

How U.S. Health Care Affects the American Economy, and Vice Versa

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An Address to the Massachusetts Medical Society

Waltham MA October 18, 2012

Today, I want to give you a sense of how economists think about what you do and how it affects the rest of us. You see a patient, and you consider the evidence to reach a diagnosis, you then consider the course of the illness or injury, the alternatives for treatment, and the results of the choices you have to make. Economists look at your patients, and we see the resources diverted from other uses to treat them and, even more, the human capital of those patients going unused because they can't work or work as well or efficiently, due to the illness or injury. In thinking about this, the treatment is not, strictly speaking, an economic loss: People choose health or feeling better over being sick or feeling worse, and those choices are no different economically from choosing other things that make them feel better, from a vacation home to a Mercedes.

So, where you see patients, we see resources and costs. For example, one study looked at seven common chronic illnesses -- cancers, hypertension, mental disorders, heart disease, diabetes, stroke, and pulmonary conditions such as asthma. That's a good place to start, because as many as half of all Americans are believed to suffer from a chronic disease. A few years ago, economists estimated the annual costs of treating those illnesses at around \$300 billion. They also estimated the value of the foregone productivity of those with chronic conditions -- absenteeism from work; presenteeism on the job, which is when you show up but can't do as much work or work as well as normal; and of course the foregone work product when someone dies before their actuarial time -- at \$1.2 trillion, or four times as much as the costs of treatment.

Economists have a number of ways to come up with those estimates, and they can provide another entry into how we think about what you do. There's the human capital method, which I've just described, where we measure the lost production, in terms of lost earnings, of patients and their caregivers. For mortality or permanent disability costs, we multiply the earnings lost at each age by the probability of living to that age. The earnings in future years are then discounted, usually pretty heavily. Then there's a variant of this approach, called the friction cost method. This measures the value of the foregone production, but only for the time it takes for an employer to replace the worker. It assumes, in short, surplus labor that is not productive but which becomes so when it takes the place of the worker lost to illness, disability or death. Replacing the worker may also involve some additional training. All told, that number would be closer to \$150 billion than \$1.2 trillion.

There are other approaches that economists bring to this kind of question. There's the "willingness to pay" approach. This depends on surveys where we ask people what they would pay to reduce the probability of an illness or even death from illness or injury. Sometimes, economists using this method forgo surveys and instead measure the additional wages paid for jobs that carry high risks -- that is, a high probability of injury -- or they calculate what people

will pay for products such as seatbelts or low-fat foods that improve safety or health. This approach produces estimates that range from \$600 billion to \$2 trillion, almost entirely from the value people place on not dying or becoming permanently disabled.

And none of these approaches include pain and suffering, which economists can also value. Throw that in, and you add another \$2 or \$3 trillion to the costs of illness and injury.

The weakness of these approaches is that they measure the economic cost of illness and injury, but not the economic benefits of treating them. From a strict perspective, some health care has little economic benefit, mainly, because it goes to older people who are no longer very productive in a traditional economic sense. From this vantage, the greatest benefits come from treating children for conditions which would cut their life short or could leave them impaired, and from preventive medicine and therapies. I once did an analysis of the economic returns on grants by private foundations, and some of the most successful programs in economic terms – that is, those with the highest return on investment -- were anti-smoking and anti-drinking programs targeted to teenagers. This view also means that the benefits of treating more highly productive people exceed those of treating others, an economic justification for rationing based on age and education. Of course, once again, if we place economic value of alleviating pain and suffering, then the benefits of treating older people and, indeed, everyone, go up and in a strictly democratic way.

We can also calculate or at least estimate the economic value of medicine more generally. David Bloom from Harvard and others approach these issues demographically, and they estimate that measures which improve life expectancy by one year increase overall output by as much as 4 percent. In a \$15 trillion economy, that comes to \$600 billion, or about what we spend on Medicare today. Or, think of it this way. U.S. life expectancy is currently 78.2 years, or about four years less than life expectancy in Japan and Hong Kong. So, if we could increase our life expectancy by four years, the additional production associated with that would nearly equal all of the costs of health care. And just since the year 2000, medicine has extended U.S. life expectancy by 1 ½ years, thereby adding \$900 billion to GDP this year. Of course, by itself, a longer lifespan doesn't make the economy more productive, it just means you have more people working at it at any time. So Japan, with the world's longest life expectancy, is also the world's slowest growing and least productive advanced economy.

