



AFRICAN ECONOMIC RESEARCH CONSORTIUM

Collaborative Masters Programme in Economics for Anglophone Africa
(Except Nigeria)

JOINT FACILITY FOR ELECTIVES (JFE) 2009

JUNE – OCTOBER

HEALTH ECONOMICS II

Second Semester: Final Examination

Duration: 3 Hours

Date: Friday, September 25, 2009

INSTRUCTIONS:

There are Four Sections in this Examination.

Answer **FIVE (5) QUESTIONS** in all, with **AT LEAST ONE (1) QUESTION** from Each Section

Section A: Health and Development

Question 1

Briefly discuss the relationship between each of the following:

- | | |
|-------------------------------|-----------|
| (a) Poverty and health | (5 Marks) |
| (b) Education and Health | (5 Marks) |
| (c) Globalization and health | (5 Marks) |
| (d) Social Capital and Health | (5 Marks) |

Question 2

In a regression for the Year 2002, the following cross-country relationship was estimated

$\text{Log (Health expenditures/population)} = -2.43 + 1.31 \log (\text{income/population}) + 0.08 * \text{North America}$

Adjusted $R^2 = 0.87$.

where *North America* refers to a dummy variable which equals 1 if the observation was Canada, the United States or Mexico.

- (a) Interpret the coefficients of the regression either as elasticities or as incremental impacts. (6 Marks)



- (b) This is a very parsimonious econometric specification. What other variables would be expected to improve our explanation, and our analytical insights in this relationship? (6 Marks)
- (c) Give four reasons why such international comparisons of health expenditures are useful? (4 Marks)
- (d) Mention four methodological challenges inherent in international comparisons of health expenditures. (4 Marks)

Section B: Health Systems and Financing

Question 3

Empirical health care demand studies in Africa show that health utilization at government clinics is highly price inelastic. Thus, user fees are an appropriate mechanism for raising revenue at these clinics. Discuss critically. (20 Marks)

Question 4

Imagine you have been tasked by the Ministry of Health in your country to do a comparative efficiency analysis of district hospitals in the country.

- (i) Outline an empirical model that can be used to estimate the efficiency levels of these hospitals and the type of data you would need for its proper estimation. (12 Marks)
- (ii) What strategies would you propose for improving efficiency of these hospitals (8 Marks)

Section C: Health Policy and Reforms

Question 5

There are several reasons why some particular subjects, problems or issues receive high priority on the health policy agenda. According to Grindle and Thomas (1991) in their paper "*Public Choices and Policy Change*", most policy making is "politics-as-usual changes". Hall *et al* (1975) in "*Change, Choice and Conflict in Social Policy*" and Kingdon (1984) in "*Agendas, Alternatives and Public Policies*" provide two other prominent and widely used theoretical models of agenda setting.

Briefly discuss the various explanations provided in the literature as to how issues get onto the policy agenda and how certain issues get priority for policy development over others.

(20 Marks)



Question 6

- (a) If the objective of health sector reform is welfare maximization, is explicit analysis of objectives, interventions and institutions necessary? **(6 Marks)**
- (b) Suppose you have the opportunity to be the health economist on the health sector reform team in your country, what steps would you propose as an analytical basis for health sector reform, if the objective of the health sector were population health maximization? **(8 Marks)**
- (c) A variety of performance indicators should be chosen for monitoring health sector reform in your country. As the health economist of the health sector reform team, mention **two indicators** that you would propose for each of the following set of economic objectives:
- (i) Access
 - (ii) Equity
 - (iii) Quality
 - (iv) Effectiveness
 - (v) Efficiency
 - (vi) Sustainability

(6 Marks)

Section D: Economic Evaluation of Health Interventions

Question 7

As part of a comprehensive programme to improve the health care system of your country, imagine you are contracted as an economic consultant to the local health planning office and your task is to estimate the cost of health clinics in the area.

- (a) Outline the key steps that you would follow to complete this task. **(12 Marks)**
- (b) Explain how the results of your cost analysis will be useful for policy planning purposes. **(8 Marks)**

Question 8

- (a) Suppose that the National Cancer Institute is planning a cost-benefit study of whether it is worthwhile instituting breast cancer screening (by mammography) for women aged 40 – 59 years old and that you have been commissioned to undertake the analysis. Assume for the moment that the viewpoint for the analysis is to be that of society and that most of the cost items, such as the medical resources required to mount the screening programme and the costs of hospitalization for cancer victims, can be estimated fairly unambiguously.



What approach would you adopt to the valuation of the following more 'intangible' items?

- (i) Women's' time taken up in obtaining the screening test (e.g., work time, leisure time). **(3 Marks)**
- (ii) The 'psychic' element of treatment costs (which may be averted by early detection) (e.g., the side effects of chemotherapy for more advanced stages of the disease). **(3 Marks)**
- (iii) The value to women of being assured that they do not have breast cancer. **(3 Marks)**
- (iv) The value of life-years saved by successful early detection and treatment of the disease. **(3 Marks)**
- (v) The time given by relatives in home nursing of women suffering from the disease. **(3 Marks)**

(b) Suppose that a person with terminal cancer has the following options:

- Do nothing: spend nothing and live two more years with each year worth 0.4 of a year in perfect health;
- Passive treatment: spend \$40,000, live four more years with each year worth 0.5 of a year in perfect health;
- Aggressive treatment: spend \$200,000, live ten more years with each year worth 0.6 of a year in perfect health.

With adjustment for quality of life, which treatment – passive or aggressive – is preferred on cost-benefit grounds? For simplicity there is no need to discount.

(5 Marks)