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Reduced Out of Pocket Spending among Enrolled Employees in Government Institutions: How Effective is the National Health Insurance Scheme?

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Abstract

The study examined the impact of the National Health Insurance Scheme on reduced out of pocket spending among enrolled employees in government institutions. Adopting the survey research method, data was collected from 1200 samples employed in three federal Government Institutions in Calabar, Cross River State, Nigeria using a structured self-developed questionnaire. The samples were selected using the purposive and proportional sampling technique. Descriptive analysis was used to present result and linear regression was used to check the relationship between the variable under study at 0.05 confidence level. The result from the descriptive analysis revealed that 84 per cent of the participants agreed that The NHIS has reduced the cost of hospital bills for them. Result also revealed participants 62 per cent, point out that there are still medical treatments that they pay out of their pocket. Regression analysis revealed a moderate correlation (29%) between awareness of NHIS and reduced out of pocket spending the $F(1, 1112) = 33.065; p < .000$. The study concludes that NHIS has significantly contributed to reduced out of pocket spending. Out-of-pocket spending is still a problem; hence Governments and decision-makers need to come up with policies to address this problem

Keywords: National Health Insurance scheme, out of pocket spending, employees, government institutions

Introduction

Nigeria, a nation of over 200 million has witnessed tremendous challenges in its health system overtime. Different government have overtime put in place various health policies that are aimed at promoting equity in health distribution and unrestrained access to health services, yet the nation is still grappling with various health challenges (Asakitikpi, 2019; Adewole, Adebayo, Udeh, Shaahu & Dairo, 2015). These challenges are obvious in various statistics. The country has one of the fastest-growing population in the world, with an estimated population growth rate of 3.2 per cent per annum and 5.5 birth rate per women (Akunne, Okonta, Ukwe, Heise & Ekwunfe. 2019; USAID, 2020; Welcome, 2011).

According to Nigeria Economic Recovery and Growth Plan 2017-2020, Nigeria's life expectancy ratio is one of the lowest globally (FRN,2017). At 53.95 years, life expectancy in Nigeria is lower than that of Mozambique, Angola, Liberia, Malawi, and Afghanistan (Trias-Llimós, Riffe & Bilal, 2020; Gona, Gona, Ballout, Rao, Kimokoti, Mapoma & Mokdad, 2020). The prevalence of disease, both communicable and non-communicable remains high. The country ranks 123 out of 138 countries in the incidence of tuberculosis (WHO, 2018; Ogbo, Ogeleka, Okoro, Olusanya, Olusanya, Ifegwu, Akorede, Eastrood & Page, 2018). Nigeria has the highest HIV prevalence globally and one of the highest HIV infection rates in sub-Saharan Africa (Kiri & Ojule, 2020; UNAIDS, 2019). With

a prevalence rate of 1.4 per cent of people aged 15 and 49. The country has one of the highest under-five mortality in sub-Saharan Africa at 89 deaths per 1000 births (Medic West Africa, 2019). The world health organization (2019) assert that nearly 10 per cent of newborn death in the last few years happened in Nigeria.

Government's investment and performance in the health care sector has been abysmal, the government investment in health infrastructure has been inadequate, creating a massive brain drain to western nations. The national budget for the health sector is just 4.17 per cent of the country's national budget, accounting for just 5 us dollars per individual yearly (Tumba, 2019). Never has a year gone by that there has been no major strike by health workers. Among the reasons for the incessant strike are poor salaries and lack of government investment in the health sector (Tumba, 2019). Oxford business group (2017) asserts that the Nigerian health sector is unprogressive and hindered by various factors among which are a high rate of communicable disease, high rate of infant and maternal mortality and the most glaring of them all a high rate of out of pocket spending and low funding.

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The Nigerian government in an attempt to solve the myriad of problems that is engulfing the health system took a definite step towards establishing a health insurance scheme that is aimed towards attaining equality in health services delivery (FBN,1999). The national health insurance scheme introduced by the President Olusegun Obasanjo administration came into full operation in 2005. The main thrust of the policy was to provide a fundamental shift of the government altitude towards the health sector, the mode of service delivery and most importantly improve access to health care at an affordable cost (Odeyemi & Nixon, 2013; Christiana Latifat, Collins & Olatimbosun,2014). The National insurance scheme pools regular contribution of enrollees and pay a network of providers of healthcare for a defined set of services who in turn are accountable for cost containment as well as improving health outcome at an affordable cost.

