International Journal of Scientific Research in Technology, Applied Sciences & Health Studies
p-ISSN: 2579 – 1036 | e-ISSN: 2579 – 1044
Volume 4, Number 1 July, 2020

The Impact of Health Maintenance Organizations on Users' of the National Health Insurance Scheme in the FCT, Abuja, Nigeria

Emelda Ifeanyi Emmanuel
Department of Sociology,
Ibrahim Badamasi Babangida University, Lapai, Niger State, Nigeria

Abstract

The study focused on the impact of HMOs on users of the National Health Insurance Scheme in FCT, Abuja. The main thrust of the paper was to investigate how HMOs impact the Social Health Insurance (National Health Insurance Scheme) in FCT, Abuja, Nigeria, and on users of the scheme by extension. The study made use of quantitative methods to collect data from the respondents. It employed a two-phase sampling design and stratified random sampling techniques in selecting respondents and captured data from a cross-sectional survey. Five HMOs were randomly selected from the twenty-five HMOs covering NHIS lives. Also, responses were obtained from a total of three hundred and eighty-four respondents working with eighteen public sector organizations in FCT, Abuja. This figure was broken down according to the five HMOs in the study. All 384 responses were obtained from 18 public sector organizations in the FCT, Abuja. From the analysis, discussion, and findings of this research, it was discovered that HMOs played a significant role in the scheme and had an impact on the implementation of the scheme. Data collected and analyzed for this study will aidthe government and managers of the scheme in policy formulation and administration for improved health service delivery in the scheme.

Keywords: *Health maintenance organization, National health insurance scheme and Health care, Impact*

Corresponding Author: Emelda Ifeanyi Emmanuel

Background to the Study

The first evidence of prepaid, organized health care happened in Tacoma, Washington in 1910(Encyclopedia.com, 2020). At that time, the term HMO was not used to describe this type of health care service which was provided by doctors at the Western clinic toa group of employers and employees in a lumber-mill for a token fee of fifty-cents per month (Encyclopedia.com, 2020). In the 1930s, more of these Health Maintenance Organization-like institutions developed. And finally, in the 1970s, the term 'Health Maintenance Organizations' was coined by Paul Ellwood in America. Paul Ellwood was a policy adviser to the Federal Government on medical care (Casey, Knott, and Moscovice, 2002; Encyclopedia.com, 2020). HMOs are a form of managed care that involves an effort to integrate and manage the provision of health care services to people in an unconventional structure of health-care delivery where physicians are seen as autonomous professionals (Strang, 1993; Falkson and Srinivasan, 2020). The start of this prepaid and organized health care in the United States was met with disapproval from leaders in the American Medical Association (AMA) and partners who feared that the arrangement (i.e. cooperative health plans) might disturb the decency of medical decision-making, destroy already existing doctor-patient relationships, provide inferior care to patients, and may lead to socialized medicine (Casey, et. al, 2002; Dictionary of American History, 2003). Physicians who challenged this convention by establishing or managing a prototype Health Maintenance Organization were most times excluded from state and county medical societies. In some states in America where such health insurance arrangements were legal, new HMOs had difficulty attracting competent staff and reputable doctors. But with the resilience of Henry Kaiser, Fiorello La Guardia, and small cadres of committed managers and physicians in a few cities, HMOs became accepted (Casey, et. al, 2002). Thus, they have become an important part of the larger health industry or medical care system in America. Today, many believe that integrating the services of HMOs in a country's health system would lead to increase inpatient's care, decrease in health care cost, and promote preventive care in a more efficient and standard way for health care delivery (Strang, 1993; Falkson and Srinivasan, 2020).

In Nigeria, the National Health Insurance Scheme is designed to incorporate the Health Maintenance Organizations as vehicles to effectively and successfully implement the NHIS (Muanya, 2011; NHIS, 2011). This model incorporates the HMOs, the health care providers (HCPs), and the scheme's enrollees in a very unique way (NHIS Operational Guidelines, 2012). With HMOs involvement in the scheme, enrollees are expected to enjoy unlimited access to health care from various health care providers under the NHIS through several prepayment mechanisms (Muanya, 2011).HMOs are to handle the administrative complexities involved in providing health services for the enrollees; they are to manage the funds meant for the purchase of health care for NHIS enrollees, supervise health services rendered to enrollees by HCPs, ensure standards are maintained by HCPs, and so on (NHIS Operational Guidelines, 2011). In essence, HMOs' participation in the scheme would help facilitate the goal of improving the country's healthcare delivery system at a faster pace (Anarado, 2002), and increase access to health care for all within the shortest possible time. But years after its establishment, access to

