

BY UWE REINHARDT

A recent, well-regarded study sponsored by the Business Roundtable, an umbrella trade association for large U.S. corporations, concluded that employers and employees in Canada, Japan, Germany, the United Kingdom and France spend just 63 cents for every dollar that their American counterparts shell out for health care. The difference between the United States and these others is apparently determined in part by the fact that we're richer: in statistical terms, roughly 90 percent of national differences in health outlays per person over a wide range of countries can be explained by differences in income.

But even adjusting for affluence, the United States is the odd man out. The fit between income and health care outlays suggests that Americans would have spent about \$4,800 per person on health care in 2006 – rather than the \$6,700 they actually spent. A big question, then – one at the heart of the current debate over health care reforms – is whether we get our money's worth for the extra \$1,900.

The Business Roundtable explored precisely that question with its new analytic tool, the "Health Care Value Index," which compares United States costs to performance relative to the five countries listed above on a 100-point scale. The Roundtable concluded that the United States faces a 23-point "value gap" relative to the others. Put another way, the study estimated that Americans receive 23 percent less bang for a health care buck than Europeans, Japanese and Canadians.

Turn value for the dollar on its head and you get cost per unit of value produced. Among health-services researchers, this cost-to-output relationship is known as the cost-effectiveness ratio. And one widely used metric for the units of value produced in that ratio is the quality-adjusted life year (QALY) – a common-sense way to measure the benefits from medical interventions in terms of longer life and happier life.

Because the cost-effectiveness ratio is merely the inverse of value for the dollar, and Americans incessantly speak about value for the dollar in health care, one would think that they would support efforts at cost-effectiveness research – CER for short. President Obama and Peter Orszag, his budget director, clearly do: the president included \$1.1 billion for CER in the economic stimulus bill passed by Congress in February. But no sooner had the ink dried on the law than some very shrill opponents of CER warned that this approach to analyzing the efficiency of the health care

UWE REINHARDT is the James Madison professor of political economy at Princeton University.



system was the work of the devil.

One of the first to trumpet the warning was Betsy McCaughey, the former lieutenant governor of New York, who is now adjunct senior fellow at Hudson Institute, a conservative Washington-based think tank. The purpose of the Federal Coordinating Council for Comparative Effectiveness Research – which was created to oversee the stimulus package outlays on CER – is, according to McCaughey, “to slow the development and use of new medications and technologies, because they are driving up costs.” Furthermore, she suggested, the clinical-practice guidelines likely to be based on CER would lead to the rationing of health care based on age, because doctors would be pressured to think twice before investing in older patients who would live a relatively short time even if their illnesses were

cured. For good measure, she added that the U.S. health industry is the largest employer in the United States, and thus controlling health spending would be a blow to the prospects for economic growth.

Inspired by McCaughey, the talk-show host Rush Limbaugh warned his listeners that “if the cost of your treatment as a seasoned citizen is deemed by the government to be too expensive based on how much longer you have to live, then you don’t get treated.” And, not to be left out of the hysteria, the conservative *Washington Times* opined that:

“This notion [of CER] is fully in the spirit of the partisans of efficiency, but came from a program instituted in Hitler’s Germany called Aktion T-4. Under this program, elderly people with incurable diseases, young children who were critically disabled and others who were

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deemed nonproductive were euthanized. This was the Nazi version of efficiency, a pitiless expulsion of the ‘unproductive’ members of society in the most expeditious way possible.”

That is nonsense. But the alarums from the right that greeted this initiative in health care reform suggest that CER needs to be better explained. And while it hardly deserves the name-calling, this analytic technique is bound to be controversial because it could help force Americans to confront the reality that, one way or another, someone must decide who gets expensive treatment.

THE CASE FOR COST-EFFECTIVENESS ANALYSIS

In other contexts, nobody would even ask for a reason to analyze cost-effectiveness. Calculating the cost of everything from cars to computers and seeking to minimize such costs, subject to meeting minimum standards of quality, lies at the heart of economic enterprise. Only those involved in delivering human services – education, the administration of justice and health care – believe themselves to be above this common-sense approach.

