

PUBLIC ADMINISTRATION AND MALARIA CONTROL: EXAMINING THE ROLE OF INSECTICIDE-TREATED NET ACCEPTANCE AND UTILIZATION AMONG RESIDENTS OF OGBADIBO LOCAL GOVERNMENT AREA, BENUE STATE, NIGERIA

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ABSTRACT: Malaria remains a major public health challenge in rural communities across sub-Saharan Africa, with its control largely dependent on the effectiveness of public administration systems responsible for planning, implementing, and monitoring health interventions. This study examined the role of insecticide-treated net (ITN) acceptance and utilization in malaria control among residents of Ogbadibo Local Government Area (LGA), Benue State, Nigeria, within the context of public administration and health governance. A correlational research design was adopted for the study. The target population comprised 115,809 adult residents of Ogbadibo LGA, from which a sample of 399 respondents was selected using the Taro Yamane (1969) formula and a multi-stage sampling technique. Data were collected through a structured and validated questionnaire, while reliability coefficients obtained using Cronbach's Alpha ranged from 0.80 to 0.86. Pearson Product Moment Correlation (PPMC) was employed to test the hypotheses at the 0.05 level of

significance. The findings revealed that acceptance of ITNs had a significant positive relationship with malaria control ($r = 0.395$, $p < 0.05$), while utilization of ITNs also demonstrated a significant positive relationship with malaria control ($r = 0.360$, $p < 0.05$). These results suggest that increased community acceptance and consistent household utilization of ITNs contribute substantially to reducing malaria prevalence and improving public health outcomes. The study concludes that the success of malaria control programmes at the local government level depends significantly on the extent to which communities accept and utilize ITNs. It recommends that public administrators and health policymakers strengthen community engagement, culturally sensitive awareness campaigns, and accountability mechanisms to enhance the effectiveness and sustainability of malaria control interventions in rural Nigeria.

Keywords: *Public Administration, Malaria Control, Insecticide-Treated Nets, Acceptance, Utilization, Health Governance, Ogbadibo LGA, Nigeria.*

INTRODUCTION

Malaria remains one of the most consequential public health challenges confronting sub-Saharan Africa, and its effective management demands not only medical and epidemiological responses but also robust public administration and health governance frameworks. The disease disproportionately affects rural communities where local government structures are the primary interface between national health policy and community-level implementation. Understanding the administrative determinants of malaria control particularly the factors that shape the acceptance and utilization of preventive interventions is therefore essential for designing programmes that translate policy intent into measurable health outcomes.

The global scale of the malaria burden underscores this urgency. According to the World Health Organization, an estimated 263 million malaria cases and 597,000 deaths were recorded across 83 countries in 2023, with the WHO African Region accounting for 94% of cases and 95% of deaths (WHO, 2023). Nigeria bears a particularly severe national burden, contributing approximately 25% of all malaria cases on the continent (WHO, 2020). Within this context, insecticide-treated nets (ITNs) have emerged as the single most cost-effective tool for reducing malaria transmission, with documented reductions in

morbidity and mortality of up to 50% when used consistently and correctly (Lengeler, 2004).

Despite these well-established benefits, ITN coverage and utilization remain suboptimal across many Nigerian states. A 2018 national survey found that only 34.6% of households in Cross River State owned at least one ITN, with even lower usage rates among the most vulnerable groups (National Malaria Elimination Programme, 2018). These gaps reflect not merely individual behavioural choices but systemic failures in the administrative coordination, distribution logistics, and community engagement strategies that determine programme effectiveness. The challenge, therefore, is not primarily clinical it is administrative and governance-related.

Ogbadibo Local Government Area in Benue State exemplifies the broader challenge. Located in North Central Nigeria, the LGA is characterized by a predominantly rural population, limited access to formal healthcare services, constrained socio-economic conditions, and historically low levels of ITN awareness and uptake (Benue State Ministry of Health, 2019). These conditions make Ogbadibo both a site of acute malaria vulnerability and a strategically important location for examining how local government health administration can either facilitate or impede malaria control outcomes.

This study is premised on the argument that the acceptance and utilization of ITNs are not solely functions of individual knowledge or cultural attitudes but are significantly shaped by the quality of public administration at the local government level including the adequacy of distribution systems, the effectiveness of health communication strategies, community engagement processes, and the governance accountability of local health authorities. By examining the relationship between ITN acceptance, ITN utilization, and malaria control, the study generates evidence that can directly inform the design of administratively sound, community-responsive malaria control programmes.

