CHAPTER 7 | The Economics of

Health Care

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Solutions to End-of-Chapter Exercises

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| **7.1** | The Improving Health of People in the United States  Learning Objective: Discuss trends in U.S. health over time. |

Review Questions

**1.1** Health care is provided through markets, so there is a demand for health care and a supply of health care. However, health care is supplied not just by private firms (doctors and hospitals) but also by government, both directly (through Veterans Affairs) and indirectly (Medicare and Medicaid). Furthermore, the market for health care is different from the markets for other goods and services in that, because of insurance, the typical consumer does not pay the full price of health care.

**1.2** Over the last 150 years, the average person in the United States has become taller, lives much longer, and is less likely to die in the first months of life.

**1.3** Better health allows people to be more productive, which in turn raises a country’s total income. And increases in a country’s income lead to better sanitation, more food, a better system for distributing food, and more resources devoted to medical research, which in turn lead to better health.

Problems and Applications

**1.4** Improvements in health have led to a more productive labor force, which shifts the U.S. production possibilities frontier out. Generally speaking, when there is a decline in resources, such as labor, there is a decrease in the productive capabilities of an economy. The 1918 influenza epidemic increased mortality rates in the United States and shifted in the production possibilities frontier compared with where it would otherwise have been.

**1.5** Improvements in technology shift out a country’s production possibilities frontier. Similarly, improving health also shifts out a country’s production possibilities frontier. Better health makes it possible for people to work harder as they become taller, stronger, and more resistant to disease.

**1.6** The standard of living can be measured in alternative ways. Income per person is often used, but height, as an indicator of health and well-being, can also be used. By the income per person measure, the standard of living rose in the United States during the 1830–1890 period but declined using the height measure. The decline in height provides the insight into the poor nutritional status and poor state of sanitation in U.S. cities during the 1830–1890 period, before the public health movement in the late nineteenth century.

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| **7.2** | Health Care around the World  Learning Objective: Compare the health care systems and health care outcomes in the United States and other countries. |
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Review Questions

**2.1 a**. Health insurance is a contract under which a buyer agrees to make payments, or pay premiums, in exchange for the provider agreeing to pay some or all of the buyer’s medical bills.

**b.** Fee-for-service is a system under which doctors and hospitals receive a separate payment for each service they provide.

**c.** A single-payer health care system is a system, such as the one in Canada, in which the government provides health insurance to all of the country’s residents.

**d.** Socialized medicine is a health care system, such as the one in the United Kingdom, under which the government owns most hospitals and employs most doctors.

**2.2** Private insurance, mainly through employers, is the largest source of health insurance in the United States. The government, through programs such as Medicare, Medicaid, and the Veterans Administration, is another significant source of health insurance.

**2.3** Canada has a single payer system, in which the government provides health insurance to all its residents; in the United States, private insurance is the main source of health insurance. Both Canada and the United States have a fee-for-service system. Japan has a universal health insurance system in which preventive care, like annual physical exams, is not covered; in the United States, preventive care is generally covered by health insurance. Both Japan and the United States have many privately owned hospitals and doctors that do not work for the government. And, unlike the United States, the United Kingdom has a system of socialized medicine in which the government owns most of the hospitals and employs most of the doctors.

**2.4** Health care outcomes generally address how healthy a country’s citizens are, as measured by factors such as life expectancy. Although the United States does relatively poorly in terms of life expectancy at birth, infant mortality, and obesity, it does relatively well in the availability of medical equipment and cancer treatment. Cross-country comparisons in health outcomes can be difficult because of problems with data, measuring health care delivery, distinguishing health care effectiveness from lifestyle choices, and determining consumer preferences.

Problems and Applications

**2.5** “Free at the point of delivery” means that patients pay nothing when they receive health care services. The National Health Service supplies health care services without charge to patients, receiving its funding from income taxes. Health care is not actually free to residents of the United Kingdom because they pay for it through their income taxes.