This study is an attempt to assess the impact the Health Insurance scheme has had in reducing out of pocket spending among enrolled employees in public institutions in Calabar, Cross River State, Nigeria.

Materials and Methods

Study Design

The survey research method was adopted for the study. The method involves employing a survey instrument to determine the opinion, attitude and preference of a particular population. It entails structuring the survey instrument to identify variables and their relationship with each other. The survey research design was used to collect needed instrument for this study from employees of three federal government establishment in Calabar; the University of Calabar, University of Calabar Teaching Hospital and the Federal Neuro-Psychiatric Hospital Calabar. According to data gathered from the establishment, the population for this study stands at 9201. A comprehensive break down

shows that the University of Calabar has a population of 5492, the University of Calabar Teaching Hospital 2749 and the Federal Neuro Psychiatric Hospital, 960. Necessary data were collected using structured questionnaire. The questionnaire was made of four points response scale was developed by the researcher.

Sampling

1200 participants were used for this study. The population of each federal government establishment was subjected to Taro Yamane sample determinant technique at 0.05 confidence level. for each establishment, the result revealed 400. The calculation is highlighted below.

Taro Yamane (1967) sample determination technique formula =

$$n = \frac{N}{1 + N(e)^2}$$

Where n = Sample size
 N = Finite population
 e = Level of significance (or limit of tolerable error)
 1 = Unity (a constant)

Sample Size for University of Calabar Teaching Hospital

Population for UCTH= 2749

Using Taro Yamane sample determinant techniques to determine the sample

$$n = \frac{2749}{2749 + 1(0.05)^2}$$

$$n = \frac{2749}{2750(0.0025)}$$

$$n = \frac{2749}{6.875}$$

$$n = 400$$

Therefore the sample for UCTH is 400

Population for Federal Neuro-Psychiatric Hospital is 960

$$n = \frac{960}{960 + 1(0.05)^2}$$

$$n = \frac{960}{961(0.0025)}$$

$$n = \frac{960}{2.4025}$$

$$n = 400$$

Therefore, the sample for Federal Neuropsychiatric Hospital is 400

Population for Federal University of Calabar is 5492

$$n = \frac{5492}{5492 + 1(0.05)^2}$$

$$n = \frac{5492}{5493(0.0025)}$$

$$n = \frac{5492}{13.73}$$

$$n = 400$$

Therefore, the sample for the University of Calabar is 400

The purposive and proportional sample technique was used to select the 1200 participants for the study. The purposive sampling was used in selecting 3 federal government establishments. The establishments were selected because these establishments approved for the study to be carried out. The establishments selected were the University of Calabar, the University of Calabar Teaching Hospital and Federal Neuro-Psychiatric Hospital, Calabar. Since each of the establishment have their own sample size; the proportional sampling technique was used in selecting the appropriate sample size for each unit or department of each establishment. The proportional sampling was used because the population of each unit or department is known. The researcher then used the purposive sampling technique to select to the participants from each unit or department. The inclusion criteria include those staff enrolled in the National Health Insurance Scheme.

Ethical Consideration

Ethical approval was obtained from the research ethic committee of each of the selected institutions' permission was also seek from the head of units or department in each of the establishment under study. Informed consent was also obtained from each selected participant and the confidentiality of the information supplied by the participants was assured and restriction was put on people assessing collected data.

Data Analysis

Data analysis was done using descriptive statistics and inferential statistics. Descriptive analysis was used to present result and inferential statistics (lineal regression) was used to check the variable under study at 0.05 confidence level. Out of 1,200 questionnaires administered, 1,144 were recovered and therefore used for analysis.

Results and Discussion

Presentation of Biodata of Respondents

Results of analysis of demographic data of respondents as presented in Table 1 shows that; 536 respondents representing 47% are males, while 608 representing 53% are females. As for age distribution of respondents', 88 (8) are below 25 years, 476 (42.00) are within 26 – 34 years, 352 (31.00) are within 35 – 44 years, 152 (13.00) are within 45 – 54 years, 76 (7.00) are 55 years and above. On marital status; 576 (50.00) are single, 450 (39.00) are married, 62 (6.00) are divorced, while 40 (3.00) are widows and 26 (2.00) are widowers. For respondents' educational qualification; 34 (3.00) have no formal education, 84 (7.00) have primary school education, 42 (4.00) had secondary school education (GCE/SSCE), 296 (26.00) have NCE/OND, 554 (48.00) have HND/B.Sc./B.Ed./B. A, 134 (12.00). For religious affiliation 186 (51.00) practice Islamic religion, 832 (72.00) practice Christian religion and 88 (8.00) practice African Traditional religion, while 38 (3.00) practice other religion.

