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Household Strategies for Coping with the Financial Costs of HealthCare in Edo State, Nigeria

Stanley A. Garuba^{1*}
Bernard E. Owumi²

¹Catholic Relief Services
Abuja, Nigeria

²Department of Sociology
Faculty of the Social Sciences
University of Ibadan, Ibadan, Nigeria

Corresponding Author: stanleygaruba@yahoo.com

Abstract

The cross-sectional survey design was used in the study to elicit data in Edo State, Nigeria to assess the strategies employed by households to cope with the financial costs of healthcare. Questionnaire data were collected from 508 household respondents in three randomly-selected Local Government Areas of the state including Esan-west, Etsako-west and Egor. Twelve Focus Group Discussions complemented survey data. The main strategies to cope with the financial costs of health care were mobilization of cash and savings (40.5%), and sale of produce and assets (16.0%). Level of income was a significant factors affecting the ability to mobilize cash and savings to cope with the financial costs of health care ($X^2 = 31.787$, 4df, $p < 0.05$, critical value = 9.49). Diversion of money intended for food, education, and clothes to cope with the financial costs of health care was common, relatively, to respondents with low income level ($X^2 = 13.050$, 4df, $p < 0.05$, critical value = 9.94). The findings of the study indicate that urban households have the ability to cope with the financial costs of health care, than rural households. It is therefore imperative that government should not only make healthcare facilities available but should also alleviate poverty in society to enable people defray the cost of healthcare with minimal effort.

Keywords: financial costs, health care, coping strategies, household, Edo state

Introduction

Coping is a temporary mechanism employed within an existing system to forestall a harmful effect on household (Davis, 1993; Gore, 1992). For households of low socioeconomic status, ill health among members may be characterized by the inability to defray the cost of medical care on one hand and the limitation on the individual to engage in work during the illness period, on the other (Leathermen *et al.*, 2012; O'Donnell *et al.*, 2008; Leive and Xu, 2008; Xu *et al.*, 2007; Xu *et al.*, 2003; Wagstaff and Doorslaer, 2003). In different parts of countries, emphasis on issues related to illness is moving towards a more detailed understanding of the coping strategies with the costs of health care. Studies on coping strategies provide important information on

the mechanisms employed to avert a negative effect of health shocks, and how payment for medical treatment may affect future welfare of the household (Leive and Xu, 2008).

During health shocks, households may employ different strategies to cope with the costs of medical treatment (Sauerborn, Adams and Hien, 1996; Russell, 1996; Yu and Wilkes, 1998; Carrin, Gray and Almeida, 1998; Ding and Chen, 2001; Peters *et al.*, 2001, Hai, Gao and Yao, 2004 and Liu, 2005; Bogale, Mariama and Ali, 2005). As the first coping strategies, households may decide to use savings, sell assets, borrow money from relatives, or secure a loan, especially when health costs is more than the household income. Where a major bread winner of a household is the one that is ill, other members of the household may begin to work to provide alternative income for the household and to repay loan (Leive and Xu, 2008).

Several analytical frameworks have been used for understanding household coping strategies. One framework categorised coping strategies into production related adjustments, social adjustments, and biological strategies/body adaptations (Longhurst, 1986). Similarly, another framework classified coping strategies into eleven distinct types of strategies. Of those, seven relate to coping with the financial costs of illness, while four are for coping with the time costs of illness (Sauerborn, Adams and Hien, 1996). Besides, a Social Risk Management (SRM) matrix, which outlined three types of strategies that households employ to cope with adverse shocks was also proposed. The first type relate to prevention strategies, which is to reduce the likelihood that the household will experience the shock. The second sets of the strategies were termed mitigation strategy, which is to decrease the potential impact of a future shock, including portfolio diversification, insurance, hedging/risk exchange. The third categories were the coping strategies, which is to relieve the impact, once the shock has occurred (Holzmann and Jorgensen, 2000; Ding, Chen, Feng and Li, 2008). The sequence of coping strategies also has been categorized into three typical production related adjustments, social adjustment, and expenditure adjustment (Longhurst, 1986; Goudge and Govender, 2000; Moser, 1998).

In general, coping strategies have been classified as *ex ante* and *ex post* strategies. Coping strategies for reducing the likelihood of illness incidence or decreasing the damaging impact of a potential illness were classified as *ex ante* coping strategies, while the coping strategies designed to relieve the actual impact of an illness, were classified as *ex post* strategies (Ding, Chen, Feng and Li, 2008). In addition, *ex post* strategies were further classified into consumption adjustment strategies and production adjustment strategies (Yu and Wilkes, 1998), or financial adjustment strategies and time adjustment strategies (Jiang and Braun, 2005). Nevertheless, the various classifications of *ex post* coping strategies are similar. The coping strategies, which have been classified as consumption adjustment strategies, are similar to financial

adjustment strategies, while the coping strategies, which have been classified as production adjustment strategies, are similar to time adjustment strategies.

