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Utilisation of Community-Based Health and Social Services and Its Association with Healthcare Access and Outcomes in Lagos State, Nigeria: A Mixed-Methods Study

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Abstract

The use of community-based health and social services (CBHSS) has been expanding to complement primary healthcare (PHC) and social support for underserved populations in Nigeria, but evidence linking CBHSS use with healthcare access and health outcomes in Lagos State is limited. This cross-sectional mixed-methods study assessed awareness and use of CBHSS, individual- and household-level correlates, and association with timely care-seeking and self-rated health in six local government areas (LGAs) of Lagos State. Multi-stage cluster sampling yielded 864 adults aged ≥18 years (response rate 96%). Data were collected through interviewer-administered questionnaires, 12 focus group discussions and 18 key informant interviews, and analysed using descriptive statistics, multivariable logistic regression and thematic analysis. Overall, 61.3% of respondents had used at least one CBHSS in the preceding 12 months. Utilisation was associated with awareness of available services (AOR = 3.82, 95% CI: 2.51–5.81), trust in community health workers (AOR = 3.15, 95% CI: 2.12–4.68), community health committee membership (AOR = 2.94, 95% CI: 1.98–4.36) and residence within 2 km of a service point (AOR = 2.41, 95% CI: 1.67–3.48). Among respondents with a recent common illness, CBHSS users (any use in the preceding 12 months) sought timely care more often than non-users (68.4% vs 41.2%, $p < 0.001$). Stakeholders identified irregular funding, weak intersectoral coordination and low male engagement as barriers. CBHSS use is associated with better healthcare access, although the cross-sectional design precludes causal inference. The Lagos State Ministry of Health should fund CBHSS predictably and formalise their referral links with PHC centres.

Keywords: Community-Based Health Services, Healthcare Access, Primary Healthcare, Community Health Workers, Lagos State, Universal Health Coverage.

Introduction

Access to quality healthcare in Nigeria remains a great challenge despite the numerous strategies and policy directives on national health, including the aspiration for universal

health coverage (UHC) by 2030. First-level primary healthcare (PHC) facilities, the first point of contact for most Nigerians, have been reported as under-resourced, understaffed, and underdeveloped (Ogah et al., 2024; Sampson et al., 2024). At national level, PHC coordination and financing are channelled through the National Primary Health Care Development Agency (NPHCDA) and the Basic Healthcare Provision Fund (BHCPF) (Igbokwe et al., 2024). Community-based health and social services (CBHSS) or structures have been increasingly leveraged to complement formal health services and address the health system's inability to meet the health needs of the people. This includes community-based health worker programs, community-based health insurance schemes, voluntary community health committees, and social support networks, among others (Ozor et al., 2024; Mbaegbu et al., 2025). Community health workers (CHWs) and community health extension workers (CHEWs) provide a critical link between the formal health sector and the community by promoting health, supporting disease surveillance, and providing appropriate care while facilitating referrals to formal health facilities. Community participation in health governance has also been demonstrated to improve service utilization and accountability (Ojielo et al., 2024; Obi et al., 2024).

Evidence from several Nigerian states indicates that community platforms contribute to the control of conditions such as hypertension by providing channels for health education, surveillance, early detection and follow-up (Ajisegiri et al., 2023; Baldridge et al., 2024; Oseni et al., 2024). Notably, the role of health structures at the community level will depend on funding, supervision, intersectoral collaboration, and community ownership (Ozor et al., 2024; Lawal & Lodenstein, 2022). Lagos State hosts Nigeria's commercial capital and is the largest metropolis in West Africa. It is estimated to have a population of over 20 million, about one-tenth of Nigeria's population, and receives the highest inflow of migrants of any Nigerian state (Oniyire et al., 2025). Alongside its highly urbanised LGAs, the state has peri-urban and semi-rural LGAs where PHC coverage is uneven: only 14% of its PHC centres serve the recommended catchment population, while 51% are overstretched (Oniyire et al., 2025). Lagos State has several community-based initiatives that support healthcare delivery, including the Community Health Insurance scheme, ward development committees, community-based organizations, and communities involved in community mobilization programs. The extent to which residents use these services, and whether use is associated with better healthcare access and health outcomes, has not been documented.

