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Assessment of the Impact of Health Maintenance Organizations on Access, Utilization, and Quality of Service among National Health Insurance Authority Enrollees in Kano, Kano State Nigeria

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Abstract

Effort by government in Nigeria to provide effective ways of accessing quality and affordable healthcare service has been contentious with high cost of health care service delivery. The ineffective management of health care funds over the years was observed as key contributor to the rising cost of healthcare services. The need for the establishment of health maintenance organizations (HMOs) whose responsibility as purchasers, was to manage health care services with health facilities providers under the National Health Insurance Authority Scheme (NHIA). However, this research seeks to assess the impact of healthcare purchasers in Kano state Nigeria, as regards knowledge, utilization, and satisfaction of enrollees whose healthcare services they manage. The study utilized analysis of enrollees, HMOs and desk officers under the scheme. Quantitative and qualitative methods using interviewer administered questionnaire and Key stakeholders' interview was used. Data were recorded in Microsoft Excel 2010 and analyzed using SPSS version 23.0. NVIVO version 12 with verbatim transcription was used for thematic analysis of qualitative data. Chi-square used to test degree of association and Logistic regression utilized to predict factors for the determinants. Results were presented as tables and charts. Statistical significance p-value <0.05 at confidence level of 95% was considered significant. Thus, analysis of the general demographic outcomes showed a significant association between HMOs and enrollees' level of knowledge, utilization and satisfaction ($p<0.05$). Conversely, analysis of federal, state and private run facilities separately, revealed varying outcome as regards the three determinants, with the state-run hospitals mostly affected in terms of enrollee's outcome.

Keywords: *Desk officers, Health Maintenance Organizations, Knowledge, National Health Insurance Authority, Satisfaction, Utilization.*

Introduction

The National Health Insurance Authority (NHIA) formerly known as the National health insurance scheme (NHIS) is a corporate body established under the NHIA ACT 2022 by the Federal Government of Nigeria to improve the health of all Nigerians at an affordable cost. It is a pre-payment plan where participants pay a fixed regular amount. The amount/funds are pooled, allowing the Health Maintenance Organizations (HMOs) to pay for those needing medical attention. It is primarily a risk pooling arrangement associated with the need to use and pay for health services rather than to be fully borne by the individual [1]. As such, it is the fiduciary duty of HMOs to effectively manage health care funds, provide quality care for the individuals whose health care they manage, and comply with all applicable laws and regulation governing the HMO scheme [2].

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Health Maintenance Organizations (HMOs) are limited liability companies licensed by the National Health Insurance authority (NHIA) to facilitate the provision of healthcare benefits to contributors under the formal Sector Social Health Insurance Program. Existing arrangement makes HMOs to either be for-profit or not-for-profit private health insurance companies, or public entities [3].

Therefore, HMOs are constantly challenged with improving their internal controls to meet both regulatory and market demands from multiple stakeholders, while trying to maintain market share amidst competition from existing HMOs and new entrants into the managed care industry [4]. Sequentially in Nigeria, health Maintenance Organizations (HMOs) enrollment is growing substantially, and Patient's satisfaction is a key judgment on the quality and outcome of healthcare delivery and the extent to which the patients feel that their needs and expectations are being met by the service providers [5]. However, in Nigeria, the growing effort by government to provide effective ways of accessing quality and affordable healthcare coverage to attain universal health coverage has been contentious. The cost of health care delivery in Nigeria is high just like other developing country and this poses a serious threat to the country's health care outcome as well as its health care system. The ineffective management of the government's health care funds over the years was observed as key contributor to the rising cost of healthcare services.

Nigeria is estimated to have a population of over 200 million people, the largest in Africa, among the West African countries [6]. It has the second highest density of physicians but still very low compared to the actual need for such a populous nation [7]. Government expenditure on health is considerably slimmer than what comes from private contributions. About 3.9 percent of Nigeria's GDP is invested in the health sector, considerably below the average spending on healthcare among OECD countries [6]. Nigerians often usually must pay for medicine out of their own pocket. Often the medicines are expensive and difficult to afford. In 2019, on average, health care made up six percent of Nigerian household spending, with higher figures in rural areas than in urban zones [8].

