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Taiwan’s New National Health Insurance Program: Genesis And Experience So Far

Taiwan’s health policymakers continue to tinker with the country’s NHI, which covers almost all citizens with modest cost sharing.

by Tsung-Mei Cheng

ABSTRACT: In 1995, after a planning effort of about half a decade, the Republic of China (Taiwan) replaced a previous patchwork of separate social health insurance funds with one single-payer, national health insurance scheme that is administered by an agency of the central government’s Department of Health. Within a year this bold legislative act brought the health care utilization rates of the 41 percent of Taiwan’s hitherto uninsured population up to par with those of the previously insured population. This paper describes the achievements of this policy initiative so far, along with the growing pains it has encountered, and seeks to extract lessons from the experience for health policymakers in other countries.

AFTER MORE THAN TWO DECADES of spectacular economic growth, in 1995 Taiwan established its universal National Health Insurance (NHI) program. To prepare policymakers for this bold step, Taiwan's planners had studied health insurance systems abroad. The program, eventually blessed by the legislature, has been described as “a car that has been domestically designed and produced, but with many components imported from over ten other countries.”

Although the main focus of this paper is Taiwan's NHI, the discussion begins with a brief overview of the health care delivery system to which the NHI provides access and for which it is a major source of financing. Thereafter the discussion shifts to the genesis of the NHI, followed by an overview of its modus operandi. Next comes an examination of the growing pains encountered by the NHI scheme and the government’s responses to these problems. U.S. and Canadian readers may find this discussion particularly interesting, as Taiwan's NHI resembles the government-run U.S. Medicare program for the elderly and the single-payer health insurance programs operated by the Canadian provinces. Many of the problems encountered by Taiwan's NHI have long been familiar to these programs as well.

■ Taiwan’s health care delivery system in brief. The bulk of Taiwan's health care facilities—86 percent of hospitals (1999) and 65 percent of all hospital beds (2000)—are privately owned. Most of the privately owned beds are in nonprofit
hospitals that nevertheless can earn sizable profits, like their U.S. counterparts. Doctors in Taiwan are either salaried staff physicians in hospitals or self-employed owners of medical practices known as clinics, of which 97 percent are privately owned. As of 2000 about half of Taiwan's physicians practiced in their own clinics.

Since the NHI's inception in 1995, the capacity of Taiwan's health care system has expanded, albeit unevenly. While Taiwan's population grew by 5.2 percent between 1994 and 2000, the supply of health professionals overall increased by 39.6 percent, and the number of physicians increased by 33.5 percent. Over the same period the number of hospital beds increased by 32.3 percent. Exhibit 1 shows how Taiwan's health system capacity compares with that in six other countries.

The relatively low bed occupancy in Taiwan hospitals is indicative of overall excess capacity in Taiwan's hospital system. That excess capacity has triggered fierce competition among hospitals for patients, who, like patients in other nations where there is abundant health system capacity, run the risk of being viewed by revenue-hungry hospitals as "biological structures yielding cash" (BSYCs). Providers are known to offer incentives to attract patients, such as providing transportation to the hospital and seeing patients on nights and weekends.

However, the capacity of Taiwan's system is unevenly distributed geographically and by specialty. For example, while the overall ratio of physicians per 1,000 population in 2001 was 1.37, it was only 0.33 among Taiwan's aboriginal people and 0.8 in the mountainous areas and offshore islands. These two groups constitute 0.89 percent of Taiwan's population. Shortages also have been identified in psychiatric bed capacity and community rehabilitation centers. Finally, there is a shortage of practitioners in certain medical specialties in which either the fees are low, the level of difficulty of the work is high, or the risk for malpractice suits is high and compensation not commensurately higher (for example, inpatient care, emergency care, major illnesses, surgery, pediatrics, and obstetrics/gynecology).

**Genesis Of Taiwan’s National Health Insurance**

Before the NHI was established in 1995, Taiwan had ten different public insurance schemes, each covering a particular subset of the population: Labor Insurance (1950), Government Employees Insurance (1958), Farmer’s Insurance (1985),

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**EXHIBIT 1**

*International Comparison Of Health System Resources, Per 1,000 Population, 1999*

