THE BURDEN OF HOUSEHOLDS' OUT-OF-POCKET HEALTH EXPENDITURES AMONG POPULATION GROUPS IN NIGERIA

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Abstract:

The welfare of consumers is maximized if everyone gains access to necessary and needed health care. However, inequitable distribution of income and differences in socio-economic and demographic status affect the accessibility of most population groups, making some to pay higher on health care than others. The Nigerian Health sector faces a lot of challenges that affects its performance as private subsector dominates causing most payments for health care to come out-of-pockets.

This research attempts to see the variations in out-of-pocket spending by different population groups in Nigeria and the incidence of catastrophic spending across the six geopolitical zones of the country. Any direct financial outlay by household constitutes out-of-pocket spending which can be catastrophic if the household has to sacrifice consumption of other goods and services for health care. Taking each household as a single unit, if the household's expenditure exceeds 40% of its non-food expenditure, it becomes catastrophic. It is therefore argued that any spending on health care by poor households is catastrophic as they are unable to attain the subsistence level of consumption.

The study uses the data generated from the Nigeria Living Standard Survey (NLSS), 2004 and adopts Tobit technique and descriptive statistics as tools of analysis. The findings indicate that the poor, old, male-headed household, people from rural areas, married, the unemployed, large households, people with high education attainment are most likely to pay higher out-of-pocket

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health expenditure. Our findings also show that North-eastern Nigeria has the highest level of catastrophic spending with South-west having the least.

The Northern zone put together has an average of 21.17% of people with catastrophic spending while the South has 20.13%. In general, our findings indicate that there is a high inequality in health spending and status emanating from differences in income and location.

Key Words: Out-f-pocket health expenditure; catastrophic spending, Health care access, Household

Introduction

The Nigerian Health care system is similar to a perfectly competitive market (Ichoku and Fonta, 2009), with public sector, private, formal and informal (including traditional healers, faith-based practitioners and non-paid family-based health providers that are non-public) sectors all competing for a market share. This competition results from what we may call the "market failure" or inability of the public health care sub-sector to meet the medical needs of its citizens. The health care system has suffered a series of threats despite efforts put in place to improve its performance. Unsurprisingly, the World Health Organisation (WHO) ranked the Nigerian health system performance 187th out of 191 member countries (WHO, 2007).

The challenges faced by this sector include inadequate access to quality health care services by the poor households, tight budgetary constraints, inequality in health care resource distribution among population groups, inequitable financial system among others (Olaniyan and Lawanson, 2010), all resulting in increasing dependency on out-of-pockets health care spending. These raise serious concerns on the economic effects of health care spending on households who face illness in the absence of functional health insurance scheme.

In 1999, the Federal Government of Nigeria (FGN) established the National Health Insurance Scheme (NHIS) as one of the measures of reducing out-of-pocket (OOP) health spending and its resulting catastrophic consequences, among other reasons. In spite of all that, the majority of the coverage, according to Wright and Gaag (2008), reaches "individuals working in the formal sector leaving large gaps among the poor and the informally employed".

Three sources of health care financing have been identified by Ichoku and Fonta (2009) to include public sources, quasi-public and private sources. Private expenditure in Nigeria accounts for almost 70% of Total Health Expenditure (THE) out of which 90% is out-of-pocket payments (Onoka *et al*, 2010) which is simply defined as the proportion of disposable income that is committed to payments of all kinds of health care services at the current period. This high level of out-of-pocket expenditure implies that health care places heavy financial burden on households. When health care expenditure exceeds a particular threshold, say 40% of household's subsistent (non-food) expenditure or income we call it catastrophic spending.

Literature Review

Empirical studies show that out-of-pocket payments for health can cause households to incur catastrophic expenditures, which in turn can push them into poverty. An analysis of 108 surveys in 86 countries by WHO (2005) has revealed that catastrophic payments are incurred by less than 1% of households in some countries and up to 13% in others. As a result, up to 5% of households are pushed into poverty.

