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More Life vs. More Goods: Explaining Rising Health Expenditures

Debates about health care have been a central feature of U.S. public policy discussions for at least the last 20 years. One trigger of these debates is the statistical evidence on the rising cost of health care. For example, according to a survey conducted by the Kaiser Family Foundation (2004), health insurance premiums for employer-sponsored plans increased by 11.2% between the spring of 2003 and the spring of 2004, the fourth consecutive year of double-digit increases. A related set of statistics is just as striking: In 1960, the share of U.S. GDP spent on health care costs was only 5%, but by 2002, it had climbed to more than 14% (see Figure 1). In the public policy discussion, much attention has focused on waste and fraud in the health care system, which clearly are harmful to the economy.

But are health expenditures rising for reasons other than waste or fraud? If so, do these reasons portend a continuation of this rapid pace of increase? Is there an end in sight? This *Economic Letter* draws on recent economic research (Hall and Jones 2004) to explore some possible answers to these questions. One of the perhaps surprising conclusions from this research is that the rising health share may reflect the natural course of economic growth: as we get richer and richer, one of the most valuable and productive opportunities for our spending is to purchase better health and longer lives.

One reason for rising health expenditures: costly new technologies

Figure 2 plots the share of GDP spent on health care from 1960 to 2002 in four industrialized countries: Germany, France, Japan, and the United Kingdom. As the figure clearly shows, the U.S. is not the only country that has been expending an increasing share of its GDP on health care. Indeed, this pattern holds true for virtually all industrialized nations.

The commonality of this trend is important, because it suggests that the rise in the U.S. health share is not driven solely by factors specific to this country, such as changes in U.S. government policy or particular features of U.S. health insurance. Instead, the fact that health shares are rising in many countries suggests that something more fundamental is going on.

Newhouse (1992) surveyed a number of possible causes for rising health care expenditures; these included the aging of the population, the rising cost of health insurance, and anecdotes associated with doctors who induced patients to spend more

Figure 1

Rising health expenditures in the U.S. . . .

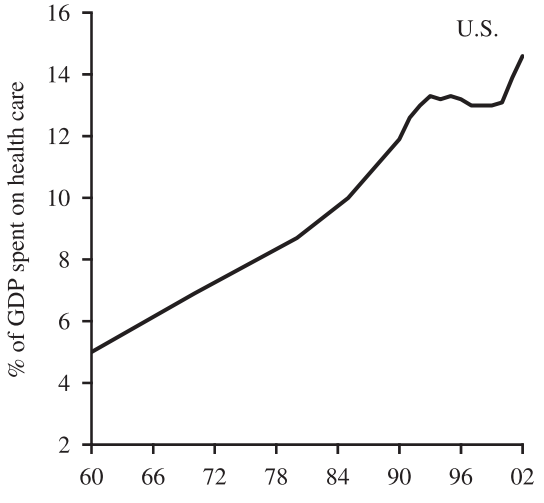
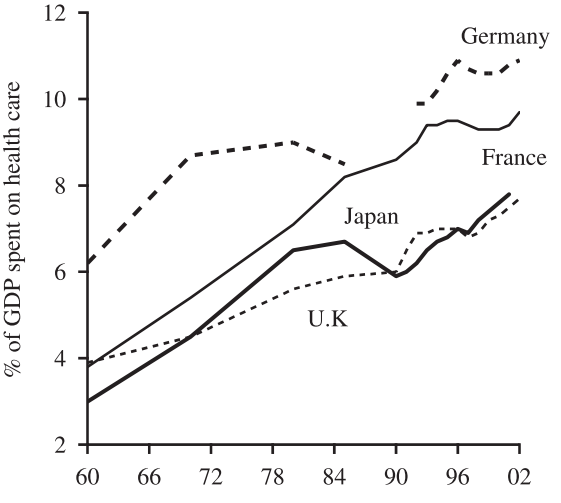


Figure 2

. . . and in other industrialized countries



on medical care than they really would prefer. Newhouse's analysis found these explanations wanting, and, as a result, he concluded that the rise in the health share of spending was due to the discovery and use of new, expensive medical technologies. The invention of MRIs, CAT scans, new drugs, and new medical procedures allows people to spend more on health care over time as the new technologies become available.

