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   : **29–APR–05**

TIME   : **09.30**

TIME ALLOWED   : **3 Hours**

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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 questions 2 and 3. Question 1 requires short answers. Questions 2 and 3 require long answers. For each of questions 2 and 3, a total of 30 marks will be awarded for quality of presentation.

1.   Data interpretation and screening [200 marks]:

A chlamydia screening programme is being rolled out in England and Wales. Chlamydia is a sexually transmitted infection that is a major risk factor for pelvic inflammatory disease in women.

i.   What benefits might there be from chlamydia screening?
        [15 marks]

ii.   What adverse effects might there be from chlamydia screening?
        [15 marks]

The sensitivity, specificity and cost of two screening tests for chlamydia are shown in the table below (note these figures are approximate):

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| Test | | Sensitivity | Specificity | Cost per test (includes collection and processing of each specimen) |
Specimen	Laboratory methods			
1 Endocervical swab	Culture	60%	99.5%	£25.00
2 Urine	Immunoassay	90%	98%	£15.00

iii. What do you understand by the terms sensitivity and specificity? What are the advantages of highly sensitive and highly specific screening tests?

[10+10 marks]

In the UK, the prevalence of chlamydia infection in women aged between 16-24 is about 10%, and in women of all ages is about 2%.

iv. For each of the screening tests described in the table, calculate what proportion of chlamydia infections will be missed if 100,000 women aged between 16-24 were screened.

[5+5 marks]

v. For each of the screening tests described in the table, calculate the predictive value of a positive screening result in the 16-24 age group. What do these values mean? How many women would be treated

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unnecessarily if 100,000 women in this age group were screened using each test?

[10++10+10 marks]

vi. For each of the screening tests described in the table, calculate the cost per chlamydia infection detected if 100,000 women aged between 16-24 were screened.

[5+5 marks]

vii. . What would happen to the predictive value of the positive screening results and the cost per chlamydia infection detected if screening were extended to women of all ages?

[5+5 marks]

viii. Which screening test do you think is better and why? What other factors might influence the choice of screening test in practice?

[25 marks]

A clinical trial found the following results:

Frequency of pelvic inflammatory disease (PID) in women screened and treated and unscreened for chlamydia			
Screened and treated		Unscreened	
Number of women	Number of cases of PID	Number of women	Number of cases of PID
1009	9	1598	33

ix. What were the risks of PID in screened and treated and in unscreened women?

[5+5 marks]

x. What was the <u>relative risk</u> of death in unscreened compared to screened and treated women?

[5 marks]

xi. What was the <u>additional</u> risk of death in unscreened compared to screened and treated women?

[5 marks]

xii. According to the results of this trial, <u>how many women need to be screened and treated</u> for chlamydia to prevent one case of pelvic inflammatory disease?

[5 marks]

xiii. What other factors influence whether a screening programme for chlamydia would overall be effective and cost effective?

[40 marks]

2. Needs assessment [150 marks]:

Why is it important to plan health services on the basis of healthcare needs assessments? Describe how you would carry out a health needs assessment for the population of a local Primary Care Trust for one of the following chronic conditions:

(a) Coronary heart disease.

(b) Diabetes.

(c) Asthma

(d) Schizophrenia.

3. Evaluation of health care [150 marks]:

Why is it important to evaluate health care? How would you evaluate a smoking cessation service in your local PCT area?

END OF PAPER