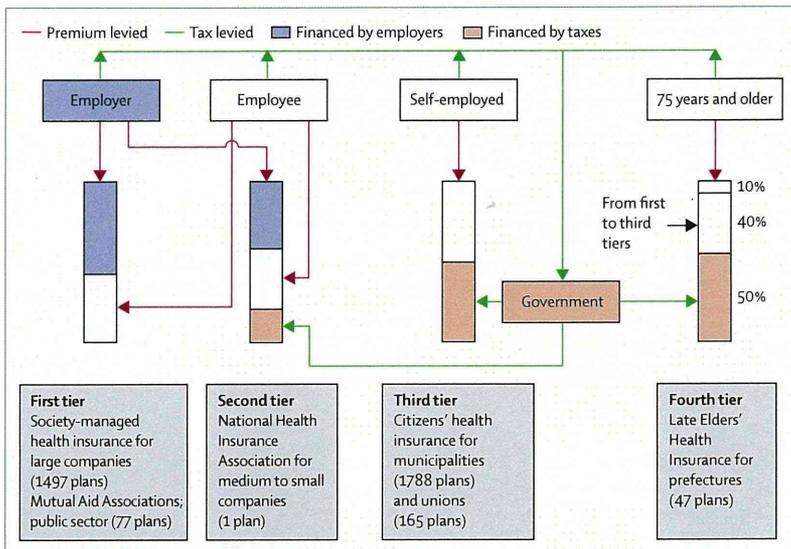


younger than 75 years, managed by the 1788 municipalities, plus the 165 citizens' health insurance unions of self-employed occupational groups (including private

practice physicians, barbers, and construction workers), which enrol about a tenth of those in this tier. The fourth tier is the Late Elders' Health Insurance, established in 2008 as a health insurance scheme to which all people aged 75 and older have to enrol, irrespective of their employment or dependence status; this scheme is managed by one coalition of municipalities in each of the 47 prefectures.

To augment premiums from employers and individuals, the national government provides subsidies from general revenues to the plans in the second to fourth tiers, amounting to a quarter of total health expenditure. Specifically, these subsidies cover 16.4% of benefit spending in the second tier; an average of 50% (40% for rich municipalities, up to 80% for poor municipalities) in the third-tier citizens' health insurance; and 50% in the fourth-tier plan for people aged 75 years and older. Additionally, to equalise health-care expenditure for elderly people, each plan must contribute a fixed amount per enrollee. These transfers, which flow through a central pooling fund, cover 40% of spending in Late Elders' Health Insurance, and subsidise people aged 65–74 years who are enrolled in other plans.



**Figure 3: Financial flow in the four tiers of insurance plans**  
Number of social health insurance plans in Japan as of March, 2009. Data from Ministry of Health, Labour and Welfare.<sup>39</sup>

### Panel 2: Unpleasant surprise for Mr Yamamoto on retirement

Until Mr Yamamoto retired at the age of 67 years from the Japan Industry Corporation, he had not thought about his health insurance contribution. It was automatically deducted from his payroll, along with taxes and other social security contributions. The deductions had increased as his salary had increased, and that was annoying, but he had never looked at the breakdown.

The day after his retirement, he went to his city government's citizens' health insurance division and applied for enrolment. He was surprised to learn that his contributions would be calculated on the basis of his previous year's household income, which would include not only his salary, but also his pension and his wife's earnings of ¥1 million (US\$12 000) as a part-time worker. Additionally, the property tax he had been paying for his house would also be included.

On the basis of his past year's household income of ¥5 million (\$60 000) and his property tax, he was told that his annual citizens' health insurance contribution would be ¥450 000 (\$5400). This amount was more than three times what he had paid to the society-managed health insurance of Japan Industry Corporation in the previous year because his employer had been contributing half; his contributions had been based only on his salary, and excluded both his pension and his wife's earnings; he did not have to pay extra premiums for his wife because her earnings were low enough to qualify her as his dependant; his property had not been included in the calculation; and the city's citizens' health insurance rate was high because it has a large housing complex for people on low income.

However, when Mr Yamamoto visited his local clinic for his hypertension with his new insurance card, both the treatment and the co-payment amount (about \$20 including drugs) were the same as they had been when he was covered under his employer's health insurance plan. He was thankful that nothing had changed about his care after being forced to change his plan on retirement.

Note that case studies are fictional and for illustrative purposes only.

### Extent of equity

The mechanisms discussed here have contributed to making the household's total financial contribution to health care—ie, direct and indirect taxes appropriated to health care, social health insurance premiums, and out-of-pocket expenditures—almost proportional to its income as measured by the Kakwani index,<sup>21</sup> and to be much the same as for schemes in South Korea and somewhat more equitable than those in Germany.<sup>22,23</sup> The percentage of households in which out-of-pocket health-care expenditure exceeded 25% of total expenditure excluding food (the catastrophic threshold) was 1.68% in 2004, which was similar to that in Taiwan (1.49% in 2000), higher than that in Malaysia (0.78% in 1998–99), but lower than that in South Korea (4.82% in 2000) and China (11.23% in 2000).<sup>24</sup> We analysed whether individuals with the same need get equal access to health care by calculating the concentration index.<sup>25,26</sup> Although the data are difficult to compare, it seems that access to physicians controlled for patients' need seems to be about the same as in the UK (see webappendix pp 1–3 for technical notes on the analysis).

However, when contribution rates are compared across social health insurance plans, the average rate for the citizens' health insurance plans is three times that in society-managed health insurance plans for employees of large companies.<sup>27</sup> Thus, when employees retire and join the citizens' plans, they have to pay higher premiums than they did previously (panel 2). Moreover, even within the first tier, more than a three-times difference exists in contribution rates between

	Minimum	Maximum	Median	IQR	Mean	SD
Number enrolled	26	584 681	7585	14 015	20184.7	44147.1
Age of employee (years)	25.8	54.1	41.6	3.6	41.3	3.3
Monthly wage (¥)	210 463.0	1 030 349.0	368 333.0	84 839.5	379 381.6	81 462.7
Health-care cost per person insured (¥)	21 113.0	271 336.2	152 946.2	35 812.2	151 222.9	29 535.3
Supplementary benefits per person insured (¥)*	0	37 973	48 42.5	6 732.8	5 179.9	4 614.7
Contribution rate as percentage of monthly wage (%)	3.12%	9.62%	7.40%	1.50%	7.31%	1.04%

\*Supplementary benefits that reduce the co-payment amount are available in 86.5% of society-managed health insurance plans. Data are from Federation of Health Insurance Societies.<sup>28</sup>

**Table: Differences between the society-managed health insurance plans**

society-managed health insurance plans, from 3.12% to 9.62% (table).<sup>28</sup> Analysis of contribution rates for these plans shows that they are mainly related to employees' average age and average income, more than to their average health spending. Incidentally, age is a factor because per-head health spending increases gradually with age (figure 4),<sup>28,29</sup> but transfers only equalise spending for individuals from age 65 years.

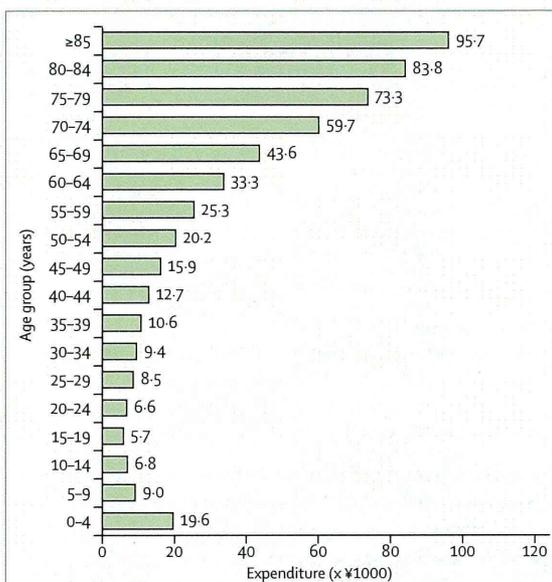
## Challenges and proposals for reform

### Sustainability of the social health insurance system

Opinion polls show that the government's policies to ensure access to health care based on need, rather than on ability to pay, have wide popular support.<sup>31</sup> However, the social health insurance system that has been the basis for achieving this principle is threatened by three factors: the ageing society, changes in employment patterns, and the emerging issue of the uninsured.

First, ageing has led to transfer payments that now amount to nearly half of total expenditure in society-managed health insurance plans for people employed by large companies. These transfers are not only to Late Elders' Health Insurance, but also to compensate for differences in the proportion of individuals aged 65–74 years in other plans (they average only 4% in the employee-based society-managed plans, but 33% in the citizens' health insurance plans).<sup>27</sup> These transfers will increase. Because the proportion of people aged 65 years and older in the population will increase from 22% in 2008 to 30% in 2020, their share of health expenditure is projected to increase from 52% to 66%.<sup>32</sup> Employers and labour unions have protested that these transfers have jeopardised the existence of society-managed health insurance.

The second factor eroding Japan's social health insurance is change in working patterns and the structure of the economy. When universal coverage was achieved in 1961, 29% of all workers were engaged in the primary industries of farming, fishing, and forestry; they formed the backbone of citizens' health insurance. More recently, competitive cost pressures, deregulation, and a shift in corporate priorities to favour shareholders and management over employee welfare have led to hiring of more irregular workers (temporary, part-time, and contracted



**Figure 4: Per-head annual health expenditures by age group in Japan, 2007**  
Data from Ministry of Health, Labour and Welfare.<sup>33</sup>

out)<sup>33</sup> from 18% of the total employed in 1988 to 34% in 2010.<sup>34,35</sup> Anyone who works less than three-quarters of the hours that full-time employees work need not be enrolled in employee-based plans. As a result of these changes, the composition of people enrolled in citizens' health insurance has been transformed. In 1965, the proportion working in primary industry was 42%, and 25% were self-employed. These percentages have decreased to 3% and 17%, respectively, in 2008. During this time, the proportion of pensioners and others not working has increased from 7% to 40%, while that of those who are employed, but not covered by the employee-based plans, has increased from 25% to 34%.<sup>27</sup>

The third factor is the increasing numbers of individuals who are unwilling or unable to enrol in citizens' health insurance, although they are legally required to do so. Municipal governments have no way of knowing who should apply so the numbers cannot be worked out directly. Our analysis of the Comprehensive Survey of People's Living Conditions data for 2007 showed that

1.3% of the sampled population were not paying social health insurance premiums even though their incomes were high enough to be taxable. If this proportion could be extrapolated, about 1.6 million people would not have insurance, which might bring into question Japan's status as a country with universal coverage. In addition to these non-payers, the benefits of those enrollees who have not paid premiums for more than 18 months in the citizens' health insurance are severely restricted (pay full amount first, and get reimbursed later).<sup>36</sup> 1.6% of people enrolled in citizens' health insurance have this status.

