prepared to promise that "things can and will get better" — something the English say only in jest.

With some of this energy and optimism, the English could stop waiting for government directions and go ahead and make the changes they want. With a bit of English stoicism, Americans might find that as a nation, they can make difficult choices and get better care at lower cost.

Each country has strengths to be proud of and weaknesses that demand humility. Translating the best of each system need not mean transplanting the worst as well: a synthesis of the two systems could conceivably cover everyone, offer choice and competition, blend bottom-up creativity with top-down strategy, and integrate services so that patients get the right care in the right places. In the future, English and U.S. health care organizations could compete for patients on the basis of the integration of delivered care.

We're not being utopian; we're being strategic. Converting the sin of envy into a virtue can strengthen both health care systems and make our countries' special relationship that much more special.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

From Reform, London (N.S); and Partners Healthcare System and Harvard Medical School — both in Boston (T.H.L.).

- 1. Health systems financing: the path to universal coverage. Geneva: World Health Organization, 2010.
- **2.** Malcolmson J, Bailey M, et al. Report of the Office of Health Economics Commission on Competition in the NHS. London: Office of Health Economics, January 2012.
- **3.** Davis K, Schoen C, Stremikis K. Mirror, mirror on the wall: how the performance of the U.S. health care system compares internationally: 2010 update. New York: The Commonwealth Fund, 2010.
- **4.** Rudd A. The impact of reorganization of acute stroke care in London. Lisbon, Portugal: European Stroke Congress, 2010.
- **5.** Casale AS, Paulus RA, Selna MJ. "Proven-Care": a provider-driven pay-for-performance program for acute episodic cardiac surgical care. Ann Surg 2007;246:613-23.

DOI: 10.1056/NEJMp1302810
Copyright © 2013 Massachusetts Medical Society.

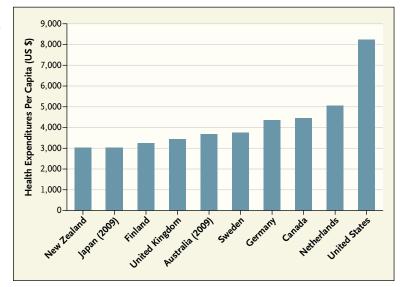
Reevaluating "Made in America"— Two Cost-Containment Ideas from Abroad

Gerard F. Anderson, Ph.D., Amber Willink, M.I.P.H., and Robin Osborn, M.B.A.

er capita spending on health care in the United States is more than double that in most other high-income, highly industrialized countries (see graph), yet performance on indicators of health status is often worse. The Institute of Medicine recently reported that there is a "strikingly persistent and pervasive pattern of higher mortality and inferior health" in the United States than in other high-income countries.1 We believe that this poor correlation between spending and outcomes should prompt a reevaluation of current cost-containment efforts.

Unlike the United States, which tends to have a "Made in America" orientation, many other countries routinely incorporate and adopt policies developed elsewhere in efforts to improve their own health care systems. This U.S. mindset runs counter to the global transfer of ideas that has

become second nature in biomedical research and many other industries. The uniqueness of the



Per Capita Health Expenditures of 10 Selected Countries in the Organization for Economic Cooperation and Development (OECD), 2010.

Data are from the OECD.

U.S. health system is often cited as a reason for not exploring international cost-containment approaches, and yet many features of our system were adapted from those in other industrialized countries; for instance, employer-based health insurance originated in Germany, and hospice was adapted from Britain.

For many years, articles have been written about the high prices that the United States pays for medical services and how all-payer rate setting, reference pricing, and global budgets could reduce the prices the United States pays for services.2 We examined two additional cost-containment pricing strategies that could be adapted to the U.S. health care context: a bundled-payment system from Germany and volume-driven pricing adjustment from Japan. These promising policies could be introduced as technical adjustments to the existing payment system rather than requiring large-scale reform — a possibility that renders the "uniqueness" argument moot. In addition, the international experiences could provide guidance on what the likely effects and unintended consequences would be if these approaches were adopted in the United States.

Although Germany's primary payment method for hospital inpatient care, which uses diagnosis-related groups (DRGs), originated in the United States, there are some distinct differences between the two countries in its application. The effects of these differences become apparent in hospital spending. According to the Organization for Economic Cooperation and Development (OECD), the average payment for a hospitalization in the United States is more than \$19,000, whereas it is

less than \$5,000 in Germany, even though German patients remain in the hospital almost 50% longer, on average, than American patients.

The German DRG system results in bundled payments that include physician services and an episode of care spanning 30 days after admission or, for patients with very complicated conditions, all care provided before the upper outlier limit of length of stay is reached. There is no additional payment if a patient is rehospitalized, though there are some exceptions to this rule related to whether the first and second admissions are clinically related and whether the readmission is planned. The inclusion of physicians' services in DRGs is made possible because most physicians are hospital employees, but since increasing numbers of U.S. physicians are becoming hospital employees, the concept could be introduced here as well.