The attitude seems grounded on the idea that these service sectors are run by professionals, whose codes of ethics compel them to maximize social value for the resources they expend – which is another way of saying that since they naturally seek to minimize the cost per unit of value produced they don’t need oversight from soulless bean counters. The suggestion that they might actually have a personal stake in wasting other peoples’ money, or that they can’t be bothered to expend effort to maximize efficiency, is viewed as offensive. Nowhere is this self-flattering sentiment more finely honed than in health care. And nowhere are there better reasons to believe that it is misplaced.

THE SHEER GROWTH IN HEALTH SPENDING

One need go no further than the numbers to see why economists and policymakers are eager to measure the cost-effectiveness of health care delivery. The magnitude of outlays – and the growth in outlays likely in the future – is mind-boggling. Over the past four decades, the growth of health spending has outpaced the growth of GDP unrelated to health by roughly 2.5 percentage points a year. The Congressional Budget Office projects that, in the absence of successful cost-containment efforts, the United States will spend close to 40 percent of GDP on health care by 2050. Thus, even if none of the spending amounted to pure waste in the sense that patients got nothing positive from it, sooner or later someone would have to say no to some of it.

This is “rationing” – the dreaded “R-word” in health policy circles. It could be implemented in a number of ways. Patients could be asked to make the rationing decision themselves, as they do in other contexts when they decide what to buy (and what not to buy) on limited household budgets. The mechanism here is rationing by price and the patient’s ability to pay. And some health policy analysts (along with the politicians they inspire) favor this approach. They rarely say so outright, of course – the R-word is verboten – instead camouflaging it as “consumer-directed health care.”

But at the heart of this approach, the logical way to apply the principle to the existing health care system is health insurance with very high annual deductibles – say, \$10,000 per family. And there is no question that such big deductibles would lead low-income families to restrict their use of health care – in particular, prescription drugs and primary care – far more than high-income families.

The alternative to rationing by income class is to have the managers of large health insurance risk pools (be they private or public) make the rationing decisions on behalf of those insured and those who pay their insurance bills. This approach is standard operating procedure in most other countries in the industrialized world. And it is used implicitly in the United States by private and public insurers in the sense that they decide what services to cover and what not to cover.

With either approach, however, those making the decisions should have the best available information on the relative efficacy of possible therapeutic responses to medical conditions. With information on the cost of the alternative therapies, a decision maker could convert the findings into genuine cost-effectiveness analysis. Patients or their families would do this under the market approach to rationing – for example, using the analysis to decide whether to spring for an allegedly superior brand-name drug, make do with an older generic – or no drug at all. The managers of health insurance risk pools would do the same for their groups in decisions on what to cover.

Used either way, cost-effectiveness analysis would lead to a form of rationing in which patients (or their insurers) ranked care alternatives according to their benefit-cost ratios and decided what to jettison. The only way out: decide to spend the aforementioned 40 percent of income on health care by 2050. It is thus surely time for Americans to contemplate the prospect of rationing without allusions to Hitler or eugenics.

REGIONAL VARIATIONS IN HEALTH SPENDING

One need not look abroad to wonder whether Americans get top value for their health care dollars. For decades, a group of researchers at

the Dartmouth University Medical School have documented variations in health care spending across America. The Dartmouth Atlas is based on outlays by Medicare, because private insurers do not make health care utilization and prices available to the researchers.

It turns out there are wide regional variations in both the level of Medicare spending per beneficiary in 1992 and 2006 and the dif-

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ferential growth between those two years in selected regions. Indeed, this division holds true even after the data have been adjusted for inter-regional variations in the age and gender composition of the populations, service-price variations and (as much as possible) for differences in the mix of medical conditions treated. What's more, one finds extraordinarily wide differences in Medicare spending per beneficiary even by local hospital markets within states. And while, as noted, private health insurers do not share their data for such research, no one doubts that they, too, register wide regional variations in per-capita spending.

Remarkably (well, not so remarkably), Congress has never pressed for explanations for these stunning variations. No one, for example, has ever asked physicians from Miami to explain why they need twice as much

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money to treat statistically equivalent Medicare beneficiaries as their colleagues in San Francisco or Oregon. Research by the Dartmouth group has consistently shown that these spending variations can't be explained by the use of better treatments and can't be rationalized by better outcomes or even by greater patient satisfaction.