All three difficulties have been exacerbated by the fragmentation of social health insurance plans by employment and residential status, and the increasing disparity in income levels and age structure among the plans. This disparity could be compensated for by increasing subsidies from general revenues, which would require taxes to be increased. However, every government in Japan that has raised or attempted to raise value added taxes (VAT) has subsequently lost the next election, the most recent being Prime Minister Kan losing control of the upper house in July, 2010, because he made an ill-timed announcement on the need to raise VAT.<sup>37</sup> The Great East Japan Earthquake might lead to a bipartisan movement to increase taxes, but this money would mostly be allocated to rebuilding the devastated regions and to paying back the huge deficit, and would probably not lead to a real increase in funding for health care.

#### Panel 3: Debate on the insurance scheme for late elders

A new insurance scheme for people aged 75 years and older (late elders) was introduced in April, 2008. All those aged 75 years and older, irrespective of where they had been enrolled previously, joined the Later Elders' Health Insurance. Because the needs and risk of medical service use are distinctively higher in late elders than in other age groups, an age-specific scheme seemed to be more valid because risk pooling would become homogeneous, services covered could be made more appropriate for this group, and financing responsibility could be made more explicit.

However, the new scheme became a political fiasco for the government led by the Liberal Democratic Party at the time. The media reported on the administrative difficulties of introduction of the new scheme and the outrage expressed by people whose premiums increased, but the greatest public outcry was towards its perceived ageism aspect. This feature was exemplified by the introduction of an end-of-life consultation fee only for late elders. Accusations were made that it would not be consultation, but persuasion, so that it had to be delisted from the fee schedule only 2 months after its introduction.

The present government, led by the Democratic Party of Japan, came to power in September, 2009, with a pledge to abolish the scheme by 2013. The services listed only for late elders in the fee schedule were formally abolished in April, 2010, during one of its scheduled revisions (every 2 years). To replace the plan for late elders, in December, 2010, the government committee recommended a two-stage reform. The first was to revert back to the enrolment rule that existed before the plan for late elders: people aged 75 years and older who are dependants of employees or are themselves employees would continue to be enrolled in the employee-based plan (20%), the rest would be enrolled in citizens' health insurance (80%). The second was to consolidate citizens' health insurance within prefectures. However, even if the reform is implemented, the disparity between and within tiers will remain.

Another possible solution would be to reduce the benefits covered by social health insurance to a basic package, with the rest to be paid out of pocket or to be covered by supplementary private health insurance. The Regulation Reform Council composed of industry leaders and economists backed by Prime Minister Koizumi attempted such a reform in 2004. However, opposition from the Ministry of Health, Labour and Welfare and the Japan Medical Association resulted in a compromise in 2005, which largely left intact the regulations restricting extra billing and balance billing, while giving more flexibility to hospitals wanting to provide new technology not yet listed in the fee schedule.<sup>38</sup> Although advocates of deregulation will always exist, if equal access is not to be sacrificed Japan should continue to impose broad and complex restrictions on extra billing, as Canada and some European countries have done.<sup>39</sup>

#### Consolidation of social health insurance plans

From our analysis, we believe that the way forward would be to consolidate social health insurance plans. Consolidation would equalise premium contribution rates across plans, increase total funding by raising the contribution rates of plans currently set at a low level, and improve administrative efficiency by expanding risk pools. Three options exist for consolidation.

The first is to allow everyone to choose the plan that they prefer, after adjustment of the basic premium rate for income, age, and other factors that affect the risk profile of the individual. Such structural adjustments would decrease differences in contribution rates and increase the pressure for plans to consolidate, as has occurred in Germany.<sup>40</sup> However, this approach would not work in the Japanese context because most social health insurance plans do not operate as independent entities. They are administered as de-facto divisions of the company's personnel department in most society-managed health insurance plans, and of the municipal government in the citizens' health insurance plans.

The second is national unification of all social health insurance plans, as has been done in South Korea.<sup>41</sup> This option has the advantages that risk pooling occurs nationally, the contribution rate is the same for all, and the administrative costs would be lower. However, such unification would be contrary to present efforts to decentralise the national government's functions and would ignore the differences in per-head health expenditure after adjustment for age structure in the 47 prefectures.<sup>42</sup>

The third is to unify social health insurance plans regionally and untie insurance coverage from employment status. Canada and many European countries have a history of provincial autonomy and have organised their systems on a regional basis. The advantages are that the health insurance contribution rate would be indicative of the medical expenditure of the region, after the national government has standardised regional differences in

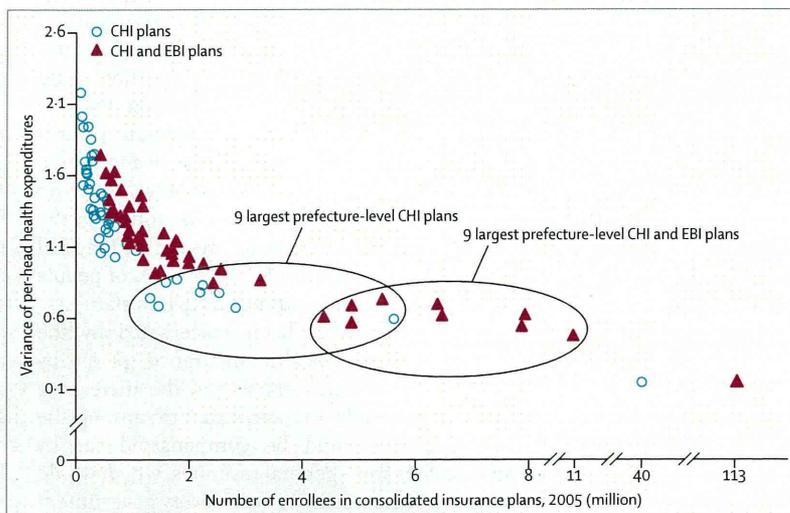
income, age, and other factors on the demand side. By doing so, popularly elected regional governments would have an incentive to increase efficiency of service delivery.

In view of the difficulties associated with the first two options, we believe that regional consolidation is the most appropriate solution for Japan. A bonus is that enrolment of everyone within a prefecture in the same plan would facilitate improved tracking of the uninsured. This option has recently become more realistic since the Ministry of Health, Labour and Welfare announced its intention to consolidate the citizens' health insurance within the 47 prefectures as the second stage in its goal of abolishing the plan for those aged 75 years and older (panel 3). However, unless employee-based plans are consolidated as the third stage, because contribution rates in most citizens' health insurance plans are already high, no substantial increase in funding would be achieved.

We assessed the effect of expansion of the risk pool by analysing the variance in per-head annual inpatient medical expenditures if plans were to be consolidated within prefectures, on the basis of data for individuals from all social health insurance plans in 2005 (see webappendix p 4 for technical notes). As figure 5 shows, when the number enrolled exceeds 1.5 million in the consolidated citizens' health insurance plans and 4.5 million in these plans and employee-based plans, further consolidation would bring only a small incremental benefit when compared with national consolidation. Nine prefectures would exceed this level and their combined population would compose slightly more than half the total. The population of the remaining prefectures would still be less than the economically efficient level, but further consolidation would necessitate mergers of the prefectures themselves.

We are aware of formidable political and institutional obstacles to merging employee-based plans with community-based citizens' health insurance. Consolidation would be opposed by the employee-based plans, particularly the society-managed health insurance plans with fairly young, high-income enrollees. They will argue that increased contribution rates would reduce the global competitiveness of Japanese products, but this fear is unfounded. Germany has managed to maintain its competitive advantage despite a contribution rate that is twice the average for society-managed health insurance.<sup>7</sup> Another obstacle is that the method of premium calculation differs between the employee-based plans and citizens' health insurance. Moreover, among citizens' health insurance plans, not only does each municipality use a different method to calculate contribution, but also the extent to which subsidies are provided from the municipality's general revenues budget differs.

However, these obstacles could be overcome, especially now that solidarity has been strengthened after the Great East Japan Earthquake. Structural reform will result in all households within the same prefecture contributing the same percentage of their income as premiums,



**Figure 5: Size of consolidated citizens' health insurance plans and employee-based insurance plans, and variance of per-head annual inpatient health expenditures (ratio of standard error to the mean [%]) in Japan, 2005**  
The circle and the triangle on the far right show the variance if the plans were consolidated nationally. CHI=Citizens' health insurance. EBI=Employee-based insurance. Data from Ministry of Labour, Health and Welfare (unpublished).

#### Panel 4: Public assistance and safety net for the poor

Definition of individuals who cannot afford any contribution is a prerequisite for universal coverage by social health insurance. In Japan, people on public assistance are not enrolled in any social health insurance plan, and are exempted from both premium contribution and co-payment. Medical expenditures paid by public assistance contribute about 3–4% of the total. The medical services to which people with public assistance are eligible are the same as for social health insurance enrollees, and providers are paid at the same fee schedule rate.

Although all individuals who meet the nationally defined criteria should be eligible for public assistance, in practice, the hurdle is high. Municipal governments have been reluctant to provide coverage because they have to fund 25% of expenditure from their general revenues—which amounted to 17% of Osaka City's budget in 2010—and because they are aware of the public outcry should any abuse be reported by the media. Applicants are told to first seek assistance from family members who are legally bound to help under the civil code. However, municipal governments do not have any means of enforcing family support.

The number of people on public assistance has increased by 10% compared with 2010, to 2 million in 2011, a record high. The national government has tried to lower the proportion they currently fund, 75%, and have pointed out the 11-times difference in the per-head number of those on public assistance even between prefectures. However, the municipalities have so far successfully resisted, arguing that because ensuring basic livelihoods is a constitutional right, the national government should be primarily responsible, and that prefectures that have high proportions of people on public assistance are metropolitan areas with a higher prevalence of people without homes than in rural areas.

The livelihood allowance provided by public assistance is higher than the basic pension amount, which has added another layer of complexity because its reform is linked to pension reform. In health care, it is linked to the next layer of poverty: those who will be exempt from co-payment among those enrolled in the citizens' health insurance, which is also a decision made by municipalities. Thus, the safety net for the poor is doubly at risk when the municipality faces fiscal difficulties.

irrespective of employment status. Income would be calculated from all sources, and not restricted to wages as is currently the case for employee-based plans. This

approach will adjust to further changes in employment patterns, including an increased number of pensioners working. Additionally, the co-payment rate should be lowered for all households with low income—not only elderly people—to improve inequities in access. Where to set the line to exempt people from contributing premiums and making co-payments should be considered in the context of public assistance reform (panel 4).<sup>43</sup>

Consolidation within prefectures does not mean that the national government would abdicate its responsibility. On the contrary, the government should continue to play a major part in deciding the services to be covered and their prices in the fee schedule, in setting national standards of quality and professional qualifications, and in subsidising prefectures with low average incomes, a higher proportion of elderly people, and so forth. However, key decisions about investment in and restructuring the delivery system would be made by prefectural governments. This devolution of authority and fiscal responsibility would be in line with the ongoing trend in the public sector in Japan.

