Commentary on Getzen's "Aggregation and the Measurement of Health Care Costs"

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In this issue, Thomas Getzen usefully reminds us that we have to know the question we want answered before we talk about the right answer. In particular, the answer(s) to the question of the principal determinants of medical care spending are very different at the individual level than at the level of region or country. Fundamentally this is because variation in important determinants of spending by individuals, especially variation in their health status, mostly averages out across regions or countries. In other words, average health status across Organisation for Economic Co-operation and Development (OECD) countries varies much less than across households within any of the countries. Hence, variation in health status cannot explain much of the variation in spending across countries although it clearly explains a great deal of the within country variation. Similarly, although on average elderly persons spend much more on medical care than nonelderly persons within each country, the proportion of elderly also does not vary enough across OECD countries to explain much of the variation in spending across them. Although this point is hardly novel, it deserves re-emphasis, because the contentious and sprawling debate over health care spending sometimes overlooks it.

Getzen also observes that at the national level a measure of income, usually taken to be gross domestic product (GDP), is highly correlated with health care spending. Again this is not a novel notion, having been in the literature at least since the 1970s (Kleiman 1974; Newhouse 1977), but Getzen draws a strong inference from this correlation. Pointing to the Salkever and Bice regulatory balloon example, he concludes that efforts to reduce any particular type of medical spending will by and large fail, because other types of health care spending will increase to offset any reduction. To extend Getzen's point, efforts to eradicate a certain disease, such as polio in the past, will not reduce spending by the amount that was spent to treat polio, because the

resources that would otherwise have gone to treat polio will be redeployed within the health sector. Presumably the converse is true as well; coverage of a new procedure, such as bariatric surgery, would cause other types of medical spending to fall below the levels they would otherwise attain. A more extreme version of this claim is reminiscent of Thomas Malthus' view that because population adjusts to income, per capita income will remain at a subsistence level.

Income is undeniably highly correlated with the amount a country spends on health care, but Getzen's analysis should not be pushed to the point of positing an iron law of medical spending. Although the simple correlation (r) between health spending and income across countries is typically above 0.9, the fit is not perfect. In particular, as is reasonably well known, the United States is an outlier across the OECD countries. To illustrate the point, I have graphed health spending against GDP (2002 dollars converted at purchasing power parity) for the 30 countries in the OECD database for 2002 in Figure 1.¹ (Although the plotted straight line accounts for data from all 30 countries, not all of them are illustrated in the Figure 1.) As can be seen, the R^2 is 0.86, implying income and health spending are highly correlated, but the value for the United States, in the upper right, is well off the line. Although one could specify a nonlinear functional form for this relation that would leave the United States less of an outlier, this would not only smack of data mining but also would not likely change the qualitative conclusion that the United States is an outlier. In any event, the point to be emphasized is that income is not completely determinative of spending, merely another way of saying that the R^2 is not 1.0.

Getzen is also skeptical that interventions to improve efficiency will have much effect on spending: "To the extent that macro constraints determine total budgets at the national level, policy interventions at the micro level (substitution of generic pharmaceuticals, use of CEA for allocation of treatments, controls on construction and technology, etc.) can act to improve efficiency, equity and average health status, but will not usually reduce aggregate average per capita costs of medical care." This conclusion, however, is arguable. Improved efficiency in the delivery of medical care is tantamount to a fall in the unit price of medical care relative to other goods and services. In economic jargon, improved efficiency shifts out the production-possibility

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Figure 1: Health Spending as a Function of GDP

frontier along the medical care dimension, which has at least two consequences.

First, at a technical level, unless the price elasticity is -1 and the income elasticity 0 , or some specific combination of the two elasticities that leads to the same effect, a fall in the unit price of medical care from improvement in the efficiency of medical care delivery will alter spending on medical care. Thus, it is not clear that improvements in efficiency will leave spending unchanged. Unfortunately, the lack of a credible efficiency measure precludes testing this hypothesis.

Second and more broadly, there has been a long-standing interest in comparative spending levels across countries. Ultimately the force behind this interest is opportunity cost—more resources in medical care mean less of something else. But if countries with the same medical care spending vary in the amount of output they get from that spending, one cannot meaningfully compare their spending levels without a metric for comparative efficiency, and in my view we are only in the beginning stages of having such metrics (Hussey et al. 2004). Without such metrics, it is also not meaningful to compare price levels across countries, since the countries differ in the product that is being priced (Berndt et al. 2000). Mortality, the usual measure for concluding that higher spending countries obtain little value from their incremental spending, is affected by many nonmedical factors. Moreover, much medical care spending in all developed countries has little to do with mortality.

Consequently, as a measure of what a developed society gets from its incremental medical spending, mortality principally serves rhetorical purposes.

In sum, Getzen's observation that income is the most important determinant of health care spending at a country level but a much less important determinant at the household level is surely correct, at least in developed countries. Nonetheless, it is overly strong to conclude from that observation that micro-level improvements in health care delivery will have only a negligible effect on a country's health care spending.

NOTE

1. Dataset used is per capita expenditure on health and per capita GDP, from http://www.oecd.org/document/16/0,2340,en_2649_34631_2085200_1_1_1_1,00.html, (accessed January 23, 2006).

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