<table>
<thead>
<tr>
<th></th>
<th>Taiwan</th>
<th>U.S.</th>
<th>Canada</th>
<th>Germany</th>
<th>U.K.</th>
<th>Japan</th>
<th>S. Korea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute care beds</td>
<td>5.7</td>
<td>3.6</td>
<td>4.1</td>
<td>9.3</td>
<td>4.1</td>
<td>16.4</td>
<td>5.5</td>
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<tr>
<td>Percent occupied</td>
<td>62.8%</td>
<td>66.0%</td>
<td>NA</td>
<td>78.0%</td>
<td>82.1%</td>
<td>84.6%</td>
<td>NA</td>
</tr>
<tr>
<td>Physicians</td>
<td>1.3</td>
<td>2.7</td>
<td>2.1</td>
<td>3.4</td>
<td>1.8</td>
<td>1.9</td>
<td>1.3</td>
</tr>
<tr>
<td>Nurses</td>
<td>3.6</td>
<td>8.3</td>
<td>7.5</td>
<td>9.6</td>
<td>4.5</td>
<td>7.8</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Low-Income Household Insurance (1990), and so on. Together the ten programs covered 59 percent of Taiwan’s population of 21.4 million at the time, leaving uninsured 8.62 million, or 41 percent of the population, the majority of whom were children under age fourteen and adults older than age sixty-five, whose need for health care is greatest. U.S.-style private health insurance did not exist. By the mid-1980s the wealth that had come with rapid economic development began to fan a growing public demand for better health insurance coverage, eventually prompting the government to introduce a full-fledged universal national health insurance program.

The planning stage for the NHI took seven years, from 1986 to 1993, under the long-ruling KMT (Guomindang, or Nationalist Party) government. In 1987 Taiwan abolished the martial law that had been in force since the KMT government’s retreat from the Mainland in 1949. This step paved the way for Taiwan’s transition to a vibrant democracy, which in turn strengthened the country’s opposition Democratic Progressive Party (DPP). The DPP had long advocated the establishment of universal national health insurance. To preempt that political challenge, the KMT government, under the leadership of President Lee Teng-Hui, submitted in 1993 its NHI bill to Parliament. After eighteen months of intense parliamentary debate and lobbying, the bill was passed 19 July 1994.

Under the pressure of looming elections, President Lee decreed that the NHI was to begin operations by 1 March 1995, only two months after the establishment of the Bureau of National Health Insurance (BNHI), the central government agency charged with managing the NHI. After only brief consultation with providers in late February, the NHI was indeed launched on that date. At about the same time, across the Pacific, President Bill Clinton’s ambitious plan to provide comprehensive health insurance to all Americans lay in smoldering ruins.

Chaos and confusion accompanied the NHI’s hasty inauguration. It unnerved planners and bureaucrats, who were concerned with the inadequate planning for the NHI’s implementation. Providers were in complete shock. The public, however, quickly warmed to the new program. The program’s 39 percent public satisfaction rate at inception rose to 60 percent in six months and to 70 percent or higher thereafter, where it remained until late fall 2002. It then fell to 59.6 percent, as the public registered its dissatisfaction over a 7 percent increase in the NHI’s premium rate levied on household income.

One might criticize Taiwan for having ushered in its NHI with undue haste, as some do in Taiwan. Yet had the NHI planning stage continued through the late 1990s, as originally intended, the NHI might not have come about at all. Although Taiwan largely escaped the deep financial crisis befalling many Asian nations in 1997–98, its economy was nevertheless affected, which might have moved policymakers to put off implementation of the NHI, perhaps indefinitely.
Overview And Modus Operandi Of Taiwan’s NHI

Taiwan’s NHI is a government-run, single-payer national health insurance scheme, financed through a mix of premiums and taxes, that compensates a mixed public and private delivery system predominantly on a fee-for-service basis.16 NHI enrollment is mandatory, to ensure adequate risk pooling and the broad-based collection of funds to finance the NHI. More than 96 percent of Taiwan’s population is now enrolled.17

■ Administration. Taiwan’s NHI is administered by the BNHI, under the jurisdiction of the national government’s Department of Health (DoH). By law, the BNHI is to fund and operate the NHI on a self-sustaining basis largely from premium revenues collected from households. As a single-payer entity, the BNHI exercises considerable monopsony power over fees, drug prices, and other “terms of engagement” with providers.

The program’s administrative burden was 2.2 percent of the NHI’s total budget in 2001, although the NHI Law (Article 68) allows the BNHI to spend as much as 3.5 percent of its annual budget for administration.18 This low—perhaps too low—overhead rate is quite similar to that of the single-payer U.S. Medicare program of less than 2 percent.19 The low administrative overhead ratio in Taiwan reflects in part the fact that 99 percent of all BNHI claims are processed electronically. Even so, U.S. experts have argued that a health insurance program cannot be efficiently operated on such a low administrative budget.20 U.S. private health insurers routinely allocate a multiple of Taiwan’s 2 percent ratio for administration alone.21

■ Benefits. The NHI’s benefits are comprehensive. They include inpatient care, ambulatory care, laboratory tests, diagnostic imaging, prescription and certain over-the-counter (OTC) drugs, dental care (except orthodontics and prosthodontics), traditional Chinese medicine, day care for the mentally ill, limited home health care, and certain preventive medicine (pediatric immunizations, adult health exams including pap smears, prenatal care, and well-child checkups). Expensive treatment for HIV/AIDS and organ transplants are also covered. This benefit package is much broader than that of the U.S. Medicare program.

