



香港社會醫學學院  
HONG KONG COLLEGE OF COMMUNITY MEDICINE  
founder College of the Hong Kong Academy of Medicine  
*Incorporated with limited liability*



## ADMINISTRATIVE MEDICINE

### Part I Examination

Thursday 2 June 2022

10:30 – 13:00 (2½ hours)

### Paper IIA

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**Candidates must answer all parts of this questions**

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*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.*

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INVIGILATOR INSTRUCTS YOU TO BEGIN**

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1. The study aims to evaluate the cost-effectiveness of drug treatment for Alzheimer Disease (AD) based on a simulation model. Why a simulation model is used in such economic evaluation? What are the advantages and limitations in using a simulation model for economic evaluation? (15 marks)
  
2. The cost-effectiveness for the drug treatment was estimated under different scenarios, each of which was designed to include a range of different range of costs and utilities. In the study, what scenarios were used and why are they important in the evaluation? (12 marks)
  
3. (a) What is Quality-adjusted Life-year (QALY)? (5 marks)  
  
(b) Here is demented patient with Mini-Mental State Examination (MMSE) score of 14 and Neuropsychiatric Inventory (NPI) score of 13. He has been put on the new drug and has remained stable in the past 2 years. He is taken care of by a care giver. Making reference to Table 2, what is the QALY gained if he lives for 2 years in this situation. (7 marks)
  
4. (a) What is Incremental Cost-effectiveness Ratio (ICER)? (5 marks)

**QUESTION CONTINUES**

(b) In the paper, the caregiver utility is taken into account in Scenarios C and F (Table 1). What is the utility gained by the caregiver after the patient received the hypothetical drug treatment based on the ICER values of various scenarios in Table 3? (5 marks)

(c) It is assumed in the paper that the caregiver utility would return to the utility of the general population specific to their age when the AD patients were institutionalized. This assumption would not reflect the dynamic of spillover effects in relation to institutionalization, end-of-life care, and death of patients. In life, even if the patients are institutionalized, the utility of the caregivers could remain being affected. If we assume that the utility of caregivers would reduce by 0.08 QALYs taking into account of the spillover effects, what will be the effect on ICER for scenarios A and C? (7 marks)

5. (a) If you are in charge of the pharmaceutical company that developed the disease modifying AD drug, which perspective would you adopt for lobbying the Director of Health to introduce the new drug? Why? (6 marks)

(b) If you are in charge of the pharmacy service in the Hospital Authority, which perspective would you adopt in the consideration of introducing the drug for the public patients? Why? (6 marks)

**QUESTION CONTINUES**

6. How the analysis will affect “fair pricing” or “value-based pricing” as stated in the paper? (20 marks)
  
7. What are the policy implications arising from the scenario analysis of this study? (12 marks)

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