Table 1: Respondents' demographic data

	Variable	Category	N	Percent (%)
1	Gender	Male	536	47.00
		Female	608	53.00
		Total	1,144	100
2	Age	Below 25 years	88	8.00
		26 – 34 years	476	42.00
		35 – 44 years	352	31.00
		45 – 54 years	152	13.00
		55 years and above	76	7.00
		Total	1,144	100
		Total	1,144	100
3	Marital status	Single	576	50.00
		Married	450	39.00
		Divorced	62	6.00
		Widow	40	3.00
		Widower	26	2.00
		Total	1,144	100
		Total	1,144	100
4	Educational qualification	No formal education	34	3.00
		FSLC	84	7.00
		GCE/SSCE	42	4.00
		NCE/OND	296	26.00
		HND/B.Sc./B.Ed./B.A	554	48.00
		M.Sc./Ph.D	134	12.00
		Total	1,144	100
5	Religion	Islam	186	17.00
		Christianity	832	72.00
		Traditional	88	8.00
		Others	38	3.00
		Total	1,144	100
		Total	1,144	100

Source: Field survey, 2020

Presentation of Result

The objective of the study was to examine the extent to which the National health insurance scheme has reduced out of pocket spending among employees of federal institution in Calabar, Cross River State. Questions raised in the questionnaire that was used to collect the needed data from the participants were raised based on the objective. Data collected were analyzed using descriptive statistics before the results were then subjected to parametric statistic at 0.05 level of significance.

Table 2: Responses Insurance Scheme cost of healthcare and access to healthcare

S/N	Statement	SA	A	D	SD
1	As a registered NHIS enrollee I enjoy all the packages that it offers	534 (47.00)	224 (20.00)	156 (14.00)	230 (20.00)
2	NHIS takes care of the almost all the medical bills of me and my family	464 (41.00)	288 (25.00)	202 (18)	95 (17.00)
3	There are still medical treatments that I pay out of my pocket	432 (38.00)	272 (24.00)	236 (21.00)	204 (18.00)
4	The NHIS has reduced the cost of hospital bills for me and my family	410 (36.00)	550 (48.00)	112 (10.00)	72 (6.00)
5	There are still areas that adjustments can be made for a better service provision	434 (38.00)	334 (29.00)	200 (18.00)	170 (15.00)

Source: Field survey, 2020

Results of analysis as presented in Table 2, shows participants response pattern as follows; on as a registered NHIS enrollee I enjoy all the packages that it offers; 534 (47.00) strongly agreed, 224 (20.00) agreed, while 156 (14.00) disagreed 230 (20.00) strongly disagreed. On NHIS takes care of the almost all the medical bills of me and my family; 464 (41.00) strongly agreed, 288 (25.00) agreed, 202 (18) disagreed and 95 (17.00) strongly disagreed. When asked if There are still medical treatments that they pay out of their pocket, 432 (38.00) strongly agreed, 272 (24.00) agreed, 236 (21.00) disagreed, and 204 (18.00) strongly disagreed. On the NHIS has reduced the cost of hospital bills for me and my family; 410 (36.00) reported strongly agreed, 550 (48.00) agreed, 112 (10.00) Disagreed and 72 (6.00) strongly disagreed. There are still areas that adjustments can be made for a better service provision; 434 (38.00) strongly agreed, 334 (29.00) agreed, 200 (18.00) disagreed and 170 (15.00) strongly disagreed.

Result from the descriptive statistics was then subjected to parametric statistics using limeal regression at 0.05 confidence level. In the analysis, the independent variable in analysis is National Health Insurance Scheme, while the dependent variable is Reduced Out of Pocket Spending. Both variables were measured continuously and the result is presented in Table 3.

