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David M. Cutler

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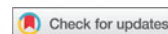


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Teaching health care in introductory economics

David M. Cutler

Department of Economics, Harvard University, Cambridge, MA, USA

ABSTRACT

Health care is one of the economy's biggest industries, so it is natural that the health care industry should play some role in the teaching of introductory economics. There are many ways that health care can appear in such a context: in the teaching of microeconomics, as a macroeconomic issue, to learn about social welfare, and even to learn how to do statistical analysis. For the past decade, the author has been privileged to teach a class on health economics in the introductory economics course at Harvard. This article is a description of how he does that. His hope is that it will be helpful for other people teaching introductory economics as a whole, or just for those offering one class in health economics.

KEYWORDS

Health care; introductory economics; moral hazard; payment reform

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Health care is one of the biggest industries in the economy, so it is natural that the health care industry should play some role in the teaching of introductory economics. There are many ways that health care can show up in such a context: in the teaching of microeconomics, as a macroeconomic issue, to learn about social welfare, and even to learn how to do statistical analysis.

For the past decade, I have been privileged to teach one of the classes in the introductory economics course at Harvard, on the topic of health economics. This article is a description of how I do that. I hope that it will be helpful for other people teaching introductory economics as a whole, or just for those offering one course in health economics. I have posted the lecture notes that I use in this class online, so everyone can have access to them. In this article, I briefly describe how I approach the issue and the major topics that I cover. It will be helpful for readers of the article to have those notes nearby. These slides show how I structure the lecture as well as the supporting data, graphical models, and descriptive diagrams that I use.¹

The class that I teach is an hour long, typically in the middle of October. The introductory economics course is a full-year course, so students are about a third of the way through microeconomics. At this point in the semester, the students are still learning the basics of demand and supply, along with the welfare properties of markets. Thus, I cannot go into too much detail about how health care works, but I can pick up some themes.

The overall goals for the class are threefold. First, I want to show them where the assumptions that we commonly make about microeconomics fall short in the analysis of health care, and what that means for evaluation of the welfare analytics of health care markets. Second, I show them basic issues about financing health care, and in particular how the financing of health care raises issues of equality and efficiency. Third, I introduce them to an efficiency evaluation of the medical care industry, showing that there is a lot of wasted money, and discussing the demand and supply side factors that result in relatively low efficiency. Along the way, I pay particular attention to policy recommendations that address these

CONTACT David M. Cutler  dcutler@fas.harvard.edu  Otto Eckstein Professor of Applied Economics, Harvard University, 1805 Cambridge Street, Cambridge, MA 02138, USA.

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different issues. My goal is to show the students how people can have different policy views even if they are neither mean-spirited nor ignorant of the relevant literature.

Understanding medical care systems

The first part of the class is an introduction to medical systems. For me, it is important to start off where people are, to draw them into the topic. Most people are confused about health care, and so I start there. Given how much the Affordable Care Act is in the news, I begin by showing them the very split views about the legislation: some people like it, and others hate it. No politician is neutral, even though some members of the public are. Why is this? We must understand health care to discern why.

The best place to start is with the actors in health care, what I term the “medical care triad.” Standard markets have two fundamental actors: the buyer and the seller. In the case of health care, we call the buyer the patient and the seller the provider. In addition, in health care markets there is an insurance company that mediates between the patient and the provider.

Insurance is one of the hallmarks of health care, and it is the thing that most distinguishes health care from other industries. In essentially every other industry, people deal directly with firms that sell goods and services. In health care, in contrast, there is an intermediary.

The insurance company can be either public or private. That distinction is not particularly important in the analysis of medical care markets. For example, in Canada and many of the European countries, health insurance is provided by the public sector. In the United States, we have a mix between public sector insurance (i.e., Medicare and Medicaid) and private insurance (as with Blue Cross/Blue Shield and other plans). Similarly, the providers of medical services can be either private employees or public employees. Again, in the United States we have examples of both. The Veterans Administration runs hospitals and employs doctors, but most doctors in the United States are private and contract with insurers as private entities. Countries also change these relationships over time. For example, there used to be many state and county hospitals in the United States that employed physicians. Many of these have been privatized. In the case of the UK’s National Health Service, the physicians started off as employees of the government, and then became independent over time. All of these examples show that there is an uneasy mix between the public and the private in health care, and it is more important to characterize health care by what the constituent members do rather than by who owns them.

