

Chapter 6

CONCLUSION AND LIMITATIONS

Section 6.1 - Conclusion

The primary purpose of this study is concerned about the impact of malaria health care expenditures on families' limited budgets, their expenditure priorities, and consumption and human investment patterns.

Models of family's ability to pay for health care expenditures on malaria treatment in Cameroon were estimated using hypothetical data generated from Cameroon : consumption and income surveys (1996); demographic and health surveys (1991); and transverse surveys on the charges and financial burden to families of antivevector control of malaria in Yaounde (1992).

The main analytical result, that family's ability to pay for health care costs is responsive to changes in income, savings, fee exemptions, insurance co-payment, productive assets ownership(e.g. land), per capita consumption, family size, number of employed members in the family, number of children under five years old, number of pregnant women, preventive measures, sex head of the family, principal source of income and residence of the family is in accordance with most of the literature on the affordability of health care in developing countries (Abel-Smith et al, 1992; Adams et al, 1996; Barton 1995; Masako 1996; Russell 1996; Waddington et al, 1989; and Wallman 1996).

All studies mentioned above together with the present study draw their conclusions from the statistical analysis of descriptive cross-sectional sample data. Based on the behavior of the decision

process of families who currently faced payment difficulties, ability to pay equations are postulated and estimated, and the coefficient for each independent variable effect is statistically tested against the null hypothesis of a zero effect of the independent variable in question.

In sum, we are quite confident that our main findings are relatively correct, but they should be emphasized for confirmation with the real data collected in the field work. The question of ability to pay outlines in this study would help policy makers in the framework of improving equity access to health care of the poor families in Cameroon.

Meanwhile, the end of this chapter presents a summary of the implications of our findings for policy development. But we will also draw attention on the sensitivity of ability to pay question; the limitations of this study; and thus, among other things, sketch a complementary design for future research.

Section 6.2 - Prospects for policy initiatives

In Cameroon, there is an official policy to exempt patients from families who are "unable to pay", but there is no guidance on what "unable to pay" actually means in practice, and it is very difficult for health staff to assess a patient's financial situation.

The main findings emanating from this study could help improving policy design with the following criteria :

(1) - The "Income" criterion can still be a good indicator to assess a family's ability to pay. But it might be evaluated in terms of "per capita consumption"; one would like to use the concept of "family per capita income". In current practice, the nominal amount of income criterion below which families are judged

to be eligible for fee exemptions contains some biases. Consequently, the income thresholds do not help health staff or community leaders to actually measure and rank families vis-à-vis ability to pay for health care costs. Thus, "family per capita income" will reduce significantly the biases in judging ability to pay.

The number of employed members in the family and the principal source of family's income should be considered as complement criteria with income for fee exemptions.

(2) - Policy initiatives must be appropriate to local contexts and disease patterns. In these findings, land ownership, malaria disease, number of children under five years old and pregnant women in the family should be good criteria for fee exemptions in Cameroon.

The strategies and local organizations which families currently rely upon to help pay for sudden contingencies might also be supported by local municipality, central government, and non-governmental organizations. This finding suggests that local savings schemes or rural health insurance schemes, based on existing community institutions, could be supported or developed to make health care more affordable. Unlike out-of-pocket payments, pre-payments, possibly through installments, they would allow families to make direct financial contributions to the cost of their health care without foregoing education and food consumption, or placing financial barriers to obtaining care at the time of illness.

(3) - Policy initiatives must continue to prioritize prevention strategies. These preventive measures, such as mosquito coils, impregnated bed nets, reduce the likelihood of malaria incidence and increase the family's ability to pay for medical treatment.

Government policy development will therefore need to be innovative and sensitive to family and community strategies. Such interventions should not be avoided because they are costly and difficult to achieve.

Section 6.3 – Sensitivity of ability to pay analysis

This section examines in some detail the issues of sensitivity analysis with respect to ability to pay for health care definitions, and differences in family's needs and size.

6.3.1 – Ability to pay definitions and family's welfare profile

Figure 2 (Chapter 3) recaps the different stages we used to analyze the family's ability to pay for health care expenditures on malaria treatment in Cameroon. These stages are built upon the assumption of the family's decision process vis-à-vis ability to pay definition. It is evident that precise definition of family's ability to pay for health care will have an important impact on the actual analysis which emerges. Hence comparisons of affordability of health care costs across data sets, within or between districts, will have to be alerted to the fact that the underlying definitions of ability to pay for health care may differ. This issue raises the following questions : What is the impact on measured family's ability and poverty profile of developing our "preferred" definition? Would our results be qualitatively different if some alternative definition had been used? These questions are significant – because they carry far-reaching implications regarding the extent to which we can compare results based on one survey with results from another. The underlying definitions of family's ability to pay (or family's resources vis-à-vis 'pauper', 'unable to pay', 'core poor', 'indigent'...) are rarely, if ever, described in any detail when results are presented. Comparisons across surveys therefore implicitly assume that variations in definitions imply at most only marginal revisions in estimates – such that the comparison remains a valid exercise.

In addition, measures of family's ability to pay for health care usefully provide summary statistics of the extent of depth, or severity of affordability of health care costs in a particular setting. Given the many steps taken in arriving at a particular set of ability to pay for health care measures the assumptions made,

and the sensitivity of results to small variations in such assumptions, however, it is rare that ability to pay measures secure unanimous agreement.

We have already stressed the importance of a family's ability to pay for health care with regard to some key coping strategies (forego education, forego food consumption, or sell productive assets). These strategies help reveal the 'consequences' of ability to pay of different sub-groups of families in the target population, which can be compared to some family average. They are useful in helping to focus attention on families which are most disadvantaged, and they help orient the study of a family's ability to pay for health care by raising questions which need to be addressed in subsequent analysis.

