

## The Basic Economics of Health Care Reform

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### I. INTRODUCTION

In this brief paper, I will not offer a plan to reform the delivery of health care in the United States. The purpose of this paper is more modest. It is an attempt to highlight the contribution that a grasp of basic economic theory can make to the current debate on health care reform.

Before we consider the lessons that economic theory can teach, it is important to put the health care debate in its proper context. This is something that this is not often done. Currently, the United States devotes sixteen percent of its GDP, or approximately \$2300 billion, to the provision of health care. The average for all countries belonging to the Organization for Economic Cooperation and Development (OECD) is 8.9 percent. Per family, the United States is spending \$19,000 on health care. If our expenditures on health care were to equal to the OECD average, expenditures per family would be approximately \$10,000. The \$9000 difference represents a sizable percentage of real median family income, which is slightly over \$50,000. It is also worth noting that while other advanced industrial economies provide health coverage to nearly all of their citizens, fifteen percent of Americans, or 46.3 million people, lack health insurance (US Bureau of the Census, 2009).

The rate at which health care costs are growing is alarming. In 1970, the U.S. devoted seven percent of GDP to health care. By 2015, the President's Council of Economic Advisers projects that health care spending will exceed 20 percent of GDP (Rivlin and Antos, 2007).

Some economists have attributed the stagnation in median real family income to the rapid growth in medical costs. The majority of Americans receive health insurance coverage through their employers. Over the last decade, the cost of providing medical coverage to a family has increased at an annual rate of 8.9 percent (Kaiser Family Foundation and Health Research and Education Trust, 2009). The need to cover higher insurance costs leaves employers with less money to fund wage increases. The burden of funding higher insurance has doubtless contributed to the decrease in the percentage of employers offering health insurance from 69 percent in 2000 to 60 percent in 2009 percent (Kaiser Family Foundation and Health Research and Education Trust, 2009).

Rapidly growing health care costs are a budgetary challenge for all levels of government. Currently, Medicare is the third largest line item in the federal government budget after national defense and Social Security. In 2008, federal government spending on health care exceeded \$752 billion. This amount represented 25.2 percent of total federal expenditures or 5.3 percent of GDP. This amount does not include the cost of excluding the portion of health insurance premiums paid by employers from the definition of gross income in the personal income tax. The Congressional Budget Office predicts that by

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2045 federal spending on health care will be approximately 18.4 percent of GDP, which is the long-term average of federal revenues as a percentage of GDP (Rivlin and Antos, 2007). No money would be left to cover spending on such things as defense, Social Security, agricultural price supports and interest on the public debt. Leaving the structure of the Medicare and Medicaid programs unchanged would present federal budget makers with an unpalatable set of choices: massive cuts in other spending programs, massive tax increases or borrowing on the grand scale.

Jagadeesh Gokhale and Kent Smetters (2003) approach the question from a different angle. They calculated the present value of federal revenues from here to eternity and the present value of future federal expenditures. They found that the present value of federal expenditures exceeded the present value of revenues by approximately \$44 trillion. The bulk of this gap, \$36.6 trillion, was due to Medicare. By contrast, Social Security accounted for only \$7 trillion of the fiscal gap. Eliminating a fiscal gap of this magnitude would require policy makers to take drastic action. For example, an immediate and permanent doubling of payroll taxes that fund Medicare and Social Security would eliminate the imbalance. An alternative would be an immediate and permanent 45 percent reduction in the level of Medicare and Social Security benefits. Calculating an economy's fiscal gap requires selecting the proper discount rate and predicting future demographic trends, the rate of productivity growth, the rate at which health care spending will grow. Their estimate is particularly sensitive to the rate of growth of health care spending per capita. Their baseline computations assume that health care expenditures will grow by 1 percent more than the growth of real GDP. If health care expenditures grow by .5 percent (more than the increase of real GDP), the fiscal imbalance is reduced to \$29.5 trillion. If health care expenditures grow by 1.5 percent more than the increase of real GDP, the fiscal imbalance increases to \$64 trillion. In Laurence Kotlikoff's (2006) judgment, the latter is the more likely outcome. Gokhale and Smetter's sensitivity analysis emphasizes the importance of controlling the rate of growth of health care expenditures. Finally, their analysis highlights the importance of dealing with the fiscal imbalance sooner rather than later. Assuming that no changes are made in the major entitlement programs, they show the size of the fiscal imbalance growing from \$44 trillion in 2002 to \$54 trillion in 2008, with most of the growth being attributable to the Medicare program. The clear message is that if federal expenditures are to be brought into alignment with federal revenue/es the need to reform the Medicare program cannot be avoided and should not be postponed.