Also, on average, about 4% of households are estimated to spend more than half of their total household expenditures on health care and 12% of them are estimated to spend more than a quarter expenditure [9]. As health care costs are increasing faster than public revenues available for the health sector, economic constraints appear to have limited the amount of funds required to ensure universal coverage of necessary health interventions. The specific business problem is that, HMO leaders have also showed to lack internal control strategies to improve operational efficiencies, reduce health care costs, and improve quality of care for the individuals whose healthcare they manage [10]. As of 2018, about 97 percent of people surveyed in Nigeria did not have any health insurance. People with a health insurance mainly had an employer-based coverage and privately purchased insurances were notably uncommon. In total, only about three percent of individuals had a health insurance [8]. However, this study seeks to assess the impact of HMOs on access and quality of service on enrollees under the national health insurance scheme in Kano state, Nigeria. Thus, the study tends to amongst other things assess level of knowledge, utilization, and satisfaction of enrollees of HMOs and contributory healthcare management agency as regards the national healthcare policy in selected health facilities in Kano State with a view to explore strategies HMOs used will used to improve operational efficiencies in order to provide quality care services for enrollees whose health care they managed. Nonetheless, the study tends to bring to fore the role of purchasers of health care policies as regards their ability and capability of providing effective and efficient healthcare services as well as its impact on access to universal health coverage.

Materials and Methods

A mixed study approach method was employed [11] That is, the quantitative study preceding the qualitative study (interview) of key stakeholders. This study method consisting of both qualitative and quantitative methods were used, such that most information is generated from the dominant study (quantitative), precedes the qualitative study based on that fact that, most variables of interest were generated from it and subsequently analyzed [12, 13].

Study Area

Kano state is located in Northwestern region of Nigeria. Kano city which serves as the state capital, is the commercial nerve centre of kano state and evitable the biggest in northern Nigeria and often referred to as the 'centre of commerce'. According to the federal Republic of Nigeria official gazette 2009, the national population census provisional results of 2006 indicated that the population of kano state was estimated to be about 9.4 million people and was considered the most populous state in the country [14]. The state has forty-four Local Government areas councils with an area of 20,479 square kilometers. Six of the local government councils are domiciled within the metropolis, while the remaining thirty-eight local government council areas are within rural areas and shares borders with Jigawa, Bauchi, katsina and Kaduna states. An estimated 1,346 health facilities are said to be located in the State according to the Kano state-wide rapid health facilities assessment [15]. These include both public and private owned healthcare facilities.

Inclusion/Exclusion Criteria

Enrollees were at least 18 years or older and have used HMO for at least one year. HMO representatives responsibly for making operational decisions and have worked for at least 3 years with the organization. Health facilities focal person (desk officer) and have worked for at least 3 years with the health facility.

Population and Sampling

The study Population includes enrollees under the national health insurance Authority in Kano state. The enrollees were selected as a more responsive approach because of their knowledge and understandings as adolescents and to explore their perceptions as regards the impact on services provided by their HMOs. Another study population includes selected HMO regulatory officers and desk officers of selected hospital running the NHIA scheme in Kano state who are representatives as operating officers of their various organizations and have the responsibility for making operational decisions that aligned with the organization's contractual and statutory regulatory requirements as well as oversight functions of the policies and procedures that guide the operations of their respective organizations.

Sample Size Determination

A cross sectional survey/study was carried, and Purposive (Purposeful) sampling technique used to select the research participants. The Sample size formula for qualitative variable and quantities variable was employed to obtain the minimum sample size using the formula by Cochran [16].

$$n = \frac{Z^2 pq}{e^2}$$

Where: n = the sample size, Z^2 = Abscissa of the normal curve that cuts off an area α at the tails (1 - α equals the desired confidence level, e.g., 95%). It is Standard normal deviate corresponding to the confidence level of 95% for a tailed test = 1.96, e = Desired level of precision, which is 5% or 0.05, p = Estimated proportion of an attribute present in the population e.g., 59.7% (Proportion of utilization in a public facility [17], q = 1-p, Z= value of area under the normal curve (statistical Table).

Using the formula above, the minimum sample size was ascertained; thus, (1.96)2 X

0.597 X 0.407/ 0.05 X 0.05 = 0.933/0.0025 = 373. For non-response, an attrition rate of 10% is used. That is, 10% X 373 = 37. The likely Sample size to be used = 373 + 37= 410.

Sampling Technique

Multi-stage sampling technique approach was carried out.

Stage 1: Some secondary and tertiary health facilities were sampled.

Stage 2: Proportional technique to determine the number of health facilities.

Stage 3: Proportional technique to determine the number of enrollees.

Stage 4: Systematic random technique and semi-structured interview to identify/select HMO representatives and health facilities desk officers.

Data Collection

A series of activities aimed at gathering and measuring suitable information to answer emerging questions were considered vital to the research. Thus, data collection process for both quantitative and qualitative study was employed [18]. Questionnaire **e**numerating determinants such as, enrollee's demographic data, key research domains vis-a-vis, knowledge, utilization and satisfaction, quality of services provided by health facilities. As well, general appraisal was administered via study/research assistants using pre-testing evaluation, collection of data, recording the information and resolve field issues. Also, face-to-face, semi-structured interviews and personal observations data collection methods for the purpose of this study as part of reviewing vital records via key indicators (KI) was used. Accordingly, collection of reliable, pertinent data was critical to the soundness or validity of the study's outcome and if repeated can generate the same research findings [19].

