JOURNAL OF THE MEDICAL WOMEN'S ASSOCIATION OF NIGERIA

Established in 2004 March 2025 Volume 10: No 1

Original Article

Access this article online

Quick Response Code:

Website: www.jmwan.org.ng

https://doi.org/10.71526/jmwan.v10i1.70

Social inclusion in Health Insurance schemes in Rivers State, Nigeria

Adebiyi Obelebra[1], Adeniji Foluke[1,2], Oso Gbenga[3], Ordinioha Best[1,2]

[1]School of Public Health, University of Port Harcourt

[2]Department of Preventive and Social Medicine, Faculty of Clinical Sciences, College of Health Sciences, University of Port Harcourt, Nigeria.

[3]Parasitology Unit, Department of Zoology, Kwara State University, Malete

Address for correspondence:
Adeniji FO
Department of Preventive and Social Medicine, Faculty of Clinical Sciences, College of Health Sciences, University of Port Harcourt, Nigeria,
foluke.adeniji@uniport.edu.ng,
08033132893

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Noncommercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Abstract

BACKGROUND: Social health insurance (SHI) is a key tool for achieving universal healthcare by pooling funds to provide financial protection and cross-subsidisation. Many vulnerable groups remain excluded from health insurance coverage, and implementing strategies to expand coverage among these populations is essential for reducing inequities. This study determined and compared the role of public, private, and community-based health insurance schemes in enhancing social inclusion in health care services in Rivers State.

METHODS: A mixed-method study was conducted in Rivers State, gathering data from health insurance enrollees to assess the inclusion of vulnerable individuals within their households in health insurance schemes. The data were analysed using STATA version 14 and NVIVO vs (for quantitative and qualitative data, respectively) with a significance level set at 0.05.

RESULTS: The study found that the presence of pregnant women in households is significantly associated with a 21.19% increase in the likelihood of opting for community-based insurance [p = 0.024, CI = 0.0278-0.3960]. In contrast, other sociodemographic factors, including having under-five children, adults above 60 years, physically challenged individuals, and visually impaired individuals, did not demonstrate statistically significant effects on insurance selection across public, private, or community schemes. Notably, premium payment consistently emerged as a significant barrier to selecting both public (OR = 0.11, $p < 0.001$) and community insurance (OR = 0.10, $p < 0.001$).

CONCLUSION: A significant portion of the most vulnerable individuals were excluded from health insurance schemes. Therefore, it is essential for these schemes to implement measures that promote social inclusion for vulnerable populations.

Keywords:

Hospital, Insurance scheme, Vulnerable, Rivers State

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

Introduction

Social health insurance (SHI) is a vital mechanism for achieving universal healthcare by offering financial protection. It aims to shield individuals from catastrophic healthcare costs through pooled funds, enabling cross-subsidisation between the wealthy and the poor, as well as between the healthy and the sick.[1] Prepayment financing strategies, such as social health insurance, could safeguard individuals from financial risks and enhance access to healthcare services. In many low- and middle-income countries (LMICs), health insurance schemes tend to provide coverage for only a limited segment of the population.[2,3] This limited reach can be attributed to various factors, including financial constraints, inadequate infrastructure, and limited public awareness. As a result, large portions of the population remain uninsured, often leading to high out-of-pocket healthcare expenses and restricted access to essential services.[4,5]

Despite the widespread promotion of health insurance schemes across Africa, Asia, and Latin America, their overall coverage remains quite limited.[6,7] These schemes are often plagued by financial sustainability challenges, inadequate participation rates, and operational inefficiencies, which hinder their ability to provide comprehensive health coverage. Unfortunately, those most in need of healthcare services are often the least likely to be covered under these schemes. This lack of access to essential healthcare continues to disproportionately affect vulnerable populations.[6] Addressing these gaps is essential to improve equity and access within the health systems.

In Nigeria, health insurance schemes can be broadly classified into three categories: private health insurance, public health insurance, and community-based health insurance.[6,8] Private health insurance is typically characterised by high costs and limited inclusivity,[9] making it inaccessible to the majority of the population, particularly those in lower-income brackets. On the other hand, public health insurance, primarily represented by the National Health Insurance Authority (NHIA), is government-funded and mandatory for public sector employees.[10] Community-based health insurance, often promoted as a means of reaching underserved populations, struggles with limited resources and coverage,[11] further complicating efforts to achieve universal health coverage in the country.

Several barriers prevent certain individuals and groups from accessing and utilising health and social services. Factors such as gender, race, ethnicity, indigenous background, and religion, along with health conditions like disabilities, migration, and displacement status, often contribute to their exclusion.[6] More broadly, the deprivation of capabilities exacerbates this marginalisation, limiting opportunities for full participation in health needs. Therefore, this study aims to determine and compare the role of public, private, and community-based health insurance schemes in enhancing social inclusion in accessing health care services in Rivers State.

