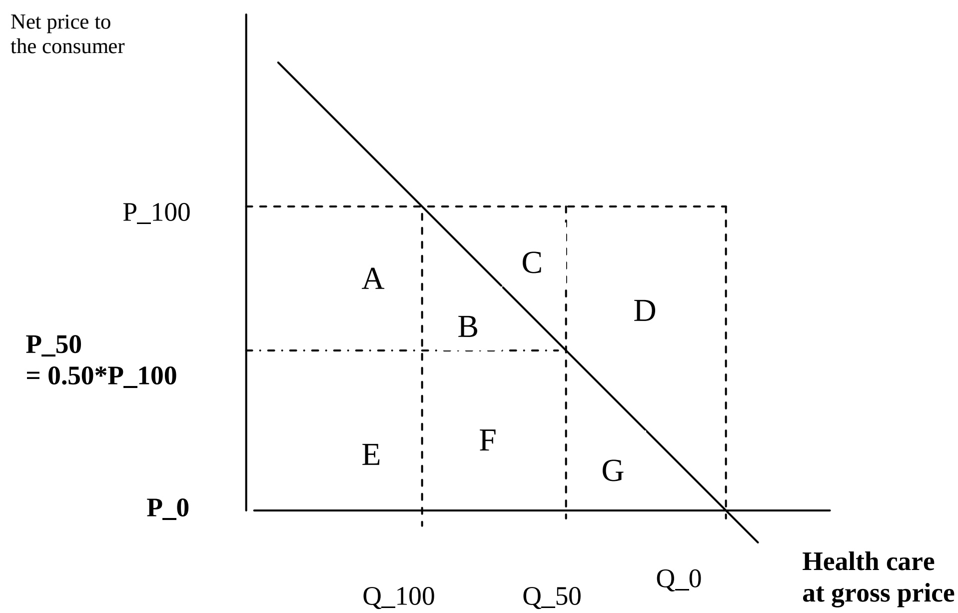
Cameron ECON 132 (Health Economics): FIRST MIDTERM EXAM (A) Winter 09

Answer all questions in the space provided on the exam.
Total of 36 points (and worth 22.5% of final grade).
Read each question carefully, so that you answer the question.

Short Answer (6 points each question)

1.(a) Compare no health insurance to a health insurance policy with 50% coinsurance.
(i) The change in total medical expenditures due to insurance is given by which combinations of areas A, B, C, D E, F and G?

(ii) Compare no health insurance to a health insurance policy with 50% coinsurance.
The welfare loss due to moral hazard is given by which combinations of areas A, B, C, D, E, F and G?



(b) State two distinct fundamental contributions made by the Rand study (summarized in the article by Manning et al.).

(c) Consider the article by Paully on "The Economics of Moral Hazard: Comment". Paully asserted that:

Circle True or False

(i) True False A person who prefers no insurance to complete health insurance will never then prefer an insurance policy with coinsurance to no insurance.

(ii) True False An earlier influential article by Ken Arrow was wrong to state that "the welfare case for insurance of all sorts is overwhelming. It follows that the government should undertake insurance where the market, for whatever reason, has failed to emerge."

2. Circle True or False to each of the following statements about the U.S. health market in 2007.

[One point each.]

(a) True False Health expenditures exceeded $1 trillion.

(b) True False The number of days in hospital per capita was substantially higher than in 1930.

(c) True False Hospital care, physicians and pharmaceutical drugs combined accounted for less than one-half of health expenditures.

(d) True False Over 95% of health expenditures were paid for by private or public health insurance.

(e) True False Approximately 50 million Americans lacked health insurance.

(f) True False Medicare is public health insurance targeted to low income people.

3. Susan believes she faces health costs in the current year of either $5,000 with probability 0.8 or $20,000 with probability 0.2.

(a) What is the actuarially fair premium for insurance that fully covers health costs Susan might incur? Explain your answer.

(b) Suppose an insurance company sells insurance to 10,000 people who face the same distribution of health costs as does Susan. Give a measure of the variability of the average claim per individual insured.

(c) Susan obtains a major medical and hospital policy that covers all costs, aside from a $1,000 annual deductible and a 20% coinsurance rate. If Susan actually incurs annual health charges of $4,000, by how much will her health insurance company reimburse her?

4.(a) Suppose George is risk-averse and faces a gain of 100 with probability 0.5 and a gain of 200 with probability of 0.5.

(i) On an appropriate diagram show George's well-being.

(ii) On the same diagram show George's well-being if he could instead receive with certainty an amount equal to his expected gain.

(b) Define adverse selection.
And explain why adverse selection can lead to failure of health insurance markets.

(c) Suppose going from no insurance to insurance with an effective coinsurance rate of 50% leads to health expenditures changing from $2,000 to $3,000. Calculate the arc price elasticity of demand.

5.(a) Suppose the immunization rates of HMO and FFS plans are, respectively, 0.72 and 0.80, with standard errors of, respectively, 0.02 and 0.02. Is the difference between the population mean immunization rates of the HMO and FFS plans statistically significant at 5 percent?

[Hint: $t= (m_1 – m_2) / \text{sqrt}(s_1^2 + s_2^2)$ where m denotes sample mean and s denotes standard error]

(b)(i) What was the conclusion of the article by Miller and Luft, "Does Managed Care Lead to Better or Worse Quality of Care?".

(ii) What was the impact of the movement to managed care on health care costs?

(c) State the names of three forms of managed care organization (do not include FFS).

Multiple Choice (1 point each) Note: You should spend 15-20 % of time on these!

1. A risk-averse consumer has expected annual health costs of $3,000 (with a standard deviation of $5,000). She can purchase a health insurance policy that will cover all her actual health costs for $5,000. It follows that

a. she will **definitely not buy** the health insurance policy

b. she will **possibly buy** the health insurance policy

c. she will **definitely buy** the health insurance policy

2. The Rand health insurance study:

a. was an experiment that randomly assigned people to different insurance policies

b. was a study of people who chose their own insurance, but then corrected for the resulting selection bias where less healthy people are likely to buy more generous health insurance.

c. neither a. nor b.

3. An example of capitation is

a. a negotiated per diem

b. payment per member per month

c. gatekeeper approval

d. none of the above

4. In theory, managed competition can occur

a. under FFS

b. under managed care

c. under neither a. nor b.

d. under both a. or b.

5. High-deductible health plans

a. Were encouraged by the Bush administration

b. Account for less than 10 percent of health insurance plans

c. both a. and b.

d. neither a. nor b.

6. Current proposals and actual attempts to reduce the number of uninsured by state governments such as California and Massachusetts do so by

a. change that includes changes to existing health insurance for those currently insured

b. change that directly effects only the currently uninsured.