Specific programmes and facility-level performance have been explored in previous studies in Lagos State. These include the uptake of early infant HIV diagnosis at PHC centres (Okusanya et al., 2023) and PHC governance and service availability (Wright et al., 2024; Oniyire et al., 2025). Studies in neighbouring south-western states have assessed the availability and utilisation of PHC services in Ogun and Oyo States (Alonge, 2025) and the delivery of age-friendly services in PHC centres (Ogunyemi et al., 2024). This study thus explored the use of CBHSS and its relationship with access to health services and selected health outcomes in six LGAs of Lagos State. Using a mixed-methods design, it determined

awareness and utilisation of CBHSS, identified their individual- and household-level correlates, examined the association between utilisation and both timely care-seeking and self-rated health, and explored stakeholders' views on the factors that influence the provision and utilisation of services. Findings from the study will contribute to the existing literature on community-based health and social services and provide evidence for policymakers and program managers in Lagos State and beyond to improve healthcare access and health outcomes.

Review of Related Literature

Community-based health and social services in Nigeria can be grouped into four main platforms, namely: CHW and CHEW outreach; community participation and governance structures (ward development committees – WDCs); community-based health financing; and community social support networks (Ozor et al., 2024; Mbaegbu et al., 2025). Outreach by CHWs is the best documented. CHWs play a role in hypertension detection, education and follow-up (Oseni et al., 2024). They often assume informal task-sharing roles in hypertension and diabetes care (Ajisegiri et al., 2023), and their hypertension knowledge is enhanced through structured tele-mentoring (Baldridge et al., 2024). Research on community participation shows that greater community involvement in health programme planning and implementation, and community group linkages with PHC centres, are associated with increased PHC utilisation and accountability (Lawal & Lodenstein, 2022; Obi et al., 2024; Ojielo et al., 2024).

A systematic review and meta-analysis of community-based health insurance in low- and middle-income countries revealed that insured households were more likely to use health services and had slightly lower out-of-pocket expenditure, but financial protection was not always achieved (Eze et al., 2023). In Nigeria, the willingness of rural households to enrol has been found to be associated with household socioeconomic factors and decision motives (Oluedo et al., 2023). If a scheme is disrupted, its benefits may be lost in a short period of time. After community-based health insurance was temporarily suspended in Kwara State, enrolment collapsed, most former enrollees reverted to out-of-pocket payment, and facilities recorded a significant decline in outpatient visits (Bolarinwa et al., 2022).

There are three limitations in this evidence. First, most studies focus on one platform or one disease programme, whereas the services that households actually use are a combination of services. Second, utilisation is typically measured at the facility level. Household surveys of PHC use in Enugu, Ogun and Oyo States reveal high levels of non-use and identify accessibility-related and socioeconomic determinants (Nwokoro et al., 2022; Alonge, 2025), but do not differentiate between community-based services and facility care. Third, equity has received little examination. National analyses indicate that the use of maternal and reproductive health services is skewed towards richer households (Okoli et al., 2020; Aregbeshola & Olaniyan, 2022), and in neighbouring Niger a large proportion of the population lives beyond walking distance of CHW-staffed community health posts

(Oliphant et al., 2021). The extent to which community platforms can close or widen these gaps has not been well tested in urban Nigeria.

Studies conducted at the health-system level also reveal that community services rely on PHC financing and governance, such as decentralised funding levels (Hagedorn et al., 2025) and the NPHCDA gateway of the BHCPF (Igbokwe et al., 2024). In Lagos State, available assessments focus on PHC facilities, governance and service availability (Wright et al., 2024; Oniyire et al., 2025) and programme-specific uptake (Okusanya et al., 2023). The gap, therefore, lies in the lack of household-level evidence from Lagos State on the use of CBHSS platforms, the factors that predispose and enable that use, and the association of use with timely care-seeking and self-rated health.

Statement of the Problem

The PHC network in Lagos State has not been able to keep up with the population. In a state-wide evaluation of 279 of the 319 PHC centres, only 14% of the centres served the recommended catchment of 10,000–20,000 people, while 51% were overstretched and only 26% had adequate nurse/midwife staffing (Oniyire et al., 2025). Governance and service-availability gaps have also been documented (Wright et al., 2024). In this context, CBHSS (including CHW outreach, WDCs, community-based financing and social support groups) are expected to take a share of first-contact care, especially in peri-urban and semi-rural LGAs. However, current Lagos research focuses on facilities and individual programmes rather than on whether residents use community services and whether users obtain care more promptly.

