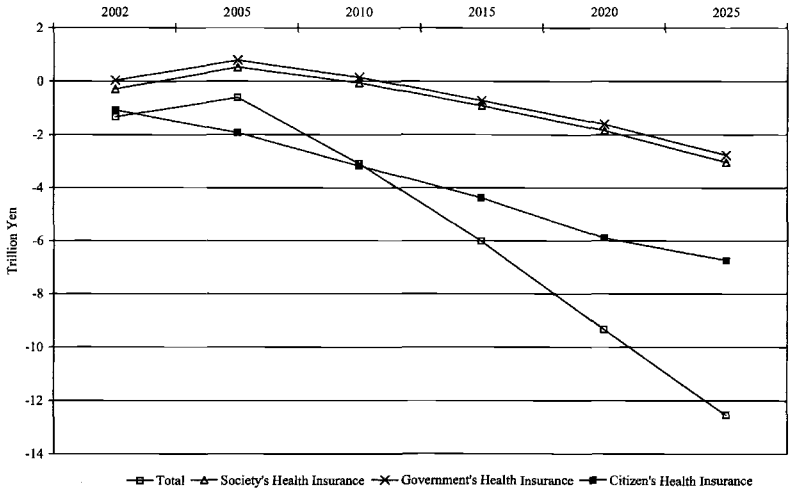

Fig. 1.5 Projection of health insurance budget (after the reform)

from expanding the tax base of the premium. In contrast, 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 number of enrollees age seventy to seventy-four who are newly covered by CHI under this reform (see figure 1.5).

1.5.3 Policy Implications

A major implication of the preceding analysis is that increasing the copayment rate and mechanisms for sharing revenue among health insurance providers are not sufficient to attain a sustainable fiscal balance in the long run. Further items being discussed as part of a reform agenda include the following:

The first item is the creation of an independent health insurance scheme for the elderly. This is included in the basic plan for health reform targets for 2008, released in March 2003 by the Ministry of Health, Labor and Welfare. This is based on a two-layer scheme for those who are age sixty-five to seventy-four and age seventy-five and above, which would correspond to the current Retirees' Account in the CHI and HSE, respectively. Though the details of the reform are not yet clear, the basic idea is to separate costly health care services for the elderly from those for the non-elderly and leave it to an independent health scheme that is financed by the tax revenue and contributions by other health plans.

Second, standardization of medical treatments has not been established, and medical costs vary widely across hospitals in Japan (Kawabuchi and

Sugihara 2003). This is mainly because the way medical doctors are trained is compartmentalized, and best-practices in most cases have not been established. Also, it is difficult to accumulate data on health costs for health insurance providers. A major factor behind this is the primitive method used to review bills for reimbursement. Hard-copy bills are printed in hospitals and sent to the government's intermediary clearing organizations to be checked and then sent again to insurance providers for additional checking. If medical bills were sent directly from hospitals to insurance providers over the Internet, health cost data would be more easily gathered at much lower cost. The administrative barriers preventing the use of information technology (IT) networks for processing health care bills are gradually being removed. This is a step toward collecting the data need to calculate average costs for standard medical treatments, which is necessary for a prospective payment system.

The third item is allowing for mixed financing between private and public health insurance. It is natural that the coverage of health insurance is limited, but what is particular to Japan is that patients are not allowed to pay extra costs for additional care for a series of medical treatments in hospitals in addition to the costs covered by the public health insurance. If a patient wishes to do so, he or she has to pay the whole costs including costs generally covered by insurance. There are only a few exceptions, such as amenities, selected high-tech medical treatments,[15] dental materials, reservations for outpatient services, and so on. This restriction makes it quite difficult for doctors to choose a variety of medical treatments that differ from a uniform formula under the current fee-for-service system. Introducing a mixed financing system with public and private insurance coverage for those hospitals that are evaluated as having a certain level of health service provision could provide several advantages: first, extra revenues from the private health insurance could provide resources for financing better quality health services; second, this could stimulate incentives for hospitals to improve health care services; third, it could substitute the expansion of public health expenditures with private health expenditures.

1.6 Conclusion

Japan's health care system, which has been successful in the postwar period, is now facing a series of structural problems arising mainly from the aging of the population. The combination of fee-for-service with free access to health services results in upward pressure on health expenditures, particularly given the increasing number of elderly. The government has

15. When a new high-tech medical treatment is first introduced, the costs for using it are not usually covered by public insurance. Instead, patients are subsidized for part of the cost by public insurance. If the technology becomes widely used, it is eventually fully covered by insurance.

tried to alleviate this pressure by introducing various policies in the 1990s, but they did not effectively solve the fundamental problems.

The establishment of the long-term nursing care insurance for the frail elderly in 2000 was intended to move the care for the frail elderly from costly hospitals to nursing care homes, but the effect has been marginal with free access to hospitals basically maintained. Another reform was raising the copayment rate and redistributing costs among various insurance providers, though the positive fiscal impacts of these reforms is projected to last only over the short run. In order to establish a health care system that is sustainable in a rapidly aging society, additional reforms may be needed to limit the expansion of the public health insurance by substituting partly with private health insurance. The 2003 health insurance reform is a first step toward a more comprehensive reform of the health care services sector.

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