According to a 2009 study, the Medicare program spent approximately \$17 billion on readmissions that occurred within 30 days after discharge.3 Changes introduced by the Affordable Care Act (ACA) will include financial penalties for hospitals that exceed a preset readmissions rate among Medicare patients, although that policy currently applies to only a few clinical conditions whereas the German program applies to nearly all patients.4 Medicare is also piloting alternative systems of bundled payments, investigating, through the Medicare Bundled Payments for Care Improvement program, the effect of extending the episode-of-care window to 30 or 90 days post-hospitalization and, through the Medicare Acute Care Episode Demonstration project, the possibility of including both hospital and physician inpatient services. The German DRG model provides a valuable template for making these changes, and the German experience should be considered as the United States evaluates the current demonstrations.

Japan offers a second approach to changing the payment system. Japan pays providers primarily according to a fee-for-service model yet has been able to keep per capita spending and prices low.5 One of the important distinctions is that the Japanese payment system monitors utilization of specific services and then adjusts its payments to reflect the changes in volume for each service. If the volume for a given service has increased more than expected, prices may be reduced accordingly. The concern is that a too-high payment rate may have created an incentive for excessive utilization. Alternatively, prices may be increased for certain services for which increased utilization is a policy objective, such as end-of-life care. Volume-driven pricing adjustments often raise initial concerns about rationing of medical technology and effects on innovation. However, patients in Japan have consistently enjoyed excellent access to health care services (there are very high rates of physician visits and hospital days) as well as to expensive medical technology.

In the United States, there has been an attempt to contain utilization of all physician services with the use of the sustainable growth rate formula (SGR). The current approach used by the Centers for Medicare and Medicaid Services (CMS) and the Medicare Payment Advisory Commission

(MedPAC) involves comparing costs with payment rates — an approach that does not identify services whose utilization is increasing because prices are set too high. Japan has taken a different approach in responding to high rates of utilization, by monitoring specific services whose use grows substantially, rather than lumping all physician procedures together. In the United States, line-item revisions could replace the SGR and guide revisions of the resource-based relative-value scale, DRGs, and Ambulatory Payment Classification rates.

One reason for the success of this policy in Japan is the country's system of setting rates for all payers. Unless other U.S. payers implemented the same approach as Medicare, Medicare beneficiaries could have problems with access to the services whose reimbursement rates were reduced. Although Japan's evaluation of volume in determining prices is instructive, the United States may want to develop its own approach to determining whether a volume increase is appropriate or inappropriate for a particular procedure.

Creating a high-performing health system entails challenges that are being addressed by other countries. Incorporation of international evidence-based policy initiatives might enhance U.S. cost-containment efforts. Germany's bundled payments and Japan's payment adjustments are two of the many options that are translatable and relevant to the U.S context.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

From the Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore (G.F.A., A.W.); and the International Program in Health Policy and Innovation, the Commonwealth Fund, New York (R.O.).

- 1. Woolf SH, Aron L, eds. U.S. health in international perspective: shorter lives, poorer health. Washington, DC: National Academies Press, 2013.
- Anderson GF, Reinhardt UE, Hussey PS, Petrosyan V. It's the prices, stupid: why the United States is so different from other countries. Health Aff (Millwood) 2003;22:89-105
- 3. Jencks SF, Williams MV, Coleman EA. Rehospitalizations among patients in the Medicare fee-for-service program. N Engl J Med 2009;360:1418-28. [Erratum, N Engl J Med 2011;364:1582.]
- 4. Ikegami N, Anderson GF. In Japan, allpayer rate setting under tight government control has proved to be an effective approach to containing costs. Health Aff (Millwood) 2012;31:1049-56.
- **5.** Health at a glance 2011: OECD indicators. Paris: OECD Publishing, 2011 (http://dx.doi.org/10.1787/health_glance-2011-en).

DOI: 10.1056/NEJMp1302140
Copyright © 2013 Massachusetts Medical Society.

The Role of the NIH in Nurturing Clinician-Scientists

Michael M. Gottesman, M.D.

he awarding of the 2012 Nobel Prize in Chemistry to Robert Lefkowitz and Brian Kobilka, both M.D.s trained in cardiology, for their work on characterizing the structure and function of beta-adrenergic receptors, should remind us of the critical role that clinician-scientists have played in formulating the seminal concepts that govern modern biomedical science. Much has been written since the 1970s about the demise of the physician-scientist^{1,2} — as evidenced by the declining share of RO1 grants that the National Institutes of Health (NIH) awards to physicians - and the economic factors that have driven physicians away from the laboratory and research clinic into more

remunerative clinical practice. Even as the reasons for this shift are debated, physician-scientists continue to make critical contributions to biomedical research; indeed, in the past 2 years, three researchers with medical degrees have won the Nobel Prize in Physiology or Medicine — Shinya Yamanaka (2012), Bruce Beutler (2011), and Ralph Steinman (2011). Considering that less than 2% of physicians conduct research as their primary profession,3 this is an impressive showing for physicianscientists competing with a much larger pool of Ph.D.s.

Nevertheless, we at the NIH share the concern that some of the best, most creative clinically trained scientists are shying away from research, and we want to work with the broader research community to help reverse this trend. The profound effect that clinically trained scientists have had on our understanding of basic human biology argues that we must sustain the flow of such scientists into research careers. To do so, we must surmount two barriers: an apparently decreasing interest by medical and dental students in establishing research careers and the increasing difficulty that research-oriented physicians and dentists face in pursuing their research interests full time without the distractions of clinical practice.

The NIH is addressing the former problem — getting students,