Materials and Methods

Study Population: A mixed method, made up of comparative cross-sectional surveys and key informant interviews, was conducted among 600 insured individuals in Rivers State. St Martins Hospital, University of Port Harcourt Teaching Hospital, and Obio Cottage Hospital were selected for this study.

A total of 200 respondents from each of the chosen facilities were selected via systematic random sampling using the client list as a sampling frame. Clients who had used the scheme for at least 6 months were selected, while those who were too ill or declined to participate were excluded.

Data collection: A total of 6 research assistants with a first degree in health-related disciplines

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

participated in the study. A week-long training on the study tool used, data collection, field trials and coding was conducted. Twenty clients were interviewed on a daily basis over a 30-day period. The quantitative data was collected via an interviewer-administered questionnaire. Qualitative data via interviews was conducted from all enrolees recruited for the study. A moderator and note taker conducted interviews in a quite private room at the facilities. It lasted for about 30 minutes, and recordings were made using a voice recorder and written notes. To ensure anonymity, the participants' names were omitted from the transcriptions.

The questionnaire was validated by conducting a pre-test among enrolees of the health insurance scheme in a health facility not selected in this study. This pre-test was conducted among 10% of the calculated sample size. Adjustments were made to the questionnaire based on the preliminary findings of the pre-test.

Quantitative Data Analysis: The data was analysed using STATA version 14. The data was summarised using frequencies, proportions and means. Chi-square analysis was used to determine the difference in proportions. Analysis of Variance (ANOVA) was used to determine the difference in mean and logistic regression analysis was employed to assess the predictors of insurance coverage. A Kruskal-Wallis test was performed to assess whether healthcare scores varied across three different types of health insurance (private, public, and community). In addition, multinomial logistic regression was used to examine the association between different types of health insurance (public, private, and community-based) and their respective predictors. A p-value of less than 0.05 was considered statistically significant.

Ethical Consideration: The study protocol was reviewed and approved by the Research Ethics Committee of the University of Port Harcourt. Permission to conduct this study was also obtained from the management of the selected health facilities. Written informed consent was obtained from all participants before the commencement of the study.

Results

Variable	Public (%) n=200	Private (%) n=200	Community (%) n=200	Total (%)	χ^2(P-value)
Age group					
<20	3(1.5)	1(0.5)	1(0.5)	5 (100)	197.212(<0.001) *
20-29	30(15.0)	37(18.5)	65(32.5)	132 (100)	
30-39	36(18.0)	76(38.0)	127(63.5)	239 (100)	
40-49	58(29.0)	58(29.0)	7(3.5)	123 (100)	
50-59	51(25.5)	25(12.5)	0(0.0)	76 (100)	
≥60	22(11.0)	3(1.5)	0(0.0)	25 (100)	
Sex					
Male	86(43.0)	96(48.0)	3(1.5)	185 (30.83)	122.212(<0.001) *
Female	114(57.0)	104(52.0)	197(98.5)	415 (69.17)	
Marital Status					
Single	50(25.0)	35(17.5)	2(1.0)	87 (14.5)	
Living with partner	1(0.5)	4(2.0)	2(1.0)	7 (1.17)	
Married	135(67.5)	157(78.5)	195(97.5)	487 (81.17)	72.313(<0.001) *
Separated	1(0.5)	1(0.5)	1(0.5)	3 (0.5)	

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

Widowed	13(6.5)	3(1.5)	0(0.0)	16 (2.67)	
Education					
Secondary	52(26.0)	35(17.5)	48(24.0)	135 (22.5)	4.530(0.104)
Tertiary	148(74.0)	165(82.5)	152(76.0)	465 (77.5)	
Occupation					
Unemployed	2(1.0)	15(7.5)	26(13.0)	43 (7.17)	379.238(<0.001) *
Farming/fishing	0(0.0)	1(0.5)	1(0.5)	2 (0.3)	
Civil servant	116(58.0)	14(7.0)	8(4.0)	138 (23.0)	
Company worker/Artisan	24(12.0)	95(47.5)	29(14.5)	148 (24.5)	
Business owner/contractor	14(7.0)	24(12.0)	82(41.0)	120 (20.0)	
Student/Apprentice	27(13.5)	12(6.0)	11(5.5)	50 (8.5)	
Pensioner	15(7.5)	3(1.5)	0(0.0)	18 (3.03)	
Professional	2(1.0)	12(6.0)	13(6.5)	27 (4.5)	
Others	0(0.0)	24(12.0)	30(15.0)	54 (9.0)	
Religion					
Christian	199(99.5)	198(99.0)	197(98.5)	592 (98.67)	3.610(0.461)
African traditional religion	1(0.5)	1(0.5)	3(1.5)	7 (1.17)	
Others	0(0.0)	1(0.5)	0(0.0)	1 (0.17)	

