BENEFIT INCIDENCE OF NATIONAL HEALTH INSURANCE SCHEME IN ENUGU STATE, SOUTHEAST NIGERIA

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ABSTRACT

Background: Nigeria has introduced National Health Insurance Scheme (NHIS) as a financial risk protection option against ill health. This paper therefore assesses the benefit incidence of the NHIS to the employees of the federal establishments in Enugu, Southeast Nigeria. It provides empirical evidence necessary for scaling up the scheme.

Methods: The study area was Enugu urban. The beneficiary survey was undertaken on a random sample of federal employees. A 2-stage process was used to select beneficiaries. First, employers were selected with probability proportionate to size (number of employees). Then, a random sample of employees was made for the beneficiary survey. A pre-tested interviewer-administered questionnaire was used to elicit information on household socioeconomic status, utilization of health services, and expenditures for health services, including payment of NHIS premium.

Results: All the socioeconomic groups sought health care and benefited through NHIS. The poorest group (Quartile 1) received the highest gross and net annual benefits for outpatient and inpatient care while the poor (Quartile 3) group received the highest gross annual benefit for delivery. Concentration index for total net Out of pocket payments (OOPs) on covered individuals showed that the lower socioeconomic group made more payments for outpatient and inpatient cases than their higher socioeconomic group counterparts, while the better off socioeconomic group paid more than the lower socioeconomic group counterparts for delivery.

Conclusion: The study showed high benefit incidence for federal enrolees who sought for health care through NHIS. There is therefore every need to improve on NHIS and possibly scale it up to other formal and informal sectors of the economy.

BACKGROUND

Efforts to establish a new social insurance programme in Nigeria were reinvigorated in Act No. 35 of 1999. This followed pressures traceable to 1962 through 1980s and 90s. In 2005, the National Health Insurance Scheme was inaugurated (ISSA, 2006). Further efforts were made in 2006 by the Nigerian National Health Conference, which was attended by government representatives, international agencies among others. The Conference recommended to the National Assembly to pass the National Health Bill without delay.

Despite these efforts to improve on health status of the people, public health expenditures in Nigeria only accounts for 20-30% of total health expenditures(Soyibo 2004; Soyiboet al 2009). Hence, private expenditures accounts for the remaining 70-80% of the expenditures and the dominant private expenditure is out-of-pocket spending (OOPS), which is about US$ 22.5 per capita and accounts for 9% of total household expenditures (Federal Office of Statistics 2004; Onwujekwe et. al., 2010). Half of those who could not access care did not do so because of its costs (Federal Office of Statistics 2004). The dominant reliance on this non-pooled financing instrument and the related absence of risk sharing transfers the largest financing burden on the poor and the clear absence of exemption mechanisms and pre-paid instruments is largely responsible for impoverishing health expenditures (Preker, 2005). NHIS is a method of financing health care, which is based on a concept that aims at improving the health needs of the people especially the vulnerable groups. Objective of this study therefore is to determine the benefit incidence of NHIS to the staff of federal establishments in the State.

Financing mechanisms used to pay for healthcare in the African region are mainly the general tax revenue, earmarked taxes, social health insurance, private health insurance, community health financing (Johannes, 2003; Ekman, 2004), user fees (cost-sharing/cost-recovery),medical savings accounts and donor funds (Creese 1991; Smith, 2005; Ntembe, 2009; Russell and Gilson, 1997; Gilson et al, 1995;WHO, 2006). However health insurance scheme is typically based on prepaid funding sources, contribution mechanisms and collection agencies. The initial funding sources are through the individuals, employers, corporate entities etc. The contribution mechanisms are through the direct and indirect taxes, compulsory contributions, grants, loans etc, while the collecting organizations are the central and local governments, social security agency, commercial and other insurance funds, employers, earmarked saving fund and health care providers (Kutzin and Bamum, 1992).

In Nigeria, however, the clearly recognized health care financing mechanisms are user fees, National Health Insurance Scheme, Community Based health insurance, and private health insurance (Ogunbekun et al, 1999). But development of these mechanisms apart from user fees is yet to be consolidated. User charges are presently the major means of paying for health care. In this case, the health seeker pays whatever amount he might be charged for health seeking. One major effect of this is that the patient is left to bear all the financial burden of seeking for health care (Ogunbekun, 1991). In the event of too much expense, the income of the patient might be depleted so much that it could affect his consumption of other services particularly the basic needs of life. In Nigeria where household income is still very low, user fee as a method of health

care financing forms a major cause of income reduction and catastrophic health expenditure (Su et al., 2006; Kawabata et. al. 2002; Ranson, 2002).

