

**AFRICAN ECONOMIC RESEARCH CONSORTIUM**  
**Collaborative Masters Programme in Economics for Anglophone Africa**  
**(Except Nigeria)**  
**JOINT FACILITY FOR ELECTIVES (JFE) 2013**  
**JUNE – SEPTEMBER**  
**HEALTH ECONOMICS I**  
**First Semester: Final Examination**

**Duration: 3 Hours**

**Date: Tuesday, August 6, 2013**

---

**INSTRUCTIONS:**

1. Attempt a total of **FOUR (4)** questions.
  2. Section B is **COMPULSORY**.
  3. Budget your time well i.e. 45 minutes per question.
  4. Be clear, precise and concise.
- 

**SECTION A:**

**Attempt THREE (3) QUESTIONS Only from this Section**

**Question 1**

- (a) Using examples from your country, describe any five implications of climate change for global human health **(15 marks)**
- (b) Suggest any five strategies to mitigate the adverse effects of climate change on human and animal health in your country. **(5 marks)**
- (c) Suggest any five strategies to adapt to climate change in your country. **(5 marks)**

**Question 2**

By means of an illustration and examples from your country, clearly identify and explain as many distinct, and potentially causal, relationships as you can between: **Health, Healthcare and Economic Performance**. **(25 marks)**



### Question 3

- (a) Using real-life examples, explain any five sources of market failure in healthcare markets in your country. **(15 marks)**
- (b) Suggest five possible policy responses to market failures in healthcare markets in your country. **(10 marks)**

### Question 4

- (a) “Medical care is not different from other goods analyzed in economics.” Using any four examples, critically examine the validity of this statement. **(8 marks)**
- (b) Using any three real-life examples from your country what are medication errors? **(4 marks)**
- (c) Explain any five causes of medication errors in your country. **(8 marks)**
- (d) Suggest any five strategies to minimize the occurrence of medication errors in your country. **(5 marks)**

### Question 5

- (a) Briefly, describe any five forms of inefficiencies that characterize referral hospitals in your country. **(5 marks)**
- (b) With reference to your country, explain any ten approaches to improve efficiency or value for money in referral hospitals and/or to address the inefficiencies highlighted in (a) above. **(20 marks)**

## **SECTION B:**

### **This Section is COMPULSORY**

### Question 6

Qian et al. (2009)<sup>1</sup> examine the determinants that influence health care demand decisions in rural areas of Gansu province, China. They estimate a Mixed Multi-Nomial Logit (MMNL) model. The self-treatment alternative is kept as the base alternative in the estimation and hence the coefficient estimates for the other four alternatives should be interpreted relative to self-treatment. The parameter estimates of the MMNL model are presented in Table 1.

---

<sup>1</sup> Qian, D., R.W. Pong, A. Yin, K.V. Nagarajan and Q. Meng (2009) Determinants of Health Care Demand in Poor, Rural China: the Case of Gansu Province, *Health Policy and Planning*, Volume 24 pages 324–334.

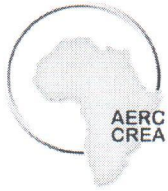


Table 1 Healthcare Demand Models

Variable	Health Care Providers			
	Public Village Clinic	Private Village Clinic	Township Health Center	County Hospital
Constant	0.5131 (1.88)*	0.2609 (0.87)	-0.2833 (-0.75)	-1.2127 (-1.64)
Married	0.2924 (1.41)	0.2270 (1.02)	0.2485 (0.79)	0.8025 (1.90)*
Insurance Status	0.4263 (2.19)**	-0.1494 (-0.66)	-0.2897 (-0.95)	-0.0460 (-0.14)
Age	-0.0124 (-2.30)**	-0.0119 (-2.06)**	-0.0150 (-2.01)**	-0.0358 (-3.40)***
Chronic illness	0.5739 (1.80)*	0.9238 (2.59)***	1.3085 (2.90)***	2.7439 (4.11)***
Other illness	1.0833 (3.50)***	1.6850 (5.09)***	1.7748 (4.15)***	3.6390 (5.58)***
Illness time	-0.9605 (-3.22)***	-0.8707 (-2.70)***	-0.9816 (-2.43)**	-0.3511 (-0.86)
Bed-days	0.0622 (3.88)***	0.0657 (3.77)***	0.0757 (3.61)***	0.1175 (6.88)***
DIST2_M	-0.3531 (-1.95)**	-0.3531 (-1.95)**	-0.3531 (-1.95)**	-0.3531 (-1.95)**
DIST3_M	-0.8447 (-2.02)**	-0.8447 (-2.02)**	-0.8447 (-2.02)**	-0.8447 (-2.02)**
DIST4_M	-1.1694 (-2.83)***	-1.1694 (-2.83)***	-1.1694 (-2.83)***	-1.1694 (-2.83)***
Income	1.0211 (8.35)***	1.0211 (8.35)***	1.0211 (8.35)***	1.0211 (8.35)***
(ln Income) <sup>2</sup>	-0.0566 (-4.52)***	-0.0566 (-4.52)***	-0.0566 (-4.52)***	-0.0566 (-4.52)***
SD of parameter Distributions				
DIST2_S	0.2871 (0.25)			
DIST3_S	1.1769 (1.75)*			
DIST4_S	0.0084 (0.00)			
N	1015			
Log likelihood	-1384			
Adjusted Estrella R <sup>2</sup>	0.3613			