Data Analysis

Data evaluated were recorded in Microsoft Excel 2010 and quantitative variables calculated using Frequency distributions and analysis carried out using SPSS version 23.0. Chi-square test was also used to test degree of association between dependent and independent variable while multivariate analysis was used to compare variables. Logistic regression was equally employed to predict factors. NVIVO version 12 with verbatim transcription was then used for thematic analysis of qualitative data especially for the Key indicator Interview **[**20]. Statistical significance at p-value <0.05 at a confidence level of 95% was considered significant. The reliability of this research for both quantitative and qualitative data collection was based on neutrality that generates consistent results and outcome to ensured conformability of all data collected and analysis of actual interpretation of participants' views [21]. The concern of the study was demonstrated by intra-coder to establish the study's reliability [22] and replication of the findings, accuracy and the mitigation of error and bias [23] as well as review of the recordings of each interview several times before transcribing.

Results

407 participants were sampled for the study (400 NHIA enrollees, 3 desk officers and 4 HMOs representatives) and data used as predictors of the impact of HMOs on Knowledge, utilization, and satisfaction of services among NHIA enrollees in study area. All factors with a p-value of <0.05 were further subjected to multivariate analysis to identify the predictors of the impact of HMOs on knowledge, utilization, and satisfaction of quality services among NHIA enrollees and to adjust for confounding variables. as shown in Tables below.

The logistic regression shows that age, gender, number of dependents registered, monthly income, and source of information have a significant relationship with the level of knowledge, while marital status has no significant relation with the level of knowledge.

Table 1. Logistic Regression for Predictors of Knowledge on HMOs Operations

	B	S.E.	Wald	Df	Sig.	Exp (B)
Age (<38 years)	-1.441	.357	16.246	1	.000	.237
Gender (Male)	1.156	.307	14.131	1	.000	3.177
Marital Status (Married)	.622	.646	.927	1	.336	1.862
Number of Dependents Registered Under NHIS (Spouse only)			18.640	4	.001	
Spouse & one child	.145	.713	.041	1	.839	1.156
Spouse & two children	-.067	.657	.010	1	.919	.935
Spouse & three children	.569	.705	.651	1	.420	1.766
Spouse & four children	1.695	.651	6.768	1	.009	5.445
*Occupation (Civil servants)	1.841	.468	15.448	1	.000	6.304
Monthly Income (<N65000)	-.993	.312	10.152	1	.001	.370
*Source Of Information (HMO Canvassers)	1.627	.387	17.668	1	.000	5.089
Constant	-2.702	.738	13.427	1	.000	.067
a. Variable(s) entered on step 1: Age -COLLAPSE, 2. Gender, Marital Status- COLLAPSE, 3. No. of Registered enrollees under NHIA, 4 Occupation -COLLASPE, 5 Monthly Income, 6 Source of Information -COLLAPSE.						

*Statistically significant: ($p<0.05$), *Non-civil servants: Company workers, Bankers, Corp members, Artisans, Farmers, *Non-HMO Canvassers: Friends/Colleagues, Radio/Television, Newspapers, Workshops/Seminars, Internet

The study further showed the various variations as regards age, gender, number of dependent registered, occupation, income, and sources of information as it affects the enrollee's level of knowledge of HMOs operations.

The Table 3 shows that most (79%) of the respondents have good knowledge of HMO operations, while 21% have poor or inadequate knowledge.

Table 2. General Level of Knowledge of Enrollees of HMOs Healthcare Scheme

Variables	**Frequency (n=400)**	**Percentage**
Level of Knowledge	-	-
Good Knowledge	317	79
Poor Knowledge	83	21
Total	400	100

Source: Questionnaire 2022: HMO=Health Maintenance organization, n=400

Table 3. Logistic Regression for Predictors of Utilization of Services Provided by HMOs

	B	**S.E.**	**Wald**	**Df**	**Sig.**	**Exp(B)**
Age (<38 years)	1.019	.241	17.932	1	.000	2.769
*Education (Degree)	.379	.249	2.321	1	.128	1.461
*Occupation (Civil servant)	-1.132	.478	5.616	1	.018	.322
*Source Of Information (HMO Canvassers)	1.436	.294	23.843	1	.000	4.203
Constant	-2.439	.293	69.350	1	.000	.087
a. Variable(s) entered on step 1: Age COLLAPSE, Education-_COLLAPSE, Occupation-_COLLASPE, Source of Information-_COLLAPSE.						

