The Future of Japan's Health System — Sustaining Good Health with Equity at Low Cost

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The country was still relatively poor (with a gross domestic product [GDP] half the size of Britain’s), Japan reached full health insurance coverage of its population. In the next half-century, it continued to develop its health system and improve equity, even applying this principle of universal health coverage in its global health diplomacy. Now, however, Japan faces serious fiscal pressure due to a sluggish economy and the rapid aging and low birth rate of its population — but it is striving to sustain its health system in the face of these challenges.

Japan followed a nonlinear path to universal coverage. Previous Japanese policymakers were sometimes motivated to develop the health system for reasons of political economy that were unrelated to health. For example, Japan’s first national policy for health insurance was introduced in 1923, motivated in part by imperial visions and the desire for a strong and healthy workforce for war. During World War II, Japan achieved nearly 70% health insurance coverage. Then, in the postwar period, political competition among the major parties promoted government efforts to expand coverage, as the conservative Liberal Democratic Party sought to provide benefits to its rural constituents and to weaken the agendas of the Socialist and Communist parties by redistributing social resources to industrial workers. Japan was not unique in this regard: in countries such as Britain and Germany, the process of attaining universal health coverage also stretched over long periods and was advanced by various political motivations. Though such mixed origins don’t diminish the value of Japan’s health policy accomplishments, they do highlight the importance of viewing the process from historical and political perspectives.

Japan’s achievements in health status are well known (see table). Since 1986, Japan has ranked first in the world in women’s life expectancy at birth, which reached 87 years in 2014. Life expectancy...
for Japanese men surpassed 80 years in 2013. Japan's infant mortality rate, reported as 2.1 per 1000 live births in 2013, is the lowest in the world. But a continuing decline in birth rate means that the country's population is shrinking, even as it ages more rapidly than in other societies. The proportion of people older than 65 years increased from around 12% in 1990 to 25% in 2013, and the proportion of older people has exceeded the proportion of young people (0 to 14 years of age) since 1997. This demographic transition has created huge fiscal and health care challenges.

In addition to improving health outcomes, Japan's social insurance system has made incremental improvements in equity through cross-subsidies and tax transfers, which contributed to income redistribution in addition to risk pooling. As many countries have done, Japan expanded health coverage population group by population group, through policies designed for different groups with differing levels of coverage (both in terms of benefits and funding) — thereby creating disparities and problems of fairness. Government action and new social policy were required in order to reduce these inequities. Japan's single reimbursement fee schedule (for all physicians and patients) and single benefit package for all social insurance programs created a foundation for equity in access. The government then increased equity by changing the copayment policies for the various insurance programs, reducing benefits for employees of private companies (by increasing their copayment rates), and increasing benefits for the elderly and non–employment-based insurance plans (by reducing their copayment rates). Policy-makers thus made the overall health system more equitable over time, reflecting the value that Japanese society places on egalitarianism.

Those achievements in equity are now at risk. Japan still has about 3500 insurance plans, with