Since different strategies are employed to cope with the costs of health care, there is no peculiar approach in any part of the country. The ability to prevent the loss of production and assets, due to illness differ and dependent on household size, composition, assets, type, duration of illness and on clustering of crisis, involving concurrent illnesses (Sauerborn, Adams and Hien, 1996). The social, economic and physical environment affect household's sources and modes of payment for health care (Garuba, 2008), and the effectiveness of strategies adopted to cope with the costs of health care (Ding, Chen, Feng and Li, 2008).

From literature investigations, the categories of strategies employed to cope with costs of health care in different parts of the country include use of cash and savings; sale of livestock; sale of other assets; change of productive activities; borrowing from friends and relatives; borrowing from moneylenders or loans, in-kind help from friends and relatives; delay in payment to private health care providers; exemption from medical fees or free care; support from children and gift; reimbursement from medical schemes; social relief; income diversification; and wage-labour (Sauerborn, Adams and Hien, 1996; Yu and Wilkes, 1998; Jiang and Braun, 2005).

Despite the fact that the strategies employed to cope with costs of health care varied in different parts of Nigeria, few studies have been conducted to assess the coping strategies with the costs of health care in Nigeria. One nationwide survey conducted in 2003, including representative samples of the households, reported that the coping strategies adopted by people to mitigate the impact of cost recovery differ along geographical zones. Nigeria is divided into six geographical zones: North-central, Northeast, Northwest, Southeast, South-south and Southwest. The survey report indicated that the people in the Northeast find it difficult to adopt any coping strategy, whereas, people in the Southwest have more ways of coping with cost recovery than other people (Onibukun, 2003). However, the nationwide assessment did not include any State-level analysis of the strategies employed to cope with the impact of cost recovery.

Health care is on the concurrent list in the Nigerian Constitution, which implies that each level of government (federal and state) has legislative authority on it. The federal and state governments both have roles to ensure health care for the citizens. The different States do not only differ in terms of access to resources, the attitudes of the governments to health services delivery are not also the same. In the 1980s, when the federal government of Nigeria introduced the policy of cost recovery for health service delivery, some state governments declared free health care services for their citizens, while some simply did not take any significant step to improve access to health care for the people. State-level assessment of the coping strategies with the financial costs of health care is therefore important in order to understand the extent that states are implementing the policy.

Theoretical and Conceptual Framework

The Voluntary Social Action Theory by Talcott Parsons has been adopted as theoretical perspective for the study. The perspective emphasises the overriding nature of socio-cultural factors over individuals' perceptions, attitudes and behaviour (Nwokocha, 2007). Very much like Max Weber's social action theory, which asserts the primacy of society over the individual person (Giddens, 2000), it argues that societies exert social constraint over the actions of individuals. However, Parsons emphasised the importance of societal factors in constraining the ends that an individual can pursue and the means of pursuing them.

Five basic premises were posited by Parsons for the social action theory. These are:

1. People's actions are directed toward the achievement of end goals;
2. People adopt the appropriate means and procedure from those available to attain their ends;
3. Courses of action are determined by the conditions of the physical and social environment;
4. Individuals have emotions and make moral judgements, which influence the selection of ends and mean and their priority;
5. Actions are to be explained by the subjectively intended meaning given them by the actors, or roughly, by his/her perception and definition of the ends and conditions of his/her situation.

The key elements in the theory are action, end, actor and means. As the first basic premise states *people's actions are directed toward the achievement of end goals*, the course of health care financing is to achieve utilisation of health services by individuals. Funding for health care can be by different sources and modes of payment, but the ultimate goal is to afford health services which would help achieved an optimal state of health care by individuals. The utilisation of health services is a function of the sources and modes of payment. An individual may not be able to attain health care, due to lack of money and the financial costs of health services needed. He/she may borrow money to cope or take other measures, like he/she may decide not to seek after health care.

On the second premise of the social action theory, which states – *people adopt the appropriate means and procedure from those available to attain their ends*, it is to say that the sources and modes of payment for health care are based on available financing mechanisms to individuals. The available resources to an individual would affect his/her ability to afford health care. This is so because the affordability and utilisation of health services is determined by existing financing strategy. Figure 1 below illustrates a unilinear relationship of financing mechanism and health care utilisation.

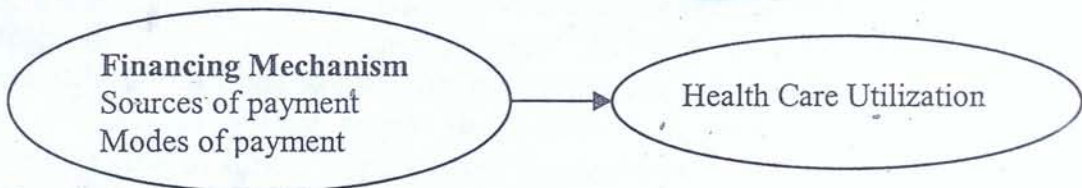


Figure 1: Relationship of Financing Mechanism and Health Care utilisation

The goal of health financing is to ensure accessibility of health care. Accessibility is, in part, determined by the affordability of health services for individuals and households. This depends on the effectiveness of available sources of funding and modes of payment. In Nigeria, data showed that the household is the major financing agent for health (HERFON, 2006), using personal income and sales of produce mainly on out-of-pocket payment basis to pay for health care (Soyibo, 2005). Therefore, the important question relates to knowing commonly used sources and modes of payment and how they affect health care utilisation in Edo State.