Table 1 shows that among respondents, individuals aged 30-39 years in community-based insurance 127(63.5%), public aged 40-49 (29.0%) and private insurance those aged 30-39, 76 (38.0%%) were most frequently enrolled. The observed difference between age and type of health insurance was observed to be statistically significant (χ^2=197.212, p<0.001). There were more female than male respondents in all the facilities public, private and community insurance, 114(57.0%) 104(52.0%), 197(98.5%) respectively, (χ^2=122.2, p<0.001). Marital status also varied significantly, with married individuals making up the majority in all schemes (135;67.5% in public, 157; 78.5% in private, and 195; 97.5% in community insurance (χ^2=72.313, p<0.001). Occupational status revealed significant differences, with public insurance primarily including civil servants 116(58.0%), private insurance enrolees mainly being company workers or artisans 95(47.5%), and community insurance enrolees mostly being business owners/contractors (82,41.0%; χ^2=379.238, p<0.001).

Table 2: Presence of socially vulnerable persons in households of respondents

Variable	Public n=200	Private n=200	Community n=200
Socially vulnerable persons			
Yes	40(20.0)	123(61.5)	135(67.5)
No	160(80.0)	77(38.5)	65(32.5)
Number of dependent	1.7±1.5	2.7±2.0	1.4±1.3
Have under 5			
Yes	18(45.0)	82(67.2)	103(76.3)
No	22(55.0)	40(32.8)	32(23.7)
No of under 5	1.1±0.2	1.3±0.5	1.4±0.6
Have above 60 years old			
Yes	16(40.0)	31(25.4)	42(31.1)
No	24(60.0)	91(74.6)	93(68.9)
No above 60 years	1.1±0.4	1.2±0.5	1.9±0.9

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

Have pregnant women			
Yes	3(7.5)	17(13.9)	27(20.0)
No	37(92.5)	105(86.1)	108(80.0)
No of pregnant women	1.0±0.0	1.0±0.0	1.0±0.0
Physically challenged			
Yes	2(5.0)	1(0.8)	1(0..7)
No	38(95.0)	121(99.2)	134(99.3)
No response	0.5±0.7	1.0±0.5	1.3±1.5
Visually impaired			
Yes	4(10.0)	1(0.8)	1(0.7)
No	36(90.0)	121(99.2)	134(99.3)
No of visually impaired	1.0±0.0	1.0±0.0	1.0±0.0
Paralysis			
Yes	1(2.5)	0(0.0)	0(0.0)
No	39(97.5)	122(100.0)	135(100.0)
No of paralysis			
Other disabilities			
Yes	0(0.0)	1(0.8)	0(0.0)
No	40(100.0)	122(99.2)	135(100.0)
No of other disabilities	0.1±0.1	0.1±0.1	0.2±0.1
Social vulnerable persons special needs catered for under health insurance			
Yes	26(65.0)	92(74.8)	95(70.4)
No	14(35.0)	31(25.2)	40(29.6)

Table 2 shows that more than half of the enrolees in the private 123(61.5%) and community 135(67.5%) schemes reported having socially vulnerable individuals in their households, while only 40(20.0%) of public scheme enrolees did the same. On average, the private scheme enrolees had a higher number of dependents (2.7 ± 2.0) compared to the public (1.7 ± 1.5) and community schemes (1.4 ± 1.3). The presence of children under five years old was more common in community 103(76.3%) and private 82 (67.2%) scheme households than in public scheme households18 (45.0%). Less than half of enrolees reported having elderly members over 60 years old, with the community scheme having the highest average number of elderly dependents (1.9 ± 0.9). Coverage of special needs for socially vulnerable individuals was highest among private enrolees 92(74.8%), followed by community 95(70.4%) and public scheme enrolees 26(65.0%).

Table 3: Reason for non-coverage of needs of socially vulnerable persons

Variable	Public n=14	Private n=31	Community n=40	χ^2(P-value)
Plan is limited				
Yes	7(50.0)	14(45.2)	15(37.5)	0.821(0.663)
No	7(50.0)	17(54.8)	25(62.5)	
Needed service are not available				
Yes	8(57.1)	20(64.5)	17(42.5)	3.517(0.172)
No	6(42.9)	11(35.5)	23(57.5)	

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

Needed service excluded from the scheme				
Yes	5(35.7)	21(67.7)	15(37.5)	7.449(0.024)
No	9(64.3)	10(32.3)	25(62.5)	
Can't afford the premium payment				
Yes	2(14.3)	3(9.7)	1(2.5)	2.706(0.259)
No	12(85.7)	28(90.3)	39(97.5)	

Table 3 showed that around half of the respondents in the public 7(50.0%) and private schemes 14(45.2%) reported that their benefit plans were limited, whereas fewer respondents in the community scheme 15(37.5%) indicated this. The chi-square test showed no significant difference between the groups (χ^2 = 0.821, p = 0.663). More than half of public enrolees 8 (57.1%) and private enrolees 20(64.5%) reported that the needed services were unavailable, compared to 17(42.5%) of community enrolees, though this difference was not statistically significant (χ^2 = 3.517, p = 0.172).