Of course, before any of us feel smug, remember that Japan achieves this longer life expectancy while spending about half as much as we do, as a share of GDP, on healthcare. We spend about \$8,400 per-person per-year on health care today, compared to an average for all of the OECD countries of \$3,300. That makes the health care industry a driver of growth and employment: The industry currently employs 16,400,000 people – 11.5 percent of the labor force – and generates \$1.7 trillion in output. But because the industry has been growing more rapidly than most industries, that means that its growth means fewer resources for other uses.

You can dismiss much of this as the peculiar way that economists approach the world, but these issues, usually unarticulated, also underlie much of the current political debate over health care and medicine. Universal access to not just health care, but also to insurance is usually advanced as a human value. In fact, its advocates usually assume that the benefits

associated with improving the health or comfort of, say, older people or poor people, has economic value as well as human value.

Certainly, those who argue that providing such universal coverage is too costly are often actually saying that providing that access will generate few economic benefits. I would assume that was what Mitt Romney was thinking when he said that everyone has access to health care through emergency rooms. Or, when those who say that people with preexisting conditions not currently covered by insurance will have to be on their own, their implicit assumption is that those with such conditions already are relatively unproductive, and covering their treatment would not make them much more productive. At a minimum, these arguments rest on the view, as expressed in the current presidential debate, that the resources required to provide universal insurance coverage or even just to guarantee reasonably-priced access to coverage for those with preexisting conditions, would be better spent in increasing other ways. Most notably, those resources could be better used to provide stronger incentives for people to save, so that businesses can invest more, primarily through tax cuts for higher-income people, because they the greatest means and highest propensity to save.

As an economist, that argument, incidentally, is pretty weak. There is little evidence that tax cuts increase savings to anything like the extent of the cost of the Romney tax cut – which of course would have to be financed in large part by borrowing savings. There is even less evidence that greater savings translates into greater investment in traditionally productive things, especially now, when U.S. businesses already have access to the entire global pool of savings.

The fact is, the argument that restrictions of various kinds on people's access to health care rests on the economic view that people will secure treatment if it makes economic sense to do so. It's a nice tautology. People with resources are assumed to have those resources because they're relatively productive; therefore, when they spend money to be treated, it means that they have calculated that doing so will ultimately earn them greater resources. It's less attractive when we think it through for poor or even just middle-class Americans. Here, the fact that they may have to go without certain treatments is taken to be an economic calculation as well: They wouldn't earn much more from being healthy anyway.

In fact, most of the debate over health care is not about whether it's a good, or simply good in itself; it's about who pays. As conservatives note, everyone has access to emergency rooms. Those costs, of course, are passed on in higher premiums, distributed across the insured, middle-class, in lower wages for hospital employees, and in smaller dividends for hospital shareholders, if there are any. But to cover most of those uninsured today will require a legal mandate and public subsidies, and those costs come out of the general Treasury. That means they're financed through taxes, and predominantly through the personal and corporate income taxes, which in turn are disproportionately borne by higher-income people.

So it is, in large part, a question of who pays. And the view that this is what much of the debate is really about is reinforced by conservative proposals to sharply reduce the revenues going to Medicaid, starting as soon as possible, and down the line, to Medicare as well. The immediate result of these changes would be less medical care for lower and moderate income people, and less of a tax burden for higher-income people. Advocates of this approach claim

their aim is greater efficiency. It's hard to take that claim seriously, since they also vehemently oppose those particular provisions of the Affordable Care Act designed to promote the spread of more efficient practices in medical treatment.

These issues also bring us back to question of how the health care industry affects the economy. One of the most common interests of economists in the healthcare system concerns why its costs have been rising so fast, for so long. While it may be true, as we said earlier, that what Americans spend on health care reflects people's wants and desires, and the value we attach to health. Certainly, cross national studies have shown that as incomes rise, people begin to consume more services, as opposed to basic goods; and as they rise more, health care services become much more desired. It is also the case, though we sometimes overlook it, that the average income of Americans is between 20 percent and 35 percent higher than the average income of the Japanese, the Brits, the Germans or the French.