The third premise posited by Parsons holds that *courses of action are determined by the conditions of the physical and social environment*. The social and economic conditions determine the sources of funds used to buy health care and the commonly used modes of payment by individuals and households. This relationship is illustrated by Figure 2 below. It shows that the social and economic conditions collectively determine the financing mechanism adopted for health care by individuals.

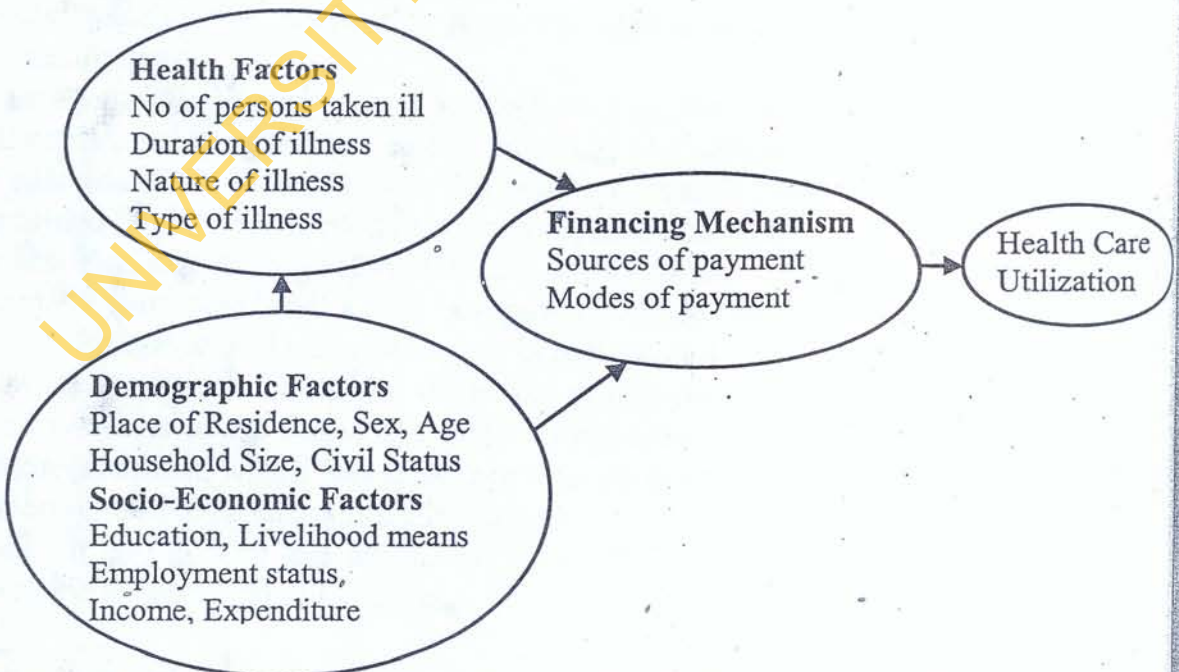


Figure 2: Socio-Economic Relationship with Health Care Financing Mechanism

The fourth premise states that *individuals have emotions and make moral judgements, which influence the selection of ends and means and their priority.* The dynamics of health care financing affect the sources and modes of payment and utilisation of health care. An individual may be willing to pay for health care, but his/her ability to pay is subject to a number of factors, including the situation of illness experienced, the financial costs of health care and financing strategy. The willingness and ability to pay are affected by the available sources of funding and modes of payment for health care. Where an individual is willing and able to pay, cost considerations may not be a hindrance to his/her utilisation of health services. Figure 3 below illustrates the relationship of financing mechanism with willingness and ability to pay for health care.

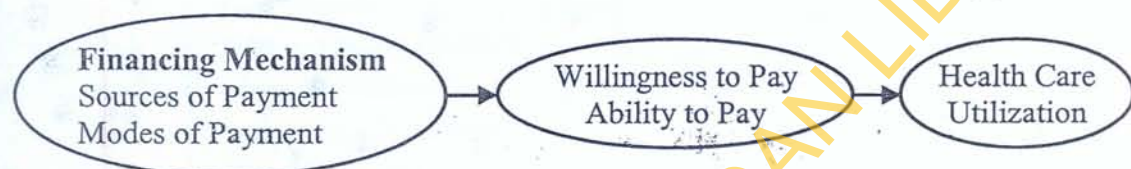


Figure 3: Financing Mechanism with Willingness and Ability to Pay

The fifth and final basic premise states that *actions are to be explained by the subjectively intended meaning given them by the actors, or roughly, by his/her perception and definition of the ends and conditions of his/her situation.* This means that the course of health care financing should be assessed with the affordability and utilisation of health services by individuals. This should be examined in relation to the social and economic conditions of the individuals, which often shape the financing mechanism to affect the utilisation of health care.