The affected population is the adult population of Lagos State, particularly low-income residents and those living far from service points, among whom unmet need is likely to be concentrated. Evidence is required at the household level to determine who uses CBHSS, what impedes use, and whether there is a relationship between use and timely care-seeking. Without it, the Lagos State Ministry of Health, the Lagos State Primary Health Care Board and LGA health authorities are unable to prioritise CBHSS funding, staffing and referral strengthening in the areas and groups most in need. Community platforms would then risk reproducing the pro-rich inequities reported across the country (Okoli et al., 2020; Aregbeshola & Olaniyan, 2022).

Conceptual Framework

The study was guided by two complementary frameworks. The first is the Andersen behavioural model of health services use, which views the use of health services as a function of predisposing factors (e.g., demographic characteristics, social structure, health beliefs and knowledge), enabling factors (e.g., personal, family and community resources that make service use possible) and need factors, such as a recent episode of illness (Andersen, 1995). The second is the community system strengthening (CSS) framework which outlines the components of a strong community system, such as community networks, linkages and partnerships, community activities and service delivery, resources

and capacity building, and community coordination and partnership (Global Fund to Fight AIDS, Tuberculosis and Malaria, 2014). The individual and household determinants of CBHSS utilization were organized by the Andersen model, and the community-level system in which the services are provided and the factors reported by stakeholders that affect their provision were described by the CSS framework.

Figure 1 combines the two frameworks. It hypothesises that predisposing factors (age, sex, education, occupation, awareness of services, trust in CHWs), enabling factors (household wealth quintile, distance to the nearest service point, membership of a community health or ward development committee, and reported cost or unavailability barriers) and the need factor (a recent episode of common illness) are associated with CBHSS utilisation. Utilisation occurs in a community system consisting of community structures and services, resources and capacity, and coordination and ownership. Utilisation is assessed for four types of services: CHW health education or counselling, community mobilisation, referral support, and community-based health financing or social support. It is in turn hypothesised to be associated with healthcare access (timely care-seeking for common illness) and self-rated health. Utilisation and equitable access are likely to be constrained by stakeholder-reported barriers (irregular funding, weak coordination, low male engagement and inequity). The framework specifies associations to be tested, not causal pathways.

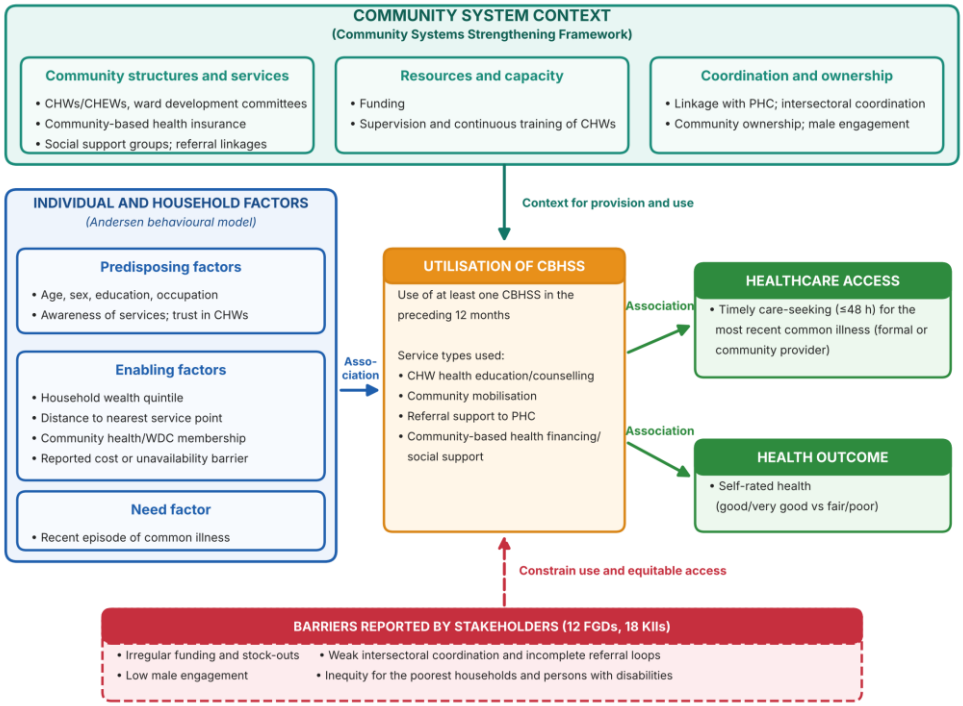


Figure 1: Conceptual framework linking predisposing, enabling and need factors and the community system to CBHSS utilisation, healthcare access and self-rated health

Source: Authors' construct, adapted from Andersen (1995) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (2014).

