

# MEASURING CATASTROPHIC HEALTH CARE EXPENDITURES IN NIGERIA

Implications for financial risk protection

**CREHS :**  
RESEARCH BRIEF  
MARCH 2010



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The authors are part of the Consortium for Research on Equitable Health Systems (CREHS) and funded by the Department for International Development (DFID) UK.

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## INTRODUCTION

There is a growing concern about the economic impact of health care expenditure on households who face illness, particularly in areas where pre-payment mechanisms do not exist and households have to make out of pocket expenditures to use health services. In Nigeria, private expenditure accounts for almost 70% of total expenditure on health of which 90% is out-of-pocket. This high level of out-of-pocket expenditure implies that health care can place a significant financial burden on households.

Payment for health care is said to be catastrophic when it exceeds a defined level of household income and leads the household to sacrifice consumption of other items that are necessary for their well being such as shelter or education. For households living close to the poverty line, even low levels of expenditure on health care may be sufficient to tip them into poverty. Past research studies have set the threshold level for catastrophic expenditure ranging from 5% to 40% of total household expenditure that is spent on health. For any given threshold, we would expect a higher proportion of households in the poorest quintiles to experience catastrophe.

However, the use of the same threshold level masks potentially greater differences in terms of impact as richer households have significantly more resources to draw on after spending a fixed share of their expenditure on health. Compare, for example, a household with monthly income of \$100 and one with monthly income of \$1000. If both households spent 20% of their total expenditure on health care, the richer household still has \$800 to spend on other goods and services, while the poorer household has only \$80. The practical experience of coping with these health expenditures is likely to differ greatly between the two households, yet they have experienced the same level of catastrophe when this is measured using a uniform threshold level. It therefore makes sense to consider using a different threshold for different socio-economic groups to capture the impact of different levels of expenditure on the absolute quantity of funds available to households after paying for health services.

This research brief examines the levels of catastrophic health expenditure experienced by households with different socioeconomic status in Southeast Nigeria, considering both uniform thresholds (40%, 20% and 10%) and two alternative scenarios in which the threshold for catastrophe is allowed to differ by socioeconomic group. This has made it possible to develop a more realistic portrayal of how health care costs can affect households recognising that poorer households can be driven into poverty at a lower threshold.

## METHODS USED

- Data were collected from 1128 households (4988 individuals) between January and June 2008
- Households were randomly selected from four Local Government Areas in Enugu and Anambra states, Southeast Nigeria (1 rural and 1 urban area in each state)
- Diaries were used to gather information on illness, expenditure on health, transportation, food, education, entertainment, clothing, cooking and fuel over a one month period
- Diary entries were supervised by trained field workers and replaced weekly
- Beginning with variable threshold levels of 5% and 40%, ratios of food expenditure of different socio-economic status groups were used as weights to determine the levels of catastrophe appropriate for various socio-economic status groups

## KEY FINDINGS

### HIGH INCIDENCE OF CATASTROPHIC EXPENDITURE ON HEALTH CARE

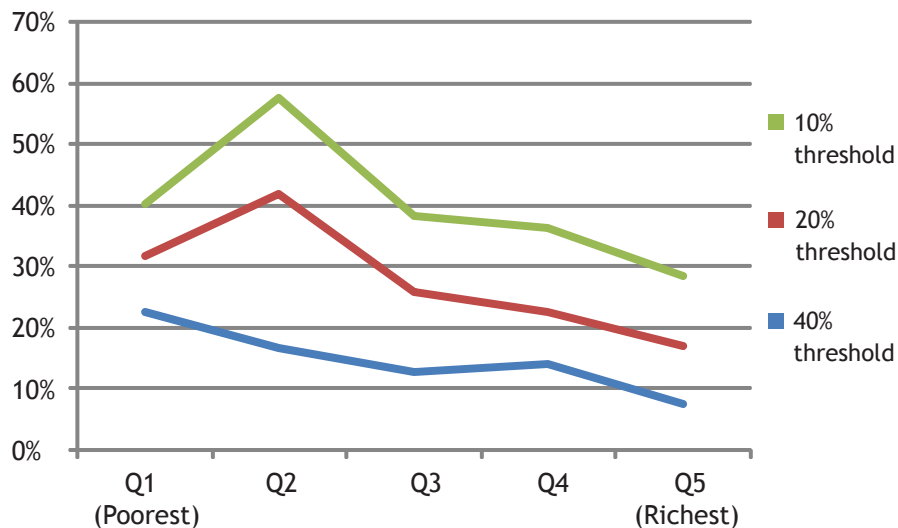
- 15% of households studied experienced catastrophe when the threshold level was set at 40% of non-food expenditure.
- Figure 1 shows that, at a 40% threshold, the highest proportion (23%) was amongst the poorest households (Q1) and the difference with other groups was significant. For the richest quintile (Q5) less than 8% of households experienced catastrophic costs.