### Global lessons

Japan's major accomplishment with social health insurance, from a global perspective, has been its successful pursuit of the normative goals of expansion of coverage and containment of costs while improving equity in the health system over time. Japan offers several lessons for other countries.

The first is that attainment of universal coverage on the one hand and achievement of equity in benefit packages and rates of co-payments and contributions on the other, are different goals and need different long-range strategies.<sup>44</sup> Before universal health coverage was achieved in 1961, community-based plans adopted the fee schedule of employee-based plans in 1959. The co-payment rate became uniform, except for elderly people and children, only in 2003. However, contribution rates still differ by more than three times between the social health insurance plans. Reform is a continuous process that will never be completed.

The second is the importance of political driving forces to move countries forward on the path to universal coverage. For Japan, the political forces for expansion of social health insurance coverage were the goals of achieving a wartime state in the 1930s and 1940s, and a welfare state in the 1950s to 1970s. For the welfare state, Japan's post-war democracy had a crucial role, providing both popular support and political party competition that motivated efforts to decrease inequities in the different rates of co-payment between social health insurance plans. Successful egalitarian reforms have been undertaken in South Korea and Taiwan after the election of democratic governments.<sup>45</sup>

The third is the inherent weakness of a social health insurance system that is fragmented by employment and residential status as in Japan. Because each plan

will differ in risk profile and income level, economic and political incentives against policy change are created.<sup>46</sup> This difficulty will be exacerbated if local governments are allowed to choose their own method of setting contribution rates. Countries that might consider adopting Japan's model of social health insurance should plan in advance to address its weaknesses before opposition to structural reform becomes deeply entrenched.

### Contributors

B-KY, HH, MM, AB, and RW contributed to the data analysis. B-KY, HH, MM, AB, HO, KS, B-MY, and MRR commented on the report, and MRR revised the report. All authors contributed to the discussion and have seen the final version of the report.

### Conflicts of interest

We declare that we have no conflicts of interest.

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 Japan: Universal Health Care at 50 years 3

## Cost containment and quality of care in Japan: is there a trade-off?

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This is the third in a Series of  
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Epidemiology Research  
(Prof H Hashimoto MD),

Japan's health indices such as life expectancy at birth are among the best in the world. However, at 8·5% the proportion of gross domestic product spent on health is 20th among Organisation for Economic Co-operation and Development countries in 2008 and half as much as that in the USA. Costs have been contained by the nationally uniform fee schedule, in which the global revision rate is set first and item-by-item revisions are then made. Although the structural and process dimensions of quality seem to be poor, the characteristics of the health-care system are primarily attributable to how physicians and hospitals have developed in the country, and not to the cost-containment policy. However, outcomes such as postsurgical mortality rates are as good as those reported for other developed countries. Japan's basic policy has been a combination of tight control of the conditions of payment, but a *laissez-faire* approach to how services are delivered; this combination has led to a scarcity of professional governance and accountability. In view of the structural problems facing the health-care system, the balance should be shifted towards increased freedom of payment conditions by simplification of reimbursement rules, but tightened control of service delivery by strengthening of regional health planning, both of which should be supported through public monitoring of providers' performance. Japan's experience of good health and low cost suggests that the priority in health policy should initially be improvement of access and prevention of impoverishment from health care, after which efficiency and quality of services should then be pursued.

### Introduction

A common concern about universal insurance coverage is how to control health expenditure while maintaining service quality.<sup>1</sup> On this issue, Japan seems to do well. Global health indices such as life expectancy at birth are

among the best in the world, while its health expenditure is fairly low—only about 8·5% of the nation's gross domestic product (GDP) is spent on health, ranking 20th among Organisation for Economic Co-operation and Development (OECD) countries in 2008 and half as much as that in the USA.<sup>2</sup>

What mechanisms did Japan use to contain costs? Has Japan made major trade-offs in quality control to keep costs down? Is the system sustainable, especially in the face of rising expectations, advances in technology, and the ageing society? In the first section of this report, we explore how Japan has controlled costs by using a nationally uniform fee schedule. In the second section, we assess the quality of care according to structure, process, and outcome, and explain why quality is at its present level. In the third section, we present the challenges that Japan is facing and our proposals for reform. Finally, we suggest global lessons from Japan's experiences in seeking to control costs and maintain quality.

### How has Japan contained costs?

During the past three decades, Japan's health-care system has effectively managed to contain costs despite many factors that are typically associated with high costs: a private-sector dominated delivery system, payment by fee-for-service, and no gatekeeper function by family doctors.<sup>3</sup> By comparison with other OECD countries, Japan has more frequent physician consultation, more in-hospital days per head, and longer length of stay in hospitals (table 1). Moreover, the proportion of the population aged 65 years and older

#### Search strategy and selection criteria

We searched PubMed, Medline, JSTOR, and Google Scholar and examined government reports and unpublished literature from domestic sources. The first section of this report, on cost containment, is based on an overview of the historical background of Japan's health-care delivery system and policy. Previous studies by the co-lead author, other domestic and international policy research papers, including working papers from the World Bank and other international institutes, were synthesised. We also compared Japan's health-care system with those of other countries by benchmarking its health-care use and resources using Organisation for Economic Co-operation and Development health data and other available cross-country data. For the section on quality of care, our search looked at issues related to structural, process, and outcome dimensions of care quality, including patient satisfaction. For the structural determinants, we focused on hospital-standardised surgical mortality rates by originally undertaking an analysis with nationally representative micro data derived from patient surveys. For the process determinants, we focused on the extent of medical supervision of chronic illnesses such as hypertension and hypercholesterolaemia using the national health and nutrition survey. For the outcome determinants, we undertook an extensive review of published articles and documents about outcomes in acute inpatient care, specifically about postsurgical mortality rates, by searching Japanese studies with standardised data collection on a nationwide scale. Additionally, we focused on changes in surgical mortality rates after the volume criteria were amended for accreditation of residency programmes in cardiovascular surgery by referring to data provided by the Japanese Society of Thoracic Surgery. For data for patient safety, we referred to the annual report from the Japan Council for Quality Health Care.

has more than doubled from 9% in 1980 to 23% by 2010.<sup>4,5</sup> How has Japan achieved cost containment under these conditions?

The first explanation is the greater use of outpatient services compared with inpatient care. Japan has the highest per-head number of physician visits of all OECD countries. Although the per-head number of beds is also high, because the bed turnover rate (14.8 per bed per year vs the OECD average of 43.6 per bed per year) and the number of physicians and nurses per bed (27.2 and 117.3 per 100 beds, respectively vs OECD average of 99.8 and 248.9 per 100 beds, respectively) are quite low in Japan, the use of inpatient services is not as high as it seems. The reason why this situation exists is historical: almost all hospitals were established as an extension of physicians' clinics.<sup>6-8</sup> The large share of outpatient care even in tertiary hospitals, which resulted from an absence of functional differentiation and effective referral between hospitals and clinics, has restricted the amount of time that hospital physicians can devote to inpatient care. This situation, together with patients' cultural preference for less invasive care, could account for the low use of surgical procedures. The per-head number of surgical operations with general anaesthesia was about half that of the USA in 2008: 18 surgeries per 1000 population per year in Japan compared with 39 per 1000 in the USA.<sup>9,10</sup>

The second explanation for Japan's cost containment can primarily be attributed to its payment system: supply-side cost control is provided by the nationally uniform fee schedule for reimbursement, which is revised at both the global and the item-by-item level.<sup>3,11</sup> The fee schedule controls the money flowing from all insurance plans to almost all providers. Thus, although Japan has multiple payers (ie, about 3500 insurers),<sup>12</sup> it has only one payment system that is applied across the board. This structure improves equity, since the benefit package is essentially the same for all social health insurance plans, and increases efficiency, since administrative costs are reduced.

Adherence to regulations for billing set by the fee schedule is inspected by peer review of claims filed, which result in a denial of payment for 1.4% of the amount billed.<sup>13</sup> Additionally, on-site audits of medical records are made, with the frequency determined by the provider's past record of compliance. If systematic non-compliance is revealed in the audit, providers have to retrospectively pay back the amount that they had inappropriately billed for the past 6–12 months. Although the primary purpose of the claims review and audits is cost containment, they also serve to control quality by standardising physicians' practice in line with the regulations. An additional measure to contain costs is the restriction of extra billing (billing of services or drugs that are not listed in the fee schedule) to mainly extra-charge rooms and new technology that is still being assessed for efficacy, and the prohibition of balance billing (charging more than the prescribed price).

#### Key messages

- Japan's health status is among the best in the world, but the percentage gross national product spent on health (ie, 8.5%) is 20th among Organisation for Economic Co-operation and Development (OECD) countries. This situation exists despite the private-sector dominated delivery system and the fee-for-service payment, showing how Japan has achieved good health at fairly low cost.
- Costs have been contained because reimbursement has been tightly controlled by the nationally uniform fee schedule, and because the government was able to reduce prices when the economy stagnated.
- When assessed on the basis of the structural dimensions of quality of care, the number of physicians and nurses per bed is the lowest among OECD countries. Subspecialty accreditations have remained underdeveloped, and general practice has yet to be recognised as a specialty. The government's initiative for assessment and improvement of quality has been focused on the staffing level of nurses in inpatient care.
- The process dimensions of quality seem to be low in inpatient care, with little standardisation, and in outpatient care, with effective coverage of hypertension and hypercholesterolaemia that is below that in the USA. However, when measured by outcome, postsurgical mortality rates are as low as those reported in other countries, and are likely to be especially low in large hospitals.
- Japan's policy of tight control of health-care cost and a laissez-faire approach to service delivery, with inadequate governance of provider organisations, created a mismatch between need and supply of health-care resources and impeded accountability for care quality. To address these structural problems, increased flexibility should be allowed for the conditions of payment by simplification of the reimbursement rules in inpatient care, and tightened control should be imposed on service delivery by strengthening regional health planning and by public monitoring of providers' performance with education reform to establish primary care.
- Japan's experience suggests that the priority should initially be placed on expansion of access and prevention of impoverishment from health care, after which efficiency and quality of services should then be pursued.