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THE TECHNIQUE UNDER A MICROSCOPE

Basically, a comparative-effectiveness analysis involves a comparison of the positive (beneficial) and negative (costly) clinical consequences of alternative courses of action. These alternatives might, for example, represent different drug regimens, conservative medical management of lower-back pain versus surgical intervention, or radiological versus surgical treatments of specific cancers. It is a mistake to assume (as often seems the case) that comparative-effectiveness analysis is aimed only at assaying the value of new drugs, biologicals and medical devices. Comparisons are possible for the entire range of treatment options, including well-established ones.

If the positive and negative clinical consequences of alternative treatments were clearly understood by both physicians and their patients, and if patients were responsible for the

whole cost of their therapy, patients and doctors might use the information to arrive at the treatment best suited for each case.

The results of such comparison studies, of course, would be presented as average outcomes derived from sizeable numbers of cases. And physicians might argue that every patient is unique, so averages are problematic for use as benchmarks. Perhaps. But, if so, one must wonder how well physicians can tailor treatment today in light of both the limited time they typically devote to gathering information about individual patients and the reality that much of the information they have on prescription drugs and medical procedures comes from salespeople who are clearly biased.

COST-EFFECTIVENESS ANALYSIS

Comparative-effectiveness analysis focused solely on clinical outcomes is not enough, however, when someone other than the patient is asked to foot the bill. To claim, as many Americans do, that a third party (the public or private insurer) must underwrite whatever therapeutic approach is chosen by patient and physicians – even for therapies with little or no proven value – seems unreasonable on its face. It is here that cost legitimately enters the picture, because the decision by a physician and patient affects the finances of others – taxpayers, employers or other members of the insurance pool.

As noted earlier, a comparative-effectiveness analysis is converted into a ratio of cost per some measure of health improvement, such as quality-adjusted life years (QALYs). Sometimes, this benefit from medical intervention measure is straightforward – for example, in comparisons of alternative drug therapies aimed at controlling blood pressure or cholesterol levels. There, the benefit can be

measured in one dimension. In other cases, however, a therapy may lead to multiple positive and negative clinical consequences, which must then be translated into a simple metric of value. The QALY is such a metric.

QUALITY-ADJUSTED LIFE YEARS

One approach of several methods for collapsing multi-dimensional changes in health status into QALYs is to describe the likely outcome of a therapy to a representative sample of prospective patients and then to ask them how many years in perfect health would be, in their minds, equivalent to the expected number of years they might gain in the less-than-perfect health.

To illustrate, suppose that, prior to the medical intervention in question, a patient had a life expectancy of 10 years with impaired health (moderate pain or limited ability to walk, for example), so that one of those life-years was scored as the equivalent of 0.5 QALYs – that is, half of a perfectly healthy year. If the intervention did not change life expectancy but raised the health status to 0.8 QALYs per year lived (perhaps by relieving pain), then one would attribute three QALYs to that intervention, even though life expectancy would not change. If, however, the intervention also increased life expectancy by four years at a health-status score of 0.8, then another 3.2 QALYs would be added, so that the total QALYs credited to the intervention would then equal 6.2 QALYs.

That's not the end of the cost-effectiveness calculation. If the intervention were expected to cost \$90,000, its cost-effectiveness ratio would be $\$90,000/6.2 = \$14,516$. In other

words the intervention would be expected to buy 6.2 QALYs at a price of \$14,516 per QALY.

A huge body of literature has emerged on both alternative methods for deriving QALYs and on the ethical underpinnings of the QALY concept. An in-depth exploration of this complex terrain is beyond the scope of this article. Suffice it to say, though, that the QALY is not everyone's cup of tea in every circumstance.

Where cost-effectiveness ratios with QALYs as the denominator are used to evaluate alternative therapies for specific medical conditions for patients of roughly the same age, objections to the analysis are likely to center on measurement methods. One question, for ex-



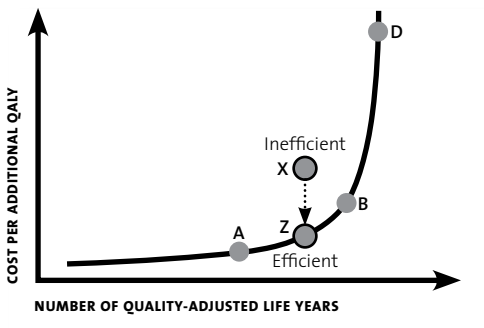
ample, is whether survey respondents not yet suffering from the full consequences of a medical condition have enough information to decide how they would rate their quality of life later on.