Although I do not spell it out in the lecture, there is an interesting parallel here to the famous work of Ken Arrow (1963) on health care. Arrow noted that the fundamental issue in health care is uncertainty. Insurance is a natural and important attribute of any uncertain situation.

To understand why insurance is important, a good example that I carry throughout the lecture is the treatment of cancer. I point out that if one of the students were to develop cancer, they would be looking at a cost of anywhere from \$20,000 to upward of \$100,000. Because very few students have access to that kind of money, it shows the importance of insurance in medical care.

Most fundamentally, insurance separates the link between how much the individual pays at the time they use services and how many services they receive. When the medical fee is paid by insurance, there is relatively little that the patient must pay at the time of using medical care. Thus, we need a different set of rules for accessing medical services than just “if you can afford it, it’s yours.”

The medical care triad illustrates the three fundamental transactions that take place in any medical care system. The first role for any medical care system is what I term the “financing role.” Money must go from individuals to insurance companies so that insurance companies can pay it out to medical care providers. The way this financing works is dependent upon whether it is a universal system or a voluntary system. In a voluntary system, it is the responsibility of individuals to get their payments to the health insurance companies, and if they do not, they do not get health insurance. In contrast, in a system where everybody is covered, it is the responsibility of government to make sure that people pay. That is why countries must have tax-based systems for health care financing.

As with everything in medical care, the United States does some of both. We have taxes for public insurance programs such as Medicare and Medicaid, and we have premiums for private systems such as private health insurance that comes through employers. The difficulty arises when one wants to guarantee

coverage to essentially all the population, as with the Affordable Care Act. In that case, one must have mandates or other kinds of penalties for not buying insurance. As many Americans will tell you, that is something they do not inherently enjoy.

The second transaction in the medical care system is the payment rules. These are the rules by which medical care providers are paid by insurance companies. There is wide variation in how this is done. Most medical care payments start in what is called a fee-for-service system, often abbreviated as FFS. In that system, providers provide specific services, and then insurers pay some semblance of the cost of that service. Thus, the doctor will be paid one amount for an office visit, a second amount for a diagnostic test, and a third amount for major surgery. This is what one thinks about with most businesses, but it is not the only way to pay for medical care.

Many doctors in the United States and elsewhere are paid on a salary basis. They receive one amount for the entire year or month, and then are expected to provide all the services that are necessary for that amount. The analog to a salary for a physician is a “global budget” for a hospital. In a global budget, the hospital is given a fixed amount of money and told to use that to take care of patients for the year. Generally, there are penalties for exceeding the global budget target, though the stringency with which the budget is enforced varies across systems. There is an obvious issue in this type of system about the nature of services that are provided, specifically, how many and how efficiently they are done? We come back to this a little bit later in the class.

The third decision point of the medical care system involves “access rules.” When is the patient allowed to see a provider? Here again, the distinction between medical care and other markets is important. I am allowed to buy as many goods as I want of most goods and services provided I am willing and able to pay for them. In medical care, where I am not paying the full amount for any service, it becomes more of an issue as to how many services a person is allowed to receive. For example, am I allowed to visit a specialist every day just to make certain I am OK? Can I obtain a CT scan on my knee whenever I have a twinge of knee pain? If I were paying the full amount for the service, nobody would care how frequently I receive them, but because I am doing it through insurance, society has a big interest in how frequently I receive the services.

For the purposes of this lecture, I am going to divide this three-part distinction into two overarching topics. The first is the financing issue, which is really a standard problem in public finance. I want to make health insurance affordable to all or most members of society. This requires government assistance because the cost of health insurance is so high. The second set of issues concerns the efficiency with which medical services are delivered. This has to do with both the payment for the services on the supply-side and the access to the services on the demand-side. I will remark upon each when I look at the efficiency of the medical system. In the rest of the class, I first talk about financing issues, and second talk about the efficiency of medical care.

Financing medical care

Issues with financing medical care have very little to do with health, and much more to do with taxation in general. The key issue in financing health care is that medical care insurance is very expensive. One way to gauge what your students know about medical care is to ask them how much they think a typical family health insurance policy costs. The national average is about \$17,000 per year. In contrast, the median family earns only about \$50,000 a year. Thus, it is very clear that the median family could not afford to buy health insurance on their own without help from the government.