**2.6** The easiest health care outcomes to measure are deaths because a specific event has occurred. So, life expectancy and infant mortality are frequently used for cross-country comparisons of health care outcomes. However, there are other measures of the quality of health care, such as the availability of medical equipment (like MRI units and CT scanners) and the waiting time involved for elective surgical procedures.

**2.7 a.** Many people who have seriously ill family members would likely support medical decisions that would extend the lives of their loved ones, even if that extension is for a short period of time. Because resources are scarce, however, resources devoted to marginally extending the lives of the very sick are not available for improving other health care outcomes, such as by funding preventive care that, in the long run, may result in people living healthier and longer lives. Nor would these resources be available for use in medical research.

**b.** It might be possible to measure how successful health care systems are at extending the life of the very sick. For example, once a patient is diagnosed as being terminal, data could be kept on how long that person lives after receiving life-extending treatment. The mortality ratio from cancer could possibly be used to help determine how using chemotherapy and radiation treatments extend the lives of cancer patients.

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| **7.3** | Information Problems and Externalities in the Market for Health Care  Learning Objective: Discuss how information problems and externalities affect the market for health care. |
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Review Questions

**3.1 a.** Asymmetric information is the situation in which one party to an economic transaction has less information than the other party.

**b.** Adverse selection occurs when one party to a transaction takes advantage of having more information than the other party to the transaction.

**c.** Moral hazard occurs when the actions people take after they have entered into a transaction make the other party to the transaction worse off.

**d.** The principal-agent problem is caused by agents pursuing their own interests rather than the interests of the principals who hire them.

**3.2** The asymmetric information problems in the market for health insurance include adverse selection (where buyers know more about their health than insurance companies do) and moral hazard (where buyers run up bigger medical bills after being insured).

**3.3** Insurers reduce adverse selection by screening applicants to avoid providing insurance to people who are likely to file many claims (although under the Patient Protection and Affordable Care Act (ACA), insurance companies cannot refuse to sell health insurance to people with pre-existing conditions). They also offer group policies, such as the group health insurance policies offered to the employees of large firms. This “risk pooling” helps insurance companies better estimate the number of claims they are likely to receive. Insurers reduce moral hazard by requiring people with insurance to bear part of the loss via deductibles and co-payments, thereby giving people an incentive to reduce the odds of the bad outcome occurring.

**3.4** An externality is a benefit or cost that affects someone who is not directly involved in the production or consumption of a good or service. Positive externalities in the market for health care include vaccinations against diseases (that benefits people in addition to those who receive the vaccine) and negative externalities include obesity (in which people who are not obese may pay for some of the health care of those who are obese).

Problems and Applications

**3.5** Because of the lemons problem you should buy the car only if the advertisement is placed by a car dealer with a good reputation or by an individual you know well enough to trust, if you can cheaply determine that it isn’t a lemon (for example, by an inspection), or if you’ll receive a good warranty against defects.

**3.6** The “lemons” problem in the used car market occurs when the seller of a used car, who has more information about the condition of the car than the buyer, is able to take advantage of this asymmetric information. This problem exists in the market for health insurance also because the buyers of health insurance policies know more about the condition of their health than do insurance companies.As a result, people who are likely to need more medical care are more likely to buy health insurance than are people who are in better health and who are unlikely to need much medical care.

**3.7** When, for example, you buy fire insurance you are sharing the risk of a house fire with the other people who buy fire insurance. Each of you has contributed to the funds the insurance company will use to pay someone whose house burns down. Adverse selection undermines the ability of insurance companies to provide risk-sharing services. Risk sharing does not occur when the only people who buy insurance policies are people whose houses are likely to burn down.

**3.8** Perhaps. Some argue that Social Security does not involve offering insurance against difficult-to-predict events like a fire or an illness but that it is more like a program of forced saving for retirement. Others argue that Social Security is a system that insures against outliving your savings due to the difficulty of predicting how long you are likely to live after retiring.