On the other hand, consider cases in which cost-effectiveness ratios based on QALYs are used to allocate limited health care resources among insurees of different ages.

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Then, if the process is designed solely to maximize the number of QALYs that can be produced from a specific budget, the metric would likely favor the allocation of more resources to younger patients: After all, an improvement in health status (say the ability to walk) bestowed on a young person is likely to be enjoyed for more years than the same health improvement bestowed on an older person. This is the limitation of the analysis that prompts some critics of cost-effectiveness analysis to allude to fascism or eugenics.

THE SUPPLY CURVE FOR QUALITY-ADJUSTED LIFE YEARS



SOURCE: the author

THE VALUE OF LIFE YEARS

A nation's health care system can be thought of as a store selling QALYs derived from a variety of medical interventions at a variety of prices. If one arrayed this price list from low- to high-cost QALYs, one might end up with a supply curve for QALYs looking like the figure above. Cheap interventions would probably include immunization for infectious diseases, which could be expected to save a large number of QALYs at relatively low cost. Points such as A, B and Z on the line might represent such interventions. An expensive intervention (point D) might involve a new drug with few potential beneficiaries that costs \$100,000 per

treatment, yet adds only a month or two to a terminally ill person's life. Or the intervention might be a diagnostic test that costs little per patient but saved QALYs at a very high cost because so few of the people tested are actually sick.

A point such as A, Z or B (which all lie on the QALY supply curve) represents the least expensive medical treatment capable of producing that additional QALY. Point X, by contrast, represents an inefficient form of medical intervention because the same number of QALYs could be delivered with an alternative therapy at the lower cost Z. Interventions falling along the curve vary widely in price. Each, though, is efficient in the sense that it represents a way to buy more QALYs at the lowest possible price.

This brings us back to the Business Roundtable Index. In essence, it says that the American health care system is operating at a point like X rather than at a point like Z. The purpose of using cost-effectiveness analysis is to get us closer to the curve.

Suppose, however, that a health care system were efficiently operated in every way, which means that all medical interventions, from low to high cost, would fall right on the line. Even this amazing system would not spare us from answering some very troublesome questions:

Is there a maximum price that society is willing to pay from collective insurance funds for an efficiently delivered QALY? Or, in contrast to goods and services ranging from ice cream to national defense, is the sky really the only limit?

If there is a maximum price that should be paid for QALYs, should it be the same for all members of society – rich or poor, productive or unproductive – or should there be different maximum prices for different socioeconomic classes? To this point: should QALYs be ra-



tioned by individuals' ability to pay, as they would be in a free-market economy?

These questions are not merely academic. In its lead editorial of March 6, 2006, *The Wall Street Journal* took the Food and Drug Administration to task for delaying the approval of the cancer drug Erbitux, thereby causing some patients with colon cancer to die months earlier than they might have. An earlier report in the same paper, however, quoted physicians at the Memorial Sloan-Kettering Cancer Center stating that "the standard treatment regimen for advanced colon cancer, which can include Erbitux in the mix, is close to \$250,000 for 19 to 20 months of treatment." And, they said, "for that money, patients may get only a few months" of added life.

If the new drug could, indeed, "purchase" an extra year of life for colon cancer sufferers at a cost of \$250,000, one might well ask how access to it was to be financed. Would the taxpayers offer to buy it for all afflicted patients who couldn't afford to pay from their own

pockets? Or would the burden of deciding (and paying) be left to individuals and the private insurance companies? My own experience is that most enthusiasts for very costly new medical technology and opponents of cost-effectiveness analysis are inclined to duck the question – as did the *Wall Street Journal's* editorial writer.

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It's not hard to understand why cost-effectiveness analysis is controversial, and why some oppose it on the grounds that it would facilitate the rationing of medical services by insurers, public or private. But the societal consequences of treating CER as nothing more than the gateway to a Brave New World nightmare are large and rising rapidly. To ignore the approach is both to guarantee that tens of billions of dollars will be wasted on overpriced treatment and that very expensive life-extending intervention will be rationed by personal income or by the often-arbitrary forces of the market for insurance.

We can do better. We need to do better. **M**