Revisions are made through the following process.<sup>3</sup> First, the Cabinet decides on the global revision rate of all services and drug prices based on the prime minister's evaluation of the nation's political and economic situation. During this process, the Ministry of Finance demands a decrease, the provider groups lobby for an increase, and the Ministry of Health, Labour and Welfare plays a key part by providing technical expertise. This revision is made every 2 years. In the 2008 revision, the rate was decreased by 0.82%; in the 2010 revision, it was increased by 0.19%. Setting this global rate effectively determines the next fiscal year's health expenditure because the volume of all services and drugs at the aggregated level will remain essentially the same.

Next, the prices of drug, devices, and services are revised on an item-by-item basis so that their net effect becomes equal to the global rate. The effect of making each revision is calculated from its volume, which is estimated from the national claims data survey. These item-by-item decisions are officially made by the Central Social Insurance Medical Council, which is composed of members from payers, providers, and people to represent public interest, appointed by the Minister of Health,

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Labour and Welfare. However, since the process of deciding on price of each item is both technical and complicated, the actual negotiations are made between the provider groups concerned and the physician officials of the Ministry of Health, Labour and Welfare.

For drugs and devices, the price is revised mainly according to the results of a market price survey. The price of each drug is individually revised to reflect its volume-weighted average price paid by the provider, which is usually lower than the fee schedule price. The prices of new drugs are set by comparison of their efficacy and innovativeness with existing ones; cost-effectiveness, however, is not taken into consideration. Additionally, if the sale of a new drug is larger than estimated by the manufacturer, then its price is unilaterally lowered by the Ministry of Health, Labour and Welfare. For services and procedures, the reimbursement price is lowered if there are sudden large increases in volume (to contain costs) or if the item is perceived to have its capital costs reduced. For example, in the 2002 tariff revision, the tariff for a head MRI was reduced by 30%, whereas the global rate was decreased by only 2.7%. Conversely, fees for services that the government would like to expand, such as physician home visits, have been increased to provide an incentive. Hence, revisions of the fee schedule system are based more on policy decisions, rather than objective evidence.

As shown in figure 1, revisions of the fee schedule global rate are directly reflected in the level of national medical expenditure. In the 1980s, when the economy was expanding, national medical expenditure increased at about the same rate as the economy so that its proportion of GDP remained constant. But in the 1990s, although national medical expenditure increased at the same pace, GDP growth was stagnant or even negative, so the proportion of national medical expenditure to GDP increased. As a result of decreases in revenue from taxes and premiums, financing of health care by the government became increasingly difficult. To address

this situation, the government decreased the fee schedule global rate in four consecutive revisions from 2002.

Two key questions arise with respect to Japan's strict cost-containment policy. First, how have physicians reacted to the item-by-item decreases in reimbursement prices? Second, how has cost containment affected quality of care? During the 1970s, the Japanese Government did not successfully contain medical costs: the global rate was raised under pressure from the powerful Japan Medical Association (JMA).<sup>14</sup> The economy had been growing so that the government was more concerned about expanding services to meet the increased demand for health care than about controlling costs.<sup>8,15</sup> The situation changed in the 1980s when the government started to implement its fiscal and administrative reforms, and the power of the JMA started to wane. However, even when cost containment became the policy goal, physicians based in clinics, who formed the core members of the JMA, were largely protected, in part because the JMA was the biggest donor to the ruling Liberal Democratic Party. By contrast, specialists and hospitals were not well organised or politically influential. Although the proportion of clinic-based physicians fell from more than half in the 1970s to a third in the 1990s, specialists and hospitals did not become more prominent until 2009, when there was a change of government.<sup>6,15</sup>

### Quality of care

How has cost containment affected quality of care in Japan? We assess quality of care in Japan using Donabedian's framework of structure, process, and outcomes, including patient satisfaction.<sup>16</sup> The structural dimension of quality typically refers to inputs to the health-care system—ie, the number and standards of health-care facilities and staff. In this dimension, Japan has a high per-head number of hospitals and hospital beds compared with the OECD average (table 1), mainly because nearly half the non-psychiatric hospitals have

	Japan	Canada	Finland	France	Germany	Korea	Mexico	UK	USA
Proportion of population aged 65 years and older (%)	22.1%	13.6%	16.6%	16.5%	20.2%	10.3%	5.6%	15.7%	12.7%
Total expenditure on health (% of GDP)	8.5%	10.3%	8.4%	11.1%	10.7%	6.5%	5.8%	8.8%	16.4%
Physician consultations (number per head per year)	13.2	5.5	4.3	6.9	7.7	13.0	2.8	5.9	3.9
Inpatient acute care, average length of stay (days)	18.8	7.7	5.5	5.2	7.6	NA	3.9	6.9	5.5
Acute care beds per 1000 total population	8.1	1.8	1.9	3.5	5.7	5.4	1.6	2.7	2.7
Turnover of cases per available bed per year	14.8	35.8	NA	51.8	36.6	NA	62.5	49.0	44.2
MRI units, per million population	43.1	8.0	16.2	6.1	NA	17.6	1.7	5.6	25.9
Practising physicians, per 1000 population†	2.2	2.3	2.7	3.3	3.6	1.9	2.0	2.6	2.4
Practising nurses, per 1000 population‡	9.5	9.2	9.6	7.9	10.7	4.4	2.4	9.5	10.8
Physicians per acute care beds	0.3	1.3	1.4	0.9	0.6	0.4	1.3	1.0	0.9
Nurses per acute care beds	1.2	5.1	5.1	2.3	1.9	0.8	1.5	3.5	4.0

Data are from reference 2. OECD=Organisation for Economic Co-operation and Development. GDP=gross domestic product. NA=not available. \*Available data for the nearest year to 2008. †Professionally active physicians in Canada and France. ‡Professionally active nurses in France and the USA.

Table 1: Health-care use, expenditure, and resources in Japan compared with selected OECD member countries, 2008\*

one or more units composed of chronic care beds. Even in beds that are classified as acute care, 34% of patients were admitted to hospital for longer than 30 days.<sup>17</sup> Thus, comparison of the number of hospital beds and their staffing levels is difficult, even when the measure is restricted to acute care beds.

So far, the Japanese Government's monitoring of quality has focused on the number of physicians and nurses per beds. If the hospital does not meet basic standards, it faces sanctions through reduced reimbursement rates. Conversely, the higher the nurse staffing level is, the higher the reimbursement rate will be. This emphasis on nurse staffing arose from the fact that nursing care in hospitals was traditionally provided by families until reforms were made by the occupying forces after defeat in World War 2. The reliance on the family continued until care by privately hired aides (ostensibly to substitute for care by the family) was formally prohibited in 1997.<sup>18</sup>

To assess the relation between structure and outcome, we used patient-level data from the government's patient survey to calculate the hospital's standardised mortality ratios, and linked this information with staffing data from the hospital survey (table 2, see technical note in webappendix). In patients in acute care with length of stay less than 30 days, after adjustment for patient and hospital characteristics, hospital-standardised mortality ratios were significantly lower in hospitals with a high number of full-time-equivalent physicians and pharmacists, but not nurses. Hospitals also had low mortality ratios if they had a greater number of subspecialty departments, intensive care beds, general anaesthesia procedures, and a greater ratio of inpatient to outpatient service volume. This analysis suggests that patient outcomes for acute care seem to be best in large hospitals with the greatest number of physicians, pharmacists, and physical facilities and that are weighted towards inpatient care.

Little attention has been paid to the quality of physicians and nurses beyond their licensing. OECD data do not show the breakdown of specialists and generalists for Japan because the two are not officially differentiated. Physicians and hospitals can proclaim any subspecialty service at their discretion. Although two-thirds of physicians have been accredited with at least one subspecialty, since formal procedures for accreditation had started only in the 1980s for most subspecialties, those who received their training before this time were accredited based on their experience without having to undergo formal training.<sup>19</sup> Moreover, specialist organisations vary in the rigour of the accreditation process. Very few have a formal recertification process or a designated quota of training positions. As a result, the per-head number of some subspecialists, such as neurosurgeons, is much greater than in the USA (figure 2).

Traditionally, university clinical departments trained young physicians to become subspecialists.<sup>6,21</sup> Once they

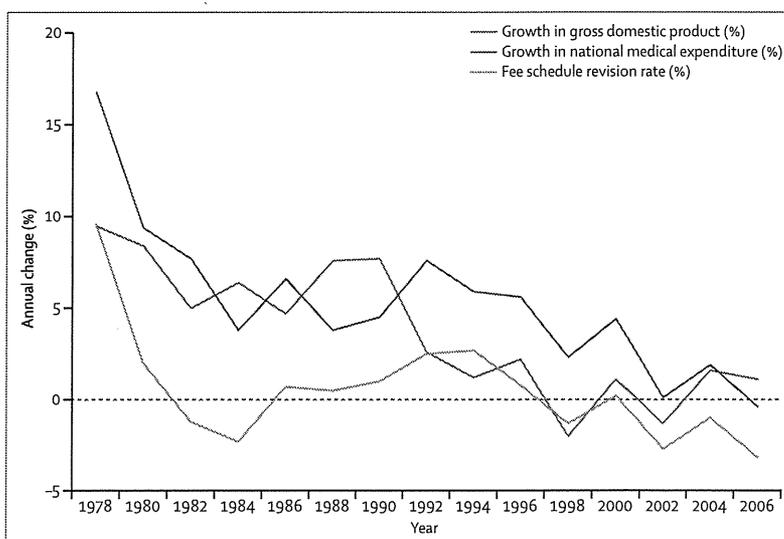


Figure 1: Annual changes in gross domestic product, national medical expenditure, and global revision rate of the fee schedule in Japan, 1978–2006

	Regression coefficient, unstandardised	p>Z
<b>Staffing (in full-time equivalent)</b>		
Number of physicians	-0.300	<0.0001
Number of nurses	-0.022	0.4169
Number of pharmacists	-0.252	<0.0001
<b>Structural input of hospital</b>		
Number of subspecialty programmes	-0.149	<0.0001
Number of acute care beds	-0.120	0.0084
Number of beds in intensive care unit	-0.315	<0.0001
<b>Other hospital characteristics</b>		
Annual number of general anaesthesia procedures	-0.153	<0.0001
University main hospital	-0.018	0.8339
Presence of emergency service unit	-0.401	<0.0001
Proportion of acute care beds to total beds	-0.041	0.4471
Ratio of inpatient to outpatient service volume	-0.188	<0.0001

Data are pooled for 14 309 hospitals. Analysis was limited to patients with length of hospital stay less than 30 days and was adjusted for hospital ownership and year dummy variables in addition to variables listed in the table. Data are from patient survey and hospital surveys, 1999, 2002, 2005, and 2008 (Ministry of Health, Labour and Welfare; see webappendix for details).