Table 4: Social inclusion of vulnerable in types of insurance scheme

Variables	Odd ratio	S. E	p-value	95% CI
Private				
Under five children	1.572621	0.7818812	0.362	0.5935003-4.167038
Above 60 years adult	0.5661174	0.2886768	0.265	0.2083812-1.537994
Pregnant women	9.658707	10.78452	0.042	1.082685-86.16602
Physically challenged	0.1385993	0.2071537	0.186	0.0074052-2.594098
Visually impaired	0.4590804	0.5102565	0.484	0.0519756-4.054881
premium	9.453239	3.815397	0	4.285775-20.85124
Co payment	0.5190884	0.1914349	0.075	0.2519569-1.06944
User fee payment for services	1.653795	0.6389246	0.193	0.7755858-3.526416
Fee for service payment	0.3251586	0.1177719	0.002	0.159879-0.661301
Vulnerable covered	3.489061	1.844945	0.018	1.237686-9.835733
Community				
Under five children	1.741673	0.8284201	0.243	0.6856398-4.424227
Above 60 years adult	0.987483	0.459145	0.978	0.3969636-2.456453
Pregnant women	13.72919	15.38094	0.019	1.527692-123.3826

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

Physically challenged	0.2737525	0.3788422	0.349	0.0181716-4.124049
Visually impaired	0.1315182	0.1615502	0.099	0.0118417-1.460689
premium	0.9795189	0.5089539	0.968	0.353779-2.712024
Co payment	0.3663381	0.1793783	0.04	0.1403102-0.956478
User fee payment for services	0.1419791	0.0954105	0.004	0.0380376-0.52995
Fee for service payment	0.0762832	0.0409293	0	0.0266515-0.218341
Vulnerable covered	4.759461	2.413372	0.002	1.761734-12.85805
Public				
Under five children	0.6358809	0.3161494	0.362	0.2399786-1.684919
Above 60 years adult	1.766418	0.9007388	0.265	0.6501977-4.798898
Pregnant women	0.1035335	0.1156013	0.042	0.0116055-0.92363
Physically challenged	7.215043	10.78377	0.186	0.3854904-135.0406
Visually impaired	2.178268	2.42109	0.484	0.2466164-19.2398
premium	0.1057839	0.0426951	0	0.0479588-0.23333
Co payment	1.926454	0.710458	0.075	0.935069-3.968932
User fee payment for services	0.6046698	0.2336072	0.193	0.283574-1.289348
Fee for service payment	3.075422	1.113913	0.002	1.512171-6.254731
Vulnerable covered	0.28661	0.151554	0.018	0.10167-0.807959

Table 4 compares public insurance to private. Households with pregnant women were significantly less likely to choose public insurance, with an OR of 0.10 ($p = 0.042$), suggesting that the presence of pregnant women decreases the likelihood of selecting public insurance over private insurance. In households with physically challenged members, the OR was 7.22 ($p = 0.186$), indicating a large but non-significant positive association with public insurance. Premium payment had a significant association with the choice of public insurance, with an OR of 0.11 ($p < 0.001$), indicating that premium payment greatly reduces the likelihood of selecting public insurance. Fee-for-service payment was significantly associated with public insurance, with an OR of 3.08 ($p = 0.002$), suggesting that households with fee-for-service payments were more likely to choose public insurance.

In the comparison of community insurance to private insurance, the OR for households with under-five children was 1.11 ($p = 0.780$), indicating no statistically significant relationship between the presence of under-five children and the likelihood of selecting community insurance over private insurance. The

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

presence of pregnant women in households had no significant effect on community insurance selection, with an OR of 1.42 (p = 0.403). Premium payment significantly decreased the likelihood of selecting community insurance scheme, with an OR of 0.10 (p < 0.001). Households making user fee payments for services were significantly less likely to choose community insurance, with an OR of 0.09 (p < 0.001).

Table 5: Vulnerable people, marginal effect and private insurance

	Private scheme		**Public scheme**			
Vulnerable	OR (S. E)	p-value [95% Conf. Interval]	OR (S.E)	p-value [95% Conf. Interval]	OR (S. E)	p-value [95% Conf. Interval]
Under five children	0.019(0.062)	0.758(-0.103-0.14)	-0.07 (0.06)	0.26(-0.18-0.05)	0.05(0.06)	0.41(-0.07-0.16)
Above 60 years adult	-0.099 (0.07)	0.131(-0.23-0.03)	0.04 (0.06)	0.51(-0.08-0.16)	0.06(0.06)	0.31(-0.06-0.18)
Pregnant women	0.114 (0.09)	0.226(-0.07-0.3)	-0.33 (0.15)	0.03(-0.61- -0.04)	0.21(0.09)	0.02(0.03-0.40)
Physically challenged	-0.208 (0.25)	0.401(-0.69-0.28)	0.22(0.16)	0.17(-0.09-0.53)	-0.01(0.23)	0.96(-0.47-0.45)
Visually impaired	0.085 (0.195)	0.66(-0.3-0.47)	0.19(0.13)	0.14(-0.06-0.44)	-0.27(0.21)	0.19(-0.68-0.13)

Table 5 shows that the odds ratio for having under-five children is 0.019, indicating no statistically significant association between households with children under five and inclusion in private insurance. For elders above 60 years, the OR is -0.099 (p = 0.13), showing a negative but non-significant relationship. OR for other vulnerable groups were not statistically significant.