## **II. LESSON 1: THE FINAL GOOD IS HEALTH**

One possible explanation for the large percentage of U.S. GDP that is devoted to health care is that it simply reflects the decision of Americans to consume more medical services as they have become wealthier. It is undeniable that advances in medical technology have led to dramatic improvements in life expectancy and the quality of life.

However, a basic lesson that we teach our students in principles of macroeconomics is that GDP is intended to measure the rate at which the economy is producing final goods and services. We

emphasize the importance of distinguishing between final goods such as automobiles and the intermediate goods such as steel and glass that go into their production. We teach our students that including both final goods and intermediate goods in the computation of GDP would be double counting and would result in an overestimate of the economy's production of final goods.

The computation of GDP includes expenditures for medical goods and services, which are in the nature of intermediate goods. Very few consumers undergo open heart surgery or have MRI scans performed, because they enjoy the experience. Rather, medical goods and services are inputs in the production of the final good, which is health. In the production of health, health care is not the only input. Also important are lifestyle choices regarding alcohol consumption, diet and smoking and genetic inheritance.

Clearly, measurement issues preclude including the value of health in the computation of GDP. It is then reasonable to ask whether a higher level of consumption of medical care leads to better health outcomes. International and domestic comparisons indicate that the higher level of expenditures on health care in the United States has not led to a correspondingly higher level of health for Americans.

Two common metrics that are used to assess the performance of a country's health care system are longevity at birth and infant mortality. In both cases, the United States does not fare well in comparison with other advanced economies. Life expectancy at birth in the US is 78.1 years. (OECD, 2009a) The average for all industrial countries is 79.1 years. The highest life expectancy at birth is 82.6 years in Japan. Infant mortality in the United States (per thousand live births) is 6.7. The average for all industrial countries is 3.9. Sweden's infant mortality rate of 2.5 is the lowest.

As is the case with any complex system, the health care sector of the United States has its strengths and weaknesses. OECD (2009b) data indicate that the US health care system is the most effective in treating cancer. However, the data also indicate that it does a poor job of managing chronic diseases such as asthma, diabetes and hypertension. The general thrust of an international comparison of health care systems is that the dramatically higher level of health care spending in the United States has not produced dramatically better health care outcomes for Americans. Indeed, it appears that in general we are spending more and getting worse outcomes.

Since 1992, the Dartmouth Atlas Project has been engaged in a study of Medicare spending in 3436 hospital service areas and 306 hospital referral areas in the United States (Fisher et al., 2009a). The project reveals startling differences in Medicare spending within the United States. In 2006, Medicare spending per enrollee ranged from a high of \$9564 in New York to a low of \$5311 in Hawaii. The expenditure variations between the hospital referral areas are even more dramatic. Expenditures per enrollee in Miami, the referral area with the highest costs, were \$16,351, which was more than three times the expenditure level of \$5311 per enrollee in Honolulu, the referral area with the lowest costs. Not only do the levels of spending vary widely but so also do the growth rates. Between 1992 and 2006, the annual growth rates of Medicare spending per enrollee were 8.31 percent in McAllen, Texas, the referral area with the highest growth rate, and only 1.63 percent in Honolulu, the referral area with the lowest

growth rate. Due to the power of compound growth, these differences in growth have important implication for the Medicare budget. Fisher et al. (2009a) find that if the growth of Medicare spending could be reduced from 3.5 percent, the average annual rate of growth between 1992 and 2006, to 2.4 percent, the average annual rate of growth in San Francisco, the cumulative savings to the Medicare program by 2023 would be \$1.42 trillion. Instead of a \$660 billion deficit in 2023 Medicare would have surplus of \$758 billion (Fisher et al., 2009b).

The regional differences cannot be explained by differences in the health of the populations in the different referral areas. Fisher et al. (2009b) note that “marked regional differences remain after careful adjustments for health and there is no evidence that health is decaying more rapidly in Miami than in” Honolulu (849). The differences also cannot be explained by technology since all referral areas have access to the same medical technology or by the payment system since most medical care providers in the United States are compensated on a fee-for-service basis. Fisher et al. found that the differences were due to the fact that physicians in the higher spending regions “were much more likely than those in the lower spending regions to recommend discretionary services, such as referral to a subspecialist for typical gastroesophageal reflux or stable angina (850).” Importantly, the provision of more medical services in the higher spending regions did not result in improved medical outcomes. Indeed, Fisher et al. report that “the quality of care and health outcomes are better in lower-spending regions and that there have been no greater gains in survival in regions with greater spending growth (850).”

Taken together, the international data and the work of the Dartmouth Health Atlas suggest that reductions in expenditures for medical care need not result in deterioration in the health status of a population. The key point is that our focus should be on the final good, health, rather than on the intermediate good, health care services.