From empirical literature, Chu *et al* (2005); Su *et al* (2006); Desmond and Rice (2007); Habibov (2009) indicate that older individual, female, married, unemployed, better educated, richer, head of a larger family household is likely to pay higher and to incur catastrophic health care spending. They also claim that the married household heads are likely to spend more than the unmarried because of the tendency of any member having the need for health care. They find females to consume more health care than males do primarily because of childbearing. Moreover, females are more careful about the health condition of the members in their household and possibly more likely to take them for medical care than males thereby incurring more burden than their male counterpart.

The results show that because it would cost the employed work time to seek health care, they should be less likely to seek care and, therefore, have less out-of-pocket medical expenditures than the unemployed. On the other side of the coin, the unemployed, due to depression over being jobless, may also seek more healthcare than the employed. Moreover, since health often deteriorates with age, the studies assume that older individuals seek more health care (Desmond and Rice, 2007). Most often, higher education goes with social advantage that warrants more

access to health care; and seeking more medical care results in high out-of-pocket expenditures. On the contrary, education in Gotsadze *et al*, (2005) and Desmond and Rice, (2007) shows no consistent pattern for one-person households, nor does region or urban/rural sector for either one-person or two-person households although Garg and Karan (2009) opine that catastrophic expenditure is higher in the rural than in the urban areas. Family size is another important factor in the demand for medical care and the amount of out-of pocket spending.

For high-income and multi-racial country like the United States, within each age group, whites have higher ratios of spending to income than non-whites, likely reflecting differences in disposable income (Desmond and Rice, 2007; Acemoglu *et al*, 2009) as Cavagnero, Xu and Carrin, (2007); Thuan *et al.*, (2006); Onoka *et al* (2010); Briesacher *et al*, (2010) also remark that health care utilisation is clearly linked to income; and that the low-middle income groups appear to have high proportion of household with catastrophic expenditure.

Using a sample of 869 households in Brazil, Barros and Andrea (2008), show that the richest spent, on average, 70 times more than the poorest with health plans. The incidence and intensity of catastrophic healthcare payment (Ichoku and Fonta, 2009) are very high among the Nigerian population but its contribution to the national poverty profile is relatively low, suggesting the tendency for catastrophic healthcare expenditure more prevalent among the rich rather than the lower income households.

Gotsadze *et al*, (2005) justifies the claim that the poor are more likely to change their perception of illness in order to avoid the economic costs associated with it, thereby going for self-medication and cheaper options rather than visiting a healthcare provider. Other reason advanced by Ojowu *et al*, (2007) as cited from Onwujekwe *et al*, (2010) is that the poorest households are most likely to use low level and informal providers such as traditional healers; whilst the non-poor households are more likely to use the services of higher level and formal providers such as health centres and hospitals.

There is no consensus in the literature on the main factor most responsible for catastrophic spending and the groups that are most vulnerable but most results show that the poor, people from rural areas, people with special illness, females, aged, are more vulnerable. However, few studies claim that the rich are more affected by out-of-pocket health spending. Nevertheless, a

search through the literature makes us assert that while the rich pay more on healthcare, the poor suffer more from its effects on their welfare. One other factor responsible for the variations in the results from empirical literature may be the use of different methods and tools of analysis.

Methodology

Household's out-of-pocket spending on health care can be considered catastrophic when it exceeds a specified level of household's income and cause the household to sacrifice the consumption of other basic items (Onoka *et al* 2010). Empirical findings set the threshold for catastrophic spending between 5% and 40% implying that a household experiences catastrophic expenditure when it spends up to 40% of its subsistence or non-food income on health care. This research adopts the most acceptable 40% threshold as proportion of income and takes each household as a single unit.

The data used in this study are sourced from the 2004 National Living Standard Survey (NLSS) which is a national households survey conducted by the National Bureau of Statistics (NBS). The analytical techniques employed include descriptive statistics such as frequencies, percentages, mean and standard deviation to analyse the pattern of healthcare and income distribution. Tobit model is used to examine the multivariate relationship of out-of-pocket expenditure with key explanatory variables. These tools are chosen because most studies used them and are the appropriate and simple methods for such survey data. The dependent variable is not to determine whether someone spends out-of-pocket but the category that is more affected by it.