With public insurance, the marginal effect estimates for having under-five children in the household is -0.067, indicating a 6.7% decrease in the probability of choosing public insurance, though this effect is not statistically significant (p = 0.262). OR for other vulnerable groups were not statistically significant.
With community-based insurance the marginal effect of having under-five children being included in community-based insurance is 0.0479 (4.79% increase), though not statistically significant (p = 0.412). For adults above 60 years, the effect is 0.0604 (6.04% increase), also not significant (p = 0.305). OR for other vulnerable groups were not statistically significant.

Table 6: Rank sums of healthcare access scores by insurance types

Health Insurance Type	**Observations (n)**	**Rank Sum**	χ^2	**p-value**
Public	200	27,415	317.13	0.001
Private	200	88,761		
Community	200	64,124		

Table 6 revealed a significant difference in access scores between the insurance types (χ^2 = 317.13, p < 0.001). These results indicates that the type of health insurance coverage plays a critical role in determining the level of access individuals have to healthcare services in the state.

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

Qualitative Results

Coverage for Vulnerable Persons: reports by key informants

Community-based health insurance schemes appeared to provide a higher level of inclusion for vulnerable populations compared to private and public schemes. A respondent stated,

"These people are the less privileged and when they come to Obio, they are able to access this health care insurance."

Another respondent described the financial accessibility provided by such schemes, emphasizing that *"the health care providers make it easier for them to afford good health care with less amount."*

Despite these positive aspects, there are limitations in the scope of services covered under community-based schemes. One respondent reported instances of partial coverage, where some essential services are excluded, stating,

"Well, I heard of someone, the only thing their health care gives them are routine drugs. So, if their child is sick and needs admission, the insurance does not cover it."

This suggests that while community-based schemes aim to provide financial relief, their ability to cater comprehensively to all healthcare needs remains inadequate.

Non-Coverage for Vulnerable Persons: reports by key informants

Private health insurance schemes were frequently reported as inaccessible to vulnerable groups, particularly those who are unemployed or not formally enrolled. Respondents stated that the schemes prioritize those with formal employment, leaving out the less privileged. One respondent noted,

"I cannot confidently say that private health insurance has made goods and services available and accessible to the less privileged and vulnerable ones. The reason is that if you aren't employed, you can't have access to the insurance scheme. And the scheme only covers those who are enrolled."

Another added,

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

"But after checking my details and confirming from my HMO, this will not be possible for a non-enrolee and one who is not employed."

These responses underline the exclusionary nature of private insurance schemes, which rely on formal employment or specific enrolment processes that many vulnerable individuals cannot meet.

Similarly, public health insurance schemes showed significant gaps in their inclusion policies, particularly for specific health conditions and vulnerable groups. Several respondents pointed out that certain health conditions are explicitly excluded from coverage. For instance, one respondent remarked,

"Down syndrome is not even covered,"

indicating the exclusion of individuals with congenital or developmental disorders. Another stated,

"That's why I said earlier that before now, in fact currently, infertility is not covered. If you have anything that has to do with infertility, you are on your own,"

reflecting the exclusion of infertility-related treatments. In addition, there is a broader concern about the absence of tailored packages for vulnerable populations. One respondent asserted,

"I don't think there is a special package that is open for vulnerable people,"

further showing the limited efforts to address the specific needs of marginalized groups.

Discussion

The National Health Insurance Authority (NHIA) in Nigeria has long been criticised for its bias toward the formal sector, leading to significant concerns about equity and the lack of financial risk protection for individuals in the informal sector and other vulnerable populations.[12]

The current results show that households with children under five do not have significantly higher odds of being enrolled in public insurance compared to private insurance. Similarly, no significant effect was found for households with elderly members. These findings suggest that the presence of young children or elderly adults does not strongly influence public insurance enrolment, which may indicate a lack of targeted incentives for these vulnerable groups. This aligns with previous research by Akwaowo et al.[13] and Ezenwaka et al.[14]

Also, a significant reduction in the likelihood of households with pregnant women being included in public insurance schemes is of concern. Pregnant women require comprehensive maternal and prenatal healthcare, and their lower enrolment in public insurance indicates that these schemes may not be providing adequate services or support to meet their needs. This agrees with similar findings[15] of gaps in public insurance coverage for maternal and reproductive health services. In Nigeria, where maternal mortality remains a persistent issue,[16] there is an urgent need to expand public insurance plans to adequately cover pregnant women.