**3.9** You should disagree with the statement because it confuses moral hazard and adverse selection.

**3.10** The student’s reply of “Your spouse doesn’t bring you flowers anymore” is an example of moral hazard in marriage. The spouse used to bring flowers before marriage but once married stops bringing the flowers.

**3.11** Yes. With health insurance covering most of the cost, consumers demand a larger quantity of health care services than they would if they paid a price that better reflected the cost of providing the services. Doctors and other health care providers also have a reduced incentive to control costs because they know that an insurance company will pick up most of the bill and they generally work under a system (fee-for-service) under which they receive a separate payment for each service that they provide.

**3.12 a.** Healthy people may not want to purchase health insurance because they expect the costs to be greater than the benefits.

**b.** The statement is true in the same sense that fire insurance is meant for people whose houses burn down. No one can predict with absolute certainty whether he will become sick or not, so having health insurance will reduce out-of-pocket expenses if he becomes sick.

**c.** This situation is a problem for a system of health insurance because of adverse selection. If people only buy health insurance when they are already ill, insurance companies are unable to supply the service of risk pooling, and the system cannot operate efficiently. Solutions to this problem might include limiting coverage of pre-existing conditions or requiring individuals to buy health insurance. In passing the ACA, Congress and the president decided to use the second of these solutions.

**3.13** The adverse selection spiral develops because buyers of health insurance know more about their health than do insurance companies. Therefore, sick people are more likely to want health insurance than healthy people. The resulting higher premiums will in turn lead some healthy people to drop their insurance, which forces premiums even higher, discouraging more people from buying insurance, and so on. Insurance companies can reduce the problem of adverse selection by limiting coverage of pre-existing conditions. Doing so, however, has not been allowed following passage of the ACA. Insurance companies may be able to avoid an adverse selection spiral if the ACA’s requirement that everyone must buy health insurance ends up being adequately enforced.

**3.14** Young and healthy people provide a subsidy to the less healthy people in the health plan in the sense that they typically pay more in premiums than they receive in health care benefits. The subsidy of young and healthy people will be all the more important following passage of the ACA because the law sharply limits the ability of insurance companies to deny coverage to people with pre-existing conditions.

**3.15** Health care programs like vaccinations have positive externalities because not only are those who receive the vaccination protected against the disease, but those who are not vaccinated are less likely to contract the disease. However, that does not mean that health care is a public good because public goods are both nonrivalrous and nonexcludable, which health care is not.

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| **7.4** | The Debate over Health Care Policy in the United States  Learning Objective: Explain the major issues involved in the debate over health care policy in the United States. |
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Review Questions

**4.1** The Patient Protection and Affordable Care Act (ACA) is health care reform legislation passed by Congress and signed by President Barack Obama in 2010. Its major provisions include: individual mandates, state health exchanges, an employer mandate, regulation of health insurance, Medicaid expansion, and new taxes.

**4.2** Health care spending in the United States has increased from less than 6 percent of GDP in 1965 to about 17.3 percent of GDP in 2013. Spending on health care has grown faster in the United States than in many other high-income countries. Because the federal and state governments in the United States pay for a large amount of health care spending, increases in health care spending can cause problems for government budgets.

**4.3** The rapid increase in health care spending in the United States is due to slow rates of growth of labor productivity in health care, the population becoming older, improvements in medical technology, new prescription drugs, the tax treatment of private health insurance, and the reliance on third-party payers.

**4.4** Proponents of more government involvement in the health care system criticize the ACA because they believe even greater government involvement would reduce paperwork and waste and would reduce health care spending per person while providing better health outcomes.

**4.5** Proponents of market-based reforms believe market prices would better convey information on consumer demand and supplier costs. They also believe increased competition would reduce costs and increase economic efficiency.

Problems and Applications

**4.6** The Congressional Budget Office estimates that most of the increase in federal spending on the Medicare and Medicaid programs will be due to increases in the cost of providing health care.