The study pursues two specific objectives: (i) to determine the relationship between ITN acceptance and malaria control among residents of Ogbadibo LGA; and (ii) to assess the relationship between ITN utilization and malaria control among residents of Ogbadibo LGA. Two null hypotheses, tested at the .05 significance level, operationalize these objectives.

LITERATURE REVIEW

Public Administration and Health Intervention Delivery

The relationship between public administration and health outcomes has received sustained attention in both the public health and governance literatures. Public administration is central to health intervention delivery because it governs the planning, resourcing, coordination, and accountability structures through which health policies are translated into community-level action. At the local government level the tier of governance closest to the population administrative capacity is a critical determinant of whether national malaria control policies achieve their intended impact.

Local Government Areas in Nigeria are constitutionally mandated to provide basic healthcare services and coordinate community health programmes. This mandate places the LGA at the nexus of federal health policy and community health behaviour, making administrative performance a key variable in explaining variations in malaria control outcomes across communities. When local government health departments operate with adequate resources, trained personnel, and effective community engagement strategies, programme interventions such as ITN distribution are more likely to achieve high acceptance and sustained utilization (Federal Ministry of Health, 2014). Conversely, administrative deficiencies including weak logistics, poor community mobilization, and insufficient monitoring undermine programme effectiveness even when adequate ITN supplies are available.

ITN Acceptance and Malaria Control

The acceptance of insecticide-treated nets is a multidimensional construct shaped by individual, household, community, and governance-level factors. At the individual level, knowledge and awareness about the link between mosquito bites, malaria transmission, and ITN protective mechanisms are foundational determinants of acceptance. Research consistently demonstrates that individuals with a deeper understanding of malaria aetiology and prevention are more inclined to accept and regularly use ITNs (Hanson, Marchant & Nathan, 2017; Noor, Omumbo & Alegana, 2017).

Socio-cultural factors constitute a second critical dimension. In several communities across sub-Saharan Africa, ITNs carry social connotations variously perceived as markers of socio-economic status, foreign impositions incompatible with indigenous practices, or articles of superstitious significance all of which mediate acceptance (Mushi, Mlacha & Mubyazi, 2017). These cultural dynamics are not immutable; rather, they can be addressed through culturally sensitive communication strategies designed and implemented through community-based administrative structures.

Economic barriers further complicate acceptance patterns. The direct cost of ITNs, combined with the indirect costs of time, maintenance, and replacement, can render consistent ITN use prohibitively expensive for low-income households (Hanson et al., 2017). Government-led subsidy programmes and free distribution initiatives when administered efficiently and equitably have demonstrated capacity to substantially raise acceptance rates, particularly among the most vulnerable households (National Malaria Elimination Programme, 2020).

The administrative dimension of acceptance is perhaps the most overlooked in the literature. When local government health authorities invest in structured community outreach, engage traditional and religious leaders as programme champions, and maintain transparent and accountable distribution systems, community trust in ITN programmes increases, which in turn boosts acceptance rates. Dalrymple, Alipui and Garner (2020) established that community-level economic and social returns from high ITN acceptance including reduced disease burden and improved household productivity are most robustly realized when administrative support structures are in place and functioning.

ITN Utilization and Malaria Control

Acceptance of ITNs is a necessary but not sufficient condition for effective malaria control; sustained, correct utilization is the operative mechanism through which health protection is achieved. ITN utilization refers to the consistent practice of sleeping under an insecticide-treated net, which physically interrupts the transmission chain between the *Anopheles* mosquito vector and the human host. When used correctly and consistently, ITNs have been shown to reduce malaria-related morbidity and mortality by up to 50% and

to confer broader epidemiological benefits at the community level through mass effects that reduce the overall mosquito population in treated areas (Lengeler, 2004; WHO, 2019).

Despite this documented efficacy, utilization rates in rural Nigerian communities remain significantly below optimal levels. Several factors account for this gap. Socio-demographic characteristics including sex, age, educational attainment, and household economic status shape utilization patterns. Gamble, Ekwuru and Ter (2017) found that women and children, who face the highest malaria risk, tend to exhibit higher utilization rates than adult men, suggesting that targeted administrative interventions can leverage existing behavioural inclinations to improve programme coverage. However, these inclinations are modulated by household-level factors such as wealth, family size, and the presence of children under five, all of which interact with utilization behaviour in complex ways (Mushi et al., 2017).