The National health insurance scheme launched in 2005 was built on the framework that it will cover both the formal and informal sectors of the economy. This brought about the NHI guidelines that appointed the professionals as providers in the scheme; registration of and classification of hospitals; registration of pharmacies; registration of health maintenance organizations (HMOs) among others. Establishment of the scheme was basically on the need for health financing option that would help to reduce the negative effects of user fees as well as give required help toward reducing the high health care expenses among the people.

To ensure effective scheme, principal-agent relationship was established among the actors – NHIS, HMOs, employers and providers. While the NHIS and beneficiaries are the principals, HMOs and Providers serve as the agents in the scheme arrangement (Nguyen, 2011). However, the scheme so started could only cover the formal sector of the economy against its initial intention. The formal sector includes the federal, state and other taxable establishments. But the scheme currently covers only the federal government employees, although some private establishments like banks also have their private health insurance arrangements.. The pointer however shows that more than 95% of the population who are in need of financial risk protection against ill health are yet to be covered.

The scheme has potentials to give every employee of the federal government, his/her spouse and four children below the age of 18

years access to health care. However, the kinds of health services beneficiaries receive depend on the inclusion and exclusion criteria. Those under the scheme are required to hold their identity cards and register with their choice providers. But it is important to consider the level of information the beneficiaries have about the scheme and its potential benefits, as well as the effect of the inclusion-exclusion criteria on their overall health seeking behaviour.

Benefit incidence analysis (BIA) in health care considers who receives what benefit (in terms of socio-economic groups) from using health services (McIntyre and Ataguba, 2010), and it focuses only on publicly funded (health) services to access whether or not public subsidies are pro-poor. A health insurance scheme that covers only what the poor can conveniently afford is not actually a good representation of risk protection against ill health no matter how impoverished the people may be. Benefit of a programme can be translated based on how much people's lives could be affected by it (Chawla and Ellis, 2000; Mariko, 2003). In line with this, the NHIS in Nigeria is expected to give benefits to the beneficiaries as well as encourage them to improve on their health seeking pattern. But the extent to which people have been able to benefit from the scheme has not been fully identified and examined. This then calls for benefit incidence analysis of the scheme to the beneficiaries in order to determine its impact and possible ways of scaling up to other groups.

METHODS

Description of the Study Area and NHIS Scheme

Enugu State with a population of 3,257,298[1] was carved out of the old Anambra State. It covers an area of approximately 12,727 square kilometers. Situated on much of the highlands of Awgu, Udi, Nsukka hills and the rolling low lands of the Oji-River basin to the west, Enugu State is surrounded by six states. It bordered by Abia and Imo States in the South, and is flanked in the east and west by Ebonyi and Anambra States respectively and in the north by Kogi and Benue States. The State lies partly within the tropical rain forest belt to the south. Its physical features and vegetation change gradually in the northeastern direction from the tropical rain forest to open woodland, and Savannah land as it approaches its northern boundary. The native population is entirely Igbo with a sprinkling of Igala near her borders with Kogi State. Other ethnic groups are however well represented in the State with a predominance of Hausa and Yoruba communities. The State is well known for its industrial centres and markets with 75% of the state agrarian.

The state has about 87 federal government establishments. However, most of the federal establishments are located at the urban or semi urban centres. Virtually no federal establishments could be found in the rural areas. The NHIS was designed to serve people in both formal and informal sectors of the economy. Currently the scheme is practiced only in all the federal establishments. Enrolees of the scheme register with the NHIS. The NHIS allocates the registered members to the health maintenance organizations (HMOs), who in turn allocate the enrolees to the accredited providers. The providers under the scheme treat beneficiaries who have the scheme identity cards and are within the inclusion criteria. The primary providers are meant to treat the basic minor ailments and refer the major ones to the secondary providers. The beneficiaries of the scheme are expected to pay 15% of their monthly salary to the scheme. But the federal government pays 10% while the remaining 5% is expected to be paid by the beneficiaries. The premium was designed to be proportionate even though the mode of payment makes it compulsory for members as deductions are made from their salary at source. HMOs pay a capitation of five hundred and fifty naira (N550.00) to the providers for any registered member. But some services which are not capitated go for fee-for-service. In that case the providers get in touch with the HMO and agree on how the beneficiary could be treated and then make their claims afterwards under the fee for service arrangement.