But to an economist, high costs are very different from fast-rising costs. Costs in health care are high, for example, because public and private insurance insulates people from those costs at the moment they incur them. That is the moment when people can say No – as you might do, for example, in the Porsche showroom. Or consider what such a free market environment means in medical care for animals. Two weeks ago, my pet beagle got into the medications of my pet lab, who is a much older dog. The vet bill, including three days in the animal hospital, IVs, blood work, and more, was over \$2,000. I paid it because it was worth it to me, and I can afford it. But in the waiting room, I spoke with a woman who told me her border collie has lung cancer, and though I have no doubt that she loves her dog as much as I do mine – that is, the treatment would have been worth it to her – she couldn't afford it. And that, in turn, is one reason why my bill from the animal hospital was \$2,000 and not \$4,000.

Of course, we place different social value on pets and people, at least when we publicly debate it. But it's also clear that, as this example suggests, that one reason why human health care is so expensive – so much more so than for pets – is that insurance relaxes normal constraints on demand. It doesn't eliminate constraints, since there are copayments. Of course, relaxing such constraints is also the fundamental purpose of pooling risk in insurance -- so those unlucky enough to need expensive treatments can get them, even if they could never pay for them by themselves.

But that still doesn't explain why healthcare prices go up so much more rapidly than almost anything else, since the relatively unconstrained demand for health care services is also fairly stable. And since health care is not a monopoly, where providers could set whatever prices they want and raise them every year, that suggests there must also be cost pressures on providers, pushing up prices. In fact, those cost pressures come as much from the economy and how it the health care sector, as from how the health care sector operates. In particular, the largest factor in these cost pressures has been the application of technological advances from other sectors, principally information technologies and genomics, to medicine. The essence of information technology is the transmission, accumulation, storage, organization and application of enormous amounts of data to a specific task. In one way or another, that's what all hardware and software do. And there are few other industries and areas – finance is an obvious example – in which information technologies have been as widely and imaginatively applied to other tasks, as

medicine, from heart procedures and pharmaceutical development, to medical measurement, recording, and imaging.

Why it is that IT is being applied so thoroughly to medicine is also an interesting question. One reason is a market where consumers are more price-insensitive than usual – because, again, people value their own health so highly, and they’re also usually insulated from sticker shock. There are other reasons as well: The United States is the only large advanced society that doesn’t control prices and most wages in health care. Moreover, because we’re also a society that highly values both property rights and innovation, often as things in themselves, we have one of the world’s strictest intellectual property regimes. I noted earlier that health care is not a monopoly. But many of its treatments and equipment are legal monopolies, because they’re protected by patents. The combination of these economic factors has tended to channel innovations, often based on information technologies, to health care. And because our arrangements produce higher returns on health care advances than they would in most other places, we have also seen a migration of innovators in this area from other nations to the United States.

And one of the consequences is those fast-rising costs. The new technologies are expensive, and the monopoly rights arising from their patent protection makes them more so. Of course, without that protection, there would be fewer innovations. And but for such innovations and their broad application under our insurance system, we might not have achieved, for example, the 50 percent drop in mortality rates from initial heart attacks that we’ve seen in the last 20 years.

Various reforms could help bring down some costs – for example, the application of electronic records or, more generally, best practices in treatment. But those reforms mainly affect the cost base, and much less the rates at which costs rise. Again, that’s largely the result of technological advance, and thus far, no one has publicly argued for fewer advances or rationing access to them.

But health care is also linked directly to the incomes of most Americans, not only their health is a condition for earning income, but also because their medical insurance is a form of income. Indeed, it’s a tax-free form of income. But what happens as the cost of coverage keep on rising, and rising sharply, year after year? One result which we all know is a gradual contraction of coverage, through higher co-payments and restrictions on treatments in certain areas. Since economically, it’s a form of income, it raises labor costs. Businesses have two basic responses to these rising costs of insuring their employees. They can try to pass along the costs in higher prices, shifting the burden to their consumers. Or, to the extent that the market won’t let a business simply pass along its higher costs – which is to say, to the extent the business is in a highly competitive market – the employer will have to cut other costs. Indeed, there is strong evidence that globalization has intensified competitive pressures, for example, in an observed reduction in the pricing leverage: Business say, at least, that it’s become harder and harder to pass along higher health care and energy costs. The other evidence that the rising costs of insurance are not being passed along to consumers is the last decade’s record of low inflation.