Table 3: Summary simple linear regression analysis of National Health Insurance Scheme and Reduced Out of Pocket Spending

Variables	Mean	Std. Deviation
NHIS	12.9605	5.37943
Reduced Out of Pocket Spending	27.6966	14.95803

Model	Sum of Squares	df	Mean Square	F	R	R Square	Adjusted R Square	Sig
Regression	7190.928	1	7190.928	33.065	.170 ^a	.029	.028	.000 ^a
Residual	241834.519	1112	217.477					
Total	249025.447	1113						

Source: Field survey, 2020

The result of analysis as presented in table 3 revealed R-value of 0.170^a. Correlation coefficient is a standardized measure of an observed degree of relationship between variables, it is a commonly used measure of the size of an effect, and that values of ± 1 represent a small effect, ± 3 is a medium effect and ± 5 is a large effect. Also, the R²-value of .029 imply that 29% of total variance is accounted for by predictor variable (NHIS). Furthermore, the regression ANOVA revealed that the F (1, 1112) = 33.065; p < .000, is significant. This implies that there is a linear association (contribution) of the predictor variable (NHIS) to Reduced Out of Pocket Spending. The adjusted R² (.028) shows some shrinkage of the unadjusted value (.029) indicating that the model could be generalized on the population. Based on the result, it was concluded that NHIS has significantly contribute to reduced out of pocket spending.

Discussion of Findings

From the analysis of the data analyzed using descriptive statistics, it was discovered that 67 per cent of the participants agreed that as a registered NHIS enrollee they enjoy all the packages that it offers. Most of the participants 67 per cent agreed that NHIS takes care of the almost all the medical bills of the participants and their family with them only paying a per centage. A large amount of the participants 62 per cent, point out that There are still medical treatments that they pay out of their pocket. 84 per cent of the participants agreed that The NHIS has reduced the cost of hospital bills for them. From the analysis using simple Lineal Regression, result revealed that that awareness of NHIS significantly contributes to reduced out of pocket spending. This is because the result revealed an R-value of 0.170^a. Also, the R²-value of .029 imply that 29% of total variance is accounted for by predictor variable (NHIS). Furthermore, the regression ANOVA revealed that the F (1, 1112) = 33.065; p < .000, is significant. Also, the adjusted R² (.028) shows some shrinkage of the unadjusted value (.029) indicating that the model could be generalized on the population. Based on the result, it was concluded that NHIS has significantly contribute to reduced out of pocket spending.

The finding of this study is corroborated by that of Nguyen, Rajkotia and Wang (2011), in their study found that the National Health Insurance scheme has reduce the out of pocket spending. The reduction was found among the poorest participants in their study. The study of Aryeetey, Jehu-Appia, Spaan, Agyepon, and Baltussen (2010) that involve a sample of 3,000 households found that scheme factors such as price, convenience, provider attitudes, peer pressure and the benefits package are relevant in NHIS membership and retention. Okoroh, Essoun, Seddoh, Hobart, Weissman, Dsane-Selby, and Riviello (2018) carried out a review of various studies on the impact of the NHIS in Ghana and out of pocket spending and found that the national health insurance scheme of Ghana over the last 14 years has made some impact on reducing out of pocket spending.

Conclusion and Policy Recommendations

This study has assessed the extent to which the National Health Insurance scheme has reduced out of Pocket spending of employees of three government parastatals in Calabar, Cross River State, Nigeria. Result from the analysis revealed a positive impact of the NHIs on the reduction of out of pocket spending. But participants still report out of pocket spending, hence Out-of-pocket spending is still a problem and research shows that the NHIS only covers employees working in the public sector and a few private sector employees, leaving out a large chunk of Nigerians employed in the informal sector. Governments and decision makers need to come up with policies to address this problem. NHIS needs to be expanded to cover people in both the formal and informal sectors. Private health insurance has to be made mandatory while the community-based health insurance scheme needs to be scaled up across the country.