### **III. LESSON 2: THIRD PARTY PAYERS ARE AN ESSENTIAL ELEMENT OF THE HEALTH CARE SYSTEM**

Given the cost of medical procedures, the overwhelming majority of American families are in no position to self-insure. Most American families do not have the income, the liquid assets or the borrowing capacity to pay for a cancer treatment or open heart surgery. Indeed, the debts incurred to finance medical emergencies are a leading cause of bankruptcy filings in the United States (Himmelstein et al., 2009).

Medical expenditures have been characterized as “large, lumpy and uncertain.” Consequently, some mechanism is needed to spread the costs incurred by the unfortunate few over a larger population. Some sort of third party payer is essential.

Unfortunately, the analysis in George Akerlof’s (1970) classic paper, “The Market for Lemons”, suggests that a purely private system in which the decision to purchase health insurance is left to individuals is unlikely to function optimally. There is an informational asymmetry between insurance

buyers and sellers. Even if individuals purchasing health insurance were forced to undergo a stringent physical examination, the buyer still possesses two important pieces of information not easily accessible by the seller: his or her health history and that of his or her family. In addition, buyers would have an incentive to behave strategically by putting off the purchase of health insurance until they need it. Knowing these things, insurance sellers will assume that the typical purchaser of insurance will have higher health care costs than the average person in the general population and set their premiums accordingly. High premiums would drive out the healthiest members of the group considering the purchase of health insurance leading to a further increase in premiums followed by a further reduction in the size of the market for health insurance and so on. In a limiting case, the private market for health insurance could disappear. In addition to setting high premiums, insurance sellers would have an incentive to refuse coverage for preexisting conditions. The result is that individual health insurance policies, assuming they are available, would be expensive and limited in their coverage.

When insurance is provided to a large enough population, the problem of asymmetric information disappears. Predicting the number of claims that a large population will generate in a year and their cost is an actuarial problem. The key issue is how to create a sufficiently large risk pool so that the health status of any particular person becomes a non-issue. Internationally, a variety of approaches have been used. In the United Kingdom, the National Health Service manages the delivery of health care. The nearest analogue in the United States would be the Veterans Health Administration system. In France and Canada, medical care is privately provided but the entire population belongs to a single-payer national health insurance system. In the United States, Medicare would be a close approximation. In Switzerland, health insurance is privately provided. However, the system is heavily regulated by the government. All citizens are required to purchase health insurance with subsidies being provided to lower income individuals. Insurance companies are required to offer a basic plan, whose elements are set by the government, on a not-for-profit basis. They are allowed to earn a profit on more elaborate plans. For a more complete description of the Swiss system, see Nelson Schwartz (2009). In the United States, the Wyden-Bennett proposal is a close approximation of the Swiss system.

The essential point is that government has to be involved in the provision of health insurance. And this is true in the United States. Most Americans receive health insurance through their employers. The portion of the health insurance premium paid by the employer is not part of the employer's taxable income. The Office of Management and Budget (2009) estimates that in 2008 this exclusion cost the federal government \$142 billion in lost tax revenues. This is the single largest tax expenditure. In addition to being expensive, this exclusion is regressive since its value depends on an individual's marginal tax rate. The exclusion is also uncapped. The health insurance plan provided to the 400 managing directors at Goldman Sachs, which costs \$40,000, receives the same tax treatment as the average policy which costs \$13,375. Finally, individuals who purchase health insurance must pay their premiums out of their after tax income and thus receive no tax benefit.

However, the preferential treatment of employer provided health does have an important social benefit: the administrative costs of providing insurance to large groups is much smaller than the administrative cost of providing individual coverage. It is generally estimated that ten percent of the premiums paid for group policies are used to cover administrative costs versus thirty percent for individual policies. For the average family policy, the employer contribution is \$10,000. For a family in the 25 percent marginal tax bracket, the revenue loss to the federal government would be \$2500. However, this loss would be balanced by an administrative cost savings of \$2700. A major drawback of employer provided insurance is that since individuals only pay attention to their direct costs they do not develop a proper appreciation of the cost of the U.S. health care system.

#### **IV. LESSON 3: INCENTIVES MATTER (AND SO DOES CULTURE)**

Since the prices that individual consumers pay for medical services are generally less than marginal cost, it is easy to demonstrate that the condition for Pareto efficiency in production and exchange will not be met. More precisely, the marginal rate of product transformation between a numeraire good and medical care will be less than the marginal rate of substitution between the goods. The implication is that medical care will be overproduced and other goods and services will be underproduced.

However, the reality is more complicated than this blackboard exercise. The opportunity to purchase an MRI with a list price of \$1700 for an out-of-pocket payment of \$35 is not the same as being offered the opportunity to purchase a ticket to "Wicked" or a Bruce Springsteen concert for \$35. Medical procedures tend to be unpleasant and carry an element of risk. Very importantly, most people lack the technical expertise to judge whether a drug, test or procedure is appropriate for their condition. Most of us rely on our physicians to identify the medical services we need.