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
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<tbody>
<tr>
<td>Health expenditures in 2013</td>
<td></td>
</tr>
<tr>
<td>Per capita (U.S. $)</td>
<td>3,966</td>
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<tr>
<td>Percentage of GDP</td>
<td>10.3</td>
</tr>
<tr>
<td>Out-of-pocket (% of private health expenditures)</td>
<td>80.2</td>
</tr>
<tr>
<td>Public sources (% of total)</td>
<td>82.1</td>
</tr>
<tr>
<td>Percent of population covered</td>
<td>&gt;99.9</td>
</tr>
<tr>
<td>Funding sources</td>
<td>Taxes and premiums</td>
</tr>
<tr>
<td>Access</td>
<td></td>
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<tr>
<td>Hospital beds per 10,000 population in 2013 (no.)</td>
<td>133</td>
</tr>
<tr>
<td>Physicians per 1000 population in 2012 (no.)</td>
<td>2.3</td>
</tr>
<tr>
<td>Percent of total government health expenditures spent on mental health care in 2011</td>
<td>4.9</td>
</tr>
<tr>
<td>Clinics using electronic medical records in 2011 (%)</td>
<td>20.9</td>
</tr>
<tr>
<td>Physicians' average monthly income in 2013 (U.S. $)</td>
<td>11,769</td>
</tr>
<tr>
<td>Life and death</td>
<td></td>
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<tr>
<td>Life expectancy at birth in 2013 (yr)</td>
<td>83.5</td>
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<tr>
<td>Additional life expectancy at 60 yr in 2013 (yr)</td>
<td>25.9</td>
</tr>
<tr>
<td>Deaths per 1000 population in 2013 (no.)</td>
<td>10.1</td>
</tr>
<tr>
<td>Infant deaths per 1000 live births in 2013 (no.)</td>
<td>2.1</td>
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<tr>
<td>Deaths of children &lt;5 yr of age per 1000 live births in 2013 (no.)</td>
<td>3.0</td>
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<tr>
<td>Maternal deaths per 100,000 live births in 2013 (no.)</td>
<td>3.4</td>
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<tr>
<td>Fertility and childbirth</td>
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<tr>
<td>Average births per woman in 2014 (no.)</td>
<td>1.4</td>
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<tr>
<td>Births attended by skilled health staff in 2013 (%)</td>
<td>99.8</td>
</tr>
<tr>
<td>Preventive care</td>
<td></td>
</tr>
<tr>
<td>Colorectal-cancer screening generally available at primary care level</td>
<td>Yes</td>
</tr>
<tr>
<td>Children 12–23 mo of age receiving measles immunization in 2013 (%)</td>
<td>95.5</td>
</tr>
<tr>
<td>Prevalence of chronic diseases (%)</td>
<td></td>
</tr>
<tr>
<td>Diabetes in persons 20–79 yr of age in 2014</td>
<td>5.1</td>
</tr>
<tr>
<td>HIV infection</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>Prevalence of risk factors (%)</td>
<td></td>
</tr>
<tr>
<td>Obesity in adults ≥20 yr of age in 2013</td>
<td>3.7</td>
</tr>
<tr>
<td>Smoking in adults ≥20 yr of age in 2013</td>
<td>19.3</td>
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* Data are from the Organization for Economic Cooperation and Development; the World Bank, Hashimoto et al.; the Japan Ministry of Health, Labor, and Welfare; the World Health Organization; and the National Institute of Population and Social Security Research. GDP denotes gross domestic product, and HIV human immunodeficiency virus.
varies with plans, so some
private companies or municipali-
ties provide better financial ben-
efits than others. The fragmented
insurance plans are differentially
affected by the increasing num-
ber of elderly people in Japan.
As people age and retire, they move
from employment-based plans
to non–employment-based plans,
whose costs per person increase
as older enrollees are added. As
a result, non–employment-based
plans increasingly have financial
problems, especially as compared
with Japan’s employment-based
plans. In an effort to reduce the
financial problems for these plans
and address the needs of the ag-
ing population, Japan introduced
a national policy for long-term
care insurance in 2000, and in
2008, it created a new health in-
surance program for people over
75 years of age.
Rising health care costs are a
serious concern in Japan today:
if the country takes no action,
health expenditures could increase
from the current 8% of GDP to
around 11% by 2025.4 Rising
costs are a result of structural
problems in the health system,
especially the rapidly aging pop-
ulation and the frequent use of
high-cost technologies such as
magnetic resonance imaging and
relatively high-priced generic med-
icines (which cost 60% of brand-
name prices in Japan). Two de-
cades of economic stagnation
during the 1990s and 2000s (the
“lost decades”) also mean that
health care costs have been tak-
ing a proportionately greater bite
out of the GDP.
A final major challenge involves
improving the quality of care in
the Japanese system. Quality and
efficiency have often been ig-
nored by Japan’s health policies.
Existing government programs
tend to focus on quantifying in-
puts and structures rather than
on creating incentives to improve
quality or addressing problems
in outcomes. Some studies have
suggested that postsurgical mor-
tality rates in large hospitals in
Japan are as low as those report-
ed in other countries but that the
quality of primary care and inpa-
tient chronic care services may be
problematic.3 Japanese hospitals
and clinics are poorly differentiat-
ed by level of services, and there
is no standardized benchmarking
to assess hospital performance.
The Japanese government is
acutely aware of these challenges
and the intersecting crises of rapid
aging and fiscal sustainability,
which are further confounded by
the health system’s complex gov-
ernance, including the mecha-
nism for defining the fee sched-
ule, as well as people’s changing
expectations about both medical
and nonmedical aspects of health
care.1 The government is trying

MYOCARDIAL INFARCTION
A 55-year-old man with no serious health conditions has a moderately severe myocardial infarction.

