Public Health 126: Introduction to Health Economics and Public Policy

Exam Study Questions

Exam date: Thursday, May 15, 2008, 12:30–3:30pm (Mulford 159)

The following questions provide a guide for the material that will be covered on the exam. Be aware that, while the concepts on the test are found in the examples below, the wording and numbers in the problems may be different. *Be sure to carefully read the questions on the exam and answer them as stated.* There will be four analytical and five short response questions on the exam; you can choose three out of five short response questions to complete.

While the GSIs are happy to help you to study the material generally, they will *not* answer questions that specifically relate to those listed below. Note that Charlie's sections on May 9 are *canceled*; he will be having office hours on Monday, May 12 from 4–6pm in Evans Hall 611. Carrie's section on Thursday, May 8 from 1–2pm in Cory Hall 289 will be open questions-and-answers, as will class on that date. Carrie will have office hours by appointment on Tuesday, May 13.

1 Perfect competition and taxes

Assume that the market for contact lenses is perfectly competitive. The supply of lenses is given by $Q_S = \frac{p}{2}$ and the demand is $Q_D = 100 - 2p$. Quantity is given in millions of pairs; price is per pair.

a. What is the law of demand? Does it hold here?

b. What is the difference between a movement along a curve and shift of a curve? Provide a supply- and demand-based example for each concept.

c. Show graphically and calculate algebraically the equilibrium in this market.

d. Calculate the elasticities of supply and demand at the equilibrium.

e. Why might demand for contact lenses not be perfectly inelastic?

Suppose a \$5 sales tax (i.e., paid by the consumer) is levied per pair of contacts.

f. What happens to the supply curve? To the demand curve? Show graphically and calculate algebraically the equilibrium in this market.

g. What happens if the tax was paid by the producer instead?

h. Who bears a larger share of the tax: the producer or the consumer? How do you know?

2 Monopoly and subsidies

Lipitor is a statin that controls a patient's cholesterol level and is under Pfizer's patent protection. Demand for Lipitor is $Q_D = 52 - 3p$ and the supply is $Q_S = 10 + p$. Quantity is in millions of pills; price is per pill.

a. Find the optimal (i.e., competitive) price and quantity in the market.

b. Find the monopoly price and quantity.

c. Suppose that the government not only offers Pfizer patent protection, but also gives the company a subsidy of \$5.25 per pill. What is the price and quantity in this scenario?

d. What are the arguments for and against giving Pfizer this subsidy?

3 Coinsurance and moral hazard

The market for physicians' services has a demand of $Q_D = 300 - 2p$ and a supply of $Q_S = 90 + p$. Quantity is in millions of man-hours; price is per-hour.

a. Find the equilibrium in this market.

Suppose that the government provides universal health insurance with a constant coinsurance rate of 20% (i.e., all citizens have coverage and each patient must pay 20% of his bill).

b. Show what happens to the demand curve graphically.

c. Find the equilibrium in this market.

Instead of universal coverage, suppose that the government enacts a price ceiling of \$30.

d. What happens under this proposal?

e. How is health care allocated in the presence of price ceilings?

4 Adverse selection and insurance

There are four equally-sized groups in the population with expected health costs and values of insurance given in the following table.

	1	2	3	4
Expected cost	\$200	\$1000	\$2800	\$4000
Value to consumer	\$250	\$1250	\$3500	\$5000

a. Why would the groups value insurance more than they expect to pay in health care costs?

b. What would the actuarially fair price be if everyone bought insurance?

c. Which groups would actually buy insurance as this price?

d. What price would arise in the market? Which groups would buy insurance at this price?

5 Elasticities

Topher does not have drug coverage and currently takes 80 doses of Allegra to combat his allergies. Suppose that he has a demand elasticity for Allegra of -0.5 and is in a 25% tax bracket. If his pharmaceutical expenses became tax deductible, how many doses of Allegra would he consume?

6 Employer mandates

Suppose that the government enacts a policy requiring employers to provide insurance coverage to each of their employees at a value of $1.50 per hour of employment ($3000 annually for full-time workers). Answer the following questions verbally and graphically.

a. What happens to the wage and level of employment for employees earning above the minimum wage?

b. What happens to the wage and level of employment for employees earning the minimum wage?

7 Vaccinations

What might justify the government to encourage citizens to receive an annual influenza vaccination? How would the government be able to increase the vaccination rate? Discuss the ability of the following policy options to achieve this goal: subsidies for producers or consumers, price floors, and price ceilings. You may use diagrams to assist your discussion.

8 Reimportation of pharmaceuticals

Many policy makers have recommended allowing the reimportation of pharmaceuticals to the U.S. from other countries. Currently, the FDA bans this practice. Drug prices can be much lower in other nations due to the conscious pricing decisions of the firms or price controls set by foreign governments. What would the effects of this policy be in the United States? In other countries? To future drug development?

9 Mandates

In 2006, under then-governor Mitt Romney, Massachusetts enacted a health care mandate. Hillary Clinton advocates a national mandate plan backed by wage garnishment. What qualities of the health insurance market would warrant a mandate? What are the positive and negative aspects of mandates?

10 Medicare and cost shifting

Suppose that the Medicare reimbursement rate to hospitals and physicians is reduced and that these groups maximize profits. Would these groups recuperate this reduction in revenue by charging non-Medicare patients more? Consider the ability for providers to price discriminate. What conditions must be met for firms to price discriminate?

11 Cigarette taxes

In the fall of 2007, the Democratic Congress proposed expanding the State Children's Health Insurance Program (SCHIP) and paying for additional coverage via an increase in the federal tobacco tax. During a Republican presidential candidates debate on October 10th, 2007, John McCain said:

> [A] dollar-a-pack increase for cigarettes? So we want to take care of children's health and we want everybody to smoke? I don't get it.

His logic was that if children's health care is paid for via cigarette taxes, then the only way for the program to be funded is if people smoke and pay the taxes. The government has a perverse incentive, he claimed, in that it wants people to smoke so that it collects more funds. Do you agree with his sentiment?

12 Optimal care provision

Conservative journalist Joseph Sobran, in describing social policies in the U.S., has said:

> 'Need' now means wanting someone else's money. 'Greed' means wanting to keep your own. 'Compassion' is when a politician arranges the transfer.

Discuss the difference between "need" and "want" in both an economic and broader policy context. What criteria should policy makers use in deciding whether to pursue a program?

13 Rising cost of health care

Discuss the factors contributing to increases in the cost of health care over the last half century. Briefly discuss how these factors would be mitigated by the health care proposals discussed in class.

14 Justifications for government intervention

What factors could motivate intervention in markets by the government? Be sure to discuss efficiency- and equity-enhancing justifications.

15 Managed care

What policies did managed care implement in order to help control rising health care costs? What is the economic logic underlying these changes?