*Statistically significant: ($p<0.05$), *Non-Degrees: Primary, Secondary, Diploma, Professional certificate, Islamic Education, *Non civil servants: Company workers, Bankers, Corp members, Artisans, Farmers, *Non-HMO Canvassers: Friends/Colleagues, Radio/Television, Newspapers, Workshops/Seminars, Internet

The regression shows that age, occupation, and source of information are significantly associated with the level of utilization ($p<0.05$) of services provided by HMO, while educational qualification does not have significant relation with utilization. The study further revealed that those over 38 years were almost 3 times poor in utilizing the scheme than those under 38 years. This is also true for non-civil servants compared to civil servants. Enrollees from the study who got their information from other sources other than through the HMO canvassers were 4 times observed to have poor utilization.

Table 4. General Level of Utilization of Services Provided by Health Facilities under the HMOs

Variables	Frequency (n=400)	Percentage
Level of Utilization	-	-
Good	282	70.5
Poor	118	29.5
Total	400	100.0

Source: Questionnaire 2022: HMO =Health Maintenance organization, n=400

The Table 4 shows the general Level of Utilization of services provided by health facilities under the HMOs. The overall outcome as regards the general level of utilization of services provided by the health facilities patronized by the respective HMOs showed that, the level of utilization of 70.5 % of respondents was good.

Table 5. Logistic Regression for Predictors of the Level of Satisfaction with HMOs Services in the Hospital/Clinics

	B	S.E.	Wald	Df	Sig.	Exp(B)
Age (< 38 years)	.747	.227	10.787	1	.001	2.111
*Education (Degree)	.403	.237	2.891	1	.089	1.497
*Source Of Information (HMO Canvassers)	1.267	.268	22.269	1	.000	3.550
Constant	-2.112	.261	65.298	1	.000	.121
a. Variable(s) entered on step 1: Age COLLAPSE, Educ COLLAPSE, Source of Information-_COLLAPSE.						

*Non-Degrees: Primary, Secondary, Diploma, Professional Certificate, Islamic Education, *Non-HMO Canvassers: Friends/Colleagues, Radio/Television, Newspapers, Workshops/Seminars, Internet

The logistic regression shows that age and source of information are significantly related to level of satisfaction of services provided by HMO while educational qualification does not have significant relation with satisfaction. The analysis further revealed that those aged more than 38 years are 2 times more likely to have dissatisfaction than those aged less than 38 years, and those who got their information from non-HMO canvassers were 3 and half times less satisfied.

Table 6. General Level of Satisfaction of Enrollees with the Services in Hospitals/Clinics

Level of Satisfied	Frequency (n=400)	Percentage
Level of Satisfaction	-	-
Satisfied	270	67.5
Dissatisfied	130	32.5
Total	400	100.0

Source: Questionnaire 2022

The Table 6 shows that the respondents were satisfied with the general level of services of the health facilities (hospitals/clinics). The general level of satisfaction with services at the various health facilities from the study showed that 67.5% of the respondents were satisfied, while 32.5% were dissatisfied.

Results of Enrollees in Federal, State & Private Run Health Facilities Analyzed Separately

All selected respondents (n=400) were approached and consented to participate in the study giving a response rate of 100%. The second study below showed the findings of the health facilities run under the federal government, the state government, and those run under private hospitals where the enrollee's access service under their respective HMOs that managed them.

Data collected for enrollees in these three categories of health facilities were analyzed separately. The idea was to ascertain the level of service provided by the HMOs/Contributory health care management agency and how they differ in these 3 sectors. This was to give the research works an in-depth understanding as to whether services rendered/provided by the respective HMOs to enrollees in these three categories differ or not and if there are priorities given to a particular category as regards services they provide to the enrollees. Thus, the whole idea was predicated on the fact that, from the general data collected, there were varying findings that showed some correlated differences in the results (respondents' feedback) as regards services provided at these three categories of health facilities.