health care remains a serious problem for an increasing number of Nigerians (Muanya, 2011). The majority of the population still pays for health services out of their pockets, making health care services inaccessible and unaffordable particularly to the population in the dearest need of it (Anyene, 2012). It is disheartening to find that many persons still have to pay for medical care out of their pockets or even do without healthcare (Agba, Ushie, and Osuchuckwu, 2010). The scheme has been accused of focusing more on the formal sector (Sylvester, 2012), beneficiaries of the scheme are mostly employees of the federal and states government organizations and large corporations (Anyene, 2012).Many Nigerians are yet to benefit from the scheme (Anyene, 2012).Although the scheme claims to have benefited more than 6.8 million Nigerians (Ibrahim, 2011), the fact remains that the larger number of Nigerians are still yet to access health care through the scheme, while some already accessing health care through the scheme are dropping out (Muanya, 2011; Emmanuel, 2017). This poses a doubt to the efficiency of the entire model and leads to asking questions as;

1) What particular values are HMOs adding to the scheme to facilitate its programs?
2) What are the factors responsible for NHIS seeming failure despite health maintenance organizations' involvement?

Nigeria's NHIS has existed for over thirteen years and still hasn't covered a greater part of the population in need of its services. If the scheme had taken six years to enroll just over six million Nigerians as of 2011, how long will it take the scheme to enroll and enable over 165 million Nigerians to get access to health care in the country? Also knowing that the percentage of public sector workers in the Federal capital territory (FCT) who are accessing the scheme is still small (NHIS, Media Report, 2010), when compared to the entire figures of the public sector workers in the FCT alone (en.wikipedia.org/wiki/Abuja, n.d). Moreover, since the scheme's compulsory use of HMOs in the mainstream delivery of healthcare suggests a belief that the use of managed care (HMO) would improve the state of the country's healthcare (Anarado, 2002), more people should have been enrolled into the scheme by now (Emmanuel, 2017). A study on this subject is timely because of the need to expand coverage among citizens of this country and expansion is possible when the National Health Insurance program is designed and implemented effectively. The study, therefore, seeks to empirically examine the impact of HMOs on users of the NHIS in FCT Abuja, Nigeria by providing necessary highlights on HMOs and how they operate in the NHIS in FCT, Abuja to reveal the effectiveness or non-effectiveness of HMOs in the NHIS. The study reveals Health Maintenance Organizations' involved in the scheme to achieve expanded access and improve quality health services while health cost is brought under control and how this impact on users of the scheme. This will provide answers to the question of whether the involvement of Health Maintenance Organizations enhances the efficiency of the scheme or impedes its success since Health Maintenance Organizations cost containment measures can be detrimental to Nigeria's National Health Insurance Scheme.

The findings of the study will benefit all stakeholders in the National Health Insurance Scheme as it provides a framework for policy analysis that will enable the formation of

new policies for better functioning of the scheme. The study would also contribute to the existing body of knowledge in this area and also stimulate other researchers to undertake similar studies in the future.

The study was restricted to beneficiaries of the National Health Insurance scheme through Health Maintenance Organizations working with Federal ministries/ parastatals and agencies in Abuja. Abuja being the Federal Capital Territory of Nigeria is where the National Health Insurance scheme started with Federal Civil Servants as the first to benefit from the program. The selection of the area Abuja is purposive because it houses the majority of the Federal Civil Servants already benefiting from the scheme even long before the state workers and community dwellers. So, this group of people can better provide information on Health Maintenance Organizations and give their perception of the impact of the Health Maintenance Organization on the scheme. Also, many community dwellers are not yet benefiting from the scheme.

Methodology

The Population of the Study

The study population comprised:

1. Employees covered by NHIS in the FCT under the public sector;
2. HMOs covering lives on the behalf of NHIS in the FCT.

The NHIS lives in the FCT were 244, 992 while the HMOs covering these lives on behalf of the NHIS in FCT were 25 as of 2011. The study's target groups were the NHIS lives (enrollees/ beneficiaries) in the public sector in FCT and the registered/ accredited HMOs covering/managing these lives. For proper coordination and ease of administration, the NHIS allocated the various public sector organizations in the FCT to 25 HMOs to manage enrollees. The allocation was done so that the payment of capitation for all the employees of such an organization can be done through the HMO responsible for that organization. However, the employees are expected to personally enroll to benefit from the scheme. So, for this study, the NHIS lives that formed the population of the study were distributed across the various ministries, agencies, and parastatals in the FCT. A list of NHIS enrollees managed by a given HMO is available with the NHIS Desk Officer in all the organizations. There were twenty-five (25) HMOs covering NHIS lives in the FCT. Each of these HMOs was responsible for managing some enrollees as assigned by the NHIS.