It is also straightforward to see what type of government help is appropriate. The government must give the full amount of money to people who earn very little, and then phase out what it gives people as their income rises. This is a classic negative income tax, and I show this to the students graphically. Negative income taxes are good in that they redistribute resources to the poor, in this case, making sure they can afford health insurance. They have two undesirable features. The first is that they have adverse labor supply effects, especially during the phase-out range. An individual who knows that when they earn more they will receive a lower health insurance subsidy is similar to an individual who knows that when they earn more they will pay more in taxes. In each case, the take-home earnings are less than

they would be without the program. Thus, one would expect that people would work less because of the substitution effect. In addition, there is also an income effect that would encourage individuals to work less.

This tradeoff occurs in any program that distributes resources to the poor. That does not mean that one should not have such a program; rather, it means that one must be careful how the program is structured, and to gauge whether the benefits are worth the cost. The second issue is that the money spent by the program must be financed somehow. This requires other taxes to pay for it. In practice, these taxes must come from middle and high income people. One typically does not worry about the welfare loss of taking money from very high income people and distributing it to low and middle income people, but the distortions associated with doing so can be large.

The reason why these issues are so important in health care is because the amount of money involved is big. The Affordable Care Act, for example, costs nearly \$1 trillion over a decade. There is a lot of potential for adverse effects that come from this.

What I tell the students is that this is one way to understand why economists sometimes disagree about policy, even when they share common goals. For example, many of my colleagues worry about the labor supply disincentives that are created by the health care phase-out. Others are worried about the cost of financing those transfers in a country where taxes are already insufficient to cover spending.

On the other hand, I tell them my own view, which is that additional health insurance coverage for lower income people has a very significant benefit. I also mention to them that there are other labor supply impacts of incomplete health insurance coverage, including “job loss,” which is the idea that people may be constrained from leaving a job by the fact that they may not have health insurance on other jobs. I also mention “Medicaid lock,” which is the idea that some people do not work much so they can qualify for Medicaid when they are sick. Finally, I tell them that some people may choose not to start businesses because they are afraid they cannot get health insurance coverage as easily as an individual as they can as part of a larger firm.

My own opinion, which I share with the students, is that it is worthwhile to cover more people, even acknowledging the tradeoffs that must be made. I also let them know that that is very much my own conclusion driven by my own preferences toward the welfare of low income people. That is not a universal economic finding, and one can reasonably disagree with these views.

One final point to note here is what the Affordable Care Act has actually done with respect to health insurance coverage. After a very bumpy start, health insurance coverage has increased significantly under the Act. That is a good sign in the sense that if one is going to have a program like this, one would at least like it to cover many people. For much of the time that I have been giving this lecture, the long-term viability of the Affordable Care Act has been under debate. Thus, the coverage expansion is one factor that must be considered in deciding what changes should be made to the Act.

The demand and supply for medical care goods and services

I then venture to a very difficult subject to cover in a short period of time: the efficiency of medical service delivery. I start by noting that there are many reasons to think that delivery of medical services will not be provided efficiently. In particular, many of the assumptions that we make about typical markets are not true about medical care. These include the idea that people know what services they need; that people are fully informed about prices and qualities of care; that peoples’ actions affect only themselves; and that there is perfect competition. That each of these is wrong implies that we should not necessarily associate welfare implications to observed equilibria in medical care markets.

Indeed, we have a good deal of empirical evidence that medical care markets are far from efficient. There are studies that have been done of medical care that estimate waste in health care up to about one third of total spending, roughly \$1 trillion in a \$3 trillion medical care system. The studies are done in a few different ways. Some studies compare the United States to other developed countries, and note that outcomes in United States are similar to other countries but U.S. spending is approximately 50 percent higher as a share of GDP (Anderson and Froger 2008). Other studies look directly at the services that

are used and estimate waste. For example, some studies note very high degrees of administrative costs, a large share of people receiving services that have little or no clinical value, and an equally large share whose disease is not adequately prevented and thus spend more in acute settings (Berwick and Hackbarth 2012).

Generally speaking, the literature on efficiency in medical care highlights two reasons for this widespread inefficiency. The first is that people are overly insured. Note the use of the word “overly.” For the reasons noted above, it is not the case that no insurance is optimal. It is the case that there is an optimal amount of insurance for people to have: when the marginal deadweight loss from moral hazard associated with more complete insurance is equal to the marginal benefits in security of providing people additional insurance.

The reason why insurance is believed to be excessively generous is that tax policy in the United States encourages people to have very generous insurance. In particular, wages and salaries are taxed at the individual level, but business payments to health insurance plans on behalf of their employees are not. Thus, the incentive is to run more things through insurance than one would optimally do, and therefore to have insurance be more generous than optimal. The work on the tax subsidy to health insurance goes back to the 1970s, and has continued since then. It was aided by the findings of the RAND Health Insurance Experiment (Manning et al. 1987), which showed definitively that people receive more medical care when cost sharing is lower.