The assumptions of voluntary social action theory applied significantly to analysis of the relationship of the strategy of financing and utilisation of health services by individuals. It indicated that the course of health care financing may be determined by the social, economic and health situations of individuals and households. This affects the willingness and ability to pay for health care and utilisation. Willingness and ability to pay influence the attitudes to utilisation of health services. This relationship is represented schematically in Figure 4 showing the inter-relationships of the set of independent, intervening and dependent variables of the study. The major independent variable is health care financing mechanism, which was impinged by a set of antecedent variable of socio-economic, demographic and health factors. The intervening variables are willingness to pay (WTP) and ability to pay (ATP) for health care. The dependent variable is health care utilisation.

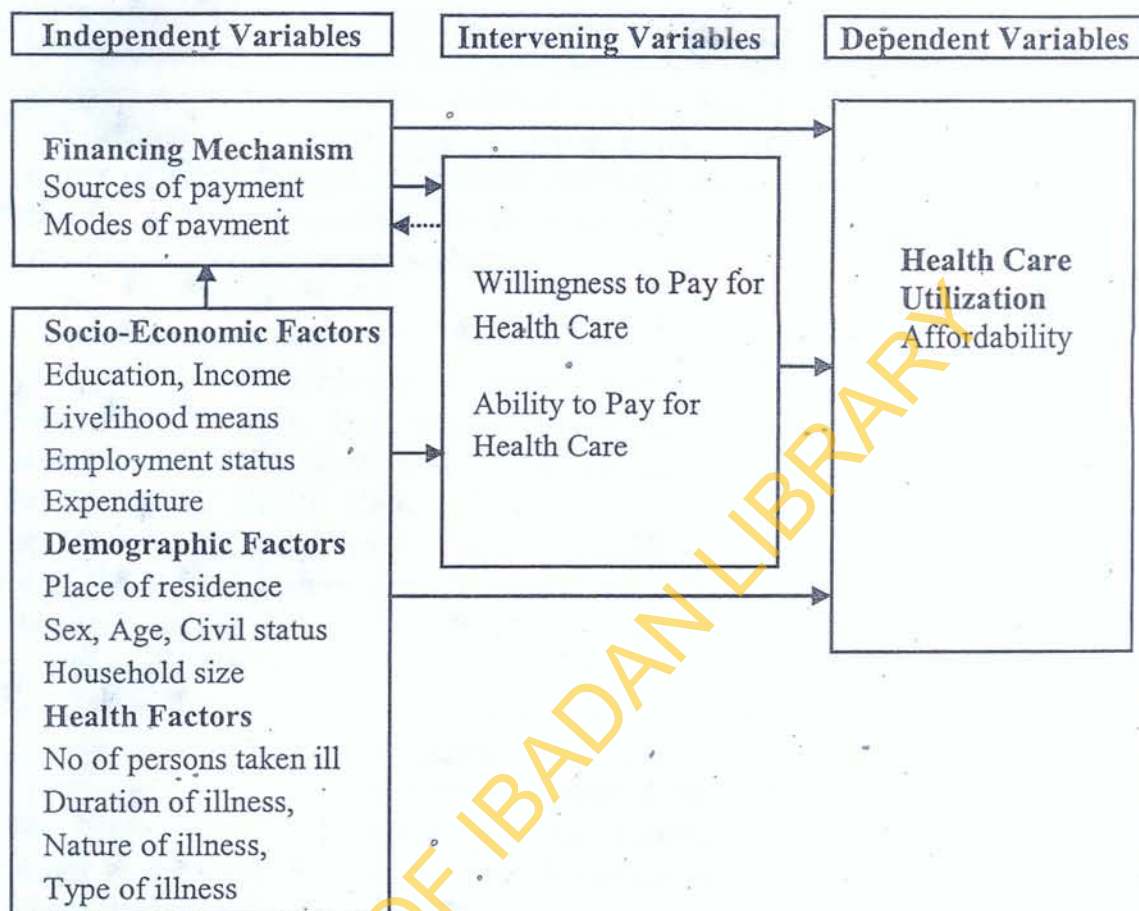


Figure 4: Conceptual Framework
Source: Authors, 2015

The sources of funding and methods used to pay for health care influenced the willingness and ability to pay, as well as the affordability of health care. The relationship of financing mechanism with the willingness and ability to pay may be dialectical. The social and economic conditions of individuals and households affect the willingness and ability to pay, as well as the utilisation of health services. The conceptual framework, therefore, suggested that the interplay of social and economic factors on financing mechanism with willingness and ability to pay, determined health care utilisation among the individuals and households.