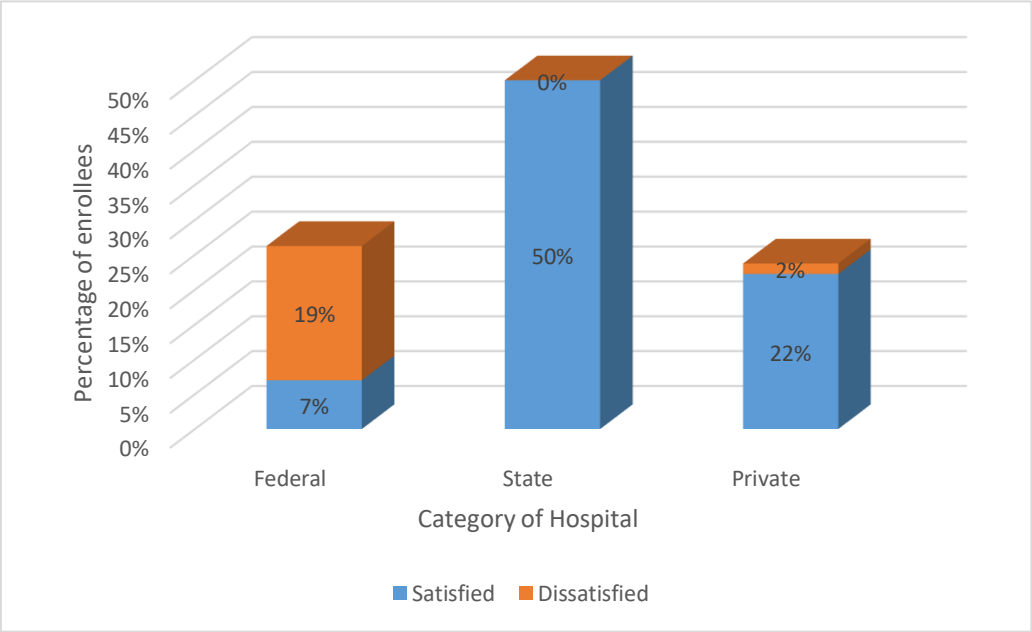

Figure 1. Level of Knowledge of HMOs by Enrollees Attending Federal, State and Private Clinics

The chat demonstrates the level of knowledge of the activities of HMOs by the enrollees. Results showed that all enrollees attending state facilities have good knowledge of their health management purchasers, followed by those attending private hospitals. However, those in the federal hospital seems to have rather poor knowledge of their HMO's activities.

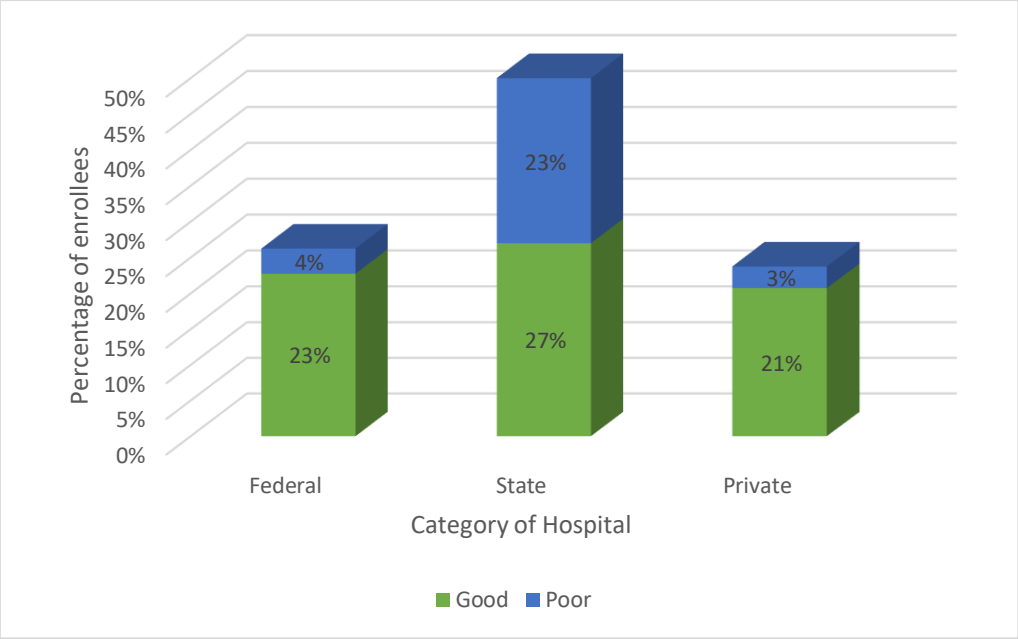

Figure 2. Level of Utilization of Services as Subscribed by the Enrollees in Federal Hospital, State Hospital, and Private Clinics Managed by HMOs

Results show the level of utilization as subscribed by enrollees. It revealed that all the enrollees attending the three categories of health facilities show profound utilization of their healthcare policies. However, enrollees under state-run health contributory agencies show a rather more significant level of poor utilization.