Table 2: Determinants of hospital-standardised mortality ratio (observed/estimated) of acute inpatient care in Japanese hospitals, 1999–2008

completed their training, only a few continue to practise as a subspecialist and the rest leave the large hospitals to practise in community hospitals or to open clinics, without any formal retraining outside their subspecialty or training as family doctors. General practice has not yet been recognised as a specialty by the Japan Specialist Accreditation Organisation.<sup>22</sup> Almost all physicians who work in clinics had previously worked as specialists in hospitals (panel).<sup>22</sup> This review of the structural dimension shows that issues in quality are mainly due to historical legacy rather than cost containment. Professional

See Online for webappendix

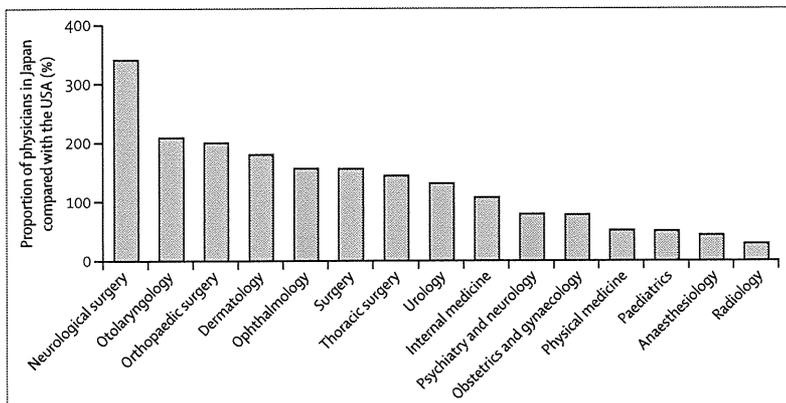


Figure 2: Proportion of the per-head number of subspecialty physicians in Japan compared with the USA (per 100 000 population)

Data derived from the Commission on Physician Supply, Ministry of Health, Labour and Welfare, 2005.<sup>20</sup>

accountability is lacking in the training and accreditation of subspecialists, which has resulted in a mismatch between supply and societal need.<sup>21,22</sup>

The quality of the process of care depends on standardisation of care processes.<sup>23</sup> One of the main obstacles to standardisation of specialist practice has been the trend for physicians to identify with their university clinical department rather than with a subspecialty board or hospital. Physicians' practice patterns tend to be idiosyncratically set by the chair and professor of the university clinical department. Very few hospitals have designated staff to monitor quality. However, there have been some efforts to monitor quality. A non-profit organisation for hospital accreditation was founded in 1995,<sup>24</sup> and as of 2010, about 30% of the hospitals have been certified. About 300 hospitals have joined research-based benchmarking projects to publish clinical process indicators, such as the use of aspirin in acute myocardial infarction.<sup>25</sup>

For outpatient services, easy access by patients allowed widespread use of antihypertensive drugs, which has contributed to reductions in stroke mortality.<sup>26</sup> However, our analysis using the 2007 National Health and Nutrition Survey showed that only half of patients currently receiving drugs to control high blood pressure and hypercholesterolaemia achieved targeted levels of outcomes. Moreover, the proportion of undiagnosed and untreated patients in the community was greater than the estimated numbers from the 2007 US National Health and Nutrition Examination Survey<sup>27</sup> (diabetic care could not be compared because different criteria for HbA<sub>1c</sub> were used; figure 3).<sup>28</sup> Our results support those of an accompanying paper in this Series<sup>26</sup> showing that hypertension is the second greatest cause of death from non-communicable diseases in Japan, after tobacco. Although mortality attributed to hypercholesterolaemia is low at present, the consequence of the equally poor level of control for hypercholesterolaemia remains to be investigated since this risk

#### Panel: Happy Mrs Tanaka

Mrs Tanaka, a 48-year-old bank receptionist, underwent an annual health check-up at her workplace and, for the first time, her score was poor. She was diagnosed as having hypercholesterolaemia with serum LDL cholesterol of 4.66 mmol/L (or 180 mg/dL). 2 weeks after she received the report, a public health nurse at the workplace health centre called her office to arrange an appointment for counselling. After Mrs Tanaka had been interviewed, the nurse recommended that she visit a clinic for her LDL cholesterol, since she had a family history of hypercholesterolaemia and ischaemic heart disease. There is a solo-practice clinic within a 5-min walk from her home, which listed the physician's specialties as internal medicine and surgery.

At the first visit to the clinic, Mrs Tanaka had to wait for only 5 min. The physician, who had practised gastroenterological surgery in a nearby university hospital, ordered a serum test again after looking at her report and confirmed that her LDL cholesterol concentration was high. He then promptly prescribed pravastatin without discussing diet with her or other non-medical management, and asked her to come again after 2 weeks. Mrs Tanaka took the medicine from that day. However, she began to feel muscle ache in her calves a week later. She looked at the information form that came with the drug from her local pharmacist and found that her symptom might be due to a side-effect of pravastatin, rhabdomyolysis. She decided to stop taking the drug, and went to a university outpatient clinic 30 min from her home. She could make the visit without any appointment and was seen by the physician of her choice after waiting an hour.

The university physician, whose subspecialty was endocrinology and diabetes, told her after a 10-min interview that she should stop taking the drug, and instead reduce her LDL cholesterol with a careful diet and exercise for the next 3 months. After 3 months, her score improved. Mrs Tanaka thought that the hour's wait was well worth it.

Note, this panel shows a fictional case study to emphasise issues in the health-care system and is not meant to be representative.

factor is fairly new in Japan.<sup>29</sup> These indicators of poor quality in care of chronic diseases could be attributed to the absence of standard guidelines and training in general practice, and the division between preventative and curative services in Japan. The situation might have improved since the introduction of screening for metabolic syndrome in 2008.<sup>30</sup>

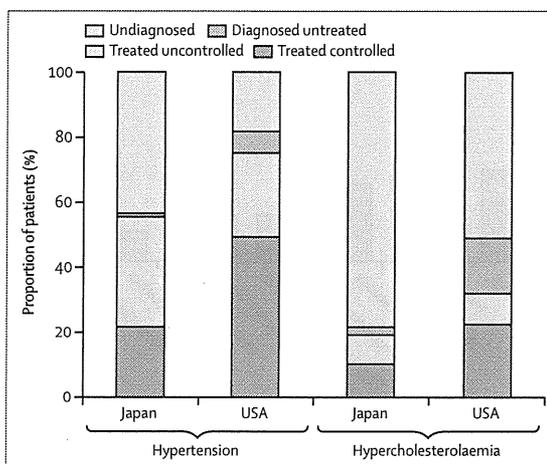
When the quality of care by outcome is measured, the standard of inpatient acute care seems to be fairly high. Studies have consistently reported low postsurgical mortality in Japan by comparison with other developed countries.<sup>31-36</sup> A recent cross-country comparison of cancer survival showed that Japan's survival rates for colorectal and breast cancer were similar to those in other OECD countries.<sup>37</sup> This similarity might be attributable

to the fact that surgical procedures tend to be done in facilities that have subspecialty departments with an appropriate volume of cases—in 2008, 81.0% of surgical operations with general anaesthesia took place in hospitals with more than 200 beds, which compose only 17.5% of non-psychiatric hospitals.

Are improved outcomes therefore related to a high volume of patients, despite the fact that the number of surgical cases per physician and per institution is low in Japan? A series of studies of the volume-to-outcome relation in Japan shows mixed results.<sup>32,33,36,38–41</sup> A recent study of patients with non-surgical cholangitis showed that a low volume of services was significantly related to reduced compliance with standardised care processes defined in a practice guideline, increased length of stay, and raised mortality, suggesting that standardisation of care might have an effect.<sup>42</sup> Amendment of accreditation criteria by the Society of Thoracic and Cardiovascular Surgery provided a unique natural experiment to assess the effect of volume on outcome.<sup>43</sup> When analysis showed an association between volume and outcome,<sup>38</sup> the society raised the threshold annual volume of operations for accreditation of residency hospitals in 2004, which led to a decrease in the number of certified hospitals in 24 of 47 prefectures. In these 24 prefectures, the operative mortality rate decreased and the disparity between prefectures narrowed, without any decrease in the number of surgical operations (unpublished data, available from authors on request).

Finally, reporting of adverse events is an important aspect of quality in both process and outcome. Public demand for safety of inpatient acute services has been growing since 1999, when a mass media campaign about hospital safety was triggered by a malpractice case in a university teaching hospital.<sup>44</sup> This demand has led to safety management as the one area in which quality standards have improved, especially in large hospitals providing intensive and high-risk treatment. An amendment of the Medical Service Law in 2004 required teaching and public hospitals with advanced functions (272 hospitals as of Dec 31, 2008) to report medical adverse events for the purpose of development and sharing of safety measures, although the mandated report did not exempt their liability.<sup>45</sup> According to the annual report in 2008, the incidence rate of fatal events was as low as 0.07%; however, under-reporting is quite likely, because 68 of 272 required hospitals did not report a single adverse event for that year.

By comparison with other OECD countries, patient satisfaction seems low in Japan.<sup>46</sup> However, caveats are needed in drawing cross-country comparisons because the satisfaction level reflects patients' expectations and the context in which services are provided. Perhaps more meaningful are the repeated cross-sectional surveys undertaken by the Ministry of Health, Labour and Welfare, which show satisfaction increasing from 48% in 1994 to 58% in 2008 for outpatient care, and from 54% to



**Figure 3: Coverage and control of hypertension and hypercholesterolaemia in Japan and the USA**

Data are from the Japanese National Health and Nutrition Survey 2007 and US National Health and Nutrition Examination Survey 2007–08. Hypertension was defined as systolic blood pressure greater than 140 mm Hg. Hypercholesterolaemia was defined as serum LDL cholesterol greater than 3.10 mmol/L (120 mg/dL).

66% for inpatient care.<sup>47</sup> Patient satisfaction about the length of consultation fell (48% satisfied in 2008), but the median length of outpatient consultations for repeat visits to a hospital's outpatient unit was 8 min,<sup>48</sup> and about the same as reported in primary care settings in the UK.<sup>49</sup>

### Challenges and reform proposals

The Japanese health-care system has two contrasting features: tight supply-side control of payment by the fee schedule and a laissez-faire approach to how services are organised and delivered. Costs have been contained by setting of the global revision rate and subsequent item-by-item price revisions of targeted services and drugs. Fees are generally reduced, but when shortages in specific areas are perceived, they are raised, thus giving an incentive to deliver the service. Although the establishment and expansion of hospital beds have been regulated since 1985, hospitals are allowed to purchase any equipment and open any specialty department. Almost all hospitals have a walk-in clinic for their specialty departments, and if the patient is unwilling or unable to wait until a bed becomes available at the hospital of their choice, they are referred to other hospitals affiliated with the physician's university clinical department. Consequently, waiting lists and rationing have never been issues of public concern.