In his suburban Tokyo home, Tanaka-san wakes up one day with chest pain. When the pain continues for 30 minutes, his family becomes worried and calls an ambulance, which arrives in 5 minutes. The emergency medicine team contacts the dispatcher, who asks a neighborhood general hospital whether there is room for an admission but is told that the coronary care unit is full. After 30 minutes of calls, the dispatcher finally finds a private hospital (with 150 beds) 20 minutes away that is willing to accept the patient.

This hospital has heart catheterization, MRI, and other equipment, and the emergency doctor in charge obtains an electrocardiogram and serum enzyme test to diagnose a myocardial infarction. A cardiologist is called to perform a cardiac catheterization, which reveals an infarction of a high lateral branch of the left anterior descending artery. A stent is immediately inserted, and reperfusion is established. The patient then stays in the hospital for 2 weeks.

The total hospitalization fee reaches ¥1.5 million (U.S. $12,000, including two heart stents for ¥6,700 and facility fees of ¥2,500). Coverage from Japan’s High-Cost Medical Care Benefit System allows Tanaka-san to pay only ¥1,300, to cover the fee for a single-bed room for a few nights, insurance copayments, and some extra meal fees.

The day before discharge, Tanaka-san receives instructions on medication and lifestyle counseling. He is instructed to visit the outpatient clinic 2 weeks later. Because the hospital is far from his home, the patient asks for an introduction to a nearby general practitioner. Eight months later, however, follow-up angiography to see whether any restenosis has occurred has still not been done.

Hideki Hashimoto, Masayo Matsuzaki, and Mikko Kanda contributed to this case study.
PREGNANCY AND CHILDBIRTH
A healthy 23-year-old woman is pregnant for the first time.

Suzuki-san is married and lives in a Tokyo suburb. Realizing that she is pregnant, she goes to a neighborhood hospital to consult an obstetrician, who confirms the pregnancy, and she pays him ¥8,000 (U.S. $64), since pregnancy is not covered by Japan’s national health insurance.

Suzuki-san next visits the nearby municipal health center. She notifies the authorities about her pregnancy and receives the Mother and Child Health Handbook, to record information from the physician’s medical examination, any concerns about the pregnancy, observations about the newborn baby, and ongoing observations about the infant. She also receives a pregnancy health checkup consultation ticket and an ultrasound inspection visit ticket, which provide her with partial financial support for these antenatal services.

During her pregnancy, Suzuki-san follows the typical schedule of 14 visits for health checkups at her hospital. At each visit, she is examined by the obstetrician for risks and symptoms of pregnancy complications and meets with the midwife for nutritional and mental health care and support.

At 20 weeks, she decides on a hospital and on a vaginal delivery. After the birth, Suzuki-san stays as an inpatient for 5 days. She pays a total of ¥620,000 ($5,000) for all hospital services and is reimbursted by health insurance for ¥420,000 ($3,400).

Two weeks after the birth, a midwife will visit Suzuki-san at home at no charge. Two weeks later, Suzuki-san will bring her infant to the hospital where she gave birth, where she will see an obstetrician-gynecologist and her child will see a pediatrician.

Hideki Hashimoto, Masayo Matsuzaki, and Mikko Kanda contributed to this case study.

to find ways to ensure fiscal sustainability, in response to the commitment made by Prime Minister Shinzō Abe to eliminate deficits by 2020. Recent laws seek to promote both the differentiation of hospitals by function and the community-level integration of medical treatment, long-term care, and preventive care by 2025. Japan is also considering a proposal to consolidate insurance plans at the prefectural level. In 2014, the Abe cabinet endorsed a government health care strategy that aims to facilitate the development of innovative technologies through a new Agency for Medical Research and Development. But these changes are not likely to be sufficient to address the profound fiscal and demographic problems facing the country. Maintaining Japan’s current system by increasing premiums or taxes while cutting benefits, as was done in the past, might buy some time — but it would be very costly politically and would not resolve fundamental structural problems. Incremental changes at the margins will no longer suffice.