The total of 244992 enrollees managed by 25 HMOs in the FCT, Abuja was used to derive the sample size for this study. The FCT was purposively chosen for this study because it houses the administrative/operational headquarters of the NHIS, as well as the administrative head offices and/or operational base of all the HMOs covering NHIS public sector lives/enrollees in the country. More so, the FCT as the administrative capital of the country captures many of the NHIS public sector lives/beneficiaries. The National Health Insurance scheme began its operations with the public sector workers in the federal civil service in the FCT before extending its services to the other states of the

federation. When compared with other states in the country at the moment, the FCT has the highest number of NHIS public sector enrollees/beneficiaries. The FCT, therefore, provides a platform for the NHIS to demonstrate/showcase their unique public-private partnership with the HMOs in the delivery of the social medicine model in the country. Thus, the FCT is best suited to be used as a case for a focused study, to better understand, and empirically evaluate the impact of the collaborative efforts of the NHIS and HMOs and to assess the role the HMOs have played and/or are playing in the implementation of the National Health Insurance scheme in the FCT. Success or failure in the FCT could provide a good picture of the same for the whole country, and this may necessitate or trigger further investigation/research and help direct government policy and programs. The study employed a multi-stage sampling approach. At the first stage, a simple random sampling with replacement approach was used to select 5 out of 25 HMOs operating in FCT, Abuja. These selected HMOs represent 20% i.e. one-fifth of the 25 HMOs covering NHIS lives in the FCT.

Also, besides in the second stage, the respondents (NHIS enrollees) were selected by systematic random sampling proportionate with size. The following (Table 1) are selected HMOs with the corresponding enrollee lives

Table1: Distribution of the Simple Random Sample Proportionate to Size

HMO	No. of lives selected proportionate to size
Total Health Trust Ltd	127
HealthCare International Ltd	178
Maayoit HealthCare Ltd	15
Princeton Health Group	14
Managed HealthCare Services Ltd	50
Total	**384**

Method of Data Collection

The study employed a survey method. In the survey method, the instruments used for data collection was a semi structured questionnaire. The survey instrument was divided into sections with a section designed using summated differential scale (Likert scale). It was further subjected to face validity, i.e. the instrument was given to the thesis supervisor and other authorities for scrutiny to check if the instruments were actually measuring what they intend or are supposed to measure and to ascertain that the universe of all questions or items included in it were duly included. Also, the reliability of the survey instrument was calculated using the Crombach Alpha statistics to ascertain whether there is internal consistency in the items/questions in the study instrument and to verify to what extent the instrument produced the same results or replicate consistent results if similar studies are carried out afterward using the same instrument. Also, an item analysis was done to examine the items/questions in the questionnaire to ascertain the desirability of dropping, retaining or replacing any of them depending on the resulting Crombach Alpha coefficient of the said item/question if it was deleted. In addition to the above, difficult or inappropriate questions discovered from the response of the respondents/interviewees was deleted, replaced or rephrased.

Report on Reliability Analysis

Coefficient alpha, an internal consistency measure was computed for survey instruments. The estimate for survey instrument was .92. The number of items/questions in the instrument was 74. This coefficient indicates good reliability of the survey instrument. The estimate shows that there was good internal consistency in the items/questions used in the survey instrument. Values of .70 and above are acceptable values for Crombach's alpha (α), but values below this indicate unreliable scale.

Method of Data Analysis

After the field work, the quantitative data captured was screened to ensure that the presence of any included a typical case/data was checked and removed (i.e. cleaned up) to avoid the distorting effects of outliers and other spurious outcomes. The cleaned-up data was entered and analyzed using SPSS version 17.0. The use of Likert Scale otherwise known as summated differential scale in the design of the survey instrument was occasioned because the scale is usually of the interval type and thus can be summed up and used as a continuous variable which allows for the use of parametric tests/methods analyses that follow normality.

