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APPENDICES

(1) - Appendix 1 : Questionnaire

Section I : General Information

No	Questions	Responses and codes	Skip To
Q.10	District?	Centre. South . Easth or North Rural = 1 Urban = 0	
Q.11	Identification of respondents?	Head of family = 1 Family Caretaker = 2 Both Head and Caretaker = 3	
Q.12	Sex of respondent	Female = 1 Male = 0	
Q.13	How many people normally live and eat their meals together in dwelling since the last twelve months? "Those who were absent more than nine of the last twelve months should be excluded, except for the head of the family and children less than three months old"	Total family size ## N.B. Please specify the following : Children under five years old ## All children aged 0-21 ## Pregnant Women ## All women aged 15-49 years ## All members aged 22-60 years ## All employed family members ##	

Section II : Family and Malaria

No	Questions	Responses and codes	Skip To
Q.20	What is the local name for malaria	Fever = 1 Febrile illness = 2 Other(Specify)..... = 3	
Q.21	How do your family perceive Malaria? "Use local name if appropriate"	Very serious illness = 1 Otherwise = 0	
Q.22	How many members of your family experienced malaria illness during the last twelve months?	##	If 00 → v Q.50
Q.23	Among members of your family who experienced malaria illness during the last twelve months, how many of them were ?	Children under five years old ## Pregnant women ## Other family members ##	
Q.24	Did your family only seek professional treatment for priority individuals?	Yes = 1 No = 0	
Q.25	Where did your family seek the first treatment when experienced malaria	Various professional providers =1 Self-medication of treatment =0	
Q.26	Frequency of malaria in the Family	Q.22/O.13 = ##.##	
Q.27	Did your family use any preventive measure such as impregnated bednet?	Yes = 1 No = 0	

**Section III : Family Health Care Costs (Expenditures) on
Malaria Treatment**

No	Questions	Responses and codes	Skip To
Q.30	Now, we assume that your family always sought care for malaria treatment from various professional providers, is it?	Yes, always = 1 Yes, usually&seldom = 0 No, Never = 2	If 2 ⇒ v Q.50
Q.31	How much did your family spend on malaria treatment during the last twelve months for the following expenditures items?(Please total annual amount)	Labo&Diagnosis ##### Consultation fees ##### Medicines/drugs ##### Transportations ##### Medical Proc. fees ##### Others(Specify).... ##### Total Costs : #####	
Q.32	Did your family face any payment difficulties for malaria treatment during the last twelve months?	Yes = 1 No = 2	

**Section IV : Family Coping Strategies and Ability to Pay
for Malaria Treatment**

No	Questions	Responses and codes	Skip To
Q.40	How do your family manage to pay for health care costs on malaria treatment during the last twelve months? Please, consider that this question is related to payment difficulties in question Q.32	Use routine health budget = 1 If other (specify)..... = 2	If 1 ⇒ Q. 42
Q.41	Which Coping Strategy did your family adapt to mobilize moneys needed to pay for malaria treatment. (Please only one of four coping strategies must be choosen. They are independent and mutually exclusive in this analysis)If one strategy is chosen, otherwise equals to zero	(a)-Forego Education = 1 (b)-Cut Food Consump. = 2 (c)-Sell land/Assets = 3 (d)-Borrow cash = 4	
Q.42	How much from the following claims did your family get to pay for malaria treatment during the last twelve months?	Borrow : ## % User Fees Exemptions : ## % Insurance Co-payment : ## %	
Q.43	How much from the following budgets did your family use to pay for malaria treatment during the last twelve months?	Budget Education : ## % Budget Health Prevention : ## % Foods/Safe Water Consumpt.## %	
Q.44	How much from the following resources did your family use to pay for malaria treatment during the last twelve months?	Income(Routine budgets) : ## % Use Savings : ## % Selling Food/N-food Crop : ## % Selling Land+Assets : ## %	

Section V : Family Cash Income and expenditures Patterns

No	Questions	Responses and codes	Skip To
Q.50	How much did your family earn from the following various sources of income during the last twelve months?(Yearly. please)	Wages : ##### Bonuses and Benefits : ##### Med./Mat. Allocations : ##### Self-employment Income : ##### Rental Income : ##### Pensions Income : ##### Farming Income : ##### Dividends : ##### In-kind Payments : ##### Total Annual Income : #####	
Q.51	Please, think carefully and tell use how much of your family yearly income are allocated to the following expenditures patterns(the last twelve months)	Health (curative):#####or###% Consumption:##### or ## % Education : ##### or ## % Health Prevention:#####or###% Savings : ##### or ## %	
Q.52	Per capita consumption	$C_{pc} = Q.50 - (Sav + Health) / Fz$:##### $= Q.51(Cons + Educ) / Fz$:#####	