Instead, we believe that Japan needs a new vision of health care and health systems for the future. In June 2015, an advisory panel of young experts, appointed by Health Minister Yasuhisa Shiozaki, presented its vision of health care for Japan in 2035. The panel’s report proposes a paradigm shift for Japan’s health system, to redirect its focus from inputs to outcomes, from the quantity of services provided to patients’ concerns about quality, from governmental regulation to professional self-regulation, from cure to care and well-being, and from specialization of services to integrated approaches across medical and social service sectors. The new health system would continue to emphasize fairness and solidarity, while building on individual patient values and desires and emphasizing global health perspectives. The government, recognizing that Japan needs new solutions for its profound problems, has explicitly called on the younger generation to produce innovative ideas for improving the health system.

The hope is that Japan will be able to mobilize new ideas, systems, and technologies to assist its growing elderly population and conform to changing social values and growing structural constraints and that the Japanese government will be able to jump-start the economy and get it growing again (using Prime Minister Shinzō Abe’s strategies of government spending, monetary easing, and structural reforms, known as “Abenomics”), even as the population continues to age and shrink. More and more countries are confronting similar challenges, but Japan is first in line. Accomplishing these multiple and sometimes conflicting goals will not be easy, but that’s the challenge that Japan’s health system and society must tackle.
New Math on Drug Cost-Effectiveness

Peter B. Bach, M.D., M.A.P.P.

Nowadays, the reality of exorbitant drug pricing overshadows even the most exceptional stories of drug efficacy. It’s true that we’re making huge biomedical strides, yet it’s also true that prices for new drugs are rising, as are prices of existing treatments.

A case in point is nivolumab, which, as Motzer et al. report in this issue of the Journal (pages 1803–1813), appears to extend median survival in patients with metastatic renal-cell cancer by nearly half a year. But the cost to insurers and patients of using the drug for this condition — by my estimate, around $65,000 for Medicare beneficiaries and up to twice that for commercially insured patients — can’t be ignored.

The price hurts patients, limiting their access and depleting their savings. Under the current system of insurance, many patients have to pay large sums out of pocket, and research shows that when that happens, some patients will stop taking medications even if they are very effective. The high costs of cancer care also drive patients into bankruptcy.

The problem is particularly acute for Medicare beneficiaries, who account for the majority of patients with cancer in the United States. For nivolumab, a drug categorized as physician-administered and thus insured under Medicare’s Part B benefit, Medicare assigns 20% of the cost to the patient. Although most Medicare beneficiaries have extra insurance to cover this expense — through Medicaid, an employer-based plan, or a private-market product such as Medigap — approximately 15% do not, according to the 2011 Medicare Current Beneficiary Survey. In other words, a sizable number of Medicare patients receiving this treatment could owe about $13,000 — more than half the typical annual median income among Medicare beneficiaries, which is $24,150 (Medicare beneficiaries who lack additional coverage actually tend to have incomes below this level).

Exacerbating this problem, Medicare sets no upper limit on coinsurance under Part B (or under Part D) even though commercial plans regulated under the Affordable Care Act do have out-of-pocket maximums. Federal law prevents the maker of nivolumab (Bristol-Myers Squibb) from providing assistance to patients who cannot afford the treatment. Programs such as Genentech’s for Avastin, in which beneficiaries receive the drug free once they have spent a certain amount in a calendar year, are rare.2

Policymakers, stymied by the rising cost of drugs, might think that an approach that relies on cost-effectiveness analyses would help the health care system deal with the high price of new treatments. After all, the United Kingdom sets standards for cost-effectiveness at about $40,000 per quality-adjusted life-year for new drugs, and overall health care spending there is a fraction of what it is in the United States.

Of course, this potential solution remains theoretical today, since Medicare cannot limit drug access on the basis of cost-effectiveness; rather, laws require Medicare to cover all cancer drugs for all uses approved by the Food and Drug Administration (FDA) or listed in recognized compendia and to pay the price the manufacturer chooses to charge. But even if Medicare could set such limits, I believe that policymakers would find limited relief from the approach.

Expensive drugs can still seem deceptively cost-effective, because of the long upward spiral we have seen in the prices of cancer treat-