That suggests that at least some of the increase in the costs of employer provided insurance has come out of other business costs. The data suggest that the costs they've cut have mainly come out of wages and jobs. As it happens, business investment before the financial crisis was running along a fairly normal trend. But something peculiar did happen to wages and jobs. While productivity rose at very healthy rates – in part reflecting business investment in new equipment – wages grew much more slowly than their normal trend, especially with large productivity gains. In addition, the normal relationship between growth and job creation broke down. Through the expansion of 2002-2007, businesses created fewer jobs relative to growth than during any expansion since World War II. The increases in the cost of health coverage were not the only business costs which rose sharply in this period – energy did as well. But it seems very likely that the rapid increases in medical costs have been depressing wages and job creation for the last decade.

Given the economic basis and economic effects of so much of what's been going on in medicine, it should be unsurprising that most of the political debate over health care involves not medical issues at all, but economic ones. Looking back, the debate of the last few years has, of course, mainly concerned who will enjoy open access to treatment and, as night follows day, who will pay for it. I believe, however, that this debate has now been settled, by the passage of the Affordable Care Act and by the Supreme Court's imprimatur for it. We have passed the inflection point in the debate over universal coverage, especially as President is more likely to be reelected than defeated. Even if Mr. Romney were to win this election, there is little likelihood that the Act's basic consumer guarantees – you would call them, patient guarantees -- will be rolled back. Whoever wins, next year and thereafter, insurers will be unable to bar people with preexisting conditions or set lifetime ceilings on people's coverage, and community rating will prevail in insurance premiums. And once Mr. Romney accedes to these protections – as he did happily in Massachusetts – he will have to accept that in this new environment, the financial basis for health insurance also requires universal coverage or something nearly so.

The central question for debate in the next two years is almost certainly going to be, once again, who pays for it. The answer, of course, is everybody in one way or another. Your reimbursements will be squeezed. Everyone's out of pocket costs will go up. Monopoly rights will be protected, but the taxes on the monopoly rents could go up. Of course, many of these measures will reduce economic returns, with the predictable effect on incentives. So, there may be fewer people going into medicine, many people may elect less treatment, especially when their life or capacity don't depend on it, and medical innovation may slow down a bit.

Ultimately, however, since the good at issue in medicine – people's health – is so highly valued, politicians will look for other ways to finance it. It may not come next year or perhaps for several more years, but the political and economic dynamics point towards tax reforms that can provide new, dedicated source of revenue for health care. And even that might only be a temporary measure, as accelerating innovations collide with our basic demographics and lifestyles. There's nothing anyone can do about the fact that the number of people age 60 and over is increasing by about 3 percent a year – the graying of the boomers. And nothing you or I can do will change the fact that the most common and costly conditions – heart disease and cancers – are highly concentrated in people 60 and over. Nor does there seem to be much that government or the medical profession can do about the links between the evolving lifestyles of

wealthy societies and the fast- rising numbers of people with conditions such as diabetes. Today, the average family already spends about 25 percent of its real income on health care. Much of that is the value of the insurance most people receive from their employers, and which economists know comes out of wages and salaries. But the federal payroll and state income taxes used to support Medicare and Medicaid and people's out of pocket costs have also become quite substantial. On our current course, in four years, health care will claim 30 percent of an average family's income, adjusted for the value of their insurance coverage.

The most direct way to resolve this is clear: Eventually, we could well find ourselves joining every other advanced society, in accepting wage and price controls in medicine. We won't call it that – we'll call it cost containment. But it already is more likely than not, as the simplest solution to a set of problems that have come not from medicine itself, but from the increasing desire and demand for health, which everywhere accompanies affluence; from the application of technological and scientific advances to a market with largely unconstrained demand; and from the popular expectation, nurtured by ambitious politicians, that government can ensure people's basic needs. This solution, which everyone else has followed, is a simple application of game theory to a complex economic problem embedded in a political system that cannot say no. And in this case, that system probably shouldn't say no.

In medicine, some people like to assume that they're practicing science. But there's no popular demand for real science. How many people believe they have a right to string theory, and or that their happiness is bound up in the practice of quantum physics? The fact is, medicine is a public and popular practice, which means it's subject to the constraints of economic life and the ambitions and fevers of political life. If you want to figure out where your profession is going, my advice is, first, think about it as an industry, and second, as one subject to regulatory politics. So, if you care about the state of medicine, as I know you do, you need to consult regularly with economists and become involved more directly in the policy-making process. In that way, at least, those who ultimately will help determine how your profession develops over coming decades will have the benefit of the knowledge which only those in medicine can bring to these issues, so central issues to our time.

Thank you.