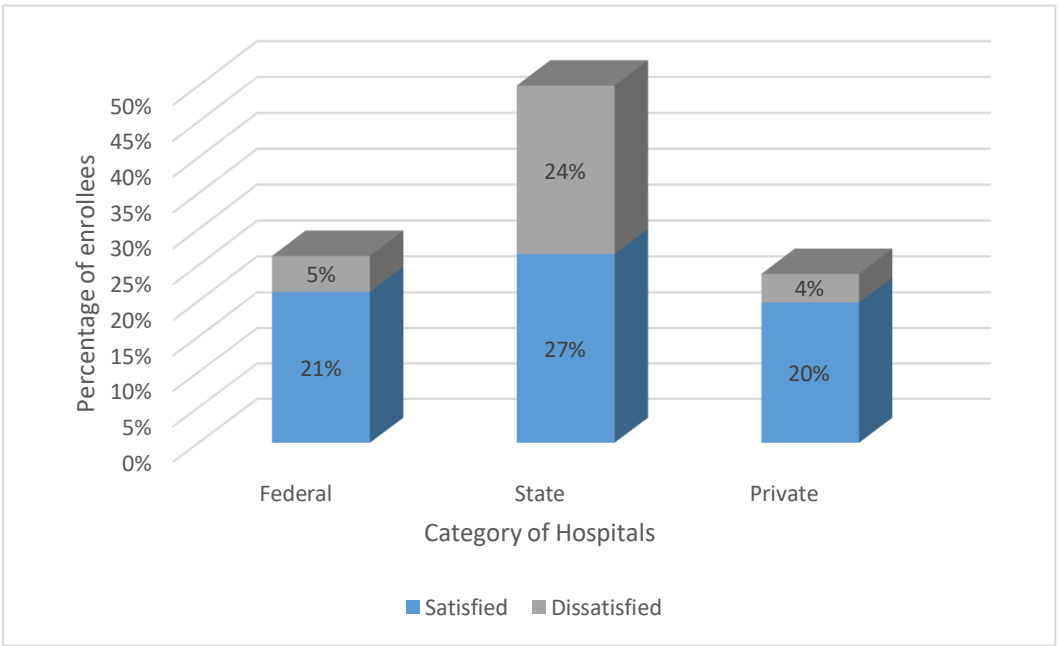

Figure 3. General Level of Satisfaction by the Enrollees Attending Federal, State and Private Clinics Managed by HMOs

The results show the general level of satisfaction of enrollees in state-run hospitals with varying perceptions. Though there was a significant level of satisfaction by enrollees in the state-run hospitals, they also seem to be more dissatisfied with their view about the healthcare services they enjoyed under their agency.

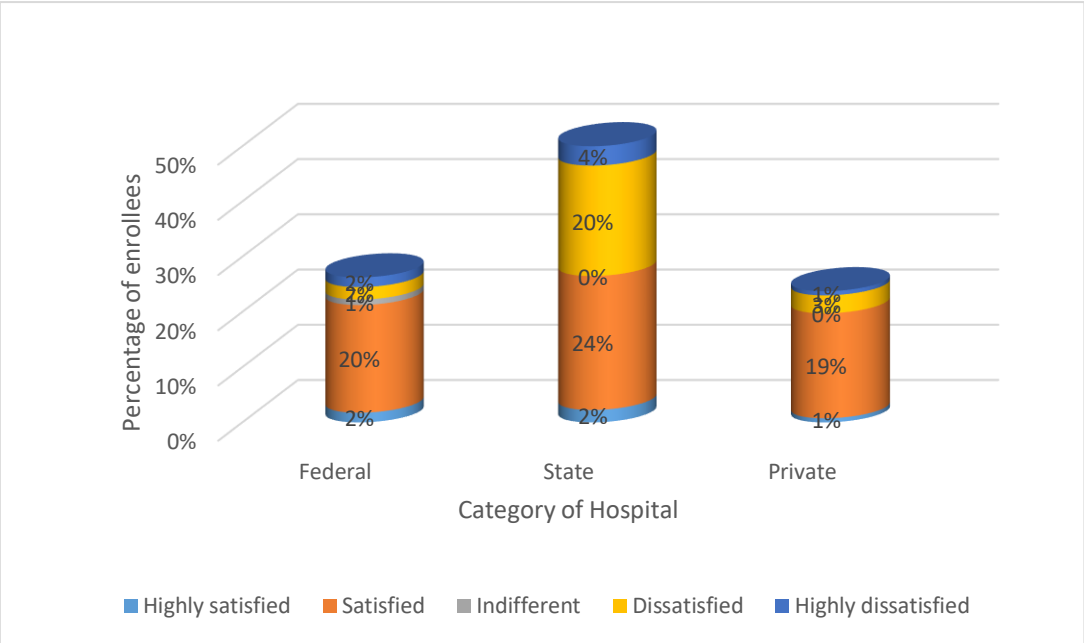

Figure 4. Level of Satisfaction of Monitoring Activities of the Respective Healthcare Purchasers

The result above demonstrates the level of satisfaction of monitoring activities of the respective healthcare purchasers. Enrollees attending state hospitals showed a significant level of satisfaction with their health management monitoring of services in their respective hospitals compared to those of federal and private. Conversely, the majority of enrollees attending state-run hospitals show more significant dissatisfaction approval with the monitoring activities of their health facilities compared to the federal and private run.

