Learning from Taiwan: Experience with Universal Health Insurance

As the 2008 presidential election renews the debate about health insurance coverage, the United States can learn from the experience of countries that have recently moved to achieve universal coverage. What gains can we expect from coverage for all in improved health, better access to health care, and reduced financial burdens for the most vulnerable patients? What are the potential downsides of a single-payer system of health care financing?

In this issue, Wen and colleagues (1) provide insights into these questions. Their analysis of trends in life expectancy before and after the introduction of national health insurance in Taiwan in 1995 suggests a substantial payoff for investing in health insurance for all, but it also indicates the importance of a broad, systemic approach to health reform.

Since 1995, when Taiwan implemented universal national health insurance legislation, coverage has increased from 57% to 98% of the population. National health insurance added coverage for children, elderly persons, and nonworking adults. In addition, copayments (10% for inpatient and 20% for outpatient care) were waived for the very poor, veterans, and aborigines. To examine the contribution of universal coverage to improved health, Wen and colleagues (1) compared trends in life expectancy for the decade before the introduction of national health insurance (1982–1984 to 1992–1994) with the decade after (1992–1994 to 2002–2004). Life expectancy for men improved 2.39 years during the decade after national health insurance, which does not differ statistically from the gain of 2.27 years during the decade before national health insurance. Similarly, life expectancy for women improved 0.05 year more in the period after national health insurance was introduced than in the period before. These overall results, however, may not be sensitive to changes caused by national health insurance, because more than half of the population was covered in the period before national health insurance.

Of greater importance is the effect of national health insurance on the most vulnerable: those who were uninsured before national health insurance. Wen and colleagues (1) attempt to examine this by dividing the country into 10 health class groups after rank-ordering townships by mortality rates before the introduction of national health insurance. They found that health class groups are a more specific indicator of success because the higher-ranked health class groups are considered healthier than the lower-ranked classes before national health insurance. They found substantial disparities in mortality rates before national health insurance, with standardized mortality rates ranging from 0.57 to 0.77 in the healthiest decile of townships and from 1.17 to 3.19 in the least healthy townships. After the introduction of national health insurance, life expectancy improved substantially more in the health class groups that initially had the highest mortality rates. Furthermore, the gap in life expectancy for men between health class groups 1 (the healthiest) and 10 (the least healthy), which increased in the decade before national health insurance from 8.37 years to 10.65 years, declined to 10.03 years by 2002–2004. They found a similar pattern of disparities for women: widening before and then narrowing afterward. The findings suggest that national health insurance improved health outcomes (although modestly) for those who were the least healthy, which is expected because the most vulnerable portions of the population benefited the most from the new reforms.

The results are not conclusive, because the before-and-after design does not permit comparisons over time with populations that did not experience improved coverage. In a recent study, Nolte and McKee (2) explored the trends in mortality rates amenable to medical care in 19 industrialized countries and found a 17% decline in mortality rates from 1997–1998 to 2002–2003. The experience with national health insurance in Taiwan could be part of a broader trend in improved health outcomes. A comparable analysis of Taiwan's experience using a different and more sensitive measure than life expectancy needs to be done. The analysis by Wen and colleagues (1), however, is unique because it explores the reductions in disparities across health class groups. It lends credence to the hypothesis that introduction of national health insurance accelerated improvement in health outcomes for those who were worse off before reforms.

Further supporting the contribution of national health insurance is the improvement in mortality from cardiovascular disease, ill-defined conditions, and infectious diseases. The Institute of Medicine found that uninsured persons in the United States are at greater risk for death and are less likely to receive life-saving care for many ultimately fatal conditions (3).

Wen and colleagues (1) suggest the importance of a multifaceted strategy for reducing health disparities. They note that a helmet law introduced in 1997 undoubtedly contributed to the reduction in accident mortality rates among lower socioeconomic groups. The authors stress that a broader, systemic strategy will be required to reduce many of the risk factors that contribute to disparities, including higher rates of smoking and betel nut chewing, higher alcohol consumption, and obesity, among poorer populations.

One major issue in the United States is the extent to which any universal health insurance proposal would increase its already high proportion of gross domestic product devoted to health care. Another issue is whether the investment in improved access will have unintended consequences on other dimensions of health system performance. Again, Taiwan's experience is reassuring in some

© 2008 American College of Physicians

respects yet poses a cautionary tale in others. Health spending remained almost unchanged at 5% to 6% of the gross domestic product. Taiwan contained costs by a combination of tactics: heavily discounted payments to providers, increased patient out-of-pocket costs for devices and medications not covered by national health insurance, and copayments to national health insurance if patients needed tertiary care without a referral. On average, patients have 14 physician visits per person per year (far more than in most industrialized countries); however, a standard visit is less than 5 minutes in length (4). In these brief visits, the physician's focus is on treating symptoms and prescribing medications, not listening to patients. Patients do not have time to address their comorbid conditions and rarely undergo a careful physical examination or history.

