

Economics 387  
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Final Exam  
Summer 2012

You are to do all four (4) problems. Each one receives equal credit and each part of each one receives equal credit, so allocate your time accordingly. Partial credit will be given if appropriate. Set up each problem as carefully as you can, and show the steps to solution if you cannot actually solve it in the short time that the test takes. All answers should be explained, rather than simply giving a numerical result.

1. Consider the market demand for care, described by the accompanying chart.

Price	Quant. Demanded	Quant. Supplied
40	0	16
35	2	14
30	4	12
25	6	10
20	8	8
15	10	6
10	12	4
5	14	2
0	16	0

In all parts of this problem, a graphical solution will be perfectly acceptable.

- If there is no insurance, calculate the equilibrium price, quantity, and level of expenditures.
- If a 25% coinsurance rate were instituted, calculate the new equilibrium levels of price, quantity, and total expenditures?
- Calculate the increased cost to society of the excess consumption of medical care due to excess consumption brought about by the fractional coinsurance rate
- Discuss briefly the benefits and costs to the society brought by coinsurance.

2. Suppose that a monopoly hospital faces the following demand curve:

$$P = 480 - 5Q, \text{ and the following cost function}$$
$$TC = 100 + 20Q$$

- Calculate the monopoly's profit maximizing price, quantity, and profit.

- b. What would society's optimal production be? Why?
- c. Suppose that for a fixed cost investment of \$200 per period, the monopolist could reduce marginal cost by \$1 per unit. Give the new total cost function and new marginal cost.
- d. Discuss briefly the competition situation in the U.S. hospital market.
3. In several models throughout the year, we have talked about the trade-offs between quality and quantity in the provision of health services.
- Give one examples of quantity and one examples of quality with reference to nursing home, and explain why your examples represent either quantity or quality, but not the other.
  - As briefly as you can, sketch out either a graphical or a mathematical model that shows why, in cases that matter, there is a trade-off between quality and quantity.
  - Studies that have compared for profit and non-profit nursing homes have often found them to have similar when competing in the same markets. What economic factors might lead this to be the case?
  - Sketch out the equilibrium where you have non-profit providers who care only about how many patients they see.
4. The policy maker wanted to look at the determinants of the share of GDP going to health expenditures, so he estimated the following regression for 2004.

	<i>Standard</i>		
	<i>Coefficients</i>	<i>Error</i>	<i>t Stat</i>
Intercept	5.60057	1.47821	3.79
YPC	0.06473	0.03230	2.00
Age	0.10056	0.10542	0.95

where the dependent variable (SHARE) is the fraction of the GDP going to health care expenditures.

YPC = Income per capita in \$ x 1,000

Age = % of population age 65 and over

- a. Assume that the mean value of Age is 10. What is the impact of an increase in YPC from 20 to 30 on SHARE?
- b. From this regression, is health care a luxury good or a necessity? Why?
- c. Does Age have a significant impact on SHARE? Why or why not?
- d. The United States has a mean value of 40 for YPC, and 12.8 for Age. Knowing what you know about the U.S. healthcare economy, does this regression do a good job predicting the share of GDP going to health care? Why or why not?