Aim, Objectives and Research Questions

The aim of this study was to examine the utilisation of community-based health and social services and its association with healthcare access and selected health outcomes in six local government areas in Lagos State, Nigeria. The specific objectives were to:

1. Determine the awareness and utilisation of community-based health and social services, by service type, in the study areas.
2. Identify the individual- and household-level predisposing and enabling factors associated with the utilisation of community-based health and social services, controlling for LGA of residence.
3. Examine the association between the utilization of community-based health and social services, healthcare access (timely care-seeking), and selected health outcomes (self-rated health).
4. Explore stakeholders' views on the community-system factors that influence the provision and utilization of community-based health and social services.

The Study Addressed Four Research Questions

RQ1: What proportion of adults in the six LGAs are aware of, and have used, community-based health and social services in the preceding 12 months, and which service types do they use?

RQ2: Which predisposing and enabling factors are associated with the utilisation of these services?

RQ3: Is utilisation of these services associated with timely care-seeking and self-rated health?

RQ4: What community-system factors do community members and stakeholders perceive as shaping the provision and utilisation of these services?

Materials and Methods

Study Design and Setting

This community-based cross-sectional mixed-methods study was performed between January 2026 and June 2026. The study sites included six local government areas (LGAs) in Lagos State selected on a purposive basis. The selected areas are Alimosho, Ikorodu, Badagry, Epe, Kosofe, and Surulere. These LGAs were chosen because they represent a mix of urban, peri-urban, and semi-rural environments and include a variety of community health structures, such as primary health centres, ward development committees, community health workers, and community-based health insurance or social support schemes, among others.

Population and Sampling

The quantitative study population comprised adults aged 18 years or older who had resided in the selected communities for at least 12 months before the start of the study. The sampling procedure was done using a multi-stage cluster sampling framework. In the first

stage, two communities (wards) were randomly selected from each of the six Local Government Areas (LGAs) as the study sites, which comprised 12 communities. In the second stage, a list of households was generated in the selected communities. In the third stage, eligible respondents were randomly selected from the list using systematic sampling. This involved selecting one eligible respondent from each household with more than one adult. The adequacy of the target sample was assessed with Cochran's formula for a single proportion, $n = Z^2p(1 – p)/d^2$. The inputs were $Z = 1.96$, an assumed utilisation proportion of 50% ($p = 0.5$, because no Lagos-specific CBHSS estimate was available) and a 5% margin of error ($d = 0.05$), which gives 384.2. Applying a design effect of 2.0 for clustering by ward gives 768.3, rounded up to 769. Allowing 15% for non-response (769/0.85) gives 905, which is consistent with the target of 900. A total of 900 quantitative respondents were selected using this framework. Out of the 900, 864 respondents completed the interview process (response rate of 96%), which exceeds the 769 required under the cluster design. On the other hand, 12 focus group discussions (FGDs) with community members and 18 key informant interviews (KIIs) with community health workers, ward development committee chairpersons, primary healthcare facility officers-in-charge, and local government health officials were held to supplement the quantitative data.

Data Collection

A structured interviewer-administered questionnaire was administered by 18 trained research assistants with a good command of the English language, as well as the local dialects of Yoruba and Nigerian Pidgin. The questionnaire was developed in English and included questions about socio-demographic characteristics; awareness and use of community-based health and social services (CHWs contact, community health insurance, community mobilisation, social support groups, and referral linkages); barriers and facilitators; healthcare-seeking behaviour for common illnesses; self-rated health; and household wealth. Item content was organised around the predisposing, enabling and need domains of the Andersen model (Andersen, 1995), and items on PHC use and care-seeking followed those used in recent Nigerian household surveys of PHC utilisation (Nwokoro et al., 2022; Alonge, 2025). Awareness of services, trust in CHWs and committee membership were analysed as binary (yes/no) indicators, so internal-consistency coefficients do not apply. It was translated and back-translated into the local languages and pilot tested among 45 adults in a non-study community. Ethical clearance was obtained from the Lagos University Teaching Hospital Health Research Ethics Committee and the Lagos State Ministry of Health prior to the commencement of the study. Informed consent was sought and obtained from all participants.