Materials and Methods

Brief Description of Edo State

Edo State is one of the six states in the South-south geographical zone of Nigeria, with over three million population (Table 1). Edo State is endowed with abundant natural resources. The principal mineral resources include crude oil, natural gas, clay chalk, marbles and limestone. Agriculture is the predominant occupation of the people. This confirms why many of the people live in rural area. The major cash crops produced are rubber, cocoa and palm produce. In addition, there is production of such crops as yams, cassava; rice,

plantains, guinea-corn, and assorted types of fruits and vegetables like citruses, pineapples, guava, coconut, mangoes, pear and cherry. The vast forest belt is rich in various species of economic trees. Also, it is in the forefront of palm oil and kernel production with three oil-processing mills. These companies provide a number of employments for skilled and semi-skilled workers. For their workers, they have provision for medical allowances or *medical retainership contract* with health care providers.

Health Care System in Edo State

The health care system in Edo operates in a three-tier form in line with the National Health Care System. The primary health care of the people is paramount at the local government levels while the state government takes charge of the Secondary Health Care and supervises Primary Health Care (PHC) at the local government level. Tertiary Health Care is mainly the responsibility of the federal government. Primary Health Care, the bedrock of the nation's health policy is expected to be given due attention at all levels of government. Although the implementation of PHC programmes is the responsibility of the local government councils (LGCs), the state enacts supervisory responsibilities to ensure proper coordination and execution of programmes through the provision of necessary logistics and other support to all LGCs. The State Government encourages the establishment of private health institutions to meet the growing demand for health care by the people. The management and coordination of the government-owned hospitals is through its Hospital Management Board (HMB) in Benin City (Garuba, 2008).

In Edo State, health insurance is lacking, consumers pay directly to access services from both the public and private health facilities. The practice of user fees became very dominant since the introduction of cost recovery (an approach whereby patients are expected to pay a token for services received) by the federal government in the 1980s. Fees for service are commonly collected by the private health service providers. The major private hospitals have registered with the National Health Insurance Scheme, but the coverage is still very low and limited to only Federal Government employees. The introduction of user fees did not lead to any significant improvement in accessibility of health care facilities in Nigeria. Rather, the introduction of user fees is blamed for the exclusion of the poor from accessing essential health services (Onibukun, 2003).

Sampling and Sample Size

A multi-stage sampling technique was used to select 508 household respondents in three randomly-selected Local Government Areas (LGAs) in Edo State. The selection of LGAs was based on the clusters of LGAs along the three major regions in Edo State. The LGAs selected include Esan west, in Edo Central; Etsako west, in Edo North; and Egor, in Edo South. Communities

heads of households, with homogenous members in terms of sex and community. In each community, two FGDs were conducted to ensure that male and female groups were equally represented in the survey. After collating the tape-recorded information and the detailed note taken during the FGDs, we analysed the information using ethnographic summaries and manual content analysis. Some important quotations from respondents during FGDs were reported verbatim to highlight common views on coping strategies with the costs of health care.

Results

Table 2 shows the socio-demographic characteristics of study population. Incidentally, half of the respondents were in rural and urban areas, respectively. Results show that female respondents were slightly more than the male respondents. Age of the respondents ranged from 25 years to 86 years, the mean (\pm SD) and median age being 42.88 (\pm 11.37) and 40 years respectively. The majority (91.5%) were married at the time of the study. A large proportion (42.1%) came from households made up of five to six persons. The educational attainment was predominantly secondary and primary school levels. About 32.0% were involved in farming and trading, as their primary means of livelihood, while 60.0% claimed to be in not-paid employment. The mean monthly total household income (\pm SD) was 41,364 (\pm 32,213) Naira, while the mean monthly total household consumption (\pm SD) was 17,792 (\pm 9,379) Naira.

