1.(a) Marginal cost for 1,000 adults = 1,000 × $25 = $25,000.
Marginal benefit for 1,000 adults = 1,000 × (0.24 − 0.14) × $200 = $20,000.
No. Do not vaccinate as MC exceeds MB.

(b) Cost per case avoided = $25 / (0.24 − 0.14) = $25 / 0.10 = $250.
[or # cases avoided per 1,000 = (0.24 − 0.14) × 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) Clearly demand increases from $Q_{50}$ to $Q_{100}$.
The welfare loss is more difficult than that going from no insurance to partial or full insurance.
One way to get the welfare loss is that for each additional unit now consumed it is the difference
between how much the health care costs to supply ($P_{100}$) and the marginal benefit to the consumer (read off the demand curve).

(b)(i) Reduce adverse selection by requiring people to buy insurance (if they don’t there is a financial penalty).

(ii) Require (larger) employers to provide insurance (if they don’t there is a financial penalty).

(c) Advantage: Bronze plan costs less. Disadvantage: Bronze plan has higher coinsurance rate.

3.(a) False Complete insurance policy is expensive – there is a tradeoff.
(b) False They account for 30%
(c) False Two or three is optimal, but six is still a lot better than zero.
(d) False This is used for individual liability in court cases, but not for health policy.
(e) False QALY league table compares costs per QALY of treatment versus no treatment for a range of medical treatments.
(f) True This is a first midterm topic that I mistakenly included on this sample 2nd midterm
4. (a)(i) Cost-benefit analysis (with a QALY worth $100,000).

(ii) That four of the five innovations considered had MB several times MC.

(b) \[ t = \frac{0.44 - 0.30}{\sqrt{0.042 + 0.032}} = \frac{0.14}{0.05} = 2.8. \]
Reject H0: means are equal, as \( |t| > 1.96 \).
Conclude that there is a statistically significant difference.

5. No question 5 on the sample midterm.

Multiple choice

1. c HMO via gatekeeper, HDHP via high deductible.
2. a ex post — once sick, person seeks more expensive treatment for a given problem as they pay little given insured.
3. a Only a few make it to the expensive Phase III trials
4. a The current procedure cam into place after Thalidomide problems.
5. d 0.8 \times 5 + 0.2 \times 0 = 4
6. c Willingness to pay