Using 40% threshold, the researcher computes for different demographic groups and for each of the six geopolitical zones of the country. This survey data would therefore be analysed using STATA software package but the data is coded using SPSS.

Empirical Specification of the Model

$$OPx_i = \beta_0 + \beta_1 x_i + \varepsilon_i$$

Detail specification

$$OPx_i = \beta_0 + \beta_1 Inc_i + \beta_2 Zon_i + \beta_3 Sec_i + \beta_4 Age_i + \beta_5 Sex_i + \beta_6 Mars_i + \beta_7 HHS_i + \beta_8 Emps_i + \beta_{10} Edu_i + \varepsilon_i$$

Where

OPx_i = Out-of-pocket expenditures on health care by household *i*

Inc_i = A set of household's income variables

Zon_i = Geopolitical zones or region (Reg) of the country

Sec_i = Urban/rural sector

Age_i = Age of household head

Sex_i = Gender of the household head

$Mars_i$ = Marital status

HHS_i = Household size

Emp_i = Employment status

Edu_i = Level of education

Note that Edu_i is subdivided into four independent variables as non-formal education ($Nedu_i$) primary education ($Pedu_i$), secondary education ($Sedu_i$) and post-secondary (Podu). In order to estimate the values of these variables, if we have n variables we have to estimate only (n–1) equations to avoid multicollinearity or falling into a dummy trap. The method is that, for each qualitative regressor the number of dummy variables introduced must be one less than the categories of that variable. Primary education would therefore be used as a reference category. Households would be sub-divided into five according to their income levels. These income categories would range from the first 20 percent to the fifth 20 percent, with the first category being the omitted or reference category. The six geopolitical zones of Nigeria are South-south, South-east, South-west, North-central, North-east and the North-west with North-central being the base category. All the other categories would be used as independent variables with reference to the base.

Analysis of Results

Defining out-of-pocket health spending as the proportion of income spent on health care shows that one can establish a relationship between income and health spending. From table 1 below, average spending of different income groups is presented in percentages from lowest to highest income quintiles. These averages show the proportion of income each group spends on health care. The data also reveal that the burden of households health spending is regressive as high income households spend less proportion of their income. The burden consistently reduces as households' income increases.

The least income group spends more than half of households' income on healthcare which indicates that these households have to sacrifice other basic consumptions for health care. The findings reveal that the first and the second income groups experience catastrophic spending as more than 40% of their income are spent on health care. The other income groups spend below the catastrophic threshold implying that the high-income households are less likely to sacrifice consumption of other goods for healthcare. On an average, the least income group spends about seven times what the highest income group spends on health care. This variation does not absolutely signify that the low-income households pay higher out-of-pocket health expenditure in money terms. It connotes that the burden in proportion to households' income reduces as income increases. On the other hand, the low-income households are likely to borrow or sell assets in order to cope with high costs of health care, sacrifice basic consumption or go without care. The households that are close to poverty line are likely going to be pushed into poverty; while those in poverty would be pushed deeper into it.

Table 1: Variations in Out-of-Pocket Expenditure Burden among Different Income Groups

Income groups	Standard deviation	Mean
Lowest 20%	8.10162%	52.8159%
Lower 20%	15.30719%	40.0619%
Medium 20%	13.67599%	21.5486%
Higher 20%	16.09526%	19.2953%

Highest 20%	11.68614%	7.8505%

Source: Author's Computation

Consistent with Onwujekwe *et al*, (2010), the probability of low-income households falling into poverty is higher due to the high proportion of income they have to spend on health in relation to their total income.