Access and availability constitute a second tier of utilization determinants. Even in communities where acceptance attitudes are favourable, utilization rates are constrained by supply gaps, inadequate distribution networks, and poor post-distribution follow-up. The logistical performance of local government health departments specifically their capacity to deliver ITNs to remote households, replace worn or expired nets, and maintain distribution records is therefore a material determinant of utilization outcomes. Environmental interventions, including the installation of accessible distribution points and the implementation of maintenance programmes, have demonstrated effectiveness in raising utilization rates when complemented by educational outreach (Noor et al., 2017).

The community-level evidence on ITN utilization and malaria outcomes is compelling. Abrazheim (2022) found significant associations between rural household ITN utilization and reductions in malaria incidence, while WHO (2022) reported that the global scale-up of ITN programmes contributed to a 44% reduction in malaria-related deaths between 2000 and 2019. These macro-level outcomes depend critically on the micro-level administrative systems community health workers, LGA health committees, distribution chains, and monitoring protocols that determine whether ITNs reach and are used by the populations they are designed to protect.

Public Administration Frameworks for Malaria Control

From a public administration perspective, malaria control programmes are complex policy implementation challenges that require coordination across multiple governance levels, sectoral agencies, and community actors. The National Malaria Elimination Programme (NMEP) of Nigeria provides the overarching national framework, but effective implementation is contingent on the institutional capacity and political commitment of state and local government health authorities (National Malaria Elimination Programme, 2020). Local government administrators play particularly pivotal roles: they translate national distribution targets into community-specific action plans, mobilize community health workers, coordinate with traditional authority structures, and manage the logistics of ITN supply chains.

Governance accountability mechanisms including performance monitoring, community feedback systems, and inter-agency coordination protocols are critical to sustaining programme integrity. When these mechanisms are weak or absent, ITN programmes are vulnerable to supply diversion, inequitable distribution, and inadequate follow-up, all of which erode acceptance and utilization rates at the community level. Strengthening the administrative foundations of malaria control programmes is therefore not merely a logistical imperative but a governance one.

THEORETICAL FRAMEWORK

This study is grounded in two complementary theoretical frameworks: the Health Belief Model (HBM) and the Theory of Planned Behaviour (TPB), both of which provide explanatory leverage on the individual and social determinants of health-protective behaviour, and both of which carry direct implications for administrative programme design.

The Health Belief Model, originally developed by Rosenstock (1974), proposes that the probability of an individual adopting a preventive health behaviour is governed by four perceptual variables: the perceived susceptibility to a health threat; the perceived severity of that threat; the perceived benefits of the recommended behaviour; and the perceived barriers to adopting it. In the context of ITN acceptance and utilization, these variables translate as follows: community members who perceive themselves as highly susceptible

to malaria, who regard the disease as serious, who understand the protective benefits of ITNs, and who face low barriers to obtaining and using nets are most likely to demonstrate high acceptance and consistent utilization. For public administrators, the HBM indicates that programme messaging and community outreach strategies must explicitly address all four perceptual domains, not merely inform communities that ITNs are available.

The Theory of Planned Behaviour, advanced by Ajzen (1991), extends this framework by emphasizing the role of subjective norms and perceived behavioural control. Under the TPB, an individual's intention to use an ITN and therefore their actual utilization behaviour is shaped not only by personal attitudes towards the net but also by the normative expectations of significant others in their social environment (family members, community leaders, peers) and by their confidence in their own capacity to perform the behaviour consistently. This framework has important administrative implications: ITN programmes that invest in community-wide norm-change strategies, engage influential community leaders, and remove practical barriers to net access and maintenance are more likely to generate sustained utilization than programmes that rely solely on individual awareness campaigns.

Together, the HBM and TPB situate ITN acceptance and utilization within a broader socio-administrative context, reinforcing the study's argument that health behaviour change is not merely an individual process but a governance challenge requiring sustained, multi-level administrative support.

METHODOLOGY

Research Design

A correlational research design was employed for this study. This design is appropriate for establishing the direction and strength of the relationship between two or more naturally occurring variables without experimental manipulation (Sekaran, 2012). The study examined correlations between ITN acceptance, ITN utilization, and malaria control as reported by adult community members, thereby generating evidence relevant to both public health and public administration scholarship.

Study Area

The study was conducted in Ogbadibo Local Government Area, located in Benue State, North Central Nigeria, at approximately 7.0892° N latitude. The LGA shares boundaries with Okpokwu LGA to the east, Olamaboro LGA of Kogi State to the north, and Udenu and Igbo-Eze North LGAs of Enugu State to the west. Ogbadibo LGA encompasses three administrative districts Otukpa, Orokam, and Owukpa with Otukpa serving as the administrative headquarters.

