UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For The Following Qualification:-

B.Sc. (Intercal)

Health Sciences C110: The Population Perspective in Primary Care

COURSE CODE	:	**HESCC110**
UNIT VALUE	:	**0.50**
DATE	:	**28-APR-06**
TIME	:	**09.30**
TIME ALLOWED	:	**3 Hours**

TURN OVER

Paper title: The population perspective in primary care

This paper has three questions. You should attempt all of them. A total of 500 marks will be allocated, with 200 marks for Question 1 and 150 marks each for Question 2 and 3. Question 1 requires short answers and Questions 2 and 3 require long answers.

Please answer each separate question in a new answer book.

This is a 3 hour Paper

Q.1
Identification of persons at risk of coronary heart disease (200 marks)

The British Regional Heart Study followed 8,000 middle aged men from General Practices in 28 towns in Britain and related the occurrence of heart attacks over a 5 year period to the presence of risk factors for coronary heart disease at entry to the study. The results are shown in the following table:

Table: Risk of myocardial infarction in the next 5 years in relation to risk factors.

	Percentage of men	Percentage with MI over 5 years	Number MI cases	Percentage of MI cases
No risk factors	83	3	199	63
Risk factors but no CHD	15	7	84	26
History of CHD at entry	2	22	35	11
All men	100	4	318	100

a.   3% of men with no risk factors or past CHD at entry developed myocardial infarction over 5 years. What kind of measure of disease occurrence is this? **(20 Marks)**

b.   17% of men had risk factors (including personal history of CHD) at entry to the study. What kind of measure is this? **(10 Marks)**

c.   Comment on the distribution of MI across the 3 groups. How well do multiple risk factors identify men at risk of future MI? **(30 Marks)**

CONTINUED

The following table summarises the findings from over 15,000 London civil servants among whom mortality from heart disease and other causes was monitored for 18 years after measurement of cholesterol and other cardiovascular risk factors.

Table: Risk of death from Coronary Heart Disease in the next 18 years in relation to plasma cholesterol

Plasma Cholesterol	% men (p)	CHD deaths /1000	Relative risk	Excess/ attributable risk (ER)	PAR (p x ER)	PARF
<3.52 mmol/l	10	50	1.0	0	0	0
3.52 – 6.72	80	75		25/1000	20/1000	27%
> 6.72	10	100				7%
All men	100	75			25/1000	33%

PAR – population attributable risk
PARF – Population attributable risk fraction

d Using the men in bottom tenth of the cholesterol distribution as the reference category, calculate the relative risk of fatal CHD in those with a cholesterol over 6.72 mmol/L. **(10 Marks)**

e Calculate the excess risk (attributable risks) of CHD mortality in those with cholesterol > 6.72 mmol/L. **(20 Marks)**

f How would you explain these two measures of CHD risk to a patient identified at screening to have a plasma cholesterol above 6.72 mmol/L? **(25 Marks)**

g What do you understand by Population Attributable Risk (PAR)? **(20 Marks)**

h Calculate the population attributable risks in those with cholesterol > 6.72 mmol/L? **(20 Marks)**

i What do you understand by Population Attributable Risk Fraction? **(20 Marks)**

j Is the burden of cholesterol-related CHD concentrated in the group with the highest cholesterol (>6.72mmol/L)? **(25 Marks)**

TURN OVER

2. Describe how a Primary Care Trust could carry out a needs assessment to inform commissioning of a "hospital at home" service aimed at allowing people with severe chronic illnesses to be managed at home rather than in hospital. **(150 marks)**

3. Describe how a Primary Care Trust could evaluate a needle exchange service for injecting drug users. The needle exchange has the following stated objectives.

   To minimise the harm related to injecting drug use by:
   - Providing clean needles and promoting safe injecting practices
   - Helping people to stop injecting through onward referral to detoxification/methadone maintenance programmes
   - Maximising Hepatitis B vaccine uptake in drug users

   (150 Marks)

END OF PAPER