■ Access and freedom of choice. More than 90 percent of Taiwan’s health care providers contract with the BNHI.22 Unlike U.S. managed care models, the NHI offers the insured complete freedom of choice among providers and therapies. There is no rationing of care, and there are no queues for care, as in the British and Canadian systems. The de facto absence of a referral system, so far, and the completely free choice of providers has meant that patients can go doctor shopping, and they often do.23 Furthermore, they can seek care at tertiary care institutions, regardless of the nature or severity of their illness.

■ Use of services. An analysis of the NHI’s immediate impact on the use of health services revealed that less than one year after its introduction, the hitherto uninsured used about twice the number of outpatient visits, hospital admissions, and emergency services as they had before the NHI began, bringing them up to par
with those who had insurance before. By contrast, use rates for the previously insured group rose only slightly. If the NHI’s aim was to remove financial barriers to health care, the program appears to have reached that goal almost immediately.\textsuperscript{24}

Overall, while Taiwan’s population grew 5.2 percent between 1994 and 2000, the volume of services delivered greatly increased.\textsuperscript{25} Between 1994 and 2000 total hospital outpatient visits increased by 16.6 percent, emergency room visits by 42.2 percent, outpatient surgery by 56.4 percent, inpatient surgery by 19.7 percent, kidney dialysis by 80.4 percent, and inpatient hospitalization by 18 percent.\textsuperscript{26}

With the exception of certain costly high-tech treatments (for example, heart, lung, liver, and bone marrow transplants, or gamma radiation) for which prior BNHI authorization is needed, there are effectively no ceilings on utilization in the NHI. This has resulted in high health care use rates, especially outpatient care. Outpatient visits averaged 14.4 per capita in 2001, compared with 5.8 for the United States (1996), 6.4 in Canada (1998), 6.5 in Germany (1996), and 16 in Japan (1996).\textsuperscript{27} In Taiwan there were 129 hospital admissions per 1,000 population in 2001, which is roughly comparable with the acute care hospital admission rate of 118 per 1,000 population in the United States and 99 in Canada.\textsuperscript{28}

\textbf{Total health spending.} The NHI might have been expected to drive up the percentage of Taiwan’s gross domestic product (GDP) spent on health care. In fact, since the NHI’s inception, the ratio has risen only modestly, from 5.29 percent in 1995 to 5.44 percent in 2000—less rapidly than it rose during the first half of the 1990s.\textsuperscript{29} A more inclusive estimate based on the Organization for Economic Cooperation and Development (OECD) national health spending accounts, however, puts the proportion for 2000 as high as 6.02 percent.\textsuperscript{30}

The NHI itself accounted for only 55.52 percent of Taiwan’s total national health spending (just as Medicare covers only about half of the total health spending for elderly Americans) (Exhibit 2).\textsuperscript{31} Out-of-pocket spending by households accounted for 32 percent; government spending outside the NHI, 8.4 percent; and other private sources, 4 percent.

\textbf{Cost sharing by patients.} Out-of-pocket spending by households represents services not covered by the NHI, such as orthodontics, prosthodontics, lab tests that are not medically necessary, extra charges for non-NHI beds, special nurses and physicians requested by patients other than those routinely assigned by the hospital, long-term care, and nursing home care. It also includes “user fees” and copayments for NHI-covered ambulatory care, inpatient care, and pharmaceuticals.\textsuperscript{32} User fees are levied per contact with the provider—akin to a cover charge in certain European restaurants. They are set by the relevant providers’ associations, with ceilings imposed by the BNHI. Copayments are levied on each component of a treatment. Exceptions are made for major illness or injury, deliveries, certain preventive services (such as pediatric immunizations and pap smears), and medical services delivered in defined mountainous and remote areas and to low-income households, veterans, and veterans’ sole survivors. Moreover, copayments vary by type of provider. They
are highest for outpatient care at medical centers and lowest for clinics.

Ceilings on copayments for both ambulatory and inpatient care have been established so as not to place undue financial burden on the ill. Critics, however, argue that the burden of copayments still falls mostly on the sick who are already disadvantaged and are often poor and thus violates the principle of horizontal equity, the core of the NHI’s founding philosophy. Before August 1999 patient copayments amounted to 8.89 percent of outpatient expenditure for the year.