Study design

The beneficiary survey was undertaken on a random sample of Federal employees from January 2009 to March, 2010. The sample of beneficiaries was selected using a 2-stage process. First, employers were selected with probability proportionate to size (number of employees). Then, a random sample of employees was made for the beneficiary survey. Data provided by the NHIS indicated that there are a total of 87 Federal employers in Enugu state, and approximately 18,000 employees. On the basis of other benefit incidence studies, we estimate that approximately 15-18% of individuals will report an illness within the previous 4 weeks, and 7-8% a hospitalization within the previous year (McIntyre and Ataguba, 2011). We sampled

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[1] a 2005 projected population from 1991

a total of 1200 beneficiaries. Assuming a mean of 5 household members per beneficiary, this would give approximately 750 illness episodes and 350 inpatient admissions. Undertaking benefit analysis by socioeconomic quartile, we expected approximately 150 outpatients and 70 inpatients per group. This was sufficient to allow a reasonably precise analysis of the incidence of benefits. We did not expect there to be significant clustering at the employer level, so the distribution of the sample among beneficiaries was determined by logistics and cost constraints. Benefit incidence analysis values the benefits provided to insured members in terms of their costs. Recurrent costs at a sample of providers of NHIS insured services were collected. There are approximately 70 providers registered with the NHIS in Enugu state. We undertook a cost analysis in 8 facilities altogether comprising 2public and 6 private health facilities. Facilities were randomly selected from a pool of all facilities that were accredited by the NHIS and located within the metropolis where the respondents resided. The public health facilities were University of Nigeria Teaching Hospital (UNTH) and Enugu State University Teaching Hospital (ESUTH) while the private health facilities were owned and managed by medical doctors who granted interviews to the authors.

A pre-tested interviewer-administered questionnaire was used to elicit information on household socioeconomic status, utilization of health services, and expenditures for health services, including payment of NHIS premium. Respondents were asked about their perceptions of how well the NHIS is operating. The questionnaire was administered to randomly selected beneficiaries in federal establishments in the state. Information on their utilization of covered services was elicited.

Conceptual Framework

NHIS is a method of financing health care, which is based on the concept that aims at improving the health needs of the people especially the vulnerable groups. This demands a pool of resources of different classes of people in a geographic location with similarities in their demographic structure. This study involves looking at the benefit incidence of NHIS with reference to covered visits, which include delivery, outpatient and inpatient care. Delivery here involves all the hospital deliveries and ante-natal services that occurred within the last one year. Outpatient has to do with coming to hospital without sleeping over or without admission in the last one month before the interview while inpatient refers to those on admission within the last one month before the interview. Outpatient services include care for common diseases such as malaria, typhoid, abdominal disorder, diarrhoea etc. Inpatient care involved hospital admissions for severe cases of the common diseases.

Analysis of key variables:

Gross annual benefits for care – for outpatient, this was achieved by multiplying the total number of the NHIS covered visits, the number of visits in the month and average amount that was paid for outpatient care. To annualize the result, it was further multiplied by 12, which is twelve months. For inpatient care, the mean value was achieved by multiplying the average inpatient care expenditure by the variable on visits that are covered by NHIS in the last 12 months. This is in line with McIntyre at al.(2011) and O'Donnell et al. (2008) which states that if a recall period of 1 month (or4 weeks) has been used in the survey, the total

number of visits recorded in the survey is usually multiplied by 12 (or by 13).This principle also followed for delivery. That is expenditure on NHIS covered delivery in the last twelve months multiplied by the average expenditure on delivery. The average expenditure on outpatient, inpatient and delivery were gotten from the provider in-depth interviews.

Net annual NHIS benefit– this was achieved by subtracting the annual mean of OOP for covered persons from the gross annual benefits for covered persons from each category of care – outpatient, inpatient and delivery. Share of total visits by NHIS covered individuals that are covered by NHIS was achieved by dividing the NHIS covered visits by number of visits that were NHIS covered (It should be understood that not all the visits that were made by a beneficiary that were covered by the NHIS. This is because some of the visits possibly may have been made in other health facilities that are not accredited by the NHIS). A total number of 220, 55 and 20 were analyzed for outpatient, inpatient and delivery respectively. To achieve this, we summed the total net OOP for the three categories and subtracted total net OOP separately for outpatient, inpatient and delivery.