In recent years, however, the mechanisms to contain costs and maintain quality have become untenable. First, after more than 50 years of almost continuous power, the Liberal Democratic Party lost the August, 2009, election. The new government led by the Democratic Party of Japan had pledged to increase health expenditure and break the ties with interest groups (such as the JMA). This approach was their response to the media portraying

Japan's health-care system as collapsing, as they reported the death of an expectant mother who was not able to find a hospital in time.<sup>44,50</sup> To honour their pledge, the global rate was increased by 0.19% in the 2010 fee schedule revision, all three members nominated by the JMA for the ministry's council were dismissed, and targeted item-by-item increases were made for hospital-based procedures such as surgical operations.

Second, the methods used to contain costs, item-by-item revisions and auditing claims forms, are no longer applicable to most inpatient care settings. Most acute care beds in hospitals are now paid for by a combination of fee-for-service and a per-diem inclusive rate set by the Diagnosis Procedure Combination.<sup>51</sup> This new payment system was introduced in 2003 for 80 university hospitals and two national centres under pressure from the payers who believed that fee-for-service payment was intrinsically inflationary. Whether payers have obtained their objective remains doubtful, because hospitals could transfer services to outpatient care, which is paid for by fee-for-service, and up-code patients to groups with higher rates. New methods, such as auditing hospitals on the basis of their casemix profile and pay-for-performance, have yet to be developed.

Third, patient expectations and demands for increased accountability from physicians are rising. The arrests of physicians for negligence causing the death of a patient or for falsification of medical records have received widespread media coverage from 1999.<sup>52</sup> Although prosecutors have since become more cautious after the clearing of all charges against an obstetrician in 2008, physicians still feel under increased pressure to explain and document their decisions. Studies have shown that physicians and nurses in large acute care hospitals perceive that they are under increasing stress and feel inadequately compensated.<sup>50</sup>

Fourth, the government's efforts to maintain quality at hospitals have focused mostly on nurse staffing levels. But our analysis shows that nursing levels, unlike those of physicians and pharmacists, are not related to hospital mortality rates. Although some minimum level would be a precondition for quality of inpatient care, the credentials of the nurses employed and how their work is organised are probably more important.

So what can be done to improve quality of care in Japan? Has there been a trade-off between cost containment and quality? We do not think so, and in view of the fact that cost constraints are not likely to disappear in the future, we recommend several structural reforms to improve the quality of care. These reforms should strengthen support from the public to increase public funding for health care. First, the present policy of tight control of the conditions of payment by the fee schedule but a *laissez-faire* approach to control of service provision should be restructured to allow increased flexibility on the payment side, while tightening control of how services are organised and delivered. These changes would make hospitals and physicians more efficient and more accountable for

providing high-quality care. The first steps have already been made with the introduction and spread of the Diagnosis Procedure Combination. In exchange for being allowed to bill more flexibly for an inclusive amount, hospitals are mandated to submit detailed clinical profiles in standardised digital format. On the basis of these data, several benchmarking projects have been launched for quality improvement on a voluntary basis.<sup>25</sup> They could be expanded to form a public database for regional health planning and policy evaluation that would allow increased efficiency of resource allocation and improve peer competition on quality of care. The government should also extend data collection about quality to chronic care hospitals because their payment also became based on patient grouping from 2006.<sup>53</sup>

Second, the capacity of prefectural governments to control the delivery of service should be strengthened. Although prefectural governors have been mandated to implement regional health plans since 1985, little progress has been made apart from the cap on hospital beds. If Japan consolidates all social health insurance plans prefecturally (as is recommended in an accompanying paper in this Series),<sup>12</sup> then the prefectural governments would have increased responsibility for financing health care and be under pressure to improve efficiency of health-care delivery. Resources should be concentrated in specialties in which a volume effect has been reported, such as in thoracic surgeries, and in hospitals that have shown good performance.

Finally, Japan's system of medical education should be reformed to improve quality of care. Since a third of all physicians are based in clinics and are focused on primary care, medical schools should restructure their training to prepare physicians for providing primary care, not only on training subspecialists. The Ministry of Education, Culture, Sports, Science, and Technology, which is responsible for undergraduate medical education, should transform the system for evaluation of medical schools, which is currently focused on their research record, to one that also addresses how they meet societal needs in health care. This reform will need strong political leadership because it has to overcome the opposition from the powerful establishment of medical schools.

### Global lessons

Although the quality of Japan's health-care system as assessed in structural and process dimensions shows many issues, the global indices of health are excellent. Moreover, even as pressure to contain costs increased from 2000, not only have health indices continued to improve, but so have patient satisfaction ratings. When outcomes are measured for specific clinical conditions, they are the same as or better than those reported for other developed countries. How can these discrepancies be accounted for?

One answer might be that the structure and process aspects of quality of care are not that important for

outcomes. If so, then the priority in health policy should be placed on improvement of access and prevention of impoverishment from health care. In these aspects, the Japanese outpatient-focused health-care system has shown much success for which the greatest credit should be given to the fee schedule regulations. Although fee-for-service payment has been criticised for leading to cost escalations, costs have been contained by the global and item-by-item revisions of the fee schedule. Although global budgets or capitation might be more effective than the fee schedule for control of costs, they do not provide incentives for physicians to deliver services. Japan's design of its fee schedule has been more a result of historical accident than of intentional decisions by policy makers. However, in countries that have not rigorously controlled payment or have relied mainly on publicly owned hospitals, Japan's method of containing costs and maintaining equity could provide valuable lessons.

Japan's revisions of the fee schedule have been a dynamic process, reflecting the political and economic environment for the global rate and the power balance between the providers and how they have reacted to the item-by-item revisions. However, an implicit balance has been maintained between specialists in large urban hospitals, who tend to earn less but are able to practise in the specialty for which they have been trained, and those working in rural hospitals and primary care physicians in clinics, who tend to earn more. Both have been dedicated to people's health needs, as witnessed in their voluntary efforts to help the victims of the Great East Japan Earthquake in 2011. The professional ethos of individual physicians could account for why health outcomes, as measured by macro health indices and inpatient care, are good, despite the poor quality as measured from its structural and process dimensions.

However, a reliance on professional ethos alone would no longer be sufficient to meet the growing expectations of the public and the increasing desire of physicians to pursue their own quality of life. If physicians wish to have increased resources allocated to health care, they have to improve their accountability through an organisational mechanism to monitor the quality of care and to enhance peer competition over quality. In particular, the systematic collection and dissemination of outcome data should be made a joint professional and government responsibility.

#### Contributors

HH and NIK co-led and drafted the report. KS, JMA, and MRR critically commented and revised the report. HH, HM, HY, HN, and NIZ did the data analysis. All authors contributed to the discussion and have seen and approved the final version of the report.

#### Conflicts of interest

We declare that we have no conflicts of interest.

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## Japan: Universal Health Care at 50 years 4



# Population ageing and wellbeing: lessons from Japan's long-term care insurance policy

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Japan's population is ageing rapidly because of long life expectancy and a low birth rate, while traditional supports for elderly people are eroding. In response, the Japanese Government initiated mandatory public long-term care insurance (LTCI) in 2000, to help older people to lead more independent lives and to relieve the burdens of family carers. LTCI operates on social insurance principles, with benefits provided irrespective of income or family situation; it is unusually generous in terms of both coverage and benefits. Only services are provided, not cash allowances, and recipients can choose their services and providers. Analysis of national survey data before and after the programme started shows increased use of formal care at lower cost to households, with mixed results for the wellbeing of carers. Challenges to the success of the system include dissatisfaction with home-based care, provision of necessary support for family carers, and fiscal sustainability. Japan's strategy for long-term care could offer lessons for other nations.

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### Introduction

Populations in developed countries are ageing rapidly and Japan's is ageing the quickest. In 1950, Japan had a very young population; in 1990, only about 12% of Japanese people were aged 65 years or older, which is about the same as in the USA in 1990, and well below the UK and other developed nations.<sup>1,2</sup> However, the postwar baby boom was followed by sharply decreasing birth rates, while life expectancy rose.<sup>2</sup> By 2010, the number of people aged 65 years and older had almost doubled from 15 million to 29 million—23% of the population and the highest proportion in the world.<sup>1</sup> The absolute number of older people will soon level off, at about 40 million, but the number of younger people will continue to fall rapidly.<sup>2</sup> Accordingly, Japan's population will have the largest proportion of old people in the world in 2050, when 40% of its population will be over 65 years of age.<sup>1</sup> This demographic situation means that Japan's experiences so far and its prospects for the future hold important lessons for policy makers in other nations, since they will soon be facing similar situations.

How do older people in Japan compare with those in other countries in terms of income, health, and living arrangements? In a 2005 international survey<sup>3</sup> of people aged 60 years and older, 57% of Japanese people said they had no economic problems, compared with 36% in the USA, 33% in Germany, and 18% in France. The average disposable household income of the 65 years and older group in Japan is 86% of that of the 18–65 age group, compared with an Organisation for Economic and Co-operation and Development (OECD) average of 82%.<sup>4</sup> Japanese public pensions are somewhat lower than those in many European countries, but the average income of Japanese older people is fairly high because many of them work—about 30% of men aged 65 years and older, compared with 22% in the USA (and even lower in Europe).<sup>3</sup> Moreover, many have large savings.<sup>5,6</sup> Thus,

Japanese older people are well off on average, although income inequality is high and a sizeable number (especially older single women) have to rely on public assistance or support from relatives.<sup>7,8</sup>

The same cross-national survey<sup>3</sup> reported that 85% of Japanese people aged 60 years and older had no impediments in their daily life, compared with 65% or less of American, German, and French people. Although this survey is based on subjective criteria, Japan does have the highest healthy life expectancy (HALE) at birth (73 years for men and 78 years for women).<sup>9,10</sup> Additionally, 83% of Japanese women aged 65 years survive until 80 years, 3% higher than in any other country (70% in the USA and 72% in the UK).<sup>10</sup> This good health in older people was accomplished despite Japan spending much less than the USA and UK on medical care.<sup>11</sup>

In 1960, more than 80% of people aged 65 years and older were living with a child.<sup>12</sup> The last time that 70% of older people lived with a child in the USA was in 1860.<sup>13</sup> In the mid-1990s, the corresponding number for northern and western Europe was 15% of the 60 years and older population.<sup>13</sup> Living arrangements in Japan have changed substantially. In the 2010 census,<sup>14</sup> the proportion of older

### Search strategy and selection criteria

We used quantitative and qualitative data from academic published work to review the effect of the long-term care insurance system in Japan. We searched PubMed and Web of Science (Thomson Reuters) for studies published between 1990 and 2011, with the terms "insurance, long-term care" or "health services for the aged" in combination with "Japan". All the 193 publications in PubMed and 164 publications in Web of Science written in English were judged to be relevant to our report on the basis of the context of their evaluation of the long-term care insurance system in Japan, and were reviewed. Other academic published work, grey literature, and book chapters for related information (eg, demography, public policies, and health-care financing in Japan, and long-term care situations in other countries) were included when relevant.