Premiums collected by the NHI. The NHI is financed on a pay-as-you-go basis with the income-based premiums typical of social insurance systems. Individual families, employers, and government all pay a share of premiums. In 2000, 32.15 percent of the NHI’s total premium revenue came from employers, 38.08 percent from individuals, and 29.77 percent from government. The share of the premiums paid by the insured, by employers, and by government varies greatly within the six categories of population subgroups. For employees of public or private enterprises, for example, government pays 10 percent of the premium, the employer 60 percent, and the employee 30 percent (the latter through payroll deduction). The nonpoor self-employed pay 100 percent of their income-based premium, without any government subsidy. For military personnel and their dependents, and low-income unemployed people who are unable to pay the premium, the government subsidizes 100 percent of the premium. The premium collected by the NHI for an individual varies based on his or her number of dependents (for whom premiums are levied on a per capita basis), although dependents in excess of three are effectively insured gratis.

The income on which the NHI premiums are levied was capped at NTD$60,800
(US$1,788) per month until September 2002, when that ceiling was raised to NTD$87,600 (US$2,576). The earlier wage cap and the variable subsidies to different population groups have been controversial, as they represent much regressivity in the financing of the NHI and are administratively cumbersome.

In 2002 Taiwan's Supreme Court ruled that no one in Taiwan could be denied care because of lack of ability to pay. For those temporarily unable to pay premiums (for example, those who lose their jobs), the BNHI has a fund from which such people may take out interest-free loans to pay the premiums.

### Payment of providers.

Taiwan's health care providers obtain their revenues from three sources: (1) payments by the NHI, (2) patient user fees and copayments, and (3) proceeds from the sale of products and services not covered by the NHI. The NHI pays providers on a classic fee-for-service (FFS) basis, at uniform, national fee schedules. Unlike the fee schedules used by the U.S. Medicare program, Taiwan's fee schedules are not based on the estimated relative resource costs of providing the services in the schedules. Instead, the NHI simply adopted the relative value scales of the fee schedules used by the Labor Insurance and Government Employees Insurance in place prior to 1995, albeit at higher absolute fee levels. For example, in 1996 NHI fees for physician visits were 17–34 percent higher and for inpatient days, 19–33 percent higher than those under the Labor Insurance fee schedule.

Like all open-ended health insurance systems relying on FFS payment of providers, Taiwan's NHI has experienced rapid increases in the volume of services, which, in turn, has led to charges of supplier-induced demand for services, many of which may not have been medically necessary. Indeed, as early as 1994, before the NHI's onset, health services researchers in Taiwan wrote about this problem.

In recent years the BNHI has experimented with other payment methods, such as diagnosis-related groups (DRGs) for hospitals, primary care capitation for certain population groups (such as residents of remote areas), and even payments linked to clinical outcomes, in an attempt to control costs and improve quality. The ultimate cost control measure, however, has been the imposition of global budgets, phased in sector by sector, a process completed in September 2002 with global budgets for the huge hospital sector.

Experts in Taiwan appear to believe that the absolute level of fees paid by the NHI is too low and that many fees are considered to be below cost. In the absence of effective volume controls, providers' simplest response to low fees is to expand the volume of services they provide while reducing the resources going into each unit of service (for example, shortened visit length). The BNHI's chief executive officer, Hong-Jen Chang, remarked that “Taiwan's doctors are well paid. But they work very, very hard to use volume to make up for the low fees.” Ta-Fu Huang, chairman of the DoH's Quality Commission, has written extensively about Taiwan's medical culture of the “three-minute patient visit” with physicians that is typical of doctors in Taiwan. That fee-driven practice style may lead to misdiagnosis, improper treatment, or delays in proper treatment.
With rare exceptions, hospitals in Taiwan now reward their staff physicians individually for bringing in revenue. Traditionally, hospital-based physicians in Taiwan had been paid fixed salaries. In recent years more and more hospitals have shifted partially (mainly large public hospitals) or wholly (all private hospitals and some public hospitals) to the “professional fee” (PF) system. That system compensates doctors mainly on the basis of their revenue productivity: the number of patients seen, procedures performed, lab tests ordered, along with teaching and scientific articles published, speeches given at outside institutions, and even articles written in newspapers (these are all public relations work aimed at attracting new patients or raising the name recognition of the hospital). Although seniority counts as well, the higher the service volume a doctor or a hospital delivers, the greater will be the hospital’s revenue and the doctor’s pay.

It is to be expected that such a reward system can trigger physician-induced care that may not always be clinically indicated. The BNHI’s Chang estimates that overuse and misuse of health care may well constitute up to a third of the BNHI’s current expenditure, a view that is widely shared. Others decry the “commercialization of medicine” in Taiwan and the “profit-driven motives” of Taiwan’s providers. Finally, providers in Taiwan can and do respond to low fees for some services by profiting from the sale of products and services not covered by the NHI or by emphasizing the sale of NHI-covered products on which the NHI allows large profits. Prominent among these are prescription drugs. Drugs constituted 22 percent of total national health spending in 2000 and 23.8 percent in 2001.