Characteristics		Rural = 254		Urban = 254		Total = 508*	
		Count	Percent	Count	Percent	Count	Percent
Sex of respondent	Male	134	52.8	118	46.5	252	49.6
	Female	120	47.2	136	53.5	256	50.4
	Total	254	100.0	254	100.0	508	100.0
Age of respondent†	Under 25 years	1	4.0	1	4.0	2	4.0
	25-34 years	58	23.5	43	17.8	101	20.7
	35-44 years	82	33.2	108	44.6	190	38.9
	45-54 years	61	24.7	57	23.6	118	24.1
	Over 54 years	45	18.2	33	13.6	78	16.0
	Total	247	100.0	242	100.0	489	100.0
Marital status	Married	223	89.9	231	93.1	454	91.5
	Never married/single	3	1.2	3	1.2	6	1.2
	Separated/divorced	4	1.6	5	2.0	9	1.8
	Widowed	18	7.3	9	3.6	27	5.4
	Total	248	100.0	248	100.0	496	100.0
Household size	1-2 persons	18	7.2	19	7.7	37	7.4
	3-4 persons	65	25.9	82	33.1	147	29.5
	5-6 persons	109	43.4	101	40.7	210	42.1
	7-8 persons	38	15.1	34	13.7	72	14.4
	Over 8 persons	21	8.4	12	4.8	33	6.6
	Total	251	100.0	248	100.0	499	100.0
Educational attainment of respondent	No formal education	41	16.1	12	4.8	53	10.5
	Primary	84	33.1	52	20.6	136	26.9
	Secondary	100	39.4	104	41.3	204	40.3
	Vocational	9	3.5	18	7.5	28	5.5
	Tertiary	20	7.9	65	25.8	85	16.8
	Total	254	100.0	252	100.0	506	100.0
Livelihood means of respondent	Farming	129	51.0	31	12.2	160	31.6
	Trading	57	22.5	104	40.9	161	31.8
	Craftwork	22	8.7	17	6.7	39	7.7
	Government work	15	5.9	47	18.5	62	12.2
	Private company work	18	7.1	51	20.1	69	13.6
	Labourers	8	3.2			8	1.6
	Dependent	4	1.6	4	1.6	8	1.6
	Total	253	100.0	254	100.0	507	100.0
Employment status of respondent	Full-time employment	59	23.9	122	50.2	181	36.9
	Part-time employment	10	4.0	5	2.1	15	3.1
	Not in paid employment	178	72.1	116	47.7	294	60.0
	Total	247	100.0	243	100.0	490	100.0
Monthly total household income‡	Under N20,001 (US \$ 154)	80	31.5	21	8.3	101	19.9
	N20,001-N40,000 (US \$ 308)	122	48.0	91	35.8	213	41.9
	N40,001-N60,000 (US \$ 462)	38	15.0	71	28.0	109	21.5
	N60,001-N80,000 (US \$ 615)	5	2.0	49	19.3	54	10.6
	Above N80,000 (US \$ 615)	9	3.5	22	8.7	31	6.1
	Total	254	100.0	254	100.0	508	100.0
Monthly total household consumption‡	Under N20,001 (US \$ 154)	191	75.2	172	67.7	363	71.5
	N20,001-N40,000 (US \$ 308)	62	24.4	75	29.5	137	27.0
	N40,001-N60,000 (US \$ 462)	1	0.4	3	1.2	4	0.8
	N60,001-N80,000 (US \$ 615)			1	0.4	1	0.2
	Above N80,000 (US \$ 615)			3	1.2	3	0.6
	Total	254	100.0	254	100.0	508	100.0

*Discrepancies in total population of study was due to missing values, either as a result of 'not applicable' answers, inconsistencies in answers, miscoding, or because the respondents simply did not give definite answers to questions. Where the problem was not observed much in all modules of the questionnaire, they were included in the data analysis. † Mean (± SD) and median age = 42.88 (11.37) and 40. ‡ Mean income (±

Complete information on expenditure during last illness was obtained from 444 respondents. The average total household expenditure was 2,576.23 (\pm 4,330.22) Naira ranging from 0 to 58,500 Naira. Health care expenditure accounted for an average of about 15.5% of monthly total household expenditure, and about 8.0% of monthly total household income. In general, monthly household expenditure accounted for an average of 59.0% of the total monthly household income. Level of health care expenditure was relatively lower among the respondents in rural area compared to the respondents in urban area.

Table 3: Chi-square analysis of health care expenditure with place of residence, Edo State, Nigeria, 2006

Level of expenditure*	Poportion of household expenditure	Poportion of household income	Place of residence†		
			Rural	Urban	Total
Under ₦1,001	5.6%	2.4%	70 31.1%	60 27.4%	130 29.3%
₦1,001 – ₦2,000	11.2%	4.8%	76 33.8%	49 22.4%	125 28.2%
₦2,001 – ₦3,000	16.9%	7.3%	41 18.2%	54 24.7%	95 21.4%
₦3,001 – ₦4,000	22.5%	9.7%	22 9.8%	21 9.6%	43 9.7%
Above ₦4,000	Above 22.5%	Above 9.7%	16 7.1%	35 16.0%	51 11.5%
Total			225 100.0%	219 100.0%	444 100.0%

* Based on 444 respondents with non-missing expenditure. Some values were missing because either recall was difficult or the respondents reported not making any medical expenses, due to fatalistic belief in the divine healing power of God. Mean (\pm SD) = 2,576 (4,330) Naira $X^2 = 15.404$, 4df, $p = .004$ (2-tailed), critical value = 9.49.

Table 4 shows the chi-square analyses of coping strategies with financial costs of health care with place of residence. The most commonly-mentioned strategies for coping with the financial costs of health care were mobilization of cash and savings, sale of produce and assets. Here we used produce to refer to farm products such as tubers, grains and economic crops, which are kept sometimes by households, until when there is a high demand and good prices to sell the products. In-kind payment (exchange of crops/services) to cope with the financial cost of health care was mentioned by some respondents (3.4%) in the study.