Qualitative Data Collection and Analysis

FGD participants were community members drawn from the 12 study wards. KII participants were purposively selected for their roles in providing or overseeing CBHSS: CHWs, WDC chairpersons, PHC facility officers-in-charge and LGA health officials. Focus

group discussions were held with semi-structured guides to elicit community members' perspectives on the multiple aspects of the functioning of community-based health and social services; questions focused on their views on the issues of effectiveness, coordination, and equity, as well as recommendations for improvement. KIIs covered service provision, financing, supervision and referral. The qualitative data were transcribed and translated from Yoruba and Nigerian Pidgin to English and analyzed thematically using a hybrid inductive-deductive approach with the aid of NVivo version 14. In addition, the analysis was guided by the theoretical framework of Andersen behavioural model of health services use and community system strengthening framework (Figure 1). Deductive codes were generated from the domains of the two frameworks, and inductive codes were generated as they arose from the data. Data-source triangulation was used to enhance credibility: the community-member (FGD) and provider/official (KII) accounts were compared with one another and with the survey results.

Outcome Measures

There were two primary outcomes. The first was utilisation of CBHSS, defined as having used at least one community-based health or social service in the preceding 12 months: CHW contact for health education or counselling, community mobilisation or health campaign activity, referral support to a PHC centre, or enrolment or engagement in a community-based health financing or social support scheme. Those who met this definition are referred to as "CBHSS users" and others as "non-users". The second was timely care-seeking for the most recent episode of common illness (defined as seeking care from a formal or community health provider within 48 hours of symptom onset), assessed among respondents who reported such an episode. The secondary outcome was self-rated health (good/very good vs fair/poor). Receipt of CHW health education or counselling and enrolment in a community-based health financing scheme are components of the exposure, so they are reported as service-type indicators of utilisation (Section 3.2) rather than as outcomes. Independent variables were grouped by Andersen domain. Predisposing factors were age, sex, education, occupation, awareness of services and trust in CHWs. Enabling factors were household wealth quintile, distance to the nearest service point, committee membership, and reported non-use because of high cost or unavailability of services. High cost and unavailability were captured in a single questionnaire item, so they are analysed as one combined barrier variable.

Statistical Analysis and Integration

Descriptive statistics were used to describe the study sample. Household wealth quintiles were derived from principal component analysis of household assets and grouped into lowest (Q1–Q2), middle (Q3) and highest (Q4–Q5) for analysis. Bivariate analysis was done using chi-square tests to determine the association of each independent variable with the outcome of interest. The independent variables with $p < 0.20$ were included in the multivariable binary logistic regression analysis to identify factors associated with CBHSS

utilisation, adjusted for age, sex, occupation and LGA of residence; all 864 respondents were included in the model. The adjusted odds ratios (AOR) with their 95% confidence interval were reported. The associations of CBHSS use with timely care-seeking and with self-rated health were examined with chi-square tests. All statistical analysis was done using SPSS version 29 at a significance level of $p < 0.05$. With only 12 clusters, multilevel modelling of community-level determinants was not statistically feasible, so community-system factors were examined qualitatively through the CSS framework. Quantitative and qualitative results were integrated in a convergent design and presented in a joint display (Table 3).

Results

Sample Characteristics

Table 1 below presents the socio-demographic profile of the 864 participants. The mean age of the study participants was 36.8 years (SD = 12.4), and 54.6% of the sample were female. About 41.2% of the respondents had secondary education while 22.7% had tertiary education (Table 1). Nearly two-thirds (63.8%) of the respondents were involved in trading, informal employment, and skilled labour. By household wealth, 40.3% of respondents were in the two lowest quintiles (Q1–Q2), 30.0% in the middle quintile (Q3) and 29.7% in the two highest quintiles (Q4–Q5). More than half (52.4%) of the study participants lived within a distance of two kilometers from a community health post or primary health centre, and 71.8% of the respondents were aware of at least one community-based health or social service.

