University of Victoria
Department of Economics

Economics 317
Health Economics

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Midterm Examination II
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1 Multiple choice questions (24 marks).

Instructions. Choose the best answer for each question. Record your answers clearly on the first blank page of your answer book. Each question is worth 2 marks.

1. It takes Bob two hours to visit the dentist. Bob values his time at $20 per hour. Bob's dentist has recently increased the price of a visit from $40 to $60 and Bob has responded by visiting two times per year instead of four. The elasticity of dental visit demand to *full* price Bob presents is

   (a) -3.0

   (b) -5/3.

   (c) $-\infty$.

   (d) There is not enough information to answer.

2. Consider the version of Akerlof's Lemons model we discussed in class. Otherwise making the same assumptions we did in the lectures, assume there are five types of cars with qualities $\{0, 1, 2, 3, 4\}$. Buyers are willing to pay $3,000 per unit of quality, and sellers are willing to accept $2,000 per unit of quality. Assume that sellers observe quality but buyers do not. The price that clears the market is:

   (a) $8,000.

   (b) $6,000.

   (c) $4,000.

   (d) There does not exist a price which clears the market.

3. Reconsider the preceding question (question 2). Make all the same assumptions except now suppose that neither buyers nor sellers observe the quality of a car. The price that clears the market is:

   (a) $8,000.

   (b) $6,000.

   (c) $4,000.

   (d) There does not exist a price which clears the market.

4. Consider a physician who can induce demand for her services. Inducement reduces patient health. The physician is paid on a fee for service basis. An increase in the fee the physician receives

   (a) causes the physician to substitute towards more inducement and the income effect reduces inducement.

   (b) causes the physician to substitute towards more inducement and the income effect also increases inducement.

   (c) causes the physician to substitute away from inducement but the income effect increases inducement.

   (d) causes the physician to substitute away from inducement and the income effect also reduces inducement.

5. Victoria has more GPs per capita than other cities in Canada, and in Victoria the average person demands more medical care than the average Canadian. We can conclude from these observations that:

   (a) GPs in Victoria induce demand for their services.

   (b) GPs in Victoria do not induce demand demand for their services.

   (c) An increase in fees paid to physicians in Victoria would reduce demand for medical care in Victoria.

   (d) None of the above.

6. Econometric evidence demonstrates that U.S. states which have experienced relatively large declines in fertility over time have also experienced relative increases in Caesarean section rates. This is evidence that

   (a) OBGYNs induce demand for Caesareans.

   (b) OBGYNs do not induce demand for Caesareans.

   (c) The government should ban Caesarean sections.

   (d) None of the above.

7. Which of the following is NOT an example of a negative externality?

   (a) A factory emitting greenhouse gases.

   (b) Nature pollinating a flowering plant.

   (c) A parent choosing not to vaccinate a child against polio.

   (d) A promiscuous man choosing not to use condoms.

8. A Pigouvian tax

   (a) maximizes government revenue.

   (b) selects tax rates across goods to minimize distortions subject to a revenue constraint.

   (c) internalizes externalities.

   (d) raises the optimal revenue to efficiently reallocate income.

9. Statistical evidence shows that

   (a) tax rates have no effect on smoking patterns because addicts do not respond to price incentives.

   (b) tax rates reduce smoking but demand is inelastic.

   (c) tax rates reduce smoking and demand is highly elastic.

   (d) any of the above could be true; it is very difficult to estimate demand for cigarettes.

10. A myopic addict

    (a) has problems with her eyesight.

    (b) fails to take future consequences of her addictions today into account.

    (c) imposes negative externalities on non-addicts.

    (d) presents perfectly inelastic demand for the addictive good.

11. Choose the most accurate description:

    (a) Canada has socialized health care; the United States has free market health care.

    (b) Canada has socialized health care; the United States provides care to the elderly but otherwise has free markets in health care.

    (c) Canada has socialized health insurance for medically necessary care; the United States has a mix of both public and privately financed care.

    (d) Canada has socialized health insurance for all care; the United States has socialized insurance but all care is privately provided.

12. Adverse selection in health insurance markets is inefficient because

    (a) low-risk people will tend to underinsure.

    (b) high-risk people will tend to overinsure.

    (c) all people will tend to overinsure.

    (d) answers (a) and (b) are correct.

2 Short-answer questions (16 marks).

Instructions. Answer each question clearly and concisely. *No marks will be awarded for undefended answers.* Ensure graphs are clearly labeled.

1. (6 marks) If your bike is stolen you will have wealth $W = 100$. If your bike is not stolen you will have wealth $W = 400$. You live in a terrible neighbourhood and there is a 50% chance your bike will be stolen regardless of what you do. Your preferences are represented by the utility function $u(W) = \sqrt{W}$. You can buy insurance at price F which fully compensates you if your bike is stolen, so that whether or not your bike is stolen your wealth will be $400 - F$. What is the maximum amount you are willing to pay for insurance?

2. (10 marks) A physician chooses to induce $I \geq 0$ units of services. The physician is paid m per unit of service. A physician who induces no services provides $Q_0 > 0$ units of services.

    (a) Sketch the physician's budget set on a graph on which units of services induced is on the x-axis and income is on the y-axis. Label the intercept(s). Indicate which allocations are feasible and which are not.

    (b) Show the physician's optimal allocation and label that point A, assuming the physician chooses a positive level of inducement. Draw the indifference curve passing through the optimal allocation.

    (c) On a new graph, show the initial point A and the budget constraint passing through that point, and the new budget constraint which the physician faces if the fee m rises. Show a new equilibrium for a physician who chooses to induce less when her fee rises. Label the new equilibrium B and show an indifference curve passing through that allocation.