

**Cameron ECON 132 (Health Economics): SECOND 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. The cost-effectiveness of influenza vaccination is well established for persons aged 65 years and older. A study in the October 4 2000 issue of the Journal of the American Medical Association considered cost-effectiveness and cost-benefit for healthy adults less than 65 years old. A randomized experiment was run. The treatment group received an influenza vaccination, while the control group received a placebo. Any favorable benefits of influenza vaccination last only for one flu season (a year).

We consider the costs and benefits of influenza vaccination for 1,000 adults when per person

- The cost of vaccination (including lost work time) is \$25.
- The cost of influenza illness (including lost work time) is \$200.
- Influenza vaccination reduces the probability of getting influenza from 0.24 to 0.14.

(a) Perform a **cost-benefit analysis** of influenza vaccination. Does it favor vaccination?

(b) What is the **cost of influenza vaccination per case of flu avoided**?

(c)(i) Give a verbal definition of a **QALY**.

(ii) What is the advantage of using QALY's compared to cost-benefit analysis?

2.(a) Explain in words the limitation of using the conventional model of consumer choice (e.g. that presented in Economics 100) to explain individual demand for health care services.

(b) On an appropriate diagram show **consumer choice between consumption of non-health goods and the level of health.**

(c) Suppose that health insurance makes it much cheaper to obtain medical goods and services. **On the same diagram as that in part (b),** show the effect on consumer choice between consumption of non-health goods and level of health. State, with explanation, whether or not out-of-pocket expenditure on medical goods consumption has increased **for your diagram.**

3. Circle True or False to each of the following statements about the U.S. [One point each.]

(a) **True** **False** Over 10% of community hospital revenues come from patient self-pay

(b) **True** **False** DRG's are used in a prospective payment system for hospitals.

(c) **True** **False** UCR and RVS are used in FFS reimbursement for hospitals.

(d) **True** **False** The majority of hospitals in the U.S. are for-profit hospitals.

(e) **True** **False** Under managed care, capitation is used more for doctor reimbursement than for hospital reimbursement.

(f) **True** **False** A gatekeeper is an essential component of FFS insurance.

- 4.(a)(i) On an appropriate diagram show the impact of licensure on price and quantity of medical services (assuming licensing of doctors does not change people's preferences to see doctors).  
(ii) On the same diagram show the welfare loss or welfare gain due to licensure.

- (b)(i) On an appropriate diagram show the impact of physician-induced demand on price and quantity of medical services.  
(ii) On the same diagram show the welfare loss or welfare gain due to physician-induced demand.

(c) Suppose, for simplicity, that a doctor trains for 1 year, is a resident for 1 year and works one year. You are given the following data for a doctor and for a typical college graduate (who begins work immediately after college) over three years. The discount rate is 10% and you are to do calculations in year 1 dollars..

Year	1	2	3
Doctor	-30	55	110
College Graduate	20	44	66

Given these data what is financially better? Being a doctor or being a typical college graduate? Explain.

**5.(a)** On appropriate diagram(s) show why a profit-maximizing pharmaceutical company may sell a patented drug for different prices in different countries.

**(b)** State two commonly-used methods for reimbursing physicians and state how these two methods could lead to different behavior by physicians.

**(c)** Consider the by Duncan Neuhauser and Ann Lewicki (1975). “What Do We Gain from the Sixth Stool Guaiac”.

**(i)** What was the specific conclusion of this paper regarding Guaiac tests?

**(ii)** What was the more general methodological contribution of this paper?

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

1. Cost-effectiveness analysis is
  - a. widely used by Medicare in determining specific treatments
  - b. based on substantial research funded by the National Institutes of Health
  - c. neither a. nor b.
  - d. both a. and b.
  
2. For public health policy analysis a good measure of the value of a life saved is one based on
  - a. present discounted value of future earnings
  - b. willingness to pay (i.e. consumer behavior to avoid risk of death)
  - c. neither a. nor b.
  - d. both a. and b.
  
3. For individuals in the U.S.
  - a. the income elasticity of health demand is less than 0.5 in absolute value
  - b. the price elasticity of health demand is less than 0.5 in absolute value
  - c. neither a. nor b.
  - d. both a. and b.
  
4. The rate of return on training for doctors in the U.S., when compared to that for most other educational groups (college graduates, Ph.D.'s)
  - a. lower
  - b. similar
  - c. a bit higher
  - d. a lot higher
  
5. For pharmaceutical drugs R&D expenditures account for
  - a. over two-thirds of expenses
  - b. between one-third and two-thirds of total expenses
  - c. less than one-third of expenses
  
6. Most pharmaceutical drug discoveries fail to lead to a marketable drug due to
  - a. abandonment before reaching Phase III trials
  - b. abandonment due to failure during Phase III trials
  - c. abandonment for economic reasons despite success during Phase III trials.