Table 1: Socio-Demographic Characteristics of Respondents (N = 864)

Characteristic	Frequency (n)	Percentage (%)
Mean age (SD), years	36.8 (12.4)	
Age group		
18–29 years	241	27.9
30–44 years	378	43.8
45–59 years	172	19.9
≥60 years	73	8.4
Sex		
Female	472	54.6
Male	392	45.4
Education level		
No formal / Primary	312	36.1
Secondary	356	41.2
Tertiary	196	22.7
Occupation		
Trading / informal employment / skilled labour	551	63.8
Other occupations	313	36.2

Characteristic	Frequency (n)	Percentage (%)
Household wealth quintile		
Lowest (Q1–Q2)	348	40.3
Middle (Q3)	259	30.0
Highest (Q4–Q5)	257	29.7
Distance to nearest service point		
≤2 km	453	52.4
3–5 km	278	32.2
>5 km	133	15.4
Awareness of at least one CBHSS		
Aware	620	71.8
Not aware	244	28.2

Note: N = total sample size; SD = standard deviation; Q = wealth quintile; CBHSS = community-based health and social services; km = kilometers. Wealth quintiles were constructed using principal component analysis of household assets; Q1–Q2 and Q4–Q5 were combined for analysis. Distance was self-reported by respondents.

Source: Field survey, 2026.

Utilisation of Community-Based Health and Social Services

530 participants (61.3%) reported using at least one community-based health or social service in the preceding 12 months and are classed as CBHSS users; the remaining 334 (38.7%) are non-users. The most common services were health education or counselling by community health workers (48.7%), participation in community mobilisation or health campaign activities (36.2%), referral support to primary health centres (29.5%), and enrolment or engagement with community-based health financing or social support schemes (18.4%). Respondents could use more than one service, so these percentages sum to more than 61.3%.

Factors Associated with CBHSS Utilisation

Table 2 presents the adjusted correlates of CBHSS utilisation, grouped by Andersen domain. Among predisposing factors, awareness of available services (AOR = 3.82, 95% CI: 2.51–5.81, $p < 0.001$), trust in community health workers (AOR = 3.15, 95% CI: 2.12–4.68, $p < 0.001$) and secondary or higher education (AOR = 1.87, 95% CI: 1.29–2.71, $p = 0.001$) were positively associated with use. Among enabling factors, membership of a community health or ward development committee (AOR = 2.94, 95% CI: 1.98–4.36, $p < 0.001$) and residence within 2 km of a service point (AOR = 2.41, 95% CI: 1.67–3.48, $p < 0.001$) were positively associated with use. Reported non-use because of high cost or unavailability (AOR = 0.48, 95% CI: 0.33–0.70, $p < 0.001$) and low household wealth (Q1–Q2) (AOR = 0.62, 95% CI: 0.43–0.89, $p = 0.009$) were negatively associated with use.

Table 2: Multivariable Logistic Regression of Factors Associated with CBHSS Utilisation, by Andersen Domain (N = 864)

Determinant	AOR	95% CI	p-value
Predisposing factors			
Awareness of available services	3.82	2.51–5.81	<0.001
Trust in community health workers	3.15	2.12–4.68	<0.001
Secondary+ education (ref: none/primary)	1.87	1.29–2.71	0.001
Enabling factors			
Membership in community health committee	2.94	1.98–4.36	<0.001
Service point within 2 km (ref: >2 km)	2.41	1.67–3.48	<0.001
Reported non-use because of high cost or unavailability	0.48	0.33–0.70	<0.001
Lowest wealth (Q1–Q2)	0.62	0.43–0.89	0.009

Note: AOR = Adjusted Odds Ratio; CI = confidence interval. Models adjusted for age, sex, occupation, and LGA. N = 864.

Source: Field survey, 2026.

Association of CBHSS Utilisation with Timely Care-Seeking and Self-Rated Health

Among respondents who reported an episode of common illness, timely care-seeking was reported by 68.4% of CBHSS users compared with 41.2% among non-users ($p < 0.001$). Self-rated health was also better among users (62.8% vs 47.1%, $p < 0.001$). These are unadjusted bivariate associations and do not account for differences between users and non-users in socio-demographic or enabling characteristics.