Percentage of the Population Experiencing Catastrophic Expenditure by Demographic Characteristics

The burdens of health spending on households are disproportionally distributed between the rural and urban households. Table 2 below shows that rural households bear more burdens than their urban counterparts, most likely that health facilities may be more expensive and less effective in the rural areas. In the case of serious illness and surgery, the rural households have to incur transport costs to urban areas for medical care.

Table 2: Variations in Catastrophic Spending between Urban and Rural Households

Sectors	Std Deviation	Mean
Urban	19.56546%	18.1086%
Rural	19.77759%	19.5526%

Source: Author's Computation

Inconsistent with many empirical findings, male household heads, on average, bear more burdens than the female household heads. The male household heads are most likely married and have large number of household members to carter for. There is also higher possibility of a male householder having more than one wife, with so many children and even distant relatives to take care of. Other likely reason may be that most female householders head small household sizes thereby attracting lesser burden. In most Nigerian culture, the level of dependence on households reduces tremendously when the male householder ceases to exist. Invariably, most female heads are perhaps singles, widows, or separated attracting less dependency.

Table 3: Catastrophic Spending between Male- and Female-headed Households

Sex	Std Deviation	Mean
Male	19.79220%	19.3614%
Female	19.35841%	18.1271%

Source: Author's Computation

Married household heads are more likely to spend higher than the singles because of the responsibilities of shouldering large household size and the likelihood of any member getting ill. Most married household heads are parents and are more likely to be more responsible to carter for the needs of the household members irrespective of the costs they have to bear. Married household heads are also more likely to be older than one-person or single household heads.

Table 4: Variations in Catastrophic Spending between Married and Singles

Marital Status	Std Deviation	Mean
Married	19.93994%	19.6717%
Single	19.08612%	17.8163%

Source: Author's Computation

The unemployed are less likely to experience catastrophic spending than the employed as revealed in table 5 below, although with very slight difference between the two. The unemployed are more likely to go on self-medication or traditional healing that might not cost them to sacrifice households' consumption as opposed to Onwujekwe *et al* (2010). If the self-medications are not estimated in money terms, they might not be computed in the households out-of-pocket spending. Therefore, the possibility of the employed paying higher than the unemployed becomes a reality. It is also most likely that retirees are regarded as unemployed regardless of their savings and remittances.

Table 5: Variations in Catastrophic Spending between the Employed and Unemployed

Employment Status	Std Deviation	Mean
Employed	19.68669%	19.2805%
Unemployed	19.78992%	19.0443%

Source: Author's Computation

The results of catastrophic spending obtained from poverty status are consistent with that of income categories by showing a negative relationship between income and catastrophic out-of-pocket spending. The poor are likely to bear more burdens of health spending than the non-poor. This might be consequent upon the fact that the poor are more likely to spend larger proportion of their income. In absolute money term, it is likely that the non-poor pay higher but bear fewer burdens.

Table 6: Variations in Catastrophic Spending between the Poor and Non-poor

Poverty Status	Std Deviation	Mean
Poor	19.94777%	19.8717%
Non-poor	19.49434%	18.4909%

Source: Author's Computation

Households' size is positively associated with catastrophic health spending. Households with large number are likely to bear more burden than smaller households with fewer members. A large household is most likely to have at least one member falling ill. On the other hand, if most of the members of the household are unemployed, then the household's income would have to be shared among members should they experience any case of illness.

Table 7: Variations in Catastrophic Spending by Different Household Sizes

Household Size	Std Deviation	Mean
Above 15	20.22258%	23.5554%
11 – 15 Members	20.94840%	20.3652%
6 – 10 Members	20.01373%	19.7109%
Below 6	19.56237%	18.8878%

Source: Author's Computation

The burdens of healthcare are borne differently among different age groups as older household heads are more likely to pay higher. The burden grows with age perhaps because of the possibility of illness associated with old age. Other reasons might emanate from low earning associated with old age (Manton & Soldo, 1985) in the absence of remittances and savings. Most employed household heads above certain age would have been retired and would therefore earn lower income. There is also the likelihood that the younger household heads earn higher and are less vulnerable to illness coupled with the fact that they are also more likely to have smaller household size.