Total Net OOP Payments
A total household net OOP payment for care was arrived at by considering all the beneficiaries without restrictions (whether visits were covered by NHIS or not). Variable on the number of households was multiplied with the variable on the total OOP payment for each category of care. For those that went for outpatient care, the variables on total household OOP and beneficiaries were multiplied by 12 point. In order to get the actual result, the values were summed up and then the value for those that went for outpatient was subtracted from that to arrive at total household net OOP payment for outpatient, and same for inpatient and delivery cases.

Data Management: Data were entered into the computer on the same week the interviews were conducted and were initially processed using EPI INFO software. Data cleaning was undertaken through compilation of summary statistics on the variables during and after the fieldwork. The EP16, SPSS 17 and STATA 11 software packages were used for the analysis. Chi square, concentration index, mean and standard deviation analysis were conducted using the software packages. Two data entry clerks co-ordinated by the principal investigator undertook the data entry. The principal investigator was also responsible for the data analysis.

Key variables were compared across socio-economic status (SES) groups using asset holding and level of benefits. The occupation groups were classified into SES quartiles (least poor, poor, very poor and most poor). The measure of inequity was done using the concentration index, which shows the level of dispersion of variables under consideration among the SES groups.

RESULTS
Socio-demographic Information of Respondents and their households
A total of 1165 questionnaires were available for analysis, Table 1. All the respondents were federal government employees (99.8%). And they cover all the facets of the government job descriptions. 6.3% of the respondents were cleaners, 24.8% were clerical officers while 7.6% were middle managers. Professionals represented more than one third of the respondents (39.7%) while 2.7% were senior managers and the remaining 16.0% were in the categories that are not within our variable options. Respondents were asked about the premium they pay for the scheme. This actually was to know how much informed they are about the premium that is charged by the scheme. Of all respondents, 67.8% said that they pay premium for the scheme. 20.7% said they do not pay any premium while 10.8% said that they do not know whether or not they pay premium. Level of coverage among the respondents and their households appears to be very low. For instance, 20.7% represents the number of respondents whose insurance covers only the respondent in the household. Again, only 18.7% of the respondents said that one more person is covered in their household. 10.6% said that two other members of their household were covered. 13.1% said that 3 persons were covered while a hand full (24.0%) said that up to 4 other persons were covered in their household. 11.5% and 1.5% said that 5 persons and 6 persons were covered in their household respectively. However, the study showed that the mean number of covered members in a household was 2 persons per household with standard deviation of 2.

Table 1: **Demographic information of respondents and their households**

Occupation	N(%)
Cleaner	73 (6.3)
Clerical	289 (24.8)
Middle manager	88 (7.6)
Professional	463 (39.7)
Senior manager	43 (3.7)
Others	186 (16.0)
Level of NHIS coverage among beneficiaries	1163 (99.8%)
Other family members that are covered by the NHIS	
No other family member	
One other family member	240 (20.70)
Two other family members	218 (18.7)
Three other family members	123 (10.6)
Four other family members	153 (13.1)
Five other family members	181 (24.0)
Six other family members	134 (11.5)
	17 (1.5)
Mean (standard dev.) of coverage	2 (2.0)
Premium payment among the respondents	
Yes paid premium	790 (67.8)
No did not pay premium	241 (20.7)
Don't know	126 (10.8)
Other insurance by respondent	
Yes	12 (1.0)
No	1149 (98.6)
Other insurance by household members	
Yes	998 (86.3)
No	158 (13.7)

Table 1 also shows that 86.3% of the respondents said that there is no other member of their household that is covered by the scheme. Or rather there are no other members of their households that are employees of the federal establishments. However, the remaining respondents (13.2%) said that some other members of their families were employees of the federal establishment. Apart from having other family members that are also staff of the federal government, the study also wanted to find out if any other member of the households were covered by any other form of insurance apart from NHIS (Table 1). Almost all the respondents (98.6%) said that no other member of their households is covered by any other insurance package.

Take home income and dwelling of the respondent
Take-home salary of the respondents on the average is N43,837.90 with standard deviation of N39,969.50 (Table 2). This however did not represent a reliable value as many of the respondents could not give information on their take-home salaries. For instance, out of 1165 respondents, only 730 gave responses on their take-home salary and even at that, the standard deviation value show a deep gap. Again most of the respondents (95.1%) have no extra income while those who have extra income could only give a mean value of N286.3 with standard deviation value of 2162.26. This also gives serious indication that information on income is not a good explanation to people's earning whether take-home from government work or extra income that they get outside their regular earning. 82% of the respondents said they have no agricultural land while 17.3% said they have some agricultural land owned by the family. Only 8.4% of the respondents own their dwelling place while 73.5% rented their dwelling place. 16.8% dwell in

company owned properties. The roofs of the respondents' dwelling place were mainly made of zinc (67.9%), while the remaining sample said that they have corrugated roof. Most of the respondents 95.3% and 98.4% have cemented floors and walls respectively while 89.1% have septic tank/flush system for their latrine. The respondents have two main sources of drinking water – public tap (41.8%) and water tanker (39.2%) while 89.1% have septic tank/flush system.