Table 4: Chi-square analyses of coping strategies with financial costs of health care with place of residence Edo State, Nigeria, 2006

Strategies*	Place of residence		Total	Test†	
	Rural	Urban		X ²	P
Mobilization of cash and savings	71 28.2%	134 52.8%	205 40.5%	31.716	.000
Sale of produce and assets	58 23.0%	23 9.1%	81 16.0%	18.337	.000
Exchange of produce for treatment	14 5.6%	3 1.2%	17 3.4%	7.405	.006
Gift or handouts from children or friends	5 2.0%	1 0.4%	6 1.2%	2.731	.098
Diversion of money intended for food, education, and clothes	16 6.3%	25 9.8%	41 8.1%	2.073	.150
Diversion of money intended for business	16 6.3%	11 4.3%	27 5.3%	1.020	.312
Borrowing	12 4.8%	8 3.1%	20 4.0%	0.866	.352
Use of all incomes of household	87 34.5%	83 32.7%	170 33.6%	0.666	.365
Free health care	2 0.8%	2 0.8%	4 0.8%	0.000	.997
National health insurance scheme	-	1 0.4%	1 0.2%	0.994	.319

* Information on coping strategies was obtained based on multiple answers to the question on how respondents were coping with the costs of health care. We report here only the vital information, based on the ticking or mention of any of the coping strategies by respondents. Hence, complete information was obtained on the each coping strategy from subsets of the population of studies. † p<0.05 (2-tailed), 1df, Critical value = 3.84

In addition, the majority of the participants in the FGDs mentioned the diversion of the money, which was intended for food, education and clothes to cope with the financial costs of health care. Another strategy, which was generally mentioned for coping with the financial costs of health care, is borrowing. An excerpt from one of the FGD sessions indicates as follows:

Illness is not a welcome condition of the household. This is because illness often creates financial difficulties and instability in the economy of the household. In such circumstance, you can divert the money that was intended for education to buy drugs or pay for treatments. As a result, children may stop going to school, because the school fees were not paid. Members of the household suffer lack of access to basic necessities, because a major source of household income might have stopped functioning, due to illness. This may cause panics in the household. If the situation deteriorates, one can borrow from other relatives, friends, community associations or moneylenders to cope with the costs of illness. After borrowing, the family start to bear the burden of repaying loan. In all, the family is subjected

to more hardships. Property/assets would be sold to cope with the costs of illness, and it will be difficult to meet the basic needs of members of the family. Health care expenditures are sudden expenses, which have to be made by the family. (Male FGD/Uwasota/Benin City: June 2006)

Furthermore, the reports of the FGDs show that borrowing is a common coping strategy with the financial costs of healthcare, especially where the use of other strategies have been exhausted. Borrowing can be from friends, neighbours or appeals to patent medicine vendors/pharmacy shops to give drugs/treatment, and allow payment to be made at a later date. The terms of borrowing from moneylenders have more serious implications on household economy. The conditions could really be very harsh. See additional excerpts from the report of the FGDs below.

When medical bills become very difficult to pay one has to borrow. You can borrow from moneylenders, with the intention to repay the loan by instalment. If you go to herbalist for treatment, you might be asked to provide a chicken or goat, as a form of payment for treatment of your ailment. It depends on the herbalist choice of the forms of payment for treating ailments. (Female FGD/Ayogwiri/Etsako West LGA: July 2006)

The cost of health care is usually too much, since one does not have all the money to pay, borrowing become very necessary. But the impact of repaying the money which was borrowed with interest can indeed be very hard on the household. (Male FGD/Auchi/Etsako West LGA: July 2006)

If you default in loan repayment, additional interest is calculated on the whole sum by the creditor. Sometimes, the only option available is to sell some important assets, like furniture and livestock (if you have them) to repay the loan. (Male FGD/Auchi /Etsako West LGA: July 2006)

In Table 5, results indicate that respondents in urban area, commonly mentioned mobilization of cash and savings to cope with the financial costs of health care. The majority (52.8%) of the respondents in urban area mentioned the mobilization of cash and savings compared to 28.2% of the respondents in rural area who mentioned same for coping with the financial costs of health care. Twenty-three percent of the respondents in rural area mentioned the sale of produce and assets, while 9.1% of the respondents in urban area mentioned same for coping with the financial costs of health care. In-kind payment

(exchange of crops/services) was commonly-mentioned by 5.6% of the respondents in rural area.

Table 5 shows that households with relatively higher income level have the ability to mobilize cash and savings to cope with the financial costs of health care than households with lower income level. The results showed that households with relatively lower income level mostly mentioned diversion of money that was intended for food, education and clothes to cope with the financial costs of health care.