Inappropriate physician payment incentives by national health insurance can adversely affect the specialty choices of medical trainees, and therefore the direction of postgraduate medical education in Taiwan. Trainees tend to choose specialties that allow a simpler payment process through national health insurance (such as dermatology), or specialties not covered by national health insurance (such as cosmetic surgery) that bring in much higher, out-of-pocket payments from patients. They tend to ignore poorly paid specialties covered by national health insurance (for example, obstetrics and gynecology). These distorted payment incentives may seriously affect the match between Taiwan's physician workforce and its health care needs.

The long-run sustainability of the Taiwan health insurance system is in question. Taiwan is experiencing health care budget shortfalls (documented in Table 4 in the article by Wen and colleagues) and an increasing national debt. Heavy reliance on public financing of health care has a potential downside: The government may respond to future fiscal crises by reducing payments to physicians. The risk remains that national health insurance will undermine quality of care by channeling resources to low-payoff services that deliver minimal health returns. Furthermore, the heavy commitment of resources to short-term care and comprehensive coverage for the care of illness undermines funding for potentially higher-payoff activities, such as public health and health promotion to combat high smoking rates and obesity. Taiwan's research and education budget is currently an extremely low percentage of its national health expenditure.

Taiwan's experience with national health insurance sends a message to the United States. The improvement in life expectancy, although modest, for health class groups with the least healthy outcomes before national health insurance lends credence to the argument that the United States should join other industrialized nations in ensuring universal health insurance coverage. Why does the United States, a country that devotes 16% of its gross domestic product to health care and has higher per capita income, not do what every other industrialized nation has done (5)? Our failure to introduce national health insurance undermines access to care for millions and is a major factor in health outcome disparities and highly preventable deaths in the United States. The experience in Taiwan suggests that the lack of national health insurance is one, but not the only, factor in disparities, as measured by mortality rates.

Taiwan's experience also underscores the importance of commitment to adequate financing and a multipronged strategy that simultaneously attempts to improve access, quality, and efficiency. Coverage for all does not need to come at the price of substandard quality, a demoralized health workforce, inadequate investment in public health and health promotion, overpayment for specialized care, and wasteful use of short-term care resources (6). To avoid these pitfalls, the United States must design health reform so that we move simultaneously toward improved access to care and a high-performance health system.

Karen Davis, PhD
The Commonwealth Fund
New York, NY 10021

Andrew T. Huang, MD
Duke University Medical Center
Durham, NC 27710

Disclaimer: This work is original and reflects the views of the authors, not those of the officers, directors, or staff of The Commonwealth Fund.

Potential Financial Conflicts of Interest: None disclosed.

Corresponding Author: Karen Davis, PhD, The Commonwealth Fund, 1 East 75th Street, New York, NY 10021; e-mail, kd@cmwf.org.

Current author addresses are available at www.annals.org.

Ann Intern Med. 2008;148:313-314.

References

1. **Wen CP, Tsai SP, Chung WS.** A 10-year experience with universal health insurance in Taiwan: measuring changes in health and health disparity. Ann Intern Med. 2008;148:258-67.
2. **Nolte E, McKee CM.** Measuring the health of nations: updating an earlier analysis. Health Aff (Millwood). 2008;27:58-71. [PMID: 18180480]
3. **Institute of Medicine.** Care without Coverage: Too Little, Too Late. Washington, DC: Institute of Medicine; 2002.
4. **Cylus J, Anderson GF.** Multinational comparisons of health systems data 2006. New York: The Commonwealth Fund; 2007.
5. **Huang AT, Wang CH J, Yaung CL.** Insuring Taiwan's health. McKinsey Quarterly. 2001;4:13-6.
6. **Commonwealth Fund Commission on a High Performance Health System.** A High Performance Health System for the United States: An Ambitious Agenda for the Next President. New York: The Commonwealth Fund; 2007.

Current Author Addresses: Dr. Davis: The Commonwealth Fund, 1 East 75th Street, New York, NY 10021.
Dr. Huang: Duke University Medical Center, Box 3942, Durham, NC 27710.