The current findings show that, although the odds ratio indicates a strong positive association between households with physically challenged members and public insurance enrolment, this effect is not statistically significant. This suggests that, while there may be some inclination toward enrolling in public insurance, it is not consistent across cases. This result aligns with a similar observation;[17] they noted variability in coverage and service accessibility for individuals with disabilities, highlighting that public insurance may not uniformly meet the healthcare needs of this group. Similarly, households with visually impaired individuals did not show a significant association with public insurance enrolment. These findings are in consonance with the idea that public insurance schemes may not be effectively targeting or incentivising households with disabled members, leaving these vulnerable populations potentially uncovered.

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

The significant negative association between premium payments and public insurance enrolment is particularly noteworthy. It suggests that households paying premiums are far less likely to opt for public insurance. In settings where out-of-pocket expenses and financial barriers hinder access to healthcare, this finding raises serious concerns. Public insurance, which is designed to serve as a safety net for vulnerable populations, appears to be underutilised, possibly due to high premiums driving households away.[18] This creates a gap for those who cannot afford private insurance but also struggle with the costs of public options. The results show the need for policy reforms that alleviate the financial burden on vulnerable populations. Co-payment option among the insured did not have a statistically significant effect on public insurance selection; however, the marginally positive association suggests that households that co-pay for services may be slightly more inclined towards public insurance. However, user fee payment for services showed a negative but non-significant effect, indicating that additional fees may dissuade households from enrolling in public insurance, which does not even cover the vulnerable in their household.[19] These results imply that while co-payment may not be a strong deterrent, the imposition of user fees under public schemes could act as a barrier for some households, especially the economically vulnerable.

In addition, a significant positive association between fee-for-service payment and the choice of public insurance was observed, indicating that households using this payment method are more likely to enrol in public insurance schemes. This suggests that public insurance may appeal to those who prefer paying for healthcare services as they are received. However, this raises concerns about the risk of underinsurance or inadequate coverage for vulnerable populations, as fee-for-service models often lead to unpredictable costs.[20]

From all indications, the presence of vulnerable individuals in households, such as children under five, elderly adults, or people with disabilities, significantly reduces the likelihood of being included in public insurance. The fact that households with vulnerable members are less likely to be enrolled in public insurance suggests a misalignment between the perceived or actual benefits of public insurance and the needs of these populations. This result may reflect gaps in coverage, inadequate service delivery, or financial barriers that disproportionately affect vulnerable groups. It shows the need for public insurance schemes to better tailor their offerings to ensure comprehensive coverage for vulnerable individuals[21] and to actively promote the inclusion of these groups.

Furthermore, the non-significant association between the presence of vulnerable groups and the likelihood of opting for community insurance over private insurance was also noted. This suggests that the presence of these vulnerable individuals in households does not significantly affect the decision to select community insurance. These findings may indicate either a perception that community insurance offers no additional benefits for these groups or gaps in the communication of its potential advantages, as previously noted by Odeyemi.[22] In consonance with this earlier research, the lack of targeted benefits or clear communication might explain why community insurance is not seen as more appealing for households with specific healthcare needs.

The lack of significant associations between vulnerable household members and the choice of community insurance raises concerns about the inclusivity of the community insurance scheme. Vulnerable populations often require more frequent and specialised healthcare services,[23, 24] which ideally should make community insurance an attractive option for them due to its supposed focus on accessibility and affordability. However, the non-significant results suggest that community insurance may not be perceived as providing substantial advantages for these groups or that the barriers to accessing

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

community insurance may outweigh its benefits. This points to a need for policy adjustments to improve the range of services available under community insurance for these groups.

Our findings revealed that households that pay premiums are significantly less likely to choose community insurance, indicating that cost remains a substantial deterrent. In addition, both user fee payment and fee-for-service payment are associated with a lower likelihood of selecting community insurance. This suggests that even within a community-orientated insurance model, financial costs such as premiums, user fees, and service fees are discouraging households from participating. These findings are in agreement with Hussien et al.[3] Given that such schemes are intended to offer affordable coverage to lower-income and vulnerable populations, the fact that costs are still a deterrent highlights the need for stronger financial support mechanisms, such as subsidies, fee waivers, or more flexible payment structures.

The results also demonstrated that community insurance is not sufficiently inclusive for vulnerable populations, as reflected by the non-significant association between insurance choice and the presence of vulnerable household members inclusion. To achieve true social inclusion, community insurance schemes should focus on removing financial barriers and expanding their coverage of essential healthcare services.[2] This could involve introducing specialised packages that cater to the unique healthcare needs of vulnerable groups, such as comprehensive maternal healthcare for pregnant women or geriatric services for elderly individuals.

