



香港社會醫學學院
HONG KONG COLLEGE OF COMMUNITY MEDICINE
founder College of the Hong Kong Academy of Medicine
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ADMINISTRATIVE MEDICINE

Part I Examination

Monday 12 June 2017

13:30 – 16:00 (2½ hours)

Paper IA

Candidates must answer all parts of this questions

Style, clear grammatical English and legibility will be taken into consideration by the Examiners. Answers should be written in a form appropriate to the audience specified in the question.

Weighting of marks for each part of the question is shown in parenthesis.

**DO NOT OPEN PAPER UNTIL THE INVIGILATOR
INSTRUCTS YOU TO BEGIN**

1. Suppose you are planning for a screening programme for lung cancer for a community. The prevalence of lung cancer in those aged 45 or above is 2.0%. The screening test has a sensitivity of 95% and specificity of 90%. Please answer the following questions based on the above information.

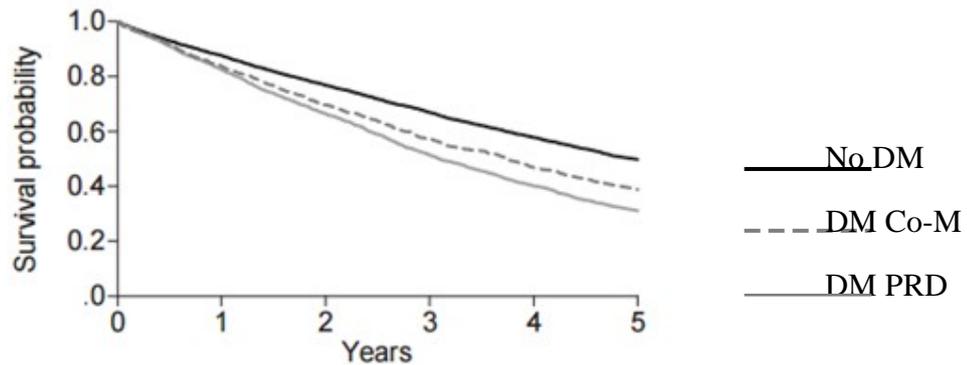
a. How many people would turn out to be test positive in 1,000,000 adults tested? What percentage of the test positives would have to go through unnecessary confirmatory examinations so as to rule out the disease? What percentage of true cancer patients would the test miss? (4.5 marks)

b. Name three methods that can be taken to reduce the unnecessary costs of the screening programme. (2.5 marks)

c. If patients detected by screening showed better survival than those diagnosed as a result of clinical signs and symptoms, does it necessarily mean that screening can increase survival? Explain why for your answer. What would be the most reliable way for evaluating the effectiveness of a screening programme? (2.5 marks)
(0.5 for overall understanding and coherence of the answers)

2. A prospective study on survival of patients under dialysis over a 5-year period was done in 2013. A Cox regression model was built to compare survival for patients with diabetes (DM) as primary renal disease (PRD), patients with diabetes as a co-morbid (Co-M) condition and non-diabetic patients.

Figure 1



Number of patients at	Year					
	0	1	2	3	4	5
No DM	10 580	9 371	8 048	6 884	5 484	4 918
DM Co-M	1 190	1 005	811	646	528	418
DM PRD	3 621	3 094	2 461	1 892	1 451	1 102

Table 1

Patient Group	Hazard Ratio (95% Confidence Interval)
No DM	1 (reference)
DM Co-M	1.55 (1.44, 1.68)
DM PRD	1.51 (1.43, 1.59)
DM PRD vs DM Co-M	?

(Source: M.A. Schroyen et al. Survival on dialysis for patients with diabetes as primary renal disease or co-morbid condition. *Diabetologia* (2013) 56(9): 1949-1957.)

QUESTION CONTINUES

- a. State the major assumption of a Cox regression model. (1 mark)
- b. Apart from “patient group”, suggest 2 possible covariates that could be included in the Cox model. (2 marks)
- c. Refer to *Figure 1*, What is the median survival time for patients with diabetes as PRD? What conclusion can you make about the 3 groups of patients based on *Figure 1*? (2 marks)
- d. Compute the crude death rate of DM PRD patients in the first year.(1 mark)
- e. What is the hazard ratio? What can you conclude from the hazard ratio from DM PRD?(3 marks)
- f. Compute the hazard ratio for DM PRD vs DM Co-M in *Table 1*.(2 marks)

QUESTION CONTINUES

3. Social media has been defined as web-based applications that allow people to create and exchange content electronically. This includes blogs and microblogs – such as Twitter, internet forums, content communities such as Youtube and social networking sites such as Facebook and LinkedIn.

It is increasingly used as a form of electronic communication, including use by health care professionals, patients and the community.

- a. Give one example where the use of social media may enhance dissemination of public health information.(1 mark)

- b. Describe the key issues, risks and benefits of the use of social media in health care with respect to
 - i. Health care providers (3 marks)
 - ii. Patients (3 marks)
 - iii. Community's public health (3 marks)

QUESTION CONTINUES

4. You are an executive in the public sector responsible for coordinating specialty services. The Head of Cardiology Service of Hospital A would like to introduce Transcatheter Aortic Valve Implantation (TAVI) for aortic stenosis to Hospital A. Describe your approach to the request:

a. Write short notes on health technology assessment in the context of TAVI. (5 marks)

b. From the perspective of health technology assessment, discuss the factors that will impact on your decision making. (5 marks)

5. There are four key ethical principles said to be the “common morality” that underpins much of medical practice.

a. What are these 4 key principles? (total 2 marks, 0.5 each)

b. Describe what you understand of each of these 4 principles. (total 4 marks, 1 each)

c. Choose 2 out of the 4 principles, and for each of the 2 chosen give an example of :

i. How this principle could be applied in clinical practice

(total 2marks, 1 each); and

QUESTION CONTINUES

ii. A Practical difficulty or dilemma when applying such an ethical principle (total 2 marks, 1 each)

6. The Government is considering an opt-out cadaveric organ transplant scheme with the aim to raise the low organ donation rate, which Hong Kong was one of the lowest donating region with only 5.8 in every million people donating organs in 2015.

a. Explain the opt-in and opt-out cadaveric organ donation schemes. (2 marks)

b. Describe the factors that may affect the donation rate apart from the opt-in and opt-out schemes. (4 marks)

c. Discuss key factors in legal, political and operational considerations for a change from opt-in to opt-out scheme in Hong Kong. (4 marks)

END OF PAPER