Results

Demographic Information

In the survey, the males were more 203 (52.9%) than the females 177 (46.1%). Responses from ages 26-45 were highest in the survey, this indicated that majority of the respondents were adults. The married respondents were 319 (83.1%) while the singles were 50 (13.0%) other i.e. those separated were 4 (1.0%), Divorced 1 (0.3%) and widowed 7 (1.8%) for educational qualification, 210 (54.7%) of the respondents had first degree, those with a diploma qualification were 81 (21.1%) while masters and PhDs were 52 (13.5%) and 2 (0.5%) respectively. The study discovered that majority of the respondents were highly educated and their responses could be relied upon in response to certain questions asked. 360 (93.8%) respondents were registered with the scheme while 22(5.7%) where not registered with the scheme.

Hypothesis Testing

The result of the research hypothesis is shown as follows:

Hypothesis: Health Maintenance Organizations are not likely to Impact on users of National Health Insurance Scheme in FCT

A comprehensive contingency table analysis was conducted to evaluate whether or not Health Maintenance Organizations (HMO_S) are likely to impact on users of the National Health Insurance Scheme in FCT. The following is the result of the overall cross-tabulation analysis.

Table 2: HMOs Impact on NHIS Users

HMO	**Not Satisfactory**	**Uncertain**	**Satisfactory**	**Total**
Total Health Trust Ltd	22	34	71	127
	(21.8)	(24.5)	(80.7)	[100.0%]
	[17.3%]	[26.8%]	[55.9%]	
Health International Ltd				
	39	29	110	178
	(30.6)	(34.3)	(113.1)	[100.0%]
Maayoit Health Care Ltd	[21.9%)	[16.3%]	[61.8%]	
	0	2	13	15
Princeton Health Group	(2.6)	(2.9)	(9.5)	[100.0%]
	[0%]	[13.3%]	86.7%]	
Managed Health Care	1	0	13	14
Services Ltd.	(2.4)	(2.7)	(8.9)	[100.0%]
	[7.1%]	[0%]	[92.9%]	
	4	9	37	50
	(8.6)	(9.6)	(31.8)	[100.0%]
	[8.0%]	[18.0%]	[74.0%]	
Total	**66[17.2%]**	**74[19.3%]**	**244[63.5%]**	**384[100.0%]**

( ) Expected count; [ ] % within HMO; Pearson Chi-Square=20.975; Degree of Freedom=8; P-value=. 007; Cramer's V=.165; N=384

In the contingency table 2, two variables; HMO and HMO$_S$ impact on NHIS users were cross-tabulated. The former has five levels, (Total Health Trust Ltd, HealthCare Service Ltd, Maayoit Healthcare Ltd, Princeton Health Group, and Managed Healthcare Service Ltd) while the latter has three levels, (Not Satisfactory, Uncertain and Satisfactory). The two variables were found to be significantly related, Pearson X^2 (8, N=384) = 20.975, P=.007. This observed effect is significant, P< .01. However, the magnitude or size of the effect is small, crammer's V =. 17. The proportion of impact on the NHIS users by the different level of HMO (i.e. The five HMO$_S$) are .56, .62, .87, .93, and .74 respectively. The overall findings of the study indicated that HMOs had significant impact on users of the scheme in FCT, Abuja.

Follow-up pairwise comparisons were conducted to evaluate the difference among these proportions. Ten pairwise comparisons were carried out. The Holm's sequential Bonferroni method was used to control for type 1 error at the .05 level across all ten comparisons. Controlling for family wise error is necessary in situations where a set of tests are conducted on the same data set and addressing the same empirical question. The observations are corrected and working with the accepted .05 error rate, inflates the error rate. To control the family wise error emanating from the pairwise comparison, in this study, Holm's sequential Bonferroni correction was adopted to control such error by correcting the level of significance for each test such that the overall Type 1 rate (α) across all comparisons remain at. 05. The table below shows the result of the pair wise comparison using the Holm's sequential Bonferroni method to control for type 1 error.

Table 3: Result of the Pairwise Comparison Using Holm's Sequential Bonferroni Method to Control for Type 1 Error: Follow-up Test for the Hypothesis

Pairwise Comparison	Pearson Chi-Square	P-Value (Alpha)	Crammer's V
Total Health Trust Vs Princeton Health Group.	[N.S]7.439	.024(.005)	.230
	[N.S]5.70	.058(.006)	.200
Total Health Trust Ltd vs Maayoit Health Care Ltd.	[N.S]5.594	.061(.006)	.171
Health Care International Ltd vs Princeton Health Group.	[N.S]5.184	.075(.007)	.177
Total Health Trust Ltd vs Managed Health Care Services Ltd.	[N.S]5.154	.076(.008)	.130
Total Health Trust Ltd vs Health Care International Ltd.	[N.S]4.975	.083(.010)	.148
Health Care International Ltd vs Managed Health Care Service Ltd	[N.S]4.704	.095(.013)	.156
Health Care International Ltd vs Maayoit Health Care Ltd.	[N.S]3.028	.220(.017)	.218
Princeton Health Group vs Managed Health Care Service Ltd.	[N.S]2.969	.227(.025)	.320
Maayoit Health Care Ltd vs Princeton Heath Group.	[N.S]1.589	.452(.050)	.156
Maayoit Health Care Ltd vs Managed Health Care Service Ltd.			