The “drug price black hole.” A feature that Taiwan’s health system shares with other health systems in Asia is that hospitals are allowed to sell patients drugs at prices far above their acquisition cost, which they negotiate with the drug companies. In the Taiwan vernacular, the resulting profit margins are known as the “drug price black hole.” The U.S. analogue of this practice is the profits oncologists serving Medicare patients can earn on drugs they use in outpatient chemotherapy. Coupled with the PF system of rewarding hospital-based doctors, permitting hospitals to profit from the sale of drugs leads to a serious conflicts of interest, as it invites the overmedication of patients, including a perilous overmedication with antibiotics. According to a December 2002 study report by the DoH, close to half of the doctors in Taiwan prescribe four to five drugs per visit for upper respiratory infections, and 10 percent prescribe more than eight drugs; in only fourteen of 103,024 outpatient visits did the doctor not prescribe any drugs. The CEO of a large private hospital told me that 44 percent of his hospital’s income is derived from the prescription and sale of drugs to patients.

Quality assurance. The chief objective of Taiwan’s NHI, at its founding, was to provide unfettered access to health care for all, regardless of the patient’s ability to pay. Specific provisions for quality assurance were not part of the enabling legislation. In recent years, however, concern over quality has moved closer to center stage, as it has throughout the industrialized world.
According to the previously cited chairman of the DoH Quality Commission, “When patients in Taiwan are faced with life-threatening illnesses, although their economic burden is reduced [by the NHI], the probability of their losing their lives is several times greater than it is in the U.S. For example, survival for all cancers in Taiwan is half the rate in the U.S., deaths from anesthesia is eight times that of the U.S., deaths from tuberculosis is ten times that of the U.S., antibiotic resistance in streptococci [sic] pneumonia is the highest in the world.”\(^{53}\) In its April 2002 global budget report, Taiwan’s DoH concurred that “the policy of low cost insurance with prices frozen, which resulted in ‘fast-food health care,’ has seriously negatively impacted on both the quality of care and the medical environment.”\(^{54}\)

The BNHI in recent years has initiated a variety of quality monitoring and assurance programs, using information technology and payment incentives to move providers toward greater accountability for quality. Particularly noteworthy is an innovative experiment with payments based on clinical outcomes—the so-called fee-for-outcomes (FFO) approach. Five major diseases—breast cancer, cervical cancer, diabetes, tuberculosis, and asthma—have been selected by the BNHI to be reimbursed on the basis of process and outcomes. For example, physicians who do patient counseling or can demonstrate improvement in outcomes, such as the lowering of triglycerides in diabetic patients, are rewarded with higher payment for the following year.\(^{55}\) As countries around the globe search for ways to use the payment mechanism as an inducement to improve quality, they may be able to learn from Taiwan’s current initiatives in this direction.

Another BNHI quality initiative, ongoing since January 2001, is the construction of hospital quality indicators. Using data gathered for fifty DRGs (based on the eighteenth edition of U.S. Medicare DRG guidelines), the BNHI compiles data on rehospitalizations and repeated visits to emergency departments and shares the findings with providers to help them improve quality. A year earlier, in January 2000, the BNHI also started monitoring, through medical reviews of provider payment applications, the use of antibiotics and other prescription drugs.\(^{56}\)

A revolutionary information technology (IT) innovation to improve the quality of the NHI’s system is the introduction in 2002 of the IC-Card, to replace the traditional paper card for accessing care. This credit card–size database contains important clinical as well as personal information on its holder. It will function as a communication tool between the NHI and providers and, once fully implemented, will also make it possible to electronically transfer medical records among providers (with the patient’s consent). This sharing of clinical information may help reduce the waste of duplicative services and curb that favorite pastime of Taiwanese patients: “doctor shopping.”\(^{57}\)

**Responding To The NHI’s Budget Woes**

The original design of the NHI, embodied in the NHI Act of 1994, included the provision that the premium rate may be revised every two years, depending on ac-
Actuarial assessments of NHI finances. During the first three years of its existence, the program ran a surplus because actuarially determined premium revenues exceeded actual expenditures, which the NHI banked as a cash reserve (Exhibit 3).

Since 1998, however, the NHI's expenditures have outstripped its revenues. Over the entire period 1995–2001, NHI revenues increased at an average annual rate of 4.26 percent, while expenditures increased at 6.26 percent. The large cash reserves accumulated during the first three years were used to cover the deficits for the period 1998–2002. By mid-2002 the cash reserve had dwindled to less than a month's expenditure, forcing the BNHI to borrow from banks to the tune of NTD$50 billion a month (about one-sixth of total monthly expenditures) to pay claims. The NHI has addressed this shortfall in several ways.