Qualitative Insights

Focus group and key informant data corroborated quantitative findings; five themes were identified, and Table 3 integrates them with the quantitative results. Theme 1 (CHWs as trusted first-line contacts): Community health workers were perceived as a credible source of information and first line care, especially for maternal and child health, malaria and hypertension. Theme 2 (community structures as accountability mechanisms): Ward development committees and community consultations were seen as effective mechanisms for building accountability and responsiveness to community health needs. Persistent challenges included: (Theme 3, irregular and inadequate funding) irregular and inadequate funding leading to stock-outs of essential commodities and non-payment of allowances to volunteers; (Theme 4, weak links with PHC) lack of formal links between community structures and PHC institutions resulting in incomplete referral loops; (Theme 5, low male engagement and inequitable reach) under-representation of males in community health structures; and equity implications, notably in terms of access for the poorest households and persons living with disabilities. Stakeholders called for predictable financing (including effective absorption of BHCPF resources at community level), supervision and continuous training of CHWs, multi-sectoral coordination with social

welfare and education sectors, and deliberate strategies for enhancing community ownership and male involvement.

Table 3: Joint Display Integrating Quantitative and Qualitative Findings

Framework domain	Quantitative finding	Qualitative theme	Integration
Predisposing (knowledge and beliefs)	Awareness (AOR = 3.82) and trust in CHWs (AOR = 3.15) associated with use	Theme 1: CHWs as trusted first-line contacts	Convergent
Enabling (community participation)	Committee membership associated with use (AOR = 2.94)	Theme 2: Community structures as accountability mechanisms	Convergent
Enabling (financial and geographic)	Cost/unavailability barrier (AOR = 0.48) and lowest wealth (AOR = 0.62) associated with lower use; ≤2 km associated with higher use (AOR = 2.41)	Theme 3: Irregular funding and stock-outs; Theme 5: weaker reach to the poorest	Convergent; qualitative data explain the cost barrier
Community system (coordination and linkages)	Not measured quantitatively	Theme 4: Incomplete referral loops with PHC	Complementary (qualitative only)
Community system (ownership and inclusion)	Not measured quantitatively	Theme 5: Low male engagement; exclusion of persons living with disabilities	Complementary (qualitative only)

Source: Field survey, 2026.

Discussion

The conceptual framework (Figure 1) guided the interpretation of findings, organising the correlates of utilisation into predisposing and enabling domains. This study provides evidence that community-based health and social services are widely used and associated with high rates of timely care-seeking and positive self-perceived health status among Lagos State residents. Specifically, 61.3% of respondents accessed these services at least once in the past year. This is higher than the 46.9% PHC service use (157 of 335 residents) reported in an under-resourced rural community in Enugu State (Nwokoro et al., 2022). The two figures are not directly comparable, however, because Nwokoro et al. measured PHC facility use, whereas this study measured use of any community-based service, including outreach and mobilisation activities that do not require a facility visit. The identified correlates of utilization (awareness, trust in CHWs, committee membership) resonate with recent Nigerian studies emphasizing the role of social networks, information, and trust in community engagement (Obi et al., 2024; Ojielo et al., 2024; Mbaegbu et al., 2025). The

finding that trust in community health workers was significantly associated with use (AOR = 3.15) speaks to the importance of interpersonal ties in the functioning of community-based health platforms. Community health workers serve as a critical link between the community and the formal health system, with their trust being particularly valuable in contexts where families cannot rely on close connections with healthcare professionals (Oseni et al., 2024; Ajisegiri et al., 2023). Because awareness and trust were measured at the same time as use, the direction of these associations cannot be established: using services may build awareness and trust as much as awareness and trust promote use.

In line with studies from Nigeria and sub-Saharan Africa, proximity (distance to services) was strongly associated with utilization in Lagos (AOR: 2.41) (Ozor et al., 2024; Oliphant et al., 2021). While Lagos is densely populated, the observed association likely reflects real barriers to accessing community-based services for residents in more distant areas. The negative associations with perceived cost or unavailability (AOR = 0.48) and with low household wealth (AOR = 0.62) suggest that community-based services do not fully reach the very poor. Similar inequities have been documented for maternal and reproductive health service use and community-based health insurance in Nigeria and other low- and middle-income countries (Okoli et al., 2020; Aregbeshola & Olaniyan, 2022; Oluedo et al., 2023; Eze et al., 2023). To truly serve as a safety net, community-based platforms need to ensure affordability and offer predictable care, potentially through exemptions or subsidies for low-income families.