[n.s]p-value> alpha

As can be observed, none of the pairwise comparisons were significant. This implies that the five HMOs have equal impact on the users of NHIS scheme in the FCT. There was no variation in the degree of impact. None had edge over others in her impact level or degree of impact on NHIS users in the FCT. This implies that all the five HMOs had equal impact on users of the scheme.

Conclusion

The study focused on the impact of HMOs in the implementation of NHIS in FCT, Abuja. The main thrust of the study was to investigate HMOs impact on Social Health Insurance which is known as the National Health Insurance Scheme in Nigeria. The study made use of quantitative methods to collect data from the respondents. It employed a two-phase sampling design and stratified random sampling techniques in selecting respondents and captured data from a cross sectional survey. Five HMOs were randomly selected from the twenty-five HMOs covering NHIS lives. Also, responses were obtained from a total of three hundred and eighty-four respondents working with eighteen public sector organizations in FCT, Abuja. This figure was broken down according to the five HMOs in the study. From the analysis, discussion and findings of this research, it was discovered that HMOs played a significant role in the scheme and had impact on the implementation of the scheme. Although this study would have been better conducted at a national scale,

but due to limited finance and time resources, and the poor security situation in parts of the country, it was scaled down to FCT alone. However, the study provides a stimulant for further studies.

References

Agba, A. M., Ogaboh, M., Ushie, E. & Osuchukwu, N. C. (2010). National health insurance scheme (NHIS) and employee's access to health care in Cross River State, Nigeria, *Global Journal of Human Social Science, 10* (7), 9. Retrieved from globaljournal.org/GJHSSvolume10/3_National_Health_Insurance_Scheme_NHIS_and_Employees.pdf

Anarado, A. (2002). The HMO's angle in the "participant triangle": What's so wrong with Nigeria's health insurance scheme? 37 *Tulsa Law Review* 819, Retrieved from westlaw. digitalcommons.law.utulsa.edu/tlr/vol37/iss3/5/

Anyene, B. (2012). Impact of national health insurance scheme and managed care on Nigeria's health indices, *Quarterly newsletter of the health reform foundation of Nigeria*, *1* (1), 7-8.

Casey, M., Knott, A., & Moscovice, I. (2002). Medicare minus choice: The impact of HMO withdrawals on rural medicare beneficiaries, *Health Affairs*, 21 (3), 192-199. DOI 10.1377/hithaff.21.3.192. Retrieved from http://content.healthaffairs.org/content/21/3/192.full

Dictionary of American History (2003). *Health maintenance organizations,* Retrieved from http://www.encyclopedia.com

Emmanuel, I. E. (2017). Public-Private Partnership: How successful is the NHIS – HMO collaboration in health care delivery in Nigeria? *Journal of Research in National Development,* Federal University of Technology, Owerri, Nigeria, 15 (1) p265-271.

Encyclopedia.com (2020). *Health maintenance organization*, Cengage, Retrieved from http:www.encyclopedia.com

Ibrahim, I. (2011). Health insurance cover for all on the way, *News watch*, p 52.

Muanya, C. (2011). *Not yet assurance for your health: Nigeria health watch,* Retrieved from http://www.nigerianhealthwatch

National Health Insurance Scheme (2010). *Media report*, Abuja: Health Insurance Scheme Management.

National Health Insurance Scheme. (2011). *Public-private partnership in health:* a *case study of the national health insurance scheme (NHIS) of Nigeria,* Unpublished NHIS work.

National Health Insurance Scheme (2012). O*perational guidelines*, Abuja: Yaliam Press Limited.

Strang, D. (1993). *Health maintenance organizations*: *Technical Report Series,* New York: Conell University Press, 93 (10), p 163- 182.

Sylvester, A. (2012, March 28). NHIS to roll out retail outlets for health insurance premium, *Daily Champion,* p 3.

Wikipedia The Free Encyclopedia (n.d) *Abuja*, Retrieved en.wikipedia.org/wiki/Abuja