

**Version A**

- 1.(a) Marginal cost for 1,000 adults =  $1,000 \times \$25 = \$25,000$ .  
 Marginal benefit for 1,000 adults =  $1,000 \times (0.24 - 0.14) \times \$200 = \$20,000$ .  
No. Do not vaccinate as MC exceeds MB.
- (b) Cost per case avoided =  $\$25 / (0.24 - 0.14) = \$25 / 0.10 = \underline{\$250}$ .  
 [or # cases avoided per 1,000 =  $(0.24 - 0.14) \times 1,000 = 100$ ; and  $\$25,000 / 100 = \$250$ .]
- (c)(i) QALY is a quality-adjusted life year, where quality of life is rated on a scale between 0.0 (death) and 1.0 (good health).  
 (ii) CBA requires placing value on a year of life saved whereas QALY does not.

2.(a) Main reason to see a doctor is sickness. Since budget constraint has not moved, need to say that indifference curves moves. This is unconventional. Rarely do economists use **changes in the indifference map** to explain behavior.

(b)-(c) see over.

3.(a) False. Only 3% is patent self-pay.

- (b) True. A prospective payment system is based on payment for a standard health procedure such as appendicitis. DRG is a classification system for these.
- (c) False. UCR and RVS are used to determine reimbursement of physicians, not hospitals.
- (d) False. Few are for-profit: about 10% of total bed supply.
- (e) True. Capitation such as payment per member per month is not used much for hospitals.
- (f) False. A gatekeeper is used in an HMO.

4.(a)-(b) see over.

(c) PDV doctor =  $-30 + 55/1.1 + 110/(1.1)^2 = -30 + 50 + 91 = \underline{111}$  [Question says use year 1 \$]  
 PDV college =  $20 + 44/1.1 + 66/(1.1)^2 = 20 + 40 + 55 = \underline{115}$ .  
College as PDV of income is higher.

5.(a) See over.

- (b) Fee for service. Pay for each service provided may encourage over-servicing.  
 Capitation: Pay of fixed amount for each person covered may encourage under-servicing.  
 Salary (used less but at e.g. Kaiser): Pay of fixed amount per month may encourage shirking.
- (c)(i) Six Guaiac stool tests were suboptimal. Two or three tests are optimal.  
 (ii) That one should do cost benefit analysis or cost effectiveness analysis **at the margin**.

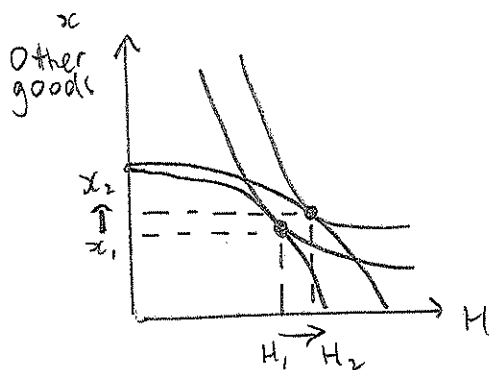
**Multiple choice**

Question	1	2	3	4	5	6	[4. >20% compared to 7% for college grads and PhD's]
Answer	c	b	d	d	c	a	

**Scores out of 36 Curve (Indication only: Course Grade is based on Total Score!)**

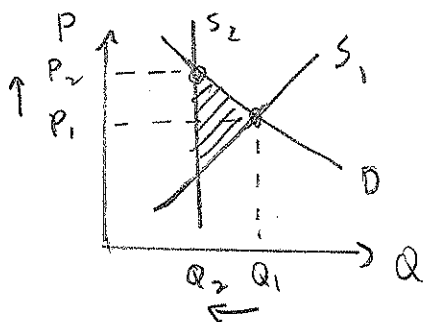
75 <sup>th</sup> percentile	28 (78 %)	(Ave GPA 2.67 on this curve)	C+	22.5 and above
Median	25 (69 %)	A	30 and above	C
25 <sup>th</sup> percentile	22 (61 %)	A-	28.5 and above	C-
		B+	27 and above	D+
		B	25.5 and above	D
		B-	24 and above	D-

2(b)



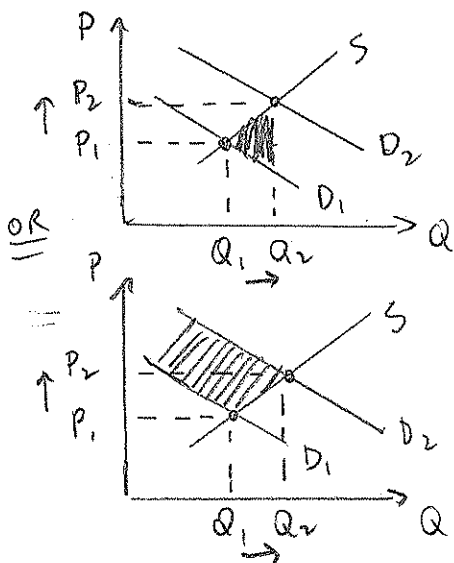
(a) Insurance shifts out possibilities curve.  
 As drawn insurance is assumed to be free, so no shift at the y-axis intercept  
 (can allow for insurance cost, but then shift in at the y-axis as less to spend on  $x$ )  
 As drawn  $H \uparrow$  as expected  
 $x \uparrow$   
 In that case out-of-pocket spending  $\downarrow$  (as  $x \uparrow$ )  
 (could draw in other ways).

4. Version A (a) and Version B (b)



Licensing restricts supply  
 $P \uparrow$   
 $Q \uparrow$   
 Shaded area gives welfare loss

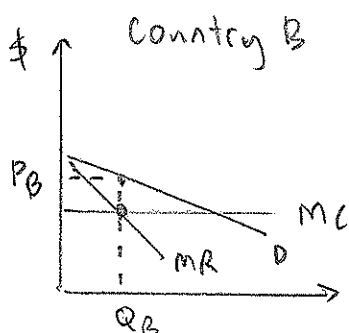
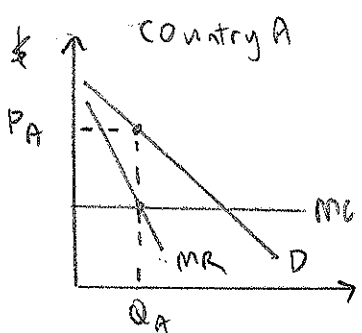
Version A (b) and Version B (a)



$P \uparrow$  and  $Q \uparrow$  as D curve shifts out,  
 If we think the proper D curve should remain as  $D_1$ , then there is a welfare loss given by the shaded area

OR  
 $P \uparrow$  and  $Q \uparrow$  as D curve shifts out,  
 If we think the proper D curve should be the new curve  $D_2$  then there is a welfare gain given by the shaded area

5.(a)



In both countries set  $MR = MC$   
 This leads to higher price in country A (as drawn) because demand was less price responsive in country A