Table 2: Take home income and dwelling of the respondent

Income	Amount (USD)
Take home income	N43,837.90 (292.3)
Extra income	N286 (1.9)
Total income	N44,123.90 (294.2)
Dwelling	
No agricultural land	82%
Own dwelling place	8.4%
Rented dwelling place	73.5%
Dwell in company property	16.8%
Have cemented floor	95%
Have septic tank/flush system	89.1%
Water source – public tap	41.8%
Water source – tanker	39.2%

Annual number of NHIS covered outpatient visits, admissions and deliveries
Table 3 shows the annualized number of visits that were made by the beneficiaries and their households that are covered by the NHIS. Outpatient visits that were covered four weeks prior to the study were 243 although calculations on the outpatient care were annualized. Annual coverage of inpatient was 62, while those that went for delivery was 27.

Table 3: Annual number of NHIS covered visits

	Visits by beneficiaries
Outpatient	243
Inpatient	62
Delivery	27
Total	332

Gross Annual Benefits of the NHIS to the covered beneficiaries

Table 4 shows the gross annual NHIS benefits by age, gender and occupation. The survey used the average age of 23.8 for the respondents. The result showed that 220 outpatients, 53 inpatients and 25 deliveries were annual visits that were covered and used for benefit incidence analysis of the scheme. Considering the annual benefits of NHIS by sex, the Table shows that males gross benefits was N6,633,200.0 (USD44,221.0) while females benefited N7,534,800.0 (USD5,032.0) for outpatient visits. For those who went for inpatient care, gross benefits for males was N1,996,428.0(USD13,309.5) while it was N2,073,214.0 (USD13,821.4) for females,

and for delivery cases, gross benefits for males was N476,666.7 (USD3,177.8) and N440000.0 (USD2933.3) for females.

For occupation, gross annual NHIS benefits for those under full employment topped the list with N8,178,800.0 (USD54,525.3), followed by student/learner/child N4,186,000 (USD27,906.7) for outpatient gross annual benefits. For inpatient benefits, those in full employment also topped the list N2,150,000.0 (USD14,333.3) followed by those who are students/learner/child N1,075,000 (USD7,166.7). For delivery, those in full time employment benefited to the tune of N220,000(USD1,466.7) while students/learner/child topped the gross annual delivery benefits with N366,666.7(USD2,444.4).

Table 4: **Gross Annual NHIS benefits by age, gender and occupation (restricted to visits that are covered by NHIS)**

	Outpatient	Inpatient n (%)	Delivery (%)
N (Average age)	220 (23.81)	53 (23.81)	25 (23.81)
Gender	**Naira (USD)**	**Naira (USD)**	**Naira (USD)**
Male	6,633,200.0(44,221.3)	1,996,428.0(13,309.5)	476,666.7 (3,177.8)
Female	7,534,800.0(5,032.0)	2,073,214.0(13,821.43)	440,000.0(2,933.3)
X^2	6.9926	4.0893	1.3908
Pv.	0.322	0.665	0.238
Occupation	**Naira (USD)**	**Naira (USD)**	**Naira (USD)**
1.Employed full time	8,178,800.0(54,525.3)	2,150,000.0(14,333.3)	220,000.0(1,466.7)
2.Self-employed (formal sector)	644,000.0 (4,293.3)	230,357.7(1,535.7)	0
3.Part-time/contract	64,400.0(429.3)	0	0
4.Casual	0	0	0
5.Self-employed (informal sector)	64,400.0(429.3)	0	110,000.0(733.3)
6. Unemployed	386,400.0 (2,576.0)	153,571.4 (1,023.8)	110,000.0(733.3)
7.Housewife	128,800.0(858.7)	76,785.7(511.9)	73,333.3(488.9)
8.Pensioner	128,800.0 (858.7)	0	0
9.Student/learner/child	4,186,000.0(27906.67)	1,075,000.00 (7166.7)	366,666.7 (2,444.4)
X^2	73.8126	31.0933	1.6800
Pv.	0.000***	0.313	0.794