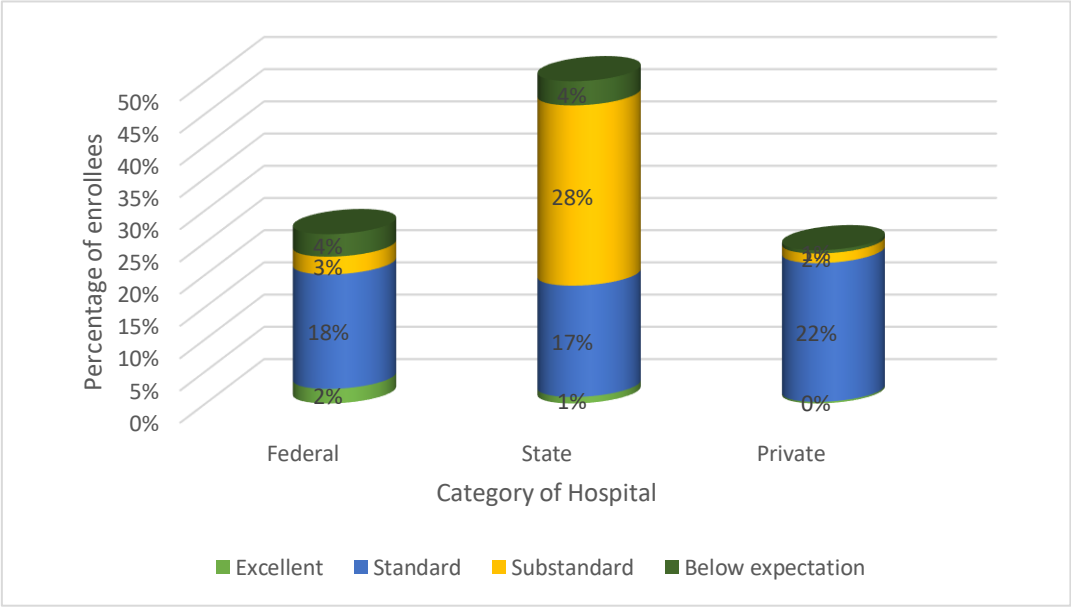

Figure 5. General Assessment of HMOs Capacity

The results showed the general assessment of the capabilities in meeting contractual obligations of HMOs/Health contributory management agencies to the enrollees. This result demonstrated that the capacity of the state-run agency was the least in terms of meeting the enrollees' expectations/obligations with respect to all the indicators as shown above.

Testing of Hypotheses

H01: There is no Significant Difference in the Level of Knowledge of Enrollees of HMOs as Regards the National Healthcare Insurance Policy

The chi-square value of H_{01} is 136.890 and has a p-value <0.001, we, therefore, reject the first null hypothesis and conclude that there was a significant relationship between the enrollee's knowledge of the respective services managed by their HMOs.

H02: There is no Significance Relationship between the Patronage and Rate of Utilization of Services Provided by HMOs to Enrollees in Kano State

The chi-square value of H_{02} is 66.257 has a p-value <0.001, we, therefore, reject the second null hypothesis and conclude that the level of utilization was significantly high under the period of study, which indicated high level of utilization has a significant association with HMOs operations.

H03: There is no Significant Difference in the Level of Satisfaction of Services Provided by Health Facilities Managed by HMOs on Enrollees

The chi-square value of H_{03} is 49.000 has a p-value <0.001, we, therefore, reject the third null hypothesis and conclude that the majority of the respondents were satisfied with the general level of the services in hospitals/clinics.

Thematic Analysis of Key Informant Interviews of Representatives of Health Maintenance Organization and Hospital Desk Officers on Access, Utilization and Quality of Service among National Health Insurance Authority Enrollees

The purpose of this qualitative study was to explore and access the organizational strategies of HMOs and hospital desk officers in terms of operational efficiencies in consonant with established guidelines and policies of the NHIA scheme. A semi-structured interviews with four health maintenance organization /contributory healthcare management agency personnel and three desk officers were selected from the federal, state, and privately run health facilities operating in kano. Data using transcribed interview were audio recorded, coded, and then imported into NVivo12 software for thematic analysis. Overarching research questions and analysis were enumerated. Consequently, the impact of the HMOs internal control strategies in meeting their obligations on health were evaluated. The analysis revealed the varying degree of shortcomings on the part of HMOs and contributory health care management agencies in meeting contractual agreements in terms of prompt remittance of capitation fee to the hospitals and lack of effective supervision amongst others. This was observed to have some implications in enrollee's access to drugs and other secondary services. Equally, lack of adequate strategies and manpower to effectively monitor patients' needs were observed to have also contributed.