**4.7** **a.** Instead of demand and supply determining who gets the new medical technologies, the “rationing decisions” would be left to a board of experts who would determine whether the new medical technologies are worth their higher costs. If the experts think these new medical technologies are not worth their costs, Medicare would not pay for them. This approach would be rationing in that not everyone who wanted to use these new technologies would have access to them.

**b.** Higher-income individuals would receive fewer Medicare benefits, and some individuals would pay higher premiums and co-payments. Because beneficiaries would have to pay more of the cost of health care, the quantity of health care they demand would decline, thereby helping to restrain the growth of Medicare spending. Premium supports would involve a subsidy to lower-income beneficiaries.

**c.** Because the cost of providing health care is expected to continue to grow, Congress and the president should be concerned with the growth of Medicare spending. If Medicare spending continues to grow at its current rate, the result will be either significant cutbacks in other types of government spending or significantly higher taxes. Both approaches to restraining Medicare costs have benefits and drawbacks. A board of experts would be one way to avoid the expenditure of substantial funds on medical procedures that may be only marginally effective. On the other hand, some people are reluctant to have medical decisions made by a board of experts rather than by doctors and patients. Many economists and policymakers favor market-oriented reforms of the Medicare system that would result in beneficiaries paying more of the cost of their health care. Other economists and policymakers are skeptical that Medicare costs would respond much to market-oriented reforms because they doubt that beneficiaries’ demand for health care will be very sensitive to increases in premiums or out-of-pocket costs. Some combination of the two approaches might end up being adopted as a way to restrain the growth of spending on Medicare.

**4.8 a.** The aging of the U.S. population and increases in the cost of providing health care are expected to result in significantly higher federal spending on Medicare as a percentage of GDP.

**b.** The government could use means testing so that high-income individuals would have to pay more of their health care costs, whereas low-income individuals would not. By causing beneficiaries to bear more of the costs of their health care, these changes might restrain future increases in Medicare spending because Medicare recipients would have a greater incentive not to make unnecessary trips to the doctor and to question whether tests or other medical care was actually necessary and effective.

**4.9 a.** If Fogel is correct, then policymakers should be less concerned with increases in health care spending because such increases reflect the choices of consumers rather than other factors.

**b.** As discussed in the chapter, other factors, such as the favorable tax treatment of private health insurance may also be driving the increase in health care spending. Because of this favorable tax treatment and because government and private health insurance act as third-party payers for many consumers, the choices that consumers make about health care may be distorted to a greater extent than Fogel’s position suggests.

**4.10** If employees were taxed on the value of the employer-provided health insurance, overall compensation employers pay employees would not change. Labor markets determine the equilibrium level of overall compensation, which includes wages and fringe benefits. The value of health insurance provided by employers would most likely decrease because these benefits would no longer be tax-free and the wages paid to employees would therefore increase.

**4.11** Because health insurance covers much of the cost of many medical services, most patients are unconcerned about the prices of these medical services. Therefore, patients have little incentive to shop around for lower prices.

**4.12** Labor markets determine the equilibrium level of overall compensation to labor, which includes wages and fringe benefits. If working conditions are analogous to fringe benefits, then requiring companies in developing countries to substantially improve working conditions would lower wages. Overall compensation would not change, but wages would drop and working conditions would improve. Workers in low-income countries might well have a different trade-off between wages and working conditions than workers in affluent countries who are less likely to face poverty and hunger.

**4.13 a.** *P*2 where the demand for medical services when consumers pay only a fraction of the true cost of medical services, *D*2, intersects the supply of medical services, *S*.

**b.** *Q*1, where the demand for medical services if consumers paid the full price of medical services, *D*1, intersects the supply of medical services, *S.*

**c.** *P*3, which equals the equilibrium market price, *P*2, minus the amount covered by health insurance.

**d.** Area *B* where the marginal cost of producing the quantity *Q*2 – *Q*1 as indicated by the supply curve *S* exceeds the marginal benefit consumers receive from these medical services as indicated by the demand curve *D*1.