As of 2022, the LGA had an estimated population of 189,100 people distributed across approximately 500.6 km² of predominantly rural territory. The predominant language is Idoma, with distinct dialects across districts. The LGA's economy is anchored in subsistence and commercial agriculture, including cassava, millet, palm wine, and palm oil production, as well as extractive activities around the coal deposits of Owukpa and kaolin deposits of Orokam. Limited healthcare infrastructure, restricted health education access, and low household incomes make Ogbadibo an appropriate and significant research site for investigating malaria control governance.

Population and Sampling

The target population comprised all adult residents of Ogbadibo LGA. Population data obtained from the National Population Commission (2024) and National Bureau of Statistics (2023) indicated a total adult population of 115,809. The sample size was determined using the Taro Yamane (1969) formula:

$$n = N / [1 + N(e)^2]$$

Where n = sample size, N = total population (115,809), and e = margin of error (.05). This yielded a sample of 399 respondents. Multi-stage sampling was employed: first, purposive selection of communities within each district; second, systematic random sampling of households within selected communities; and third, random selection of one eligible adult per household.

Instrumentation

Data were collected using the Acceptance, Utilization of Insecticide-Treated Net and Malaria Control Questionnaire (AUTMCQ), a researcher-developed instrument structured

on a four-point Likert rating scale: Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1), with reversed scoring for negatively worded items. The instrument comprised two sections: Section A captured respondent bio-data, and Section B contained 30 items across the three constructs ITN acceptance (10 items), ITN utilization (10 items), and malaria control (10 items).

The instrument was face-validated by the researcher's supervisor and a panel of subject matter experts in public health and public administration. A pilot test administered to 40 respondents in a comparable LGA yielded Cronbach Alpha reliability coefficients ranging from .80 to .86, confirming strong internal consistency and instrument dependability.

Data Analysis

Demographic data were analysed using frequency counts and simple percentages. Descriptive statistics means and standard deviations were computed for the three study variables. Pearson Product Moment Correlation (PPMC) analysis was employed to test the null hypotheses at the .05 level of significance. All analyses were conducted using SPSS Version 23.

RESULTS

Demographic Profile of Respondents

Table 1 presents the demographic characteristics of the 399 respondents.

Table 1: Demographic Description of the Study Sample

Variable	Category	Frequency	Percent (%)
Sex	Male	154	38.6
	Female	245	61.4
	Total	399	100.0
Age	18–25 years	50	12.5
	26–32 years	88	22.1
	33–39 years	144	36.1
	40 years & above	177	44.3
Total		399	100.0

Source: Author's Field Survey (2026)

Female respondents constituted the majority of the sample (61.4%), compared to males (38.6%). This distribution is consistent with the pattern of female over-representation in community health surveys in rural Nigeria, reflecting both women's greater engagement

with household health activities and their proportionally higher vulnerability to malaria-related health consequences. In terms of age distribution, respondents aged 40 years and above formed the largest cohort (44.3%), followed by those aged 33 to 39 years (36.1%), 26 to 32 years (22.1%), and 18 to 25 years (12.5%). The predominance of older adult respondents is notable from a governance perspective, as this cohort often includes community leaders and household decision-makers whose attitudes toward ITN acceptance and utilization carry significant normative weight.

Descriptive Statistics for Study Variables

Table 2 presents means and standard deviations for the three study constructs.

Table 2: Descriptive Statistics for Study Variables

Variable	N	Min.	Max.	Mean ($\bar{X}$)	Std. Dev.
Acceptance of ITNs	399	13.00	21.00	17.8906	2.40982
Utilization of ITNs	399	11.00	20.00	16.7957	2.43565
Malaria Control	399	10.00	22.00	18.6883	2.32458

Source: Author's Field Survey (2026)

Malaria control recorded the highest mean score ($\bar{X} = 18.6883$, $SD = 2.32458$), suggesting a moderate-to-high level of perceived malaria control activity within the study community. ITN acceptance ($\bar{X} = 17.8906$, $SD = 2.40982$) was rated slightly higher than ITN utilization ($\bar{X} = 16.7957$, $SD = 2.43565$), indicating a recognizable gap between respondents' expressed willingness to accept ITNs and their actual sustained use a finding with direct implications for the design of local government health administration strategies. The relatively consistent standard deviations across all three variables suggest moderate homogeneity in respondent perceptions, while the gap between acceptance and utilization means points to the importance of distinguishing between attitudinal and behavioural determinants in programme evaluation.