*Note: *=p<0.10; **=p<0.05; and ***p<0.01*

Table 5: **Net Annual NHIS benefits by age, gender and occupation**

	Outpatient	Inpatient	Delivery
N (Average age)	23.81	23.81	23.81
Gender Male Female X^2 Pv.	**Naira (USD)** 2,946,322.0(19,642.1) 3,362,974.0 (22419.8) 7.0029 0.321	**Naira (USD)** 1,145,467.0(7,636.4) 1189524.0 (7,930.2) 4.0893 0.665	**Naira (USD)** 237,705.0 (1584.7) 257,513.8 (1716.8) 1.3908 0.238
Occupation (%) 1.Employed full time 2.Self-employed (formal sector) 3.Part-time/contract 4.Casual 5.Self-employed (informal sector) 6. Unemployed 7.Housewife 8.Pensioner 9.Student/learner/child X^2 Pv.	**Naira (USD)** 3,660,582.0 (24,403.9) 297,608.3 (1,984.1) 0 0 29,760.8 (198.4) 178,565.0(1,190.4) 59,521.7 (396.8) 59,521.7(396.8) 1,815,411(12,102.7) 72.4684 0.000***	**Naira (USD)** 1,233,580.0 (8,223.9) 132,169.3 (881.1) 0 0 0 88,112.9(587.4) 44,056.4 (293.7) 0 616,790 (4111.9) 31.0933 0.313	**Naira (USD)** 118,852.5(792.3)) 0 0 0 59,426.2 (396.2) 59,426.2 (396.2) 39,617.5 (264.1) 0 198,087.5(1,320.6) 1.6800 0.794

*Note: *=p<0.10; **=p<0.05; and ***p<0.01*

Net annual NHIS benefits (restricted to visits that are NHIS covered)

Table 5 shows the net annual benefits by age, gender and occupation. It shows that for outpatient visits, females had higher net benefits ($22,419.8) than males ($19,642.1). For admission cases, females also had higher net benefits ($7,930.2) than the males ($7636.4) and for delivery, net annual benefits were also higher for females than males, $1,716.8 and $1,584.7 respectively. For distribution of outpatient net benefits among the occupation groups, those in full-time employment benefited more than any other recording $24403.88, followed by student/learner/child who benefited $12102.74 and unemployed who benefited $1190.43. For admission cases, those in full employment benefited more than any other ($8223.87) while it is followed by the student/learner/child group who benefited

$4111.93. The student/learner/child group also benefited highest in the delivery cases ($132058).

Total net OOP payments for care on NHIS covered individuals (restricted to visits by individuals that are NHIS covered)

Table 6 shows the Total net OOP payments for care on NHIS covered individuals by age, gender and occupation. More females had total net OOP payments $22,858.9 than males with $19,839.8for outpatient. Women also paid more for both inpatient and delivery than males. For occupational distribution, employed full time had higher total net OOP for care than any other apart from the delivery cases where the student/learner/child had most total net OOP payments.

Table 6: Total net OOP payment for care on NHIS covered individuals by age, gender and occupation *(Note: *=p<0.10; **=p<0.05; and ***p<0.01)*

	Outpatient	Inpatient n (%)	Delivery
N (Average age)	198 (23.8)	55 (23.8)	25 (23.8)
Gender	**Naira (USD)**	**Naira (USD)**	**Naira (USD)**
Male	2,975,964.0(19,839.8)	575,112.2(3,834.1)	643,774.7(4291.8)
Female	3,428,829.0 (22,858.9)	596,412.6(3,976.1)	697,422.6 (4,649.5)
X^2	0.0210	0.0728	1.6800
Pv.	0.885	0.787	0.794
Occupation	**Naira (USD)**	**Naira (USD)**	**Naira (USD)**
1.Employed full time	4,172,820.0 (27,818.8)	639,013.5(4,260.1)	321,887.3(2,145.9)
2.Self-employed (formal sector)	323,474.4(2,156.5)	63,910.3 (426.0)	0
3.Part-time/contract	0	0	0
4.Casual	0	0	0
5.Self-employed (informal sector)	32,347.4(215.6)	0	160,943.70(1072.9)
6. Unemployed	194,084.6(1,293.9)	42,600.9 (284.0)	160,943.7(1,072.9)
7.Housewife	64,694.9 (431.3)	21,300.4(142.0)	107,295.8 (715.3)
8.Pensioner	64,694.9 (431.3)	0	0
9.Student/learner/child	1,293,898.0 (8,626.0)	298,206.3(1,988.0)	53,6478.9(3,576.5)
X^2	15.9281	0.9524	1.6800
Pv.	0.014***	0.917	0.794

