



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 3 June 2021

10:30 – 13:00 (2½ hours)

### Paper IA

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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.*

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

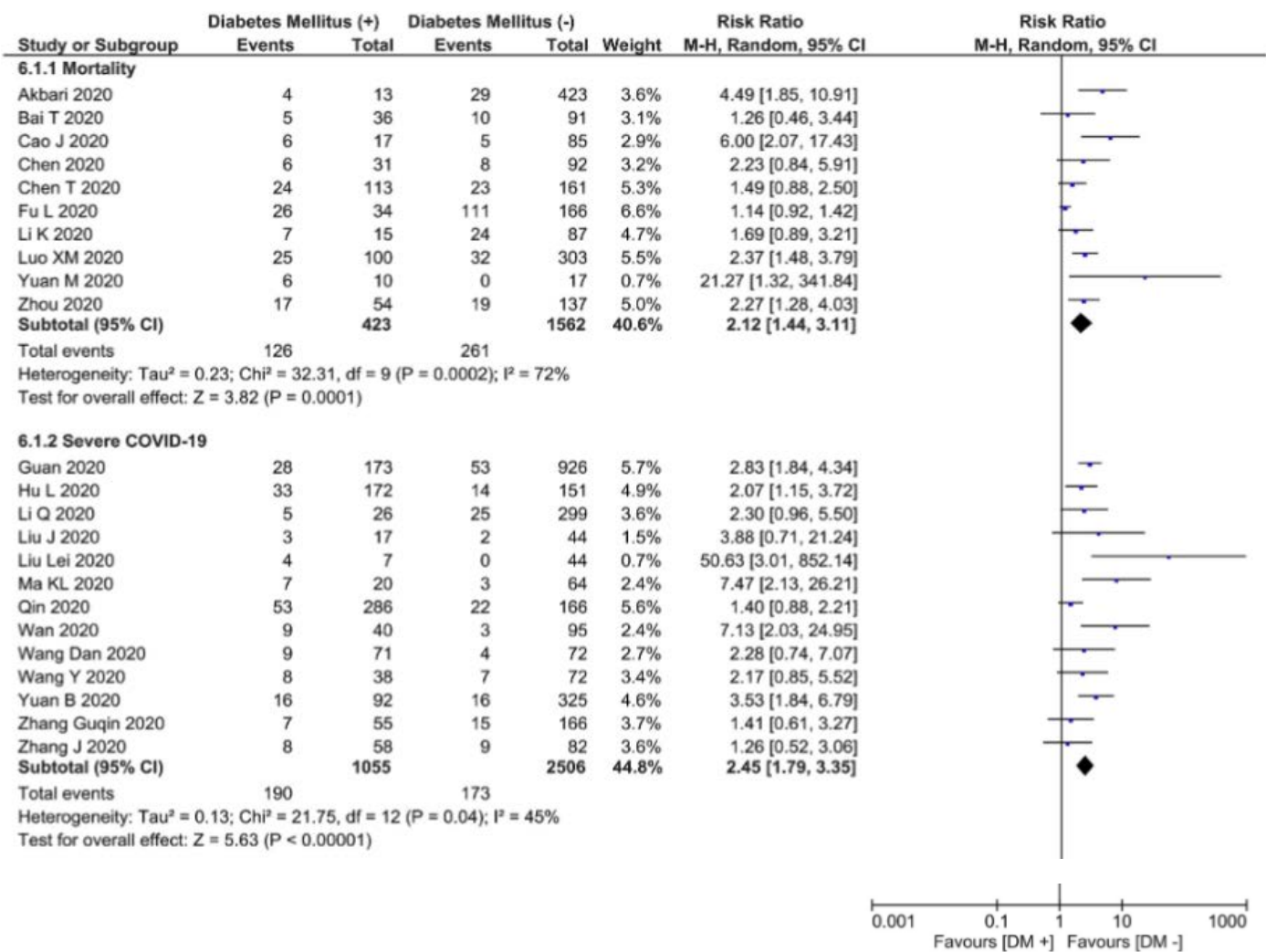
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1. a. Since the removal of alcohol duty in Province Y, there are several news reports on the increasing alcohol problem among secondary school students in the capital, City X, which is located within Province Y. You are asked to conduct a cross sectional study on the prevalence of alcohol misuse amongst the students, and you have decided to use simple random sampling as most secondary schools are located in the same district. What THREE pieces of information you will need for estimating sample size required for this cross sectional study? (3 marks)
- b. Alcohol misuse among students studying in secondary schools located in sub-urban and rural areas of Province Y has also been reported. You are asked to assess the prevalence of alcohol misuse among these students as well. As Province Y covers a large geographic area, you find it difficult to perform a survey following the approach you used for City X. Describe an alternative sampling method for a cross sectional study on students from secondary schools located in sub-urban and rural areas of Province Y. (7 marks)