- At this level the poorest were three times more likely to experience catastrophe than the richest quintile.
- At levels of 20% and 10% non-food expenditure, the overall level of catastrophe was 28% and 40% respectively. At these levels the richest households had the lowest proportion of catastrophe while the second quintile (Q2) had the highest.

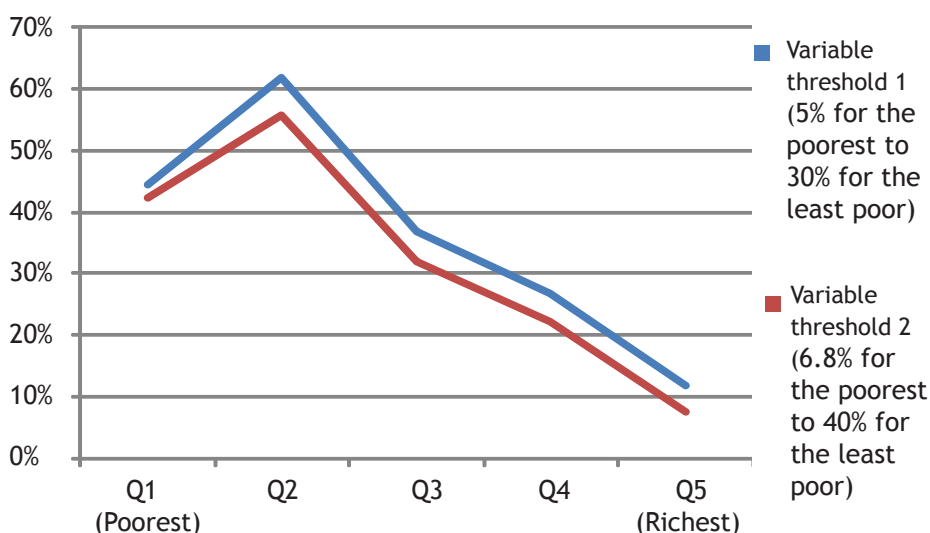
## VARIABLE THRESHOLDS

- We reanalysed these data using variable threshold, which is lower for poorer households.
- Using a threshold that runs from 5% for the poorest to 30% for the least poor, the levels of catastrophic expenditure are 45% for the poorest households and 12% for the richest (see Figure 2).
- When the variable threshold sets the richest quintile at 40% and the poorest at 6.8%, the percentage of households facing catastrophic health care expenditures is 8% and 43% respectively.
- Using this second threshold, the poorest experience catastrophe 5.6 times more than the least poor.

**Figure 1: Percentage of households that experience catastrophe at fixed 10%, 20% and 40% threshold levels**



**Figure 2: Percentage of households that experience catastrophe at variable threshold levels**



## CONCLUSION AND IMPLICATIONS

- Using a fixed threshold to measure catastrophe, irrespective of households' income or expenditure, fails to capture how the absolute level of expenditure that remains after making health care payments to spend on other goods and services differs among groups of different income levels. This is particularly problematic when there are high levels of inequality in income. Use of a fixed threshold will understate the degree of inequality in the distribution of catastrophe between socioeconomic groups.
- Given the high level of catastrophic expenditure in Nigerian households, particularly in the poorest quintile of population, there is an urgent need to revisit the current health financing strategy which places the burden of payment on households. Instead, the government should identify ways of financing health care that rely less on individual payments at point of use, and allow for a greater degree of risk sharing and other forms of risk protection, particularly for the poorest. Examples include expanding the existing national health insurance scheme, to include more groups of people and benefits, and targeted subsidies or payments to reach the poor.

This document is an output from a project funded by the UK Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.