Benefit incidence analysis of different SES groups that were covered by the NHIS

Table 7 shows the benefit incidence of the NHIS to members through outpatient visits, admissions and deliveries. It shows that for outpatient visits, the poorest group Q1, had 34.4% of the visits followed by the most poor while for inpatient, the poor group had 42.9% of the admissions followed by the poorest SES group. For delivery cases, the poor topped by having 50.0% representation while the least poor had 37.5% representation of the entire groups. Concentration index showed that the lower socioeconomic groups benefited more in outpatient and inpatient visits representing -0.16 and -0.14 respectively while the higher socioeconomic group was favoured more in the delivery cases (0.31).

For gross annual benefits, outpatient, the poorest group received the highest gross annual benefits $15885.3. This is followed by the most poor who had $12021.0 benefits while the poor had $9874.7 gross annual benefits. In terms of gross annual benefits, for inpatient cases, the poorest group also topped with $5119.0 while the poor followed with $4095.2 gross benefits. For gross annual benefits, delivery, the poor group had $1222.2 benefits while the least poor had $733.33 and the most poor did not have any gross annual benefits. Concentration index showed that the worse off socioeconomic groups were more favoured in the outpatient and inpatient care but the better off were favoured more in the delivery cases for gross annual benefits. The concentration index is also in favour of the worse off in the net annual benefits. Meanwhile the net annual benefits for outpatients showed that the poorest received the highest benefits $6944.0. This is followed by the most poor $5555.2 while the poor had $4563.2 net annual benefits. The same poorest group also topped for those who had net annual benefits for inpatient care ($2937.1), while the poor topped for net annual benefits for delivery ($528.2). Total net OOP on NHIS covered individuals (outpatient) showed that the poorest group paid highest out of pocket ($7547.7) and for the inpatient, the least poor paid lower than the poorest while the poor group did not pay any total net OOP for the NHIS covered

Table 7: **Benefit incidence analysis of different SES groups**

	Outpatient	Inpatient	Delivery
Annual number of NHIS covered visits			
	n (%)	n (%)	n (%)
Q1 poorest	32 (34.4)	5 (35.7)	1 (12.5)
Q2.most poor	27 (29.0)	2 (14.3)	0 (0)
Q3. Poor	19 (20.4)	6 (42.9)	4 (50.0)
Q4. Least poor	15 (16.1)	1 (7.1)	3 (37.5)
X^2	85.41	335.13	366.39
Pv.	0.000***	0.000***	0.000***
Concentration index	-0.16	-0.14	0.31
Gross annual NHIS benefits			
	Outpatients Naira (USD)	Inpatients Naira (USD)	Delivery Naira (USD)
Q1 poorest	2,382,800.0(15,885.3)	767,857.1(5,119.0)	36,666.7(244.4)
Q2.most poor	1,803,200.0(12,021.3)	230,357.1(1,535.7)	0 (0)
Q3. Poor	1,481,200.0(9,874.7)	614,285.7(4,095.2)	183,333.4(1,222.2)
Q4. Least poor	1,159,200.0(7,728.0)	76,785.7(511.9)	110,000.0(733.3)
X^2	64.10	296.98	361.00
Pv.	0.000***	0.000***	0.000***
Concentration index	-0.15	-.58	0.30
Net Annual NHIS benefits			
	Outpatient Naira (USD)	Inpatient Naira (USD)	Delivery Naira (USD)
Q1 poorest	1,041,600.0(6,944.0)	440,560.0(2937.1)	19,808.7(132.1)
Q2.most poor	833,280.0(5,555.2)	132,168.0(881.1)	0 (0)
Q3. Poor	684,480.0(4,563.2)	352,448.0(2349.6)	79,235.0(528.2)
Q4. Least poor	505,920.0(3,372.8)	44,056.0(293.7)	59,426.2(396.2)
X^2	8.67	296.98	366.39
Pv.	0.000***	0.000***	0.000***
Concentration index	-0.14	-0.25	0.31
Total net OOP payments on NHIS covered individuals			
	Outpatient Naira (USD)	In patient Naira (USD)	Delivery Naira (USD)
Q1 poorest	1,132,160.0(7,547.7)	85,201.8(568.0)	53647.89(357.65)
Q2.most poor	938,075.8(6,253.8)	0 (0)	0 (0)
Q3. Poor	743,991.1(4,959.9)	170,403.6(1,136.0)	214,591.6(1430.6)
Q4. Least poor	549,906.5(3,666.0)	21,300.4(142.0)	214,591.6(1430.6)
X^2	67.12	340.17	361.01
Pv.	0.000***	0.00***	0.000***
Concentration index	-0.14	-0.02	0.36
Total household Net OOP payments for care			
	Outpatient Naira (USD)	Inpatient Naira (USD)	Delivery Naira (USD)
Q1 poorest	1,657,191.00(1,1047.9)	520,409.3(3,469.4)	63,089.2(420.6)
Q2.most poor	1,373,101.0(9154.0)	141,929.8(946.2)	0 (0)
Q3. Poor	1,089,011.0(7,260.1)	378,479.5(2523.2)	252,357.0(1,682.4)
Q4. Least poor	804,921.1(5,366.1)	47,309.9(315.4)	189,267.7(1,261.8)
X^2	67.12	292.48	366.39
Pv.	0.000***	0.000***	0.000***
Concentration index	-0.15	-0.27	0.31