**QUESTION CONTINUES**

2. Diabetes Mellitus (DM) is a chronic condition with devastating multi-systemic complications and may be associated with severe form of Coronavirus Disease 2019 (COVID-19). A meta-analysis is conducted in order to investigate the association between DM and poor outcome in patients with COVID-19 pneumonia.

The **Figure** below shows the odds of mortality and severe COVID-19 in patients with DM vs. without DM from a total of 30 studies.



Adapted from *Diabetes & Metabolic Syndrome: Clinical Research & Reviews* 14 (2020) 395-403

**QUESTION CONTINUES**

- a. Explain meta-analysis, and list two of its principal uses. (3 marks)
  
- b. From the above Figure, what does a 95% confidence interval of 6.00 (2.07-17.43) tells you of the Cao J, 2020 study? (2 marks)
  
- c. What do the results of the meta-analysis on patients with severe COVID-19 show? (2 marks)
  
- d. Calculate the mortality risks of the DM patients vs. the non-DM patients. Interpret your results. (3 marks)

**QUESTION CONTINUES**

3. Polypharmacy is an ongoing challenge for patients, carers, prescribing clinicians and health service providers

- a. Define polypharmacy, list and briefly describe 2 patient groups who are most likely to face such challenges. (2 marks)
  
- b. Choose one group and describe 4 problems encountered by such patients. (4 marks)
  
- c. Provide practical examples of how these 4 problems can be managed in the community in order to achieve good patient outcomes. (4 marks)

**QUESTION CONTINUES**

4. You are the Director of Quality and Safety of an acute hospital in the public sector responsible for hospital acquired infection control and prevention. The Chief Pharmacist has reported to you a trend of overprescribing of antimicrobials and increasing inappropriate prescription of antimicrobials over the last three years. Hospital Chief Executive asked you to review the antimicrobial stewardship program in the hospital.

a. What is antimicrobial stewardship program? (1 mark)

b. Referring to the evidence-based practice, list 4 common barriers for a hospital implementing and sustaining an effective antimicrobial stewardship program. (4 marks)

c. Based on the findings of the Chief Pharmacist, discuss measures that will reduce unnecessary or misuse of antimicrobials in the hospital. (5 marks)

**QUESTION CONTINUES**

5. A doctor has been lately found guilty of manslaughter for administering an experimental immunity boosting therapy for cosmetic treatment that killed a healthy woman in a beauty center of Hong Kong. This doctor was accused of unlawfully killing the patient by gross negligence, through breaching a duty of care she owed to the woman, by performing an injection without obtaining proper consent and ensuring the blood product infused was properly handled and free of contamination.

a. What are the four basic elements of the torts of negligence?

(4 marks)

b. What is gross negligence manslaughter? (2 marks)

c. Please states the key elements in the informed consent process.

(4 marks)

**QUESTION CONTINUES**



6. Breast cancer is the most common cancer for women in Hong Kong. There is a rising trend of new cases and deaths of female breast cancer in past three decades. Policy on introducing a population based breast cancer screening has been the subject of debate.

- a. What are the four key performance measurements for screening tests? (1 mark)
  
- b. Describe the potential benefits and harm of a screening programme, using screening mammography as an example. (2 marks)
  
- c. Discuss the principles in evaluating introduction of a screening programme in the context of breast cancer. Include discussions on general considerations of such health policy, scientific evaluation, operational readiness considerations and other considerations. (7 marks)

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