References

- Adeloye, D., David, R. A., Olaogun, A. A., Auta, A., Adesokan, A., Gadanya, M., Opele, J. K., Owagbemi, O., & Iseolorunkanmi, A. (2017). Health workforce and governance: the crisis in Nigeria. *Human resources for health*, 15(1), 32. <https://doi.org/10.1186/s12960-017-0205-4>
- Akunne, M. O., Okonta, M. J., Ukwe, C. V., Heise, T. L., & Ekwunife, O. I. (2019). *Satisfaction of Nigerian patients with health services: a protocol for a systematic review*. *Systematic Reviews*, 8(1). doi:10.1186/s13643-019-1160-z
- Aryeetey GC, Jehu-Appiah C, Spaan E et al. (2010). Identification of poor households for premium exemptions in Ghana's National health Insurance Scheme: An empirical analysis of three strategies. *Tropical Medicine & International Health* 15: 1544–52.
- Asakitikpi, E. A. (2019). Healthcare Coverage and Affordability in Nigeria: An Alternative Model to Equitable Healthcare Delivery. *Universal Healthcare* [Working Title]. doi:10.5772/intechopen.85978
- Christina, C. P., Latifat, T. T., Collins, N. F., & Olatunbosun, A. T. (2014). National health insurance scheme: How receptive are the private healthcare practitioners in a local government area of Lagos state. *Nigerian medical journal : journal of the Nigeria Medical Association*, 55(6), 512–516. <https://doi.org/10.4103/0300-1652.144712>
- Federal Republic of Nigeria (2017). Economic Recovery & Growth Plan 2017-2020. Ministry of Budget & National Planning. https://nigeriaembassygermany.org/mosaic/_M_userfiles/Economic-Recovery-Growth-Plan-2017-2020.pdf
- Gona, P. N., Gona, C. M., Ballout, S., Rao, S. R., Kimokoti, R., Mapoma, C. C., & Mokdad, A. H. (2020). *Burden and changes in HIV/AIDS morbidity and mortality in Southern Africa Development Community Countries, 1990–2017*. *BMC Public Health*, 20(1). doi:10.1186/s12889-020-08988-9

- Kiri, V. A. & Ojule, A. C. (2020). Electronic medical record systems: A pathway to sustainable public health insurance schemes in sub-Saharan Africa. *Niger Postgrad Med J* 2020;27:1-7
- Nguyen H.T, Rajkotia Y & Wang H. (2011). The financial protection effect of Ghana National Health Insurance Scheme: evidence from a study in two rural districts. *International Journal for Equity in Health* 10:4-10.
- Odeyemi, I. & Nixon, J. (2013). Assessing equity in health care through the national health insurance schemes of Nigeria and Ghana: a review-based comparative analysis. *Int J Equity Health* 12, 9 (2013). <https://doi.org/10.1186/1475-9276-12-9>
- Ogbo, F. A., Ogeleka, P., Okoro, A., Olusanya, B. O., Olusanya, J., Ifegwu, I. K., Akorede, O. A., Eastwood, J. & Page, A. (2018). Tuberculosis disease burden and attributable risk factors in Nigeria, 1990–2016. *Tropical Medicine and Health*, 46(1). doi:10.1186/s41182-018-0114-9
- Okoroh, J., Essoun, S., Seddoh, A. Hobart, H., Weissman, J. S., Dsane-Selby, L. & Riviello, R. (2018). Evaluating the impact of the national health insurance scheme of Ghana on out of pocket expenditures: a systematic review. *BMC Health Serv Res* 18, 426 (2018) doi:10.1186/s12913-018-3249-9
- Trias-Llimós, S., Riffe, T. & Bilal, U. (2020) Monitoring life expectancy levels during the COVID-19 pandemic: Example of the unequal impact of the first wave on Spanish regions. *PLoS ONE* 15(11): e0241952. <https://doi.org/10.1371/journal.pone.0241952>
- Tumba, S. (2019). Addressing health challenges in Nigeria. <https://www.minervastrategies.com/blog/addressing-health-challenges-in-nigeria/>
- USAID (2020). Maternal and child health is one of Nigeria's most critical development challenges, <https://www.usaid.gov/nigeria/global-health>
- Welcome M. O. (2011). The Nigerian health care system: Need for integrating adequate medical intelligence and surveillance systems. *Journal of pharmacy & bioallied sciences*, 3(4), 470–478. <https://doi.org/10.4103/0975-7406.90100>
- World Health Organization (2018). Global Tuberculosis Report 2018. https://www.who.int/tb/publications/global_report/gtbr2018_main_text_28Feb2019.pdf
- Adewole, D. A., Adebayo, A. M., Udeh, E. I., Shaahu, V. N., & Dairo, M. D. (2015). Payment for Health Care and Perception of the National Health Insurance Scheme in a Rural Area in Southwest Nigeria. *The American journal of tropical medicine and hygiene*, 93(3), 648–654. <https://doi.org/10.4269/ajtmh.14-0245>