Note: *=p<0.10; **=p<0.05; and ***p<0.01

individuals. However, the concentration index for total net OOP on covered individuals showed that the lower socioeconomic group made more payments

for outpatient and inpatient cases at -0.14 and -0.02 respectively than their higher socioeconomic group counterparts. For delivery, the better of socioeconomic group paid more at concentration index value of 0.36.

DISCUSSION

Benefit incidence analysis is used to measure the extent to which a group under study benefits out of a health care intervention. NHIS as it were, was established to iron out the effects of unbudgeted health care expenses. This study sets to prove to what extent the enrolees benefit from the scheme.

Expected number of people per household was 5. But the study showed that mean number of people per household covered by the NHIS scheme was just 2. The inference here is that most of the beneficiaries do not have all the required number of household members covered. Reason for this is actually because of process of registration which is believed among beneficiaries to be difficult. A situation where more than half of the beneficiaries do not have up to three members of their household covered is quite disturbing and explains why level of coverage is low.

It is of importance to know that most of the respondents believed that they pay premium for the scheme. But this can hardly be reconciled with our knowledge of premium payment for the scheme. While the enrolees say that they pay premium, most of them could not say how much they paid in their last premium before the survey. However the study relies on the information received from the HMOs and the scheme directorate. Particularly from the directorate, it was gathered that the national health insurance

Total household net OOP payment showed that lower socioeconomic groups paid more for outpatient and inpatient than the higher socioeconomic groups at concentration index values of -0.15 and -0.27 respectively

scheme has not started collecting any premium from the federal employees. The HMO managers that were interviewed also indicated that premium is yet to be deducted from the enrolees. It is however disturbing that even the employers of the federal staff do not have adequate information of the level of premium. Number of enrolees that said that they pay premium is quite high and shows the extent to which they are ignorant of the procedures of the scheme. This calls for adequate information about beneficiaries' contributions and what the federal currently gives up to keep the scheme running.

The study demonstrated the importance of the scheme looking at the benefits that accrues to the actual beneficiaries who used it. This is shown in the net gain which they could have spent without the scheme. Policy makers and stakeholders need to give adequate attention to ensure a scale up of the scheme from its current low level. NHIS needs to muster campaign that will further show beneficiaries the need for enrolment and access. Federal government needs to encourage massive registration and use of the scheme by all as well as encourage staff to ensure registration and use of the accredited health facilities. None use of the accredited health facilities has resulted in beneficiaries paying for health care even when such could have been avoided. This ugly situation can be averted with proper orientation and refocusing of the health seeking pattern of people especially the enrolees.

States are yet to embark on any form of formal risk protection against ill health. This study serves as a call for states to start process of risk protection by negotiating with those in the State workforce. However it is not enough to protect only those that are in the formal sector. NHIS guidelines stated that apart from those in the formal sector, efforts will be made to protect those that are also in the informal sector of the economy. What this means is that artisans, traders, businessmen and women will all participate in the financial risk protection. This idea is important and needs to be visualized so that those in the informal sector and less privileged would have access to health care.

Benefit incidence analysis of different socioeconomic status groups showed how much they gained from annual NHIS covered visits. This underscores the importance of the scheme especially when one considers how much it could be used to reach out to different income groups. The equity implication is the opportunity the scheme offers to different socio-economic group to access health care service. Any effort that aims at ensuring improved health services is a boost to the Millennium Development Goals (MDGs) for health and should be encouraged by all levels of government.

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