The findings presented by the key informants showed significant gaps in the social inclusion of health insurance schemes in Rivers State, particularly in private and public schemes. While community-based schemes demonstrate some level of inclusion, the limited coverage for essential services, the exclusion of vulnerable populations, and the lack of tailored healthcare packages for specific needs raise concerns about the overall effectiveness of these schemes. These observations align with broader concerns highlighted in the literature on health insurance in low- and middle-income countries (LMICs).[2] This finding is consistent with previous studies, which have reported that health insurance schemes in LMICs often exclude high-cost or specialised healthcare services, leaving vulnerable groups to bear the financial burden.[2] The findings from the current study also showed significant barriers faced by the unemployed and less privileged in accessing private health insurance. Studies have shown that in many LMICs, health insurance is predominantly employer-based, leaving out informal sector workers and unemployed individuals.[25] This exclusion perpetuates health inequities and reduces the potential impact of health insurance on universal healthcare coverage.

Community-based health insurance (CBHI) schemes demonstrated a commendable effort in improving healthcare access for the less privileged and vulnerable populations. Evidence from research shows that CBHI schemes have significantly improved healthcare access for marginalised groups in LMICs,[26] as well as cater specifically to the underserved by pooling resources locally.[27]

The gaps in coverage identified in the findings are not unique to Rivers State but represent broader issues in health insurance systems in LMICs. For health insurance schemes, to achieve their intended goal of universal health coverage, significant reforms are needed. Policies should focus on expanding coverage for vulnerable populations, ensuring inclusivity for the unemployed and informal sector workers, and incorporating essential healthcare services. Evidence from Ghana's National Health Insurance Scheme suggests that subsidies for the poor and exemptions for vulnerable groups can significantly improve health insurance coverage and access.[28]

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

Conclusion

Health insurance schemes must incorporate measures to enhance social inclusion, particularly for vulnerable populations. It is essential that these schemes provide comprehensive coverage that addresses the specific needs of individuals with special health conditions and those from economically disadvantaged backgrounds. To create a more cohesive system that meets diverse healthcare needs, government and policymakers should consider implementing policies that facilitate the integration of various health insurance schemes.

Conflict of Interest: Nil
Funding: NIL
Acknowledgement: The researchers would like to thank the research assistants who took part in the study.

References

1. Le QN, Blizzard L, Si L, Giang LT, Neil AL. The evolution of social health insurance in Vietnam and its role towards achieving universal health coverage. Health Policy OPEN. 2020 Dec;1:100011.
2. Adebayo EF, Uthman OA, Wiysonge CS, Stern EA, Lamont KT, Ataguba JE. A systematic review of factors that affect uptake of community-based health insurance in low-income and middle-income countries. BMC Health Serv Res. 2015 Jun;15(1):543.
3. Hussien M, Azage M. Barriers and Facilitators of Community-Based Health Insurance Policy Renewal in Low- and Middle-Income Countries: A Systematic Review. Clin Outcomes Res. 2021 May;Volume 13:359–75.
4. Derkyi-Kwarteng ANC, Agyepong IA, Enyimayew N, Gilson L. A Narrative Synthesis Review of Out-of-Pocket Payments for Health Services Under Insurance Regimes: A Policy Implementation Gap Hindering Universal Health Coverage in Sub-Saharan Africa. Int J Health Policy Manag. 2021 Jul 1;10(7):443–61.
5. Okoroh J, Essoun S, Seddoh A, Harris H, Weissman JS, Dsane-Selby L, et al. Evaluating the impact of the national health insurance scheme of Ghana on out of pocket expenditures: a systematic review. BMC Health Serv Res. 2018 Dec;18(1):426.
6. Fadlallah R, El-Jardali F, Hemadi N, Morsi RZ, Abou Samra CA, Ahmad A, et al. Barriers and facilitators to implementation, uptake and sustainability of community-based health insurance schemes in low- and middle-income countries: a systematic review. Int J Equity Health. 2018 Dec;17(1):13.
7. Mills E, Singh S, Wilson K, Peters E, Onia R, Kanfer I. The challenges of involving traditional healers in HIV/AIDS care. Int J STD AIDS. 2006 Jun 1;17(6):360–3.
8. Eze P, Ilechukwu S, Lawani LO. Impact of community-based health insurance in low- and middle-income countries: A systematic review and meta-analysis. Vojnov L, editor. PLOS ONE. 2023 Jun 27;18(6):e0287600.
9. Okedo-Alex IN, Akamike IC, Ezeanosike OB, Uneke CJ. A review of the incidence and determinants of catastrophic health expenditure in Nigeria: Implications for universal health coverage. Int J Health Plann Manage [Internet]. 2019 Oct [cited 2024 Oct 5];34(4). Available from: https://onlinelibrary.wiley.com/doi/10.1002/hpm.2847
10. Ipinnimo TM, Durowade KA, Afolayan CA, Ajayi PO, Akande TM. The Nigeria National Health Insurance Authority Act and its Implications towards Achieving Universal Health Coverage. Niger Postgrad Med J. 2022 Oct;29(4):281–7.
11. Akinyemi O, Harris B, Kawonga M. Health system readiness for innovation scale-up: the experience of community-based distribution of injectable contraceptives in Nigeria. BMC Health Serv Res. 2019 Dec;19(1):938.
12. Alawode GO, Adewole DA. Assessment of the design and implementation challenges