6.3.2 -Equivalence scales : differences in families' needs

The data used in this study are from family survey which yields information at the level of the family rather than the individual. While many individual family members sometimes expressed different needs for health care, education, and nutrition; most information on ability to pay typically pertains to a family as a whole. The ultimate interest in ability to pay for health care studies, however, is in comparing welfare levels of individuals. This means that when we ask about family cash income, average consumption per person, and average annual expenditure on malaria treatment, we have to adopt a rule for allocating a family's expenditures to the individuals who make up that family. By far the most widespread "rule" applied in practice is that all family members receive the same fraction of family expenditure. Family expenditure is converted into family per capita expenditure which is then attributed to all members of the family.

The decision to proceed in this way is prompted not so much by a belief that all family members do in fact require the same share of the family's total resources in order to reach the same welfare level, or that family resources are in fact allocated equally across all family members, but rather because there is no

widely accepted measurable alternative to the simple equal-sharing convention. There is large literature which proposes a wide range of alternative equivalence scales ("rules" for allocating family expenditure to family members of different gender and ages) but which provides little guidance for choosing between them (See for example, Buhmann et al, 1988; Coulter et al, 1992). Uncovering the different "needs" of different family members, which is what equivalence scales attempt to summarize, can be based on (at least) two methodologies : the nutritional requirements of persons and the setting of equivalence scales based on empirical studies of family consumption behavior. Both of these have their drawbacks.

In developing countries it is common to find equivalence scales in use base on the nutritional requirements of persons of different ages and gender. Even if widespread agreement could be reached as the precise nutritional requirements of different people, it is not obvious why a "rule" which might apply to food intakes should be taken to apply to family health care and educational expenditures as a whole. It is quite conceivable, for example, that while a child requires less in food than an adult, (s)he "needs" more in terms of other components of family consumption such as education expenses, health care expenditures, etc. The application of nutrition-based equivalence scales to any expenditures other than food expenditures is essentially arbitrary. This procedure is particularly unappealing in health care studies.

The second approach to setting equivalence scales is based on empirical studies of family consumption behavior. The fact that families have different consumption patterns when their composition differs is interpreted to reflect the different "needs" of persons of different ages and gender, and equivalence scales are then developed which summarize those needs. As Atkinson (1989) points out, it is not clear whether one would want to interpret observed allocations of consumption expenditures to certain persons as reflecting their particular "needs"; the consumption patterns could also be reflecting patterns of discrimination (for reasons quite unrelated to actual "needs"). Equivalence scales based on this second methodology are therefore also controversial.

6.3.3 - Economics of scale :
 are large families really poorer?

Another assumption is implicit in the decision to use some key variables such as family size, and per capita consumption or expenditures in the analysis of family's ability to pay for health care. When family consumption is divided by family size, the implicit assumption is made that no economies of scale exist in family consumption. Each additional member of the family reduces the per capita consumption level or implicitly the ability to pay per person of all family members proportionately.

Is this assumption reasonable? It is likely acceptable for both health care and educational expenditures. But for other items, there are many reasons to think that per capita cost of reaching a consumption level associated with a specific level of utility might decline as a family gets larger. For example, among the items typically consumed within a family, some fraction of these could be regarded as public goods. The degree to which family expenditures are devoted to public goods as opposed to private goods is thus going to influence the extent to which there are economies of scale in consumption. The larger the family associated with a particular level of consumption on public goods, the lower the per capita cost of consuming the public good's services.

In Cameroon, health care, education and food are typically a large share of family consumption. And, generally, economies of scale are not associated with health care, education and food consumption. This is one of the main reasons why the assumption of no economies of scale has traditionally been non-controversial in analyzing family ability to pay for health care expenditures on malaria treatment in Cameroon. Although health care consumption can be regarded as characterized by "private goods" or some elements thereof, there will be some association between the share of non-health expenditures and the presence of private goods. Moreover, there might even be some economies of scale aspect of food consumption. Often the cost per food item declines with the quantity purchased at time. The presence of bulk-purchase discounts is not of itself sufficient to indicate the existence of economies

of scale, but if certain important food items are perishable, and the cost of storing them is high, then large families may be better able to take advantage of the discounts than small families.

Section 6.4 - Limitations of the study

Ability to pay is a complex empirical question. Families' priorities, resources and vulnerability are multi-faceted. Each family and individuals within it generally face different illness and cost burdens, resource flows and constraints.

The ability to pay approach outlined in this study is limited to the identification of factors affecting the family's capacity to mobilize resources and vulnerability at the time of malaria illness. Thus, the analysis of family's ability to pay focuses on coping strategies or responses to malaria treatment costs in the short-run. It doesn't take into account how families' both resources and behavior could be adjusted in the future. Perhaps, the long-term effects should be smaller than the short term effects.

The informational requirements for assessing family's ability to pay in this study are only quantitative data from questionnaire. This provides only fragmentary information on the fee exemption policies. Possible direction for research and policy development relevant to the problem of ability to pay could investigate in more details the following question: What type of exemption policy can best ensure the equity access of those unable to pay? In addition, quantitative survey methods could generate stable and representative information about payment difficulties and strategies families used to mobilize resources for health care, but these should be complementary to qualitative methods, since many of the issues of ability to pay require in-depth investigation of family priority-setting and expenditures patterns.

The potential serious consequences of other coping strategies such as the decision to delay or not seek treatment are not

estimated in this study. The decision to delay or reduce treatment may have cumulative impacts in terms of resistance to drugs, worse health and higher health care expenditures, but no evidence of these impacts was reported in the literature. And because the impacts of such decisions need investigation, longitudinal family studies should be a key component of future research into affordability. To date there have been few qualitative longitudinal studies of this nature.