Another reason: people's preferences

By itself, however, Newhouse's story is incomplete. People do not have to purchase the new medical technologies if they don't want to, and, in fact, people do not have to invent them in the first place if they are not valuable. Given that, it must be the case, at some level, that the increasing share of GDP expended on health care reflects people's preferences.

To begin to think about this, it is helpful to consider some facts. Over the 20th century, U.S. life expectancy at birth increased from about 50 years in 1900 to about 77 years by 2000. Exactly how much of this increase is due to increased health spending is unclear, but the large gains in life expectancy clearly represent one of the major accomplishments of the 20th century.

Over this same period, the consumption of goods other than health care in the United States increased from about $4,000 per person in 1900 to about $20,000 per person in 2000. Nordhaus (2003) noted these relative trends in life expectancy and consumption and considered the following simple question: If you could have either the nonhealth consumption in 2000 with the medical technologies of 1900 or the nonhealth consumption in 1900 with the medical technologies of 2000, which would you choose? Nordhaus found that the people he surveyed were split roughly evenly on this question. He went on to confirm that the standard models in economics have the same prediction: the increase in life expectancy over the 20th century had roughly the same impact on economic welfare as the increase in nonhealth consumption over the same period.

The fact that gains in life expectancy are approximately as valuable as the gains in all other forms of consumption starts to suggest an answer to why health spending has grown so rapidly: because it is very valuable. In some recent research, Hall and Jones (2004) have considered this question in more detail. The authors develop a model of optimal health spending, where individuals face a tradeoff: they can spend their income on the consumption of nonhealth goods, or they can spend their income on health. By spending on consumption, people increase the flow of utility they receive at a point in time. By spending on health, people increase their life expectancy, that is, the number of periods they expect to live. Put simply, people face a choice between adding additional months of life versus adding additional consumption during a current month.

Now consider what happens when income grows over time, as it has in the U.S. and other industrialized countries. Consumption in every month increases along with income, and health spending rises as well. But the key question is: Does health spending rise faster than consumption? It turns out that standard models predict that it should. And the prediction is rooted in a central theme in economics called the Law of Diminishing Returns. According to this principle, the first $10,000 of consumption is incredibly valuable, the next $10,000 less valuable, and so on. The additional utility one gets by increasing consumption falls as consumption rises. As people in the United States and elsewhere get richer over time, consumption rises, and the return to increasing consumption falls.

Now consider the return to adding months of life. Standard models in economics compute utility by simply adding up the flows of utility over a lifetime. Adding additional months does not run into the same diminishing returns that increasing consumption within a month encounters. As we get richer and richer, which is more valuable: a third car, yet another television, more clothing—or an extra year of life? The standard model, then, predicts that while both consumption and health spending should rise as income increases, health spending should rise by more. The welfare-maximizing share of income going to health rises as income grows.

By estimating and simulating this model, the authors produced possible paths for the health share over the next 50 years. The simulations suggest that, while the United States spends about 15% of its GDP on health today, the utility-maximizing health share may rise to between 25% and 35% of GDP by 2050.

Conclusion

There are many facets to the public policy debate on health care in the United States, and the results

of the research reported on in this *Economic Letter* have implications for at least two of them. One facet involves the concern about the possibility of waste and fraud in the U.S. health care system and the search for ways to deliver higher quality health for each dollar that we spend. This is an admirable goal, and it is important to note that nothing said above is inconsistent with the search to reduce waste. However, the analysis reviewed in this *Economic Letter* also suggests that we should not necessarily be surprised if health spending continues to grow even after we eliminate inefficiencies in spending. As we get richer and richer, one of the most valuable uses of our income is to increase the quality and quantity of our remaining lives. The other facet involves the looming issue of funding Medicare and Medicaid (for more details, see Jones 2003). As the analytical results make clear, increased health spending is not likely to go away, and, on the contrary, is more likely to become increasingly important over time. New thinking—both by researchers and by business people—will be needed in the coming years as we seek to discover the best ways to finance a rising health share.

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