One way to gauge the success of this theory is to note the widespread view of economists that the tax treatment of health insurance in the United States is too generous. In particular, there is near universal agreement among almost all economists that at the margin, insurance should be less subsidized. Note that infra-marginal subsidies may be valuable because they help to share risk if healthy people pool with less healthy people. Few people want individuals to have overly generous health insurance because tax policy encourages them to do so.

The Affordable Care Act addresses this issue, although not to the extent that most economists would like. In particular, the Act has a tax on expensive health insurance plans. This tax was supposed to come in at the end of this decade, although it has been delayed already because of opposition to it. For many economists, this is too weak an incentive and is provided too far in the future. Thus, they believe the Act is overall too weak on health care cost reform. However, the political process dictated that this was about the maximum that could be achieved.

The other factor driving inefficiency in provision is the supply side, and in particular the way that physicians are paid. As noted, the major way that physicians are paid is on a fee-for-service basis. Thus, when physicians do more, they are paid more. Effectively, the payment is based on the amount of “doctoring” that goes into each procedure or visit. Thus, doctors are paid a little bit for talking with patients, somewhat more for doing minor procedures, and even more for doing major procedures. Effectively, this means that doctors have significant incentives to provide expensive medical services. We observed this in estimates that intensive medical care is wildly overused relative to estimates about how frequently it should be used, as well as in the decisions that students make about which type of medicine to enter. Many more physicians go into specialties than primary care, to a great extent because the money in specialty care is greater than the money in primary care, and many physicians feel the need to earn money early in their career to pay back medical school and other debts.

The result of this payment incentive can be seen as a sort of inverse pyramid. In a well-functioning health care system, there is a strong base of primary care, an important but somewhat smaller amount of routine interventions, and then a relatively small share of resources associated with very high-tech interventions. The U.S. health care system is virtually the reverse. It provides a lot of high-tech intensive care, a moderate amount of routine care, and relatively little primary care, particularly in relation to demand.

A movement has arisen to change the payment structure away from the fee-for-service system. The catchphrase is moving from a system of volume-based payment to one of value-based payment. One issue I cannot cover in much detail, but which I note, is that there is no perfect payment system. Some systems encourage too much care and others too little. We do not yet know what the ideal system looks like.

The Affordable Care Act makes some steps toward payment reform. In particular, the Act has a host of demonstration programs and other experiments designed to change the way of medical care payment. I do not go into detail, but just note for students that this is an active topic of research.

Most economists believe that payment reform is a necessity, but economists differ on the attribution of inefficiency to demand-side and payment issues. There are economists who see most of what happens in health care as flowing from individual demands, with physicians as agents to meet those demands. There are other economists who think that in health care, the most important thing is the payment rules and what physicians are incentivized to do.

Conclusion

The place that I leave students is where I started, with the policy issues in health care. I point out to them different versions of arguments that economists would make. On the one hand, there are economists (generally right of center) who are worried that the incentives created by covering more people are adverse and that as a country we cannot afford to cover everyone in light of other priorities for federal spending. These economists also tend to believe that the biggest issue in health care costs is the excess of utilization of medical services caused by people being overly insured. They tend to believe that the Affordable Care Act does not go far enough in cost savings and went too far in coverage provisions.

The other side tends to be associated with economists who are left of center. This group of economists believes that universal insurance coverage is important, even if it does have some collateral cost to it. This group also tends to believe that payment reform is likely to have a bigger impact on medical service provision than demand-side cost sharing because people are not great at making medical care decisions. In this line of thought, the Affordable Care Act was a valuable step, even if it did not go far enough. This group of economists tends to think that if the Affordable Care Act itself is not sufficient on the coverage or cost end, the only real solution is to have a single-payer health care system in the United States, like in other countries. Both of these views are a bit of a straw man, but they hold more than a kernel of truth to them.

Of course, we do not know which view is correct, or whether there is some third view that is even better. It does show how people can come to different conclusions about important policy issues without any individual being mean-spirited or wanting to do harm to people. It also shows the value of economic thinking in analyzing important public policy problems, and that is a very good lesson to teach students in introductory economics.

Acknowledgment

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Note

1. The slides that I use for this lecture may be found on my Web site at <http://scholar.harvard.edu/cutler/classes>.

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