- **Premium increases.** For the first seven years of the NHI's existence, its premium rates remained unchanged. Because the NHI could draw on its cash reserve after 1998 to cover deficits, the public and its political representatives resisted the idea of raising premiums in step with the growth in spending. Furthermore, the KMT government may not have considered it politically wise to raise premium rates shortly before the presidential election year of 2000.

  Only in September 2002, with the NHI facing imminent bankruptcy, was the DoH able to push through a premium rate increase of about 7 percent, from 4.25 percent of assessable income to 4.55 percent. For 90 percent of the insured public, this premium increase represents an average of NTD$40 (US$1.14) per month.

  The public and its legislative representatives had several legitimate concerns regarding the proposed rate increase and sought to make any increase conditional on remedial actions by the NHI. First, as noted earlier, there has been concern over

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**EXHIBIT 3**

Cash Revenues And Expenditures In Taiwan’s National Health Insurance, 1995–2000

<table>
<thead>
<tr>
<th>Millions of NTD</th>
<th>3,000</th>
</tr>
</thead>
<tbody>
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<tr>
<td>1,200</td>
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</tr>
</tbody>
</table>


Expenditures

Revenues

**SOURCE:** Adapted from Taiwan Bureau of National Health Insurance, Department of Health, *National Health Insurance Profile 2001* (Taipei: DoH, 2001), Table 13.

**NOTE:** NTD is New Taiwan Dollars
the horizontal equity of the premium structure. Second, some local governments have consistently failed to remit to the BNHI (or to remit on time) the share of premiums they owed. The result has been a cumulative debt owed the BNHI in the hundreds of billions of NTDs. More than 96 percent of the public pay their premiums on time, but only 68.09 percent of governments do. The BNHI continues to negotiate with governments for payment of this debt. Third, as in other countries, Taiwan’s politicians and the people they represent have resisted increased health spending before allegedly widespread waste, fraud, and abuse are eliminated from the system. As noted earlier, the public is particularly exercised over the profits providers earn from the sale of prescription drugs, although providers and some policy analysts argue that these profits are needed to cover payment deficits elsewhere in the system.

- **Increased copayments.** Even before the September 2002 premium increase, the BNHI raised copayments in July 2001 for certain types of visits, drugs, and inpatient care, although critics have decried this strategy as regressive. Copayments rose again in September 2002, and the BNHI started to charge copayments for lab tests and examinations at that time.

- **Price reductions and payment reforms.** On the supply side, in January 2001 the BNHI introduced its “reasonable outpatient volume” policy. Under that policy, the BNHI’s payments to providers decrease by a sliding scale if set limits on the “reasonable” number of patients seen are exceeded—to both reduce outpatient volume and improve quality at hospitals and clinics. Furthermore, prices were cut for 8,961 drugs in 2000, 10,248 drugs in 2001, and thousands more in 2002. The BNHI also stepped up claims reviews, eliminated subsidies for medical education, and introduced DRGs for hospitals.

- **Global budgeting.** The original design of the NHI called for global budgeting—five years after the start of the NHI. Global budgets have been credited with the successful control of costs in OECD countries in the 1980s. Borrowing especially from the Canadian and German experience, the BNHI imposed global budgets on dental care in 1998, traditional Chinese medicine in 2000, primary care in 2001, and, finally, hospitals in mid-2002, completing its phased-in program toward comprehensive global budgeting for the entire health system.

The current structure of the global budget on the large hospital sector remains highly controversial. The problem is that, at the behest of hospital leaders themselves, the budget was imposed on all hospitals in Taiwan collectively—just as the volume performance budget for physicians in the U.S. Medicare program is set collectively for all U.S. physicians. That form of global budgeting is a zero-sum game in which the players cannot effectively police one another. It is doomed to failure. For global budgets to work, they should be imposed on smaller regional units, or even on individual hospitals. Furthermore, they must be generous enough to cover the cost and the level and quality of care that is desired by society.

There is evidence that global budgeting in Taiwan has had its intended effect, at
least in the short run. Overall growth rates of per capita medical spending for every sector except clinics show declines in 2002, which suggests that global budgets are effective in controlling costs for the time being. Unfortunately, estimates are that by 2004, the year of the next presidential election, the BNHI’s spending is expected to exceed revenue once again.

A Case For Higher Spending?

To the detached observer, Taiwan's current health system conveys a confusing picture. The nation spends only 5.44 percent of its GDP on health care from all sources (or about 6 percent on a more inclusive measure). By the benchmark of the OECD countries, a nation with Taiwan's current GDP per capita (US$14,188) would be expected to spend somewhere around 7.3 percent of its GDP on health care, give or take half a percentage point. This estimate could be taken to mean that Taiwan's health system is underfunded. Not surprisingly, there have been calls for increased spending to improve equity and quality.