Section VI : Family Resources Allocation and Wealth Patterns

No	Questions	Responses and codes	Skip To
Q.60	Do you think that there are changes on your family's budget patterns over time?	Yes = 1 No = 0	If 0 ⇒ Q.62
Q.61	Let consider just the last two years. How much did your family allocate to the following budgets in 199n and in 199n+1	199n Health(curative):#####or###% Food Consumption:##### or###% Education : ##### or ## % Health Prevention:#####or###% Savings : ##### or ## % 199n+1 Health (curative):#####or###% Food Consumption:##### or###% Education : ##### or ## % Health Prevention:#####or###% Savings : ##### or ## %	
Q.62	Please, think carefully and tell us how much did you value your family wealth during the last twelve months?	Savings : ##### Crops : ##### Land and other Assets : #####	

N.B : Final instructions (to interviewer) :

1 * Do you like to ask me any question? If yes, please do...

2 * Thank you very much for your collaboration

(2) - Appendix 2 : Notes about hypothetical data

Hypothetical data sources are the following :

(a) - Family resources such as income, savings, land ownership, per capita consumption, expenditure patterns are drawn from the Cameroon : consumption and income surveys (1996). These surveys at the level of families in the nationwide were conducted by the National Statistic Bureau of Yaounde. We just pick up some 500 families sample representative of different regions of Cameroon.

(b) - The socio-demographic characteristic of families are generated from the Cameroon : demographic and health surveys (1991). The variables such as family size, number of children under five and others are selected and then have been analytically affected to different family in the sample.

(c) - The data about malaria are estimated basically from a transverse survey on the financial charges of antivevector control and disease at the family level for malaria in Yaounde (1992). We also rely on the current patterns of malaria morbidity in Cameroon.

Hypothetical data are generated based on the following assumptions:

(a) - Income quintiles are used as criteria to distinguish between poor and nonpoor families. A family is considered poor when its total annual income falls below the level of quintile 2 (total annual income \leq 360,000 CFAFrancs) on the basis of the minimum earning per month in Cameroon. In the field work, information about income should be collected with the question n_o 50 in the questionnaire. And the terminology of low income is assumed to represent the poor families when it is used anywhere in the text.

(b) - All high income groups seeking professional treatment of malaria can afford the medical costs.

(c) - All low income families seeking professional treatment of malaria can afford the medical costs if and only if they have been granted with fee exemptions.

(d) - Fee exemptions actually covers 10% of poor families, and they represent about 75% of total expenditures on malaria treatment of those families.

(e) - Savings represent about 10% of total annual income of a rich family and about 1% of the yearly income of a poor family.

(f) - Health insurance covers about 15% of high income families and 0% of poor families. The pre-payment amounts 50% of the total medical costs of malaria treatment.

(g) - About 60% of poor families are farmers. It is assumed that 20% of poor families and 80% of high income families own land and others various assets.

(h) - Family size is unequally distributed among the poor and nonpoor as follows :

- Poor family : 2-15 members; nonpoor family : 2-6 members.

- The number of children under five years old represents 19% of a family size.

- Number of pregnant women is estimated with the number of women aged 15-49 time the national reproduction rate (5.82%).

- The family structure is dominated in rural areas by the polygamy system. This involves more larger families in rural than in urban areas.

- About 57% of all families in the sample are from rural areas.

- The number of people less than 21 years represents about 56% in each family; and all of them are assumed to be unemployed.

- Among the heads of the families, 18% are female, and 82% are male.

(i) - The number of employed members in each family is equal to the number of people aged 22-60 years old time the employment rate (0.75).

(j) - Malaria frequency :

- For both children under five and pregnant women, we set the annual morbidity rate at about 22.8%.

- For other family's members, we assume the morbidity rate of about 10%.

- The number of malaria cases in the family is estimated from the above figures.

(k) - Preventive measures. The use of preventive measures is assumed to reduce the frequency of malaria of about 50%. This means that when a family use the preventive measures, the morbidity rate is reduced to the half of its current standard rate.

(l) - Perception. It is assumed that when a family perceives malaria as a very serious disease, it is more likely to seek professional treatment.

(m) - Expenditures on Malaria treatment are estimated for each family in the sample based on the data generated with the assumptions above. First, we estimated the health care costs on malaria treatment equation. Second, we used the estimated coefficients to determine the costs of treatment for 70% of families who self-medicated by using excel spreadsheet.

(n) - All variables measured in monetary units are divided by 10,000 before we entried them in the data set in order to run different models.

(o) - For two binomial logit models and a multinomial logit model, when the logit function fails to improve log likelihood after some iterations, we reconsider the assumptions about some independent variables. In addition, as data are hypothetical, when an independent variable is not significant, we also reconsider the assumption about its estimation. By rearranging the data set and reanalyzing it, we have gotten more independent variables significant. But in the future real empirical field work, the results would be relatively different. All the assumptions above are made for the final considerations.

CURRICULUM VITAE

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