Hypothesis Testing

Hypothesis One: ITN Acceptance and Malaria Control

H₁: There is no significant relationship between acceptance of insecticide-treated nets and malaria control among residents of Ogbadibo LGA, Benue State, Nigeria.

Table 3: PPMC Analysis — ITN Acceptance and Malaria Control

Variable	N	Mean ($\bar{X}$)	Std. Dev.	r	Sig.
Acceptance of ITNs	399	29.4050	4.06492	.395	.000*
Malaria Control	399	30.7300	4.04710		

*Significant at .05 level ($p < .05$)

Source: Author's Field Survey (2026)

Table 3 reveals a statistically significant positive correlation between ITN acceptance and malaria control ($r = .395$, $p = .000$). Since the p-value is less than the .05 significance threshold, the null hypothesis is rejected. This finding confirms that higher levels of community acceptance of insecticide-treated nets are significantly associated with improved malaria control outcomes in Ogbadibo LGA.

Hypothesis Two: ITN Utilization and Malaria Control

H₂: There is no significant relationship between utilization of insecticide-treated nets and malaria control among residents of Ogbadibo LGA, Benue State, Nigeria.

Table 4: PPMC Analysis — ITN Utilization and Malaria Control

Variable	N	Mean ($\bar{X}$)	Std. Dev.	r	Sig.
Utilization of ITNs	399	29.4050	4.06492	.360	.000*
Malaria Control	399	30.7300	4.04710		

*Significant at .05 level ($p < .05$)

Source: Author's Field Survey (2026)

Table 4 shows a statistically significant positive correlation between ITN utilization and malaria control ($r = .360$, $p = .000$). With the p-value falling below the .05 threshold, the null hypothesis is rejected. The evidence confirms that greater consistency in ITN utilization among community residents is significantly associated with enhanced malaria control outcomes.

DISCUSSION OF FINDINGS

The significant positive correlation between ITN acceptance and malaria control ($r = .395$, $p < .05$) corroborates a substantial body of empirical evidence linking community-level receptiveness to ITN programmes with measurable improvements in disease burden. This

finding aligns with WHO (2019), which identified ITN acceptance as a foundational component of effective malaria control, and with Hanson, Marchant and Nathan (2017), who demonstrated that individuals with adequate knowledge of malaria transmission and ITN functionality exhibit consistently higher acceptance rates. The moderate but significant correlation coefficient observed in this study reflects the multi-factorial nature of the acceptance-outcome relationship, in which administrative, cultural, economic, and informational variables interact.

From a public administration standpoint, the finding carries significant governance implications. The moderate strength of the correlation ($r = .395$) suggests that while acceptance is a meaningful predictor of malaria control outcomes, it does not operate as a sufficient determinant on its own. This is consistent with Mushi, Mlacha and Mubyazi (2017), who found that socio-cultural barriers including the perception of ITNs as foreign or incompatible with local sleeping customs continue to limit the translation of expressed acceptance into consistent protective behaviour. Administrative interventions that engage traditional and community leaders as programme advocates, address cultural misconceptions through locally resonant communication strategies, and ensure equitable access to ITNs across socio-economic groups are therefore essential complements to supply-side distribution efforts.

The economic dimension of acceptance is particularly salient in the Ogbadibo context, where household poverty constrains both the ability to purchase replacement nets and the social licence to prioritize preventive health expenditures over immediate consumption needs. Dalrymple, Alipui and Garner (2020) established that government-administered subsidy and free-distribution programmes generate significant community-level economic benefits by reducing the malaria burden on household finances and labour productivity. The present findings reinforce the case for sustained public investment in free ITN distribution administered through the local government health system, complemented by community education campaigns that make the economic as well as health benefits of ITN acceptance visible to rural households.

The significant positive relationship between ITN utilization and malaria control ($r = .360$, $p < .05$) affirms the primacy of behavioural consistency in determining the health protective impact of ITN programmes. This result is consistent with Lengeler (2004),

whose landmark Cochrane review established ITN utilization as one of the most robustly evidence-based interventions for reducing malaria morbidity and mortality in endemic settings. The slight attenuation of the correlation coefficient compared to acceptance ($r = .360$ versus $r = .395$) is theoretically informative: it suggests that while utilization is directly tied to malaria outcomes, the relationship is mediated by additional variables including net integrity, insecticide potency, and household sleeping patterns that reduce the linear strength of the association.