On the other hand, however, the accusation of widespread supply side–driven, provider-induced use of health care suggests a surplus of capacity, even at the relatively low spending level of only 5.44 percent of GDP. It leads critics of Taiwan's provider community to argue that allocating a higher percentage of GDP to health care might make the problem of excess capacity even worse and merely increase the profits of providers.

A reconciliation of these contradictory perspectives may be to argue that what is actually in surplus is relatively low-quality care, whose expansion should not be encouraged with added funds. At the same time, it probably is true that a high-quality, state-of-the-art health system with longer patient visits, more accurate diagnoses, better-equipped hospitals, timely introduction of new drugs and technology, a better information infrastructure, and superior quality all around probably would require more than the current 5.44 percent of GDP. If that interpretation is valid, any move to a higher level of spending should be carefully targeted. For example, Taiwan planners have estimated that the current supply of psychiatric beds falls about 3,200 beds short of the required 22,000, and the number of beds in community rehabilitation centers is estimated to fall 3,500 short of the required 4,500. These subsectors should be the initial targets of added funding. Finally, additional funding should be directed to the development of an IT infrastructure capable of identifying waste, fraud, and abuse and, at the same time, inducing the delivery system to practice high-quality, evidence-based medicine.

Concluding Observations

Like any new social program and any private/public health insurance system, Taiwan's NHI has had its share of problems, but they do not negate the country's considerable accomplishments in health policy. Americans, whose public health policy has been hostage to political gridlock for almost two decades, should be im-
pressed with Taiwan’s bold embrace and implementation of universal health insurance. For their part, policymakers in Taiwan, who may sometimes despair of the problems they encounter, might take solace in the fact that the thirty-seven-year-old U.S. Medicare and Medicaid programs still wrestle with the very same problems, as does the Canadian health insurance system of roughly similar age and, indeed, the world’s oldest social health insurance system, that of Germany.

It can be hypothesized that Taiwan was able to establish its NHI only because of a confluence of several conditions conducive to so bold an initiative. First, there was a strong public demand for universal health insurance. Second, an entrenched political party with a parliamentary majority found itself challenged by a rising opposition party that had openly embraced universal health insurance. Third, sustained economic growth had led to an era of prosperity that made financing a major new program of this sort feasible. The confluence of these conditions presented Taiwan’s political leadership with an opportunity that it recognized and seized boldly. The lesson for policymakers elsewhere is that such windows of opportunity come along only every so often and that the quest for perfection can easily become the enemy of the good.

A second major lesson to emerge from Taiwan’s experience is that social insurance programs can easily fall victim to the Tragedy of the Commons, in which commonly owned properties face the risk of depletion from overuse by individuals seeking to maximize their own well-being without regard for the common good. The challenge health policymakers face is to educate the public to the fact that a social health insurance system, too, faces this type of threat. The challenge is to involve the citizenry more directly into making the nation’s trade-off between spending on health care and on other competing worthwhile ends.

In the United States, attempts to involve the insured more directly in this trade-off take the form of shifting from defined-benefit to defined-contribution insurance, but on an individual basis. The idea is to have employers or government grant each person a specified amount toward the purchase of private insurance coverage; the insured person pays out of pocket the difference between that defined contribution and the premium charged for the policy he or she chooses. By contrast, under the Generation 2 (G2) reform now being contemplated, Taiwan policymakers are thinking of involving the insured in this trade-off at the collective level. The idea is to freeze the annual contributions toward the NHI made by employers and by government out of general funds, and to let increases in health spending by the NHI flow through annually into increases in the common premium rate paid each year by the insured on their assessed income.

This strategy envisioned in the G2 reform would largely preserve Taiwan’s social contract of solidarity and yet apprise the citizenry more forcefully than is the case now of the trade-off their and their physicians’ decisions have forced on the nation. Such a strategy, however, could work only (if at all) if the citizenry were carefully educated on the linkage between their behavior and their physicians’ be-
behavior and the premium increases necessitated by the NHI’s spending. At the same time, it puts greater onus on the BNHI and on government in general to convince the public that the waste, fraud, and abuse now widely attributed to the system has been largely eliminated.

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NOTES
3. Chang, “Taiwan’s National Health Insurance.”
5. Ibid., III-9; and K.Y. Tan, “Growth in Doctor Manpower since Implementation of the NHI” (table, in Chinese) (Presentation at DoH Seminar on the NHI, Taipei, 6 December 2002).
12. Ibid., 59.

17. Among the uninsured are the unemployed, the economically disadvantaged, in particular those just above the poverty level, those who are overseas, and those who simply refuse to join. Chang, “Taiwan’s National Health Insurance.”