Table 8: Variations in Catastrophic Spending among Different Age Groups

Age Groups	Std Deviation	Mean
Above 60 Years	20.51620%	22.4482%
46 – 60 Years	20.16836%	20.0736%
31 – 45 Years	19.33353%	18.3339%
15 – 30 Years	18.55320%	16.4065%

Source: Author's Computation

As household heads with non-formal education acquires secondary education, the burden reduces perhaps due to more opportunities for employment associated with level of education. As the

level of education increases above secondary education, the burden rises more sharply again. Those with post-secondary education are more likely to bear more burdens than those with non-formal education and secondary education. It is likely that spending on healthcare for highly educated households might not only be for curative purposes but also for luxurious and preventive measures. In other words, awareness associated with level of education is likely to make household report every slight illness.

Table 9: Variations in Catastrophic Spending by Educational Attainment

Level of Education	Std Deviation	Mean
Post-secondary	21.03961%	21.7617%
Secondary	19.12816%	17.2968%
Non-formal	19.92098%	20.2826%

Source: Author's Computation

Relationship between the Demographic Variables

People living in the rural areas are more likely to have early marriage, and large household size. These same households are more likely to have low level of education, low income, gainfully unemployed and poor. These variables are related and therefore influence another, thereby making the result consistent. However, income remains the main determinant of health spending as all the differences in other groups can be traced to the differences in their earnings.

Variations in the Incidence of Catastrophic Spending among Geopolitical Zones of Nigeria

Having established a negative relationship between income and out-of-pocket health expenditure, the catastrophic spending is sought out by geopolitical zones of the country to ascertain the variations. The results of the findings here show that North-eastern Nigeria has the highest rate of catastrophic health spending than all other zones of the country. This is likely because North-east is the zone with lowest income in the country as contained in the literature (Olaniyan and Lawanson, 2010). The South-west has the least burden perhaps because of the low level of poverty in the region. Other likely reason for these variations might be uneven

distribution of health facilities among the zones. Differences in the dominance and the intensity of illness can also bring about the variations in out-of-pocket spending.

Merging the six zones into North and South, the North bears more burden of healthcare expenditure than the south. The average percentage of catastrophic spending for the Northern and Southern households are 19.78% and 18.63% with a general average of 19.20% as the level of household or population of Nigeria having catastrophic spending. These results are different from the findings from 86 countries by WHO (2005) which discovered 13% as the country with the highest level of catastrophic spending. This finding in relation to the literature proves that Nigeria is one of the countries with high level of catastrophic health spending.

Table 10: Variations in Catastrophic Spending among Nigerian Geopolitical Zones

Zone	Std Deviation	Mean
North-west	19.73371%	20.2554%
North-east	20.39025%	20.3613%
North-central	19.15020%	18.7356%
South-west	19.64299%	17.4375%
South-east	19.49400%	18.3428%
South-south	19.87213%	20.1081%

Source: Author's Computation

This study uses 40% of income as a threshold level for determining catastrophic spending by households. Assuming zero percent were used as threshold for the poor households, about half of the Nigerian households will have catastrophic health spending if they spend anything on healthcare.

Comparison of Results with the Literature

Most of the findings in this study, except for male household heads bearing more burdens, are consistent with most findings in the empirical literature. However, the literature is not conclusive

on these issues. Therefore, there would not be a priori expectation in this study because it is more of hypothesis generation and not hypothesis testing.

Measurement of Relationship between Dependent and Independent Variable(s).

This section measures the relationship between the dependent and independent variables and between the explanatory variables of the same category. Using the Tobit model, we would measure the amount of money in Nigerian Naira (N) each category spends in relation to the other category and to measure the level of significance of each explanatory variable with respect to the dependent variable.