Table 5: Chi-square analyses of coping strategies with financial costs of health care with income level, Edo State, Nigeria, 2006

Strategies*	Monthly total households income					Total	Test [†]		
	Under ₦20,001 (US\$154)	₦20,001- ₦40,000 (US\$308)	₦40,000- ₦60,000 (US\$462)	₦60,001- ₦80,000 (US\$615)	Above ₦80,000 (US\$615)		X ²	df	P
Mobilization of cash and savings	24 24.2%	76 35.7%	56 51.4%	35 64.8%	14 45.2%	205 40.5%	31.787	4	.000
Diversion of money intended for food, education, and clothes	3 3.0%	15 7.0%	17 15.6%	5 9.3%	1 3.2%	41 8.1%	13.050	4	.011
Use of all incomes of household	39 39.4%	74 34.7%	37 33.9%	13 24.1%	7 22.6%	170 33.6%	5.504	4	.239
Sale of produce and assets	17 17.2%	40 18.8%	17 15.6%	3 5.6%	4 12.9%	81 16.0%	5.940	4	.204
Exchange of produce for treatment	4 4.0%	9 4.2%	2 1.8%	1 1.9%	1 3.2%	17 3.4%	1.793	4	.774
Diversion of money intended for business	7 7.1%	8 3.8%	10 9.2%	2 3.7%	--	27 5.3%	6.854	4	.144
Gifts/or handouts from children or friends	3 3.0%	3 1.4%	--	--	--	6 1.2%	5.293	4	.259
Borrowing/loans	3 3.0%	10 4.7%	7 6.4%	--	--	20 4.0%	5.780	4	.216
Free care	1 1.0%	1 0.5%	--	--	2 6.5%	4 0.8%	14.284	4	.006
National health insurance scheme	1 1.0%	--	--	--	--	1 0.2%	4.119	4	.390

*Information on coping strategies was obtained based on multiple answers to the question on how respondents were coping with the costs of health care. We report here only the vital information, based on the ticking or mention of any of the coping strategies by respondents. Hence, complete information was obtained on the each coping strategy from subsets of the population of studies. †130 Naira = US\$1.00 when the study was conducted in 2006. ‡p<0.05 (2-tailed), critical value = 9.49.

Discussion

In this study, expenditure on healthcare accounted for a high proportion of household income. The average total proportion (8.0%) of household income was close to the finding of a study which showed that if other associated costs, such as transportation costs were added, the total direct costs of health services can be as high as 10.0% of household income (Lucas and Nuwagaba, 1999). Similarly, health care expenditure accounted for a high proportion of total

consumption expenditure, and some respondents were seen to spend above the average total expenditure on health care. This finding supports an earlier national report, which indicated that many households spend high proportion of their consumption expenditure on health care (Federal Republic of Nigeria, 2006).

In this study, mobilization of cash and savings was employed by a significant proportion (40.5%) of the respondents to cope with the financial costs of health care. In general, borrowing, sale of produce and assets were the second most commonly-mentioned mechanisms employed to cope with the financial costs of health care. The findings of this study compare well with earlier studies, where sale of assets (such as livestock, furniture, and stored grains), use of savings and borrowing were found to be the main strategies employed to cope with the costs of health care (Taiwo and Owumi, 2014; Sauerborn, Adams and Hien, 1996; Onibukun, 2003; Swift, 1989; Adams, 1992; Adams, 1993; Reardon, Malton and Delgado, 1988). Besides, the finding of another similar study has showed that most households employ strategies such as consuming less of other basic necessities, sale of assets and borrowing to cope with expenditures (McIntyre, 2005).

In addition, some respondents diverted the money that was intended for food, education and clothes to cope with the financial costs of health care. Similar results have been reported in Ethiopia, where households used the cash, which was intended for basic consumption need including food, fuel, clothes and education, to cope with the financial costs of health care (Russell and Abdella, 2002).

The finding of this study indicated that place of residence has a significant influence on the ability to cope with the financial costs of health care. Households in the rural area were seen to find it more difficult to cope with the financial costs of health care compared to households in the urban area. While 52.8% of the respondents in urban area adopted the mobilization of cash and savings to cope with the financial costs of health care, 23.0% of the respondents in rural area adopted sale of produce and assets to cope with the financial costs of health care. This finding is similar to the results which were reported in an earlier study, where rural households mainly either seek for waiver from facilities or sell assets to cope with health care expenditure (Bogale, Mariama and Ali, 2005).

Conclusion

The study has provided in-depth information on the coping strategies with the financial costs of health care in Edo. The level of expenditures on health care was relatively high. Health care expenditure was significantly associated with place of residence, which indicated, therefore, the ability to cope with the financial costs of health care. Households in urban area have the ability to cope with the financial costs of health care, than households in rural area. Level of

income was a significant factor in coping with the financial costs of health care. Mobilization of cash and savings, borrowing, sale of produce and assets were the strategies, said to be commonly adopted for coping with the financial costs of health care.

There is a need for the state government to fast track the introduction of a social health insurance to cover the people in Edo, similar to the federal government's introduction of the National Health Insurance Scheme to cover the federal workers. There is a need to increase access to market for the people in the rural areas to sell their farm produce, in order to increase their income and the ability to cope with the financial costs of health care.

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