## Key messages

- The number of people in Japan 65 years and older almost doubled in the past two decades, reaching 29 million or 23% of the population in 2010. Demographic projections suggest that the number of older people will level off at about 40 million, while the proportion of younger people will continue to decrease.
- In 2000, Japan implemented public, mandatory long-term care insurance (LTCI). It is one of the most generous long-term care systems in the world in terms of coverage and benefits.
- A decade of experience has proved LTCI to be effective and manageable, including constraining expenditures to the growth rate of the target population.
- Japanese LTCI provides only services rather than cash for care. The most popular service is adult day care, with 1.9 million users (6.5% of people aged 65 years and older), benefiting both frail older people and their carers.
- LTCI has increased the use of formal care and reduced financial burdens. Labour participation by family carers increased only in high-income households because of their high opportunity costs.
- Distinctive features including the services-only strategy, consumer choice with expert advice, comprehensive organisation with flexibility in management, and specialisation in older people, offer important lessons to long-term care policy makers and experts worldwide.

started in 1963, albeit on a small scale, and in the early 1970s, riding the crest of the post-war economic boom and facing sharp political challenges, the ruling Liberal Democratic Party instituted free medical care by abolishing co-payments for older people, even for hospital stays.<sup>21</sup> So-called social admissions, without much medical justification, soared, and even nowadays more than 500 000 people aged 65 years and older live in hospitals.<sup>20</sup> However, old-age services other than hospitalisation grew slowly and were mostly restricted to people with low incomes and who had little family support. This situation prevailed until 1989—the peak of another economic boom and just before a general election—when the Liberal Democratic Party again suddenly decided to expand the government's responsibility for care of frail older people. This increased responsibility was enacted through the so-called Gold Plan or Ten Year Strategy for Health and Welfare of the Elderly,<sup>21</sup> which set a specific target of doubling institutional beds and tripling home and community-based services for older people over 10 years.

The Gold Plan was hugely popular but it created serious problems. Spending soared to the point of threatening tax hikes; management difficulties overwhelmed understaffed local governments; and key operational standards such as definitions of eligibility, the types and amounts of services provided, and whether fees should be charged, varied largely between localities. In the mid-1990s the Ministry of Health and Welfare developed a systematic plan to provide long-term care through social insurance to deal with these issues.

LTCI was enacted in 1997 and implemented in 2000.<sup>20,22</sup> Its official purpose was to help those in need of long-term care “to maintain dignity and an independent daily life routine according to each person's own level of abilities”.<sup>23</sup> Other goals included: introduction of competition, consumer choice, and participation by for-profit companies into what had been a bureaucratic system;<sup>24</sup> achievement of savings in medical spending by moving people from hospitals into the LTCI system;<sup>24</sup> emphasis of community-based care over institutional care;<sup>20</sup> and particularly relief of burdens on family carers.<sup>25</sup>

## LTCI in Japan compared with other nations

Nations that have expanded long-term care policy vary considerably in programme design.<sup>26</sup> Differences include tax financing or social insurance; covering all ages or concentrating on old people; strict, moderate, or no means testing; high, low, or no cost-sharing; broad or narrow coverage; generous or few benefits; and supported caring mainly by family members or informal workers such as migrants through cash for care, or by trained and supervised staff delivering formal services. Japan's programme (panel) is financed half by taxes and half by social insurance, focuses on older people, has no means testing and moderate cost sharing, and has broad coverage and generous benefits. There is no cash benefit, which is one reason why informal care by live-in migrant

people living with a child had fallen to 41%, whereas the proportions living with only a spouse (33%), alone (16%), or in an institution (6%) had increased. Even so, co-residence with children is still very high compared with other developed nations, and this pattern is widely regarded as normal in Japanese culture.<sup>13,15–17</sup>

Sustaining Japan's economy and supporting the increasing number of older people while facing a shrinking total population and the prospect of fewer young workers presents several challenges. First, maintaining incomes of older people through public pensions and enhanced employment opportunities; second, providing good medical care at a reasonable cost; and third, ensuring that older people weakened by physical or mental disabilities have a good quality of life. In this report, we focus on the third challenge, and Japan's innovative response: public, mandatory long-term care insurance (LTCI).

## Japan's public long-term care policy

All developed nations face a growing population of older people, including those who need care.<sup>1,18</sup> At the same time, as the number of children has decreased and more women want to work outside the home, the availability of care from family members has fallen (although it is still the most important source of elderly care). Many OECD nations have responded to these pressures by initiating explicit and comprehensive long-term care programmes.<sup>19</sup> In an era of widespread cutbacks in the welfare state, Japan's expansion of long-term care policy stands out as exceptional among developed nations.

In Japan, concern for frail older people has been at the forefront of welfare policy developments for many years.<sup>20</sup> Public financing for nursing homes and home helpers

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workers, although quite common worldwide, is almost non-existent. The design of the programme had two main sources: problems with the Gold Plan, and solutions suggested by German and Scandinavian approaches.<sup>20,25,27</sup>

First, as in Germany, the system operates on social insurance principles rather than on Scandinavian-style taxed-financed local services. The Gold Plan had been a tax-financed service, but social insurance premiums were more acceptable than were tax hikes. Second, unlike Scandinavia, Japan gave a right to a specific amount of benefits, and recipients could choose the services and providers that they wanted. In Scandinavia decisions about eligibility, benefit size, and selection of services and providers were made by municipal caseworkers, who could take into account income and availability of care by family members. That had been true in Japan under the Gold Plan, but unclear guidelines and the absence of local administrative capacity often resulted in arbitrary decisions. The officials who planned the new LTCI insisted on firm principles for eligibility and gave recipients rather than local bureaucrats the power to choose services and providers, including for-profit companies—a shock to the social welfare specialists who idealised the Scandinavian approach.

Third, Japan's coverage and benefits are quite generous and its public spending on long-term care is higher than that in many other nations, such as Germany and the USA (figure 1).<sup>26,29</sup> The formula to decide eligibility is similar in principle to that used in Germany, but much less restrictive: about 17% of the population aged 65 years and older has been certified as eligible in Japan compared with 10% in Germany. Additionally, Japanese people can use about twice the amount of community-based services as can German people with similar levels of disability.<sup>24</sup> The main reason for this generosity is that many fairly low-need people were getting quite high benefits under the Gold Plan; politically the new programme could not go backwards.

Fourth, the key similarity to the Scandinavian approach is that Japanese LTCI relies solely on formal services. In Germany, recipients can choose cash instead of services, with no restrictions on use.<sup>30</sup> German LTCI was thus explicitly designed to encourage family caring. Japanese LTCI was designed to help family carers by having the government handle some aspects of care, because cash would not relieve carers of their heavy burdens.

The Japanese LTCI system has been operating for more than a decade and nowadays serves nearly 5 million people.<sup>31</sup> The number of beneficiaries in institutions increased by 83%, but more notable has been the 203% increase in those receiving home and community-based services in the programme's first 10 years.<sup>31</sup> As of January, 2011, home helpers were visiting about 1.4 million people and adult day-care centres were used by nearly 1.9 million people.<sup>32</sup> About 6.5% of all people aged 65 years and older attend day care in Japan

#### Panel: Japan's long-term care insurance programme

*Kaigo hoken* literally means care insurance but public mandatory long-term care insurance is a more informative title. Its goal is socialisation of care, meaning that the government provides care as an entitlement to all, irrespective of their income level or the availability of informal care. It operates as a social insurance system, although half is financed by matching funds from taxes. Everyone aged 40 years and older pays premiums, and everyone 65 years and older (and aged 40–64 years if the need arises from an ageing-related disease), is eligible for benefits. Premiums are about 1% of income up to a limit for those aged 40–64 years; for those aged 65 years and older premiums average about US\$35 per month (purchasing parity price rate), adjusted to income. Municipalities are the insurers and the premiums for those aged 65 years and older living within their jurisdiction are set every 3 years according to the expenditure projected.

Eligibility is assessed by use of a 74-item questionnaire based on activities of daily living, with a preliminary categorisation into one of seven levels by a computer algorithm, then reviewed and finalised by an expert committee. Each level sets the ceiling amount of services that can be purchased as benefits, ranging from \$400 to \$2900 per month. For home-based services, most clients do not use up to the limit (most use 40–60%)—only what they need. Clients pay a 10% co-payment; those in institutional care also pay \$200 per month to cover living costs (waived or capped for low-income individuals).

Once assessed as eligible, the client selects a care manager who draws up a care plan, setting the weekly schedule of care services. Upon approval of the plan and the provider by the client, services commence. Reassessment is made every 2 years (or 6 months for those who need lower levels of care), or as requested in the event of any decline in health.

Many services are covered: at home they include a home helper (housekeeping and personal care), visiting nurse, bathing, remodelling, assistive devices; outside of home they include day care, day care with rehabilitation, short-stay respite care; institutional services include nursing homes, homes with more medical service, chronic-care hospitals. Additionally, caring costs in private nursing homes and dementia group homes are covered.

Providers include local governments, semipublic welfare corporations, non-profit organisations, hospitals, and for-profit companies (for-profit companies are not allowed in institutional care). They are licensed and supervised by the local government. Fees for each service are set by the national government and revised every 3 years.

(compared with <1% in Germany and Sweden).<sup>33</sup> The expansion of LTCI services is a major change in the daily life of older people in Japan. It represents the first time that Japan has been a leader of developed nations in an important sector of social policy.

#### Effects of LTCI

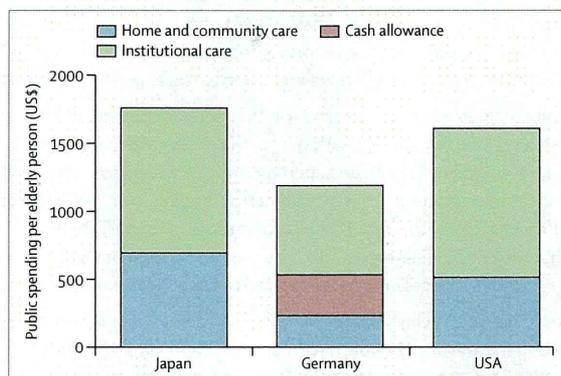
In view of the rapid expansion of LTCI services in the past decade, it is worthwhile to assess the effects of these services on the intended beneficiaries: care recipients, family carers, and households. Our report presents several quantitative analyses used to assess the consequences of Japan's LTCI from both macro and micro viewpoints. All the data analysed are from the Comprehensive Survey of People's Living Conditions<sup>12,34</sup>—a large, nationally representative repeated cross-sectional survey of the non-institutionalised population. We compare changes in outcomes between formal and paid service users, and non-service users in 1998, and 2004, in frail elderly people (defined as those who need support for daily living) before and after the introduction of LTCI.