18. Ibid.


22. BNHI, National Health Insurance Profile 2001, 3. The BNHI contract rate with providers in 2000 was 91 percent.


26. Ibid., III.16.


30. J.F. Lu and W.C. Hsiao, “The Development of Taiwan’s National Health Accounts,” Taiwan Economic Review (in Chinese, with English abstract) 29, no. 4 (2001): 547–576. The authors include, for example, premiums paid by individuals for disease-specific (for example, cancer) medical insurance policies and the medical benefit payment parts of life and accident insurance policies. Consequently, total national health spending rises to 6.02 percent, and out-of-pocket spending by households rises to 34.5 percent.


33. Yeh, The Legend of National Health Insurance, 68.

34. BNHI, National Health Insurance Profile 2001, 13.


36. NTD is the New Taiwan Dollar, the currency used in Taiwan. As of November 2002, US$1 = NTD$34.


39. C.L. Yaung, “Health Care Reform in Taiwan” (Unpublished manuscript, National Taiwan University, 1994), 29.


42. Huang, Focus on the Right Things, 118–120, 125–129. In personal interviews (Taipei, May 2002), top health officials, including the then Minister of Health Ming-Liang Lee and BNHI’s Chang, all expressed great concern over the impact of the short visit time on the quality of care.


44. Ming-Ru Lee, chief of ENT, Ho-Ping Municipal Hospital, telephone interview, Taipei, 30 May 2002; and Huang, Focus on the Right Things, 78–79.
45. Chang, BNHI, personal communication, 30 May 2002. Among others, Ching-Jen Wang, chief administra-
tor and chief of staff of Chang-Gung Memorial Hospital in Kao-Hsiung, concurred with Chang (Wang,
interview, 28 May 2002). See also Huang, Focus on the Right Things, 123.
46. T.L. Chiang and C.Y. Ting, “Commercialization of Medicine: Inevitable Trend?” Taiwan’s Medical World (in
47. DoH, Republic of China 2000 Health Statistical Trends, IV-13. Figure for 2001 comes from the Health Policy Re-
search Department, Koo Foundation Cancer Center, Taipei, based on 2002 BNHI claims data, in BNHI, NHI
2003.
50. R.L. Sung et al. (Koo Foundation Cancer Center), Improving the Quality of Outpatient Care: An Analysis of Utiliza-
tion of Outpatient Care and Public Education (in Chinese) (Study report supported by a grant from the DoH, 31
December 2002), 41.
52. Huang, Focus on the Right Things, 141.
53. Ibid., 122–123.
55. Interviews with Yu-Chune Lee, associate professor, Institute of Health and Welfare Policy, National
Yang-Ming University, and with Huang and Chang, Taipei, 28–29 May 2002.
56. Chang, “CEO’s Remarks.”
57. A popular joke in Taiwan is that a regular patient’s absence one day from a hospital’s outpatient clinic
must mean that the patient is sick.
58. DoH NIH Supervisory Committee Special Report, “Revenue and Expenditure Forecast and Response
the eighty-fourth meeting of the DoH NIH Supervisory Committee (in Chinese) (Taipei: BNHI, 31 May
60. Chang presentation, DoH Seminar on the NHI, 6 December 2002.
61. The premium collection rate from individuals is between 95.65 and 98.85 percent. See BNHI, National
63. It is not uncommon for a doctor to see more than 100 patients in a session (sessions may vary from three to
six hours and are determined by the doctors). See Huang, Focus on the Right Things, 117, 119, 132, 137, 165; and
Huang, personal communication, 1 February 2003. The comparable figure in the U.S. is twenty patients.
Huang, Focus on the Right Things, 163.
64. Chang, “NHI Policy Priorities and Future Directions”; and Yeh, The Legend of National Health Insurance, 90.
65. T.L. Chiang, “Reforming the National Health Insurance: Issues and Directions” (in Chinese) (Paper pre-
sented at the National Social Welfare Conference organized by the Ministry of the Interior, Taipei, 20–21
67. Ibid.
68. Chang, “Taiwan’s National Health Insurance”; and U.E. Reinhardt, P.S. Hsu, and G.F. Anderson, “Cross-
National Comparisons of Health Systems Using OECD Data, 1999,” Health Affairs (May/June 2002): 180,
Note 12. Researchers in Taiwan have suggested a viable range of 6.5–7.5 percent.
69. Yeh, The Legend of National Health Insurance, 105. Yeh cites the view of the National Committee on the “NHI
Check Up” calling for spending in excess of 6 percent GDP. Huang, interview, 28 May 2002.
70. Tan, “Psychiatric Beds and Rehab Resources.”
72. G2 reform is a government initiative, under the direction of presidential adviser S.C. Hu and former BNHI
CEO M.S. Lai, that seeks to address the major challenges facing the NHI.