Given that the consumers of medical care are not the sole, or even the primary, decision makers, it is important to consider the incentives that face medical care providers. The majority of doctors and hospitals in the United States are compensated on a fee-for-service basis. The more medical services they provide the more income they receive. When prescribing treatments, physicians are well aware of the insurance coverage of their patients. It is standing joke in my community that the first piece of information collected when a patient shows up at the local emergency room is the name of the patient's insurance carrier.

The danger of combining medical care providers who work on a "fee for service" basis with patients who are only directly responsible for a small percentage of the cost of their medical care is obvious. Physicians, knowing that their patients are only responsible for a small fraction of the cost of the health care services they consume, have no incentive to look for the most cost effective treatment options. Fisher et al. (2009b) find that in the higher-spending regions doctors are more likely to recommend discretionary services and less likely to recommend palliative care.

The incentives to overprescribe medical care are compounded when physicians have an ownership stake in scanning centers, laboratories and hospitals. A frequent complaint is that doctors are more generously compensated when they prescribe expensive tests or procedures than when they take the time to take a detailed medical history or to help a patient manage a chronic condition. Fisher et al. (2009b) note that existing compensation schemes reduce the incentives to health care providers to improve the quality of outcomes. They point out that: “hospitals lose money when they improve care in ways that reduce admissions, and they lose market share when they don’t keep pace in the local medical arms race (850).”

As a case study, Atul Gawande (2009) examined the culture of the health care communities in two hospital-referral regions in Texas: McAllen and El Paso. In 2006, the Dartmouth Atlas reported that inflation-adjusted total Medicare spending per enrollee was \$14,946 in McAllen and \$7504 in El Paso (Fisher et al., 2009a). Gawande reports that both regions had similar demographics and health statistics and comparable medical technologies were employed. In both regions, medical care providers worked on a fee-for-service basis. The major difference between the regions was that in McAllen the medical care community was more entrepreneurial and focused on income maximization. In El Paso, the focus was on health. Importantly, the provision of more medical services in McAllen did not lead to better health outcomes. There was no apparent difference in the quality of service in the two regions.

High quality, low cost health care providers such as Kaiser Permanente, the Mayo Clinic, and the Veterans Health Administration have incentive structures that are focused on the provision of health rather than health care services. Physicians in these systems are on salary and thus derive no additional income from prescribing more services. These systems provide primary care physicians, specialists, pharmacies, hospitals and clinics under one roof. Thus, the provision of health care is coordinated. Because these systems have a long-term relation with their patients they have an incentive to manage chronic conditions such as diabetes and hypertension effectively. Because there is a constant churn in the population covered by private insurance providers, these companies lack the incentive to manage chronic conditions. While managing diabetes is much less expensive than the cost of dealing with the complications of the disease if left unchecked, an insurance company knowing that one its competitors might realize the future benefit might rationally choose to underinvest in prevention. Finally, the high quality, low cost providers have invested in electronic medical records and have analyzed the information collected to refine their delivery procedures to provide higher quality care. [See Phillip Longman (2005) for a detailed analysis of the Veterans Health Administration.]

#### **V. LESSON 4: RATIONING IS UNAVOIDABLE**

Our last lesson is the most basic. Rationing is unavoidable. If we define an absence of rationing as a situation where every medical service with a positive marginal benefit (or expected marginal benefit) is provided, then no economy can afford to provide this level of care. In some way, any economy is going to

have to deny patients access to medical services whose marginal benefits are positive but are less than the marginal cost of provision. In the United States, the uninsured or under-insured are rationed out of the market for health services.

Since we cannot do everything that everyone would like to see done, it is important that the resources devoted to the provision of medical care be used as well as possible. To an economist, it is obvious that the use of public resources to identify which medical procedures and drugs are the most cost effective is money well spent. Opponents argue that such studies might lead to an outcome in which government tells physicians how they will practice medicine and patients are denied access to certain drugs and procedures. The recent controversy that resulted from the United States Preventive Services Task Force's recommendation that mammograms to detect breast cancer be performed every other year starting at age 50 is a good example. But, for a woman without health insurance, the debate over whether cancer screening should begin at age 40 or 50 and mammograms should be performed every year or every two years is a matter of purely academic interest.

## VI. CONCLUDING COMMENTS

The rapidly growing share of American GDP devoted to the provision of medical care is a threat to the health of the economy that must be confronted sooner rather than later. The health care delivery system must be reformed. We need to devise a system of incentives that encourage health care providers to focus on the quality of health care outcomes rather than the delivery of health care services. Finally, if rationing is inevitable, we have to face this reality and design a rationing scheme that is equitable and cost effective.

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