From the regression results below, rural/urban sector is not a significant factor in out-of pocket health spending in Nigeria. However, as people migrate to the urban areas, their out-of-pocket spending reduces by eighty one kobo per unit of health spending. The likely reasons are explained in the previous sections. It is interesting to note that sex is a significant determinant of out-of-pocket spending. Although contrary to most empirical findings like Joglekar (2008), households headed by males are more likely to spend more out-of-pocket than households headed by females. If a household headed by a female is handed over to a male, the household's out-of-pocket health expenditures are likely to increase by N4. It is also interesting to note that age emerges as significant determinant of out-of-pocket expenditure on health care. As individuals grow older or move from one age bracket to another, their health expenditures increase by three Nigerian Naira (N3). Some of the reasons for this are the fact that individual's income, as mentioned in the previous sections, is likely to reduce with old age coupled with old age tendency or vulnerability to illness. Marital status is a significant factor that determines health spending of households. For every unit of spending on healthcare, a married household head is likely to spend about N4 over and above unmarried ones. Household size is also a significant variable in out-of-pocket spending as households with more members are likely to spend more. As household size increases from one group of our classification to another, the out-of-pocket spending is likely to increase by N4 per unit of household spending.

Employment status serves as a significant factor that determines out-of-pocket spending of households. Interestingly, employed household heads are more likely to spend about N3 above the spending of the unemployed. This might result from the fact that the unemployed might

decide to go without health care, thereby recording low expenditures. This does not mean that there are no needs for healthcare but according to Wright and Gaag (2008), the low-income households "ignore health problems – absorbing them into the experience of everyday life".

Taking the North-central zone of Nigeria as the base category, geopolitical zone turns to be significant in determining out-of-pocket health spending. As households migrate from South-south to the base their out-of-pocket health spending are likely to increase by approximately N9 per unit of health spending. This should not be conflicted with the proportion of health spending to income. It means that in money terms households within the North-central are likely to spend more but experience less catastrophe. Some reasons might be that the federal capital territory located in the base category has more people of high-income category. As households move from the South-east to the base category, their health expenditures are likely to increase by N8 per unit of treatment received. On the hand, households from the South-western region are likely to have a discount of N10 relative to the ones in the North-central zone. In other words, as households move from South-west to the base, their health spending are likely to increase by ten Naira per unit of report. In the same vein, moving from the North-east to the base category, a household is likely to spend extra nine Naira approximately. On the other hand, households moving from the North-west to the North-central are likely to record higher health spending by extra N8 approximately.

Education of household heads plays a significant role in out-of-pocket spending. Using the primary education as the base category, a household head with no formal education is likely to spend N3 less than the individual with primary education. Perhaps household heads with no formal education are more likely to go without health care. Household heads with secondary education are more likely to spend N4 less than the base category. Also household heads with post-secondary education are likely to spend about N4 less than those in the base category. These variations might result from the adequate diets taken by people with formal education.

Income is a significant determinant of out-of-pocket spending in Nigeria. Using the first 20 percent as our base category, households within the second 20 percent are likely to spend ten Naira less those in the base category of income. Households within the third 20 percent are more likely to spend extra N8 from their income per unit of health spending. The households within the fourth 20 percent are likely to spend extra N10 than those within the first 20 percent. Finally,

households within the fifth 20 percent are likely to spend extra 22 Nigerian Naira than the households at the base category per unit of health spending. These results imply that individuals with high income, say from the third category and above, are likely to spend more than the low-income category but are less likely to experience catastrophic spending.

Table 11: Results from Censored Regression Using Tobit Technique

Variables	Coefficients	Standard Error	Significance
Sector	–.813	.690	.906
Sex	3.887	.883	.000
Age	.270	.198	.000
Marital Status	3.852	.722	.000
Employment Status	2.822	.563	.000
Household Size	.411	.102	.000
South-south	8.840	1.067	.000
South-east	7.686	1.020	.000
South-west	9.768	1.061	.000
North-east	9.300	1.156	.000
North-west	8.212	1.048	.000
No Formal Edu.	3.235	.983	.001
Secondary Edu.	4.338	.841	.000
Post-secondary Edu.	4.147	1.682	.014
Second Quintile	10.218	1.251	.000