Notes: t-statistics in parentheses  
\*\*\*significant at 1%; \*\*significant at 5%; \*significant at 10%

- (a)

Interpret the results in Table 1 above.

(15 marks)
- (b)

Briefly explain any five adjustments you would make to the explanatory variables or set of healthcare providers to appropriately investigate the determinants which influence health care demand decisions in your home district.

(10 marks)





**AFRICAN ECONOMIC RESEARCH CONSORTIUM**  
**Collaborative MA Programme in Economics for Anglophone Africa**  
**(Except Nigeria)**  
**JOINT FACILITY FOR ELECTIVES (JFE) 2013**  
**JUNE – SEPTEMBER**  
**HEALTH ECONOMICS II**  
**Second Semester: Final Examination**

**Duration: 3 Hours**

**Date: Thursday, September 19, 2013**

---

**INSTRUCTIONS:**

1. Answer **QUESTION 1** and **ANY OTHER TWO** questions.
  2. You are required to answer **THREE** questions in total.
  3. Note that **QUESTION 1** is **COMPULSORY**.
  4. All questions carry equal marks.
- 

**Question 1 (Compulsory)**

Below is an application of CEA to calculation of health and life using the information on typhoid in Ghana by Morrow's study team.

- Ao: Average age of onset (Typhoid in Ghana: 20years of age)  
C: Case fatality Rate expressed as a percentage of those who get the disease, those who die (Typhoid in Ghana: 7.3 percent)  
Ad: Average age of death if different from age of onset (Typhoid in Ghana: 20)  
Dd: For those who die, the extent of disability from onset to death expressed as a percentage (not needed because,  $Ao = Ad$ )  
Q: Case disability rate of those who get the disease, the percentage who become chronically disabled without suffering a shortened lifespan (Typhoid in Ghana= 0)  
Dc: Extent of disability: the extent of disability of those chronically disabled expressed as percentage (Not needed because  $Q=0$ )  
T: Acute illness duration, number of days of total disablement before cure for those for those whose life are not shortened by the disease (Typhoid in Ghana= 60days)  
I: Incidence of new cases per thousand population per year (in Ghana=4)  
LE(Ao): Life expectancy in years of someone whose age is Ao and who does not have the given disease (in Ghana LE(20) was estimated to be 42.5 additional years)

*NOTE: Curled from Mead Over (1991) Economics for Health Sector Analysis, EDI, The World Bank*



- (a) Calculate the number Health Life Days lost to Typhoid in Ghana. *(10 marks)*
- (b) Assume 30000 people were affected at the time in question, with Ghana's GDP per capita at \$3300 (2012 est.), what is the direct financial cost of typhoid to Ghana? *(4 marks)*
- (c) Economic evaluation of Health interventions may be a ruse after all. Do you agree? *(6 marks)*

### **Question 2**

- (a) Describe a health system by its functions and objectives. *(14 marks)*
- (b) Explain why National Health Account is a health system's performance watch. *(6 marks)*

### **Question 3**

- (a) How can improved health reduce poverty? *(10 marks)*
- (b) Suggest some pro-poor health approaches for Sub Saharan Africa. *(10 marks)*

### **Question 4**

- (a) Explain the role of contextual factors in health policy making process. *(10 marks)*
- (b) How does health policy (performance) evaluation affect policy reform? *(10 marks)*

### **Question 5**

Briefly discuss the relationship between the following:

- (a) Health Expenditure and health care services. *(5 marks)*
- (b) Economic growth and Health. *(5 marks)*
- (c) Time trade off and standard gamble. *(5 marks)*
- (d) Tradition/Culture and Health. *(5 marks)*