See Online for webappendix

The webappendix provides detailed explanations of the survey, data manipulation, empirical framework, and limitations. The table shows a summary of the results.

### Use of formal care

Figure 2 shows a sharp increase in formal service use by the frail older population, from 52% in 1998 to 76% in 2001, which remained steady until 2004. This analysis is solid evidence that the introduction of LTCI noticeably



**Figure 1: Long-term care spending in Japan, Germany, and USA in 2005**

Spending estimates differ from other published sources because they include only public spending, include only services and support for people aged 65 years and older, and exclude post-hospital care, which is often aggregated with long-term care. For USA we exclude spending for all Medicare post-acute care but we include Medicare home health part B and Medicare spending for assistive devices because they are included as long-term care home and community-based services in other countries. For both the USA and Germany, we estimate and exclude spending for people younger than 65 years. Precise data are available for Japan for those aged 65 years and older, but we estimate and include spending from health insurance on long-term patients aged 65 years and older in hospitals, who receive care equivalent to that in nursing homes in other countries. Purchasing Power Parity was used to adjust exchange rates to cost of living. Data from Campbell and colleagues.<sup>28</sup>

improved access to formal and paid care in the community.<sup>35</sup> The trend of service use varied by household income. In 1998, the rate of formal care use was nearly identical between income groups, at just above 50% of frail older people (as identified in the survey). After the introduction of LTCI and the increase in use, use by households in the upper-income tertile was marginally but significantly—about 4%—greater than that in households in the middle-income tertile and lower-income tertile. Formal services use across income groups varies greatly in Europe, for example, it is much higher for upper-income households in Germany.<sup>26,36</sup>

### Wellbeing of care recipients

Previous studies have assessed the effect of various types of formal services (eg, home-based care such as home visits, community-based care such as day care and respite stay, and institutional care) on various outcome measures (eg, mortality, functional status, institutionalisation, care needs level, nutritional status, and care burden) in different regions of Japan.<sup>37-43</sup> The results of these studies are mixed. According to the results of one study,<sup>37</sup> more frequent day-care service use was associated with lower mortality in community-dwelling frail adults, although those of another study<sup>41</sup> were less positive about the effectiveness of day care. Although findings from one study<sup>42</sup> showed that respite care and day-care service use could prevent elderly people from being institutionalised or admitted to hospital, investigators of another study<sup>39</sup> reported an association between respite stay use and an increase in the level of care needed. Although day care and home-based care seem to have positive effects on the health of recipients, the overall effects of LTCI are still uncertain.

The results of our comparison before and after the introduction of LTCI (table; with difference-in-difference

	Regression model*	Whole sample (95% CI)	Income tertile of household (95% CI)†		
			Low	Middle	High
<b>Effects in older people</b>					
Subjective health status‡	Logit	1.03 (0.84 to 1.26)	0.91 (0.63 to 1.31)	0.85 (0.60 to 1.22)	1.28 (0.91 to 1.81)
IADL status§	Logit	0.96 (0.80 to 1.14)	0.77 (0.57 to 1.05)	1.15 (0.84 to 1.56)	1.04 (0.76 to 1.40)
<b>Effects in family carers</b>					
Subjective health status‡	Logit	0.98 (0.82 to 1.18)	0.96 (0.69 to 1.32)	1.03 (0.73 to 1.44)	0.99 (0.72 to 1.36)
Hours of informal care per day	Tobit	-0.81 (-1.19 to -0.43)	-0.45 (-1.13 to 0.23)	-0.81 (-1.45 to -0.18)	-1.36 (-2.01 to -0.71)
Labour participation¶	Logit	1.09 (0.89 to 1.33)	0.89 (0.63 to 1.26)	0.85 (0.60 to 1.21)	1.72 (1.22 to 2.44)
Hours of work per week	Tobit	1.25 (-0.36 to 2.87)	-0.62 (-3.37 to 2.12)	-0.55 (-3.44 to 2.35)	4.57 (1.77 to 7.37)
Hours of activities other than informal care and working	Tobit	0.67 (0.27 to 1.07)	0.90 (0.20 to 1.61)	0.84 (0.14 to 1.53)	0.50 (-0.17 to 1.17)
<b>Effects on household economy</b>					
Percentage of household expenditure spent on formal care	Ordinary least squares	-0.05 (-0.06 to -0.04)	-0.05 (-0.06 to -0.04)	-0.04 (-0.05 to -0.03)	-0.06 (-0.07 to -0.05)

The numbers of observations estimating the effects for older people and for family carers differ: for the effects on older people, n=9597 for the entire sample, n=3164 for the low-income group, n=3176 for the middle-income group, and n=3257 for the high-income group; for the effects on family carers, n=8738 for the entire sample, n=2938 for the low-income group, n=2800 for the middle-income group, and n=3000 for the high-income group. CSPLC=Comprehensive Survey of People's Living Conditions. IADL=instrumental activities of daily living. \*For data given as hours per day Tobit was used because the data are right censored at 24 h; Logit data are given as odds ratios, Tobit data are given as marginal effects, and ordinary least squares data are given as coefficients. †Missing data for household's income were imputed by multiple imputation. ‡Excellent or very good versus fair or poor or very poor. §Any difficulties in IADL versus no difficulties. ¶Working versus not working.

**Table: Difference-in-difference estimates with nationally representative data (CSPLC) from 1998 and 2004**

estimations) show no overall favourable effects on either older care recipients subjective health status or their ability to undertake day-to-day tasks. These findings are similar to those of another study<sup>33</sup> of the effect of long-term care programmes, implying that maintenance rather than improvement in health and functional status of frail older people is an appropriate goal for long-term care programmes.

### Wellbeing of carers and opportunity losses

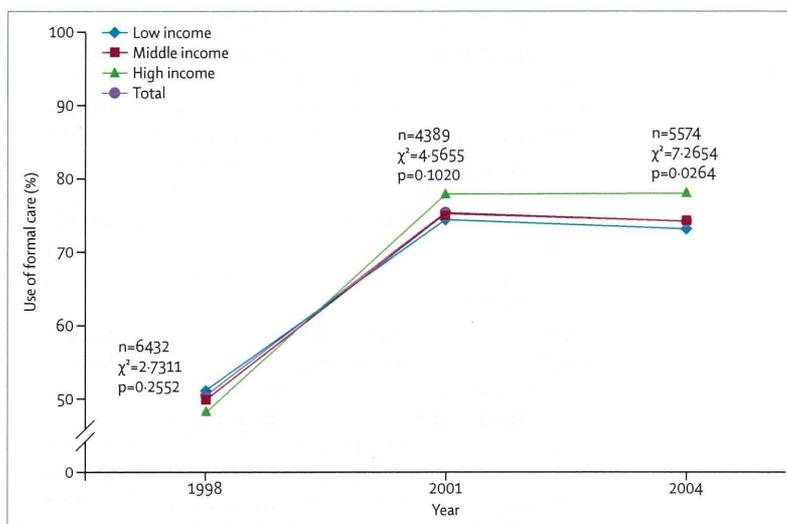
Many studies have investigated stress, morale, and burden among family carers, with mixed results.<sup>15–20,22,23,44–51</sup> The favourable effects of formal service use on physical burdens of care have been repeatedly reported in Japan, and some studies have also shown a statistically significant reduction in emotional burden.<sup>44,49,52</sup> In our analysis of the survey data, we did not record any significant effects on carers' self-rated health status.

We examined how LTCI affected hours spent by family carers for caring, employment, and other activities. For the entire study population, average time spent caring dropped significantly after the introduction of LTCI, by 0.81 h per day, and time spent on other activities increased by 0.67 h per day. However, the effects differ by income. In middle-income and high-income families time spent on caring decreased by 0.81 h per day and 1.36 h per day, respectively, but for low-income families these changes were not significant. This finding is consistent with the lower use of formal services by lower-income families.<sup>35,52</sup>

Furthermore, for the high-income group, family carers were substantially more likely to be employed after the introduction of LTCI, leading to an increase of 4.57 h per week spent working. The lower-income and middle-income groups were slightly more likely to be employed after LTCI than before LTCI but their working hours decreased (not enough to be significant in both cases). They spent almost an additional hour in other activities; 0.9 h per day for low-income households and 0.84 h per day for middle-income households. In the high-income group, time spent on other activities increased by 0.5 h, but this finding was not significant. A likely explanation for this difference is that for higher-income carers, mostly women, the opportunity costs of caring are high because they can get higher wages. Additionally, employers tend to offer care leave only to full-time workers with fairly high incomes.<sup>53</sup>

### Household economy

The proportion of household expenditure spent on formal long-term care decreased by 5% in 2004 compared with before LTCI was introduced. This change was almost the same for all income groups. In short, the practical benefits of LTCI to family carers are clear, but findings of the effect on feelings of burden are mixed. Moreover, there are interesting differences in effect that are dependent on income group. These results are consistent



**Figure 2: Formal care use in frail people aged 65 years and over before and after the introduction of long-term care insurance in 2000**

Data are from our original analysis based on the Comprehensive Survey of People's Living Conditions (CSPLC). The CSPLC data in 2001 were gathered by the Ministry of Health, Labour and Welfare in the same manner as in 1998 and 2004. Data from Ministry of Health, Labour and Welfare.<sup>32</sup>

with those of a previous study.<sup>54</sup> More research in these areas is needed.

### LTCI and Japanese family values

Japan's LTCI programme has not solved the problems of frailty and dependence for elderly recipients and their families. The most any long-term care programme can do is improve independence and quality of life for these elderly people. For the family, especially the primary carer, the feelings of responsibility and concern for a failing spouse or parent cannot be abolished by a government programme. A long-term care system can help with carers' practical burdens, but in all regions—even Scandinavia, with its highly developed programmes—most of the tasks of caring for frail older people in the community are undertaken by family members.<sup>55</sup>

The criterion for effectiveness, therefore, is how much assistance Japanese LTCI provides to older people and carers relative to long-term care programmes in other countries. There are two dimensions: the design of the programme (the main theme of this report), and how the programme fits into the Japanese sociocultural environment, which is also important, and requires a brief discussion of Japanese family values.

In the traditional Japanese household, responsibility for care of aged parents fell on the eldest son's wife. This role was regarded as the culmination of her long relationship with her mother-in-law (*shutome*) who had trained her when she first entered the household as a bride (*yome*). From this perspective, caring is seen as a duty to do everything; living in the same household and being available 24 h a day.<sup>56</sup> Nowadays, only 20% of primary carers of frail older people are daughters-in-law.