Third Quintile	–8.360	1.568	.000
Fourth Quintile	–10.430	1.435	.000
Fifth Quintile	–21.840	1.174	.000

Source: Author's Computation

The Implication of Findings and Discussion

The results of these findings show that inequalities exist in the distribution of health care burdens borne by households of different socio-economic groups. These inequalities place low-income households on the disadvantage showing the regressive nature of the distribution of financial burden of health care in Nigeria. One of the ways of explaining this issue of disparity is by using the *Principle of Fairness* (WHO, 2004) that:

> A well functioning health system provides good health, becomes responsive to people's needs, and adheres to the principle of fairness in financial contribution. Fairness in financial contribution is based on the notion that every household pays a "fair" share of its income on health.

Although what constitutes fair share depends on individuals' normative view as to how health systems should be financed, our findings show that the low-income households in Nigeria, notwithstanding, do not pay fair share of their income on health care as many of them pay more than half of their earnings on health care. Accessing health services costs money and it can lead to some households having to pay such an "unfair" share of their income on health services resulting in catastrophic consequences, pushing some into poverty, and others into deeper poverty.

Households paying up to half of their income on health care are already catastrophically determined and are more likely to sacrifice their basic consumptions to be able to bear the burden. One of the implications of these findings is that the poor households would not only suffer illness for inability to pay but would also forfeit good consumption that would give them good immunity against illness. It is worthy of note that most small scale enterprises that drive the economy are managed by low-income households. This implies that the economy would invariably experience setback if the active population groups are negatively affected because of

inability to pay for health care. In order to minimise the burden of health care expenditures and the resulting catastrophic consequences, good policies on income distribution, health facilities and positive disparity in favour of the poor can be put in place. Putting these good policies of welfare improvements in place does not necessarily imply that they have to be Pareto optimal that every group of the society should be made better off without making any worse off. So long as the burdens of health care on low-income households are reduced, their welfare and that of the economy would consequently become better off.

Conclusion

This study examines the burdens of out-of-pocket health expenditure that household bear in Nigeria. We examine the relationship between health spending and households level of income to measure whether it has reached the catastrophic level. Using 40% threshold, a large proportions of the Nigerian population spend catastrophically especially in the northern region. Because most households live below poverty line, if we set the threshold limit at zero percent it implies that any out-of-pocket spending by the poor is catastrophic which means that about half of the population would make catastrophic spending.

Using other demographic variables, the results show that older household heads, male-headed households, large households, the married, unemployed, people living in rural areas, and people from the Northern parts of the country bear heavier burden on health care.

These findings point out the need to formulate policies that would financially protect the vulnerable households (especially the poor ones) from health shocks and to also reduce the economic burden of illness.

The following recommendations can be taken into effects to minimize catastrophic health expenditure. The National Health Insurance Scheme should be improved to cover most population groups. Households should save and/or invest more to have stable source of income in order to avoid old age catastrophic tendencies. Adequate sensitization on birth control measures should be adopted in order to curtail the excessive household sizes. High dependence on government for employment should be discouraged and self-employment can be encouraged. Health-threatening behaviours like excessive consumption of alcohol, smoking, drugs addiction, indiscriminate sexual behaviour, and all such should be discouraged in order to minimise the tendency of falling ill. Risky businesses should be taken with

caution to minimise health-threatening tendencies. Parents and household heads should ensure sending their children to schools and government can also assist by charging lower fees in public schools for low income households to have access that would help them minimise catastrophic spending at older age. Adequate health care facilities should be distributed proportionally across rural/urban sectors and geopolitical zones with more attention to the less privileged areas. Government should improve welfare of citizens by increasing the pension of retirees and perhaps general wages. Prices should also be stabilised to aid the self-employed purchase health and other household facilities.

If all these measures are taken into account, the high rate of catastrophic health spending in Nigeria would be minimised drastically.

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