Discussion

The operations of health maintenance organizations or various health contributory management schemes over the years have remained contentious regarding their services and adherence to lay down rules and policy reforms for improving healthcare services in Nigeria. This has become necessary because efforts geared towards achieving universal health coverage and progressive evidence are considered necessary for financing policy reforms [24].

Accordingly, the quantitative aspect of the study assesses the impact of Health Maintenance organizations on access to quality health care services among National health insurance authority enrollees as regards knowledge, willingness to utilize services, and satisfaction with the quality of healthcare services provided by selected hospital facilities registered under HMOs in Kano State, Nigeria. Equally, the qualitative study (stakeholders' interview) and

thematic analysis were carried out to elucidate operational aspects of HMOs and desk officers of selected hospitals under the study jurisdiction. To this end, the results in the research provide some degree of insight into how these operations impact. Consequently, the outcomes of this study showed that HMO performance in the kano state healthcare service delivery sector has varying scores. However, the logistic regression from the study in Table 1 shows that age, gender, number of dependents registered, monthly income, and source of information have a significant relationship with the level of knowledge, while marital status has no significant relation with the level of knowledge. On the whole, the general level of knowledge of enrollees about their respective HMO operations showed that most (79%) of the respondents have good knowledge of HMO activities, while 20% have poor or inadequate knowledge of HMO activities. This study also brings to the fore similarity with the work of [25], which reported high awareness (86%) among enrolled participants under similar healthcare schemes.

Also, on the willingness of patients to utilize available services at the health facilities where they access services, the logistic regression in Table 3 shows that age, occupation, and source of information are significantly related to level of utilization of services provided by HMOs while the educational qualification does not have significant relation with utilization. However, the general level of Utilization of services by enrollees in the health facilities showed that the level of utilization was significantly high, about 70.5%. However, the high level of utilization of services by enrollees would have probably been as result in enrollees do not have to directly spend out of their pockets before accessing healthcare services in hospitals. This agrees with a similar study by [26] on the Post Utilization Survey of Rashtriya Swasthya Bima Yojana in Shala and Kangra Districts in Himachal Pradesh (RSBY) about beneficiaries' utilization of service not directly paid for. It could also be explained likely from improved services of registered hospitals under the scheme in terms of personnel and equipment in recent years, though there was no comprehensive evidence to show that this high rate of utilization is synonymous to the quality of service provided to enrollees from the study.

Accordingly, the attitude of a healthcare provider while providing services influences enrollees' level of satisfaction [27]. Similarly, in this study, there was a unanimous opinion among the enrollees, with the majority of the respondents revealing that the overall reception of staff towards them was encouraging.

The logistic regression in Table 5 shows that age and source of information are significantly related to the level of satisfaction of services provided by HMOs, while educational qualification does not have significant relation with satisfaction. However, results showed that, the majority of the respondents expressed general level of Satisfaction with services in the hospitals/clinics with 67.5% of the respondents were satisfied and 32.5% were dissatisfied. This result also shows similarity with studies in Calabar, Ife and Nnewi in Nigeria with respect to enrollee's satisfaction with the provision of services under the NHIA scheme [28,29, 30].

Conversely, thematic analysis of key informant interviews of representatives of HMOs and hospital desk officers revealed the varying degree of short comings on the part of HMOs and contributory health care management agency in meeting contractual obligations in terms of prompt remittance of capitation fee to the hospitals, lack of effective strategy and inadequate manpower. These were observed to have some implications on enrollee's access to secondary services.

Conclusion

Results from the general quantitative study (i.e., Data of all enrollees analyzed together) both agreed that there was some level of improvement in the three key research domains as regards knowledge, utilization, and satisfaction with respect to the roles of

HMOs/contributory health care management agency in the state. However, analysis carried out separately with the three categories of health facilities (federal, state, and private run hospitals) revealed that enrollees in state-run hospitals managed by the State health contributory agency were mostly affected in terms of meeting their health care needs under the state healthcare insurance scheme. Conversely, responses of HMO managers in the qualitative study did not totally support the argument from the perspective of desk officer's submissions. The study, however, revealed that HMOs as well as the state-run contributory health management Agency were not as effective and efficient in meeting their obligations.

Future Research

1. There is a need for in-depth research about the role of state-run insurance Agencies to ascertain their level of capacity to meet healthcare needs of their employees in line with the NHIA expectations.
2. The need for proper Evaluation of providers' (hospitals) capabilities in providing secondary and tertiary services under the NHIA scheme.
3. Monitoring and evaluation by NHIA to identify best practices of providers and purchasers of the scheme to ensure consistency and eliminate fraudulent practices.

Acknowledgments

I do acknowledge all the respondents (Enrollees, HMOs officers, and hospital desk officers) who took the time to participate in this study.

Conflicts of Interest

The author declares no conflicts of interest.

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