The administrative determinants of utilization deserve particular attention in the public administration literature. Noor, Omumbo and Alegana (2017) established that access constraints including the physical unavailability of nets in remote communities and the absence of post-distribution follow-up remain the primary drivers of suboptimal utilization even in communities where acceptance attitudes are positive. The local government health administration's logistical performance is therefore a direct determinant of utilization rates. When LGA health departments maintain functional supply chains, deploy community health workers for household-level follow-up, and implement systematic monitoring of net usage patterns, the gap between ITN ownership and consistent nightly use can be substantially narrowed.

The finding also resonates with Abrazheim (2022), who documented significant associations between household ITN utilization and reduced malaria incidence in rural sub-Saharan African settings comparable to Ogbadibo LGA. Gamble, Ekwaru and Ter (2017) further highlighted the protective effects of ITN utilization for pregnant women and children under five precisely the demographic groups most represented in the female-dominated and middle-aged sample of the present study. These converging lines of evidence strengthen the case for administration-led programmes that not only distribute ITNs but actively monitor, support, and incentivize consistent household utilization over time.

CONCLUSION

This study examined the relationships between ITN acceptance, ITN utilization, and malaria control outcomes among adult residents of Ogbadibo Local Government Area, Benue State, situating these relationships within the framework of public administration

and health governance. The empirical evidence confirms that both acceptance ($r = .395$, $p < .05$) and utilization ($r = .360$, $p < .05$) of insecticide-treated nets are significantly positively associated with malaria control findings that carry both statistical and substantive significance for the administration of malaria control programmes at the local government level.

The study contributes to the public administration literature by demonstrating that malaria control is fundamentally a governance challenge, not merely a medical or behavioural one. The acceptance and utilization of ITNs the two most reliable community-level mechanisms for reducing malaria transmission are shaped by the quality, reach, and cultural responsiveness of local government health administration. Communities served by well-functioning, accountable, and community-engaged local health authorities are more likely to exhibit the acceptance attitudes and utilization behaviours that translate into meaningful reductions in malaria burden.

Several limitations constrain the generalizability of the findings. The cross-sectional design precludes causal inference; the direction of causality between administrative quality and ITN behaviour requires longitudinal investigation. The study's focus on a single LGA limits its transferability to other geographic and socio-cultural contexts. Additionally, self-reported utilization data may be subject to social desirability bias, potentially inflating observed utilization rates. Future research should employ longitudinal designs, objective utilization measures such as net integrity inspections, and comparative analyses across multiple LGAs to build a more comprehensive evidence base for malaria control governance.

POLICY RECOMMENDATIONS

Based on the study's findings and conclusions, the following evidence-based recommendations are advanced for public administrators, health governance practitioners, and policymakers:

1. Local government health departments in Benue State and across Nigeria should institutionalize community-based ITN acceptance promotion strategies that actively engage traditional rulers, religious leaders, and women's organizations as programme co-implementers. Administrative investment in culturally grounded communication

delivered through trusted community channels rather than purely through formal health facilities is essential for addressing the socio-cultural barriers that constrain acceptance in rural settings such as Ogbadibo LGA.

2. The Benue State Government, in partnership with the National Malaria Elimination Programme, should establish a structured, routine ITN distribution system administered through local government primary healthcare units, with explicit performance targets for household coverage, equity of distribution across wealth quintiles, and post-distribution follow-up rates. Administrative performance on these metrics should be reported publicly and linked to health sector funding allocations to create accountability incentives.
3. Local government authorities should deploy and adequately resource community health workers as frontline ITN utilization monitors. These workers should be trained in household-level behaviour change communication, equipped to identify and address utilization barriers including net damage, insecticide deterioration, and incorrect installation and integrated into a systematic community feedback mechanism that reports utilization gaps to LGA health management teams.
4. The Federal Ministry of Health and the National Malaria Elimination Programme should incorporate ITN acceptance and utilization performance indicators into the governance scorecards of Local Government Areas, with incentive structures that reward LGAs achieving defined coverage thresholds. This governance accountability framework would align administrative incentives with community health outcomes and create a performance culture within local health administration.
5. Future research should extend this study to multiple LGAs across Nigeria's malaria-endemic zones to generate comparative evidence on the administrative factors that differentiate high-performing from low-performing malaria control programmes. Qualitative and ethnographic research methodologies should complement quantitative approaches to illuminate the governance dynamics and community perception processes that shape ITN acceptance and utilization at the local level.

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