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

of the National Health Insurance Scheme in Nigeria: a qualitative study among sub-national level actors, healthcare and insurance providers. BMC Public Health. 2021 Jan 11;21(1):124.
13. Akwaowo CD, Umoh I, Motilewa O, Akpan B, Umoh E, Frank E, et al. Willingness to Pay for a Contributory Social Health Insurance Scheme: A Survey of Rural Residents in Akwa Ibom State, Nigeria. Front Public Health. 2021 Jun 17;9:654362.
14. Ezenwaka U, Manzano A, Onyedinma C, Ogbozor P, Agbawodikeizu U, Etiaba E, et al. Influence of Conditional Cash Transfers on the Uptake of Maternal and Child Health Services in Nigeria: Insights From a Mixed-Methods Study. Front Public Health. 2021 Jul 6;9:670534.
15. Aregbeshola BS, Khan SM. Out-of-pocket health-care spending and its determinants among households in Nigeria: a national study. J Public Health. 2021 Aug;29(4):931–42.
16. Sageer R, Kongnyuy E, Adebimpe WO, Omosehin O, Ogunsola EA, Sanni B. Causes and contributory factors of maternal mortality: evidence from maternal and perinatal death surveillance and response in Ogun state, Southwest Nigeria. BMC Pregnancy Childbirth. 2019 Dec;19(1):63.
17. Odeyemi IA, Nixon J. Assessing equity in health care through the national health insurance schemes of Nigeria and Ghana: a review-based comparative analysis. Int J Equity Health. 2013;12(1):9.
18. Vilcu I, Probst L, Dorjsuren B, Mathauer I. Subsidized health insurance coverage of people in the informal sector and vulnerable population groups: trends in institutional design in Asia. Int J Equity Health. 2016 Dec;15(1):165.
19. Shobiye HO, Dada I, Ndili N, Zamba E, Feeley F, De Wit TR. Determinants and perception of health insurance participation among healthcare providers in Nigeria: A mixed-methods study. Rajiah K, editor. PLOS ONE. 2021 Aug 4;16(8):e0255206.
20. Obadha M, Chuma J, Kazungu J, Barasa E. Health care purchasing in Kenya: Experiences of health care providers with capitation and fee-for-service provider payment mechanisms. Int J Health Plann Manage [Internet]. 2019 Jan [cited 2024 Sep 24];34(1). Available from: https://onlinelibrary.wiley.com/doi/10.1002/hpm.2707
21. Mohammed S, Bermejo JL, Souares A, Sauerborn R, Dong H. Assessing responsiveness of health care services within a health insurance scheme in Nigeria: users' perspectives. BMC Health Serv Res. 2013 Dec;13(1):502.
22. Odeyemi IA. Community-based health insurance programmes and the national health insurance scheme of Nigeria: challenges to uptake and integration. Int J Equity Health. 2014;13(1):20.
23. Akeju DO, Oladapo OT, Vidler M, Akinmade AA, Sawchuck D, Qureshi R, et al. Determinants of health care seeking behaviour during pregnancy in Ogun State, Nigeria. Reprod Health. 2016 Jun;13(S1):32.
24. Tanyi PL, André P, Mbah P. Care of the elderly in Nigeria: Implications for policy. Tong K wai, editor. Cogent Soc Sci. 2018 Jan 1;4(1):1555201.
25. Kimani JK, Ettarh R, Kyobutungi C, Mberu B, Muindi K. Determinants for participation in a public health insurance program among residents of urban slums in Nairobi, Kenya: results from a cross-sectional survey. BMC Health Serv Res. 2012 Dec;12(1):66.
26. Dror DM, Hossain SAS, Majumdar A, Pérez Koehlmoos TL, John D, Panda PK. What Factors Affect Voluntary Uptake of Community-Based Health Insurance Schemes in Low- and Middle-Income Countries? A Systematic Review and Meta-Analysis. Weary D, editor. PLOS ONE. 2016 Aug 31;11(8):e0160479.
27. Ekman B. Community-based health insurance in low-income countries: a systematic review of the evidence. Health Policy Plan. 2004 Sep 1;19(5):249–70.

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750

28. Blanchet N, Fink J, Osei-Akoto I. The effect of Ghana's National Health Insurance Scheme on health care utilisation. Ghana Med J. 2012;46(2):76–84.

© 2025 Journal of the Medical Women's Association of Nigeria | Published by the Medical Women's Association of Nigeria.
Print ISSN: 3043-4742 Online ISSN: 3043-4750