The higher rate of timely care-seeking among CBHSS users is consistent with the referral and first-contact role of CHWs (Oseni et al., 2024) and with meta-analytic evidence that community-based insurance is associated with higher service utilisation (Eze et al., 2023). Because this comparison is unadjusted, part of the difference may reflect the higher education and closer proximity of users rather than service use itself.

The thematic analysis highlights several limitations in the current community-based health system that constrain its ability to address health inequities. The lack of predictable funding, feedback/referral mechanisms and multi-sectoral coordination identified by respondents illustrate the structural challenges facing community health workers. These findings echo critiques of the NPHCDA's gateway function and community health systems more generally in Nigeria (Igbokwe et al., 2024; Ozor et al., 2024; Hagedorn et al., 2025). The risk of funding interruption is illustrated by Kwara State, where suspension of community-based health insurance was followed by a collapse in enrolment and a decline in outpatient visits (Bolarinwa et al., 2022). Within the CSS framework, these are deficits in resources and capacity and in coordination and linkages. The policy lesson here is that community-based platforms cannot compensate for weaknesses in the formal sector indefinitely – an investment in PHC infrastructure, logistics, and supervision is required for community health workers to deliver on their potential.

Strengths and Limitations

The advantages of this study are that it was community-based and used a diverse methodology (qualitative + quantitative). Several limitations apply. First, because of the cross-sectional design, all relationships reported are associations, not effects. There is also the possibility of reverse causality, as with awareness and trust in CHWs, which may result from service use rather than precede it, or with self-rated health, where those with poorer health might be more likely to use services. Second, the associations of CBHSS use with timely care-seeking and self-rated health are unadjusted, and confounding by education, wealth and distance cannot be ruled out. Third, clustering was accounted for in the sample-size calculation through a design effect but not in the variance estimation, so the confidence intervals in Table 2 may be narrower than design-based intervals. Fourth, the need factor (recent illness) was defined in the framework but not included in the utilisation model. Fifth, utilisation, distance, care-seeking and self-rated health were self-reported and are open to recall and social-desirability bias. Sixth, the six LGAs were selected purposively, which means the sample does not represent Lagos State as a whole. Seventh, with only 12 wards, multilevel analysis of community-level determinants was not possible. Eighth, high cost and unavailability were combined into one item and cannot be distinguished. Finally, service availability was not inventoried at facility or community level, so the study describes awareness and use of CBHSS rather than their supply. Future studies should use adjusted, design-based models for access and outcome measures, adopt a service mapping approach in addition to household surveys, and employ longitudinal or quasi-experimental designs to estimate the impact of CBHSS on access and health outcomes.

Conclusion

Approximately three out of every five adults in six LGAs of Lagos State used a community-based health or social service in the preceding year. The quantitative results indicate that awareness of services, trust in CHWs, committee membership, proximity to a service point and secondary or higher education were positively associated with use, whereas cost or availability barriers and low household wealth were negatively associated with use. In unadjusted comparisons, CBHSS users were also more likely than non-users to seek timely care for a recent illness and to rate their health as good. Because these findings are cross-sectional, they reflect associations and should not be interpreted as evidence of the effect of CBHSS on access or outcomes. The qualitative evidence indicated that community members and stakeholders attributed the limited reach of CBHSS to irregular funding, weak referral links with PHC centres, low male engagement, and the exclusion of the poorest households and persons living with disabilities. The two strands suggest that CBHSS play an important role as a first point of contact in these LGAs, but that their reach depends on predictable funding and formal links with PHC.

Recommendations

1. Lagos State Ministry of Health: create a dedicated budget line for CBHSS covering CHW allowances, commodities and supervision, and monitor its release through the BHCPF and state PHC budgets.
2. Lagos State Primary Health Care Board and LGA health authorities: establish formal referral and feedback mechanisms between CHWs, ward development committees and PHC centres, such as standard referral slips and feedback to the referring CHW, to close the incomplete referral loops identified in this study.
3. LGA health authorities: strengthen awareness building and CHW outreach in wards where residents live more than 2 km from a service point, and roll out fee exemptions or subsidised enrolment in community-based health financing for households in the lowest wealth quintiles.
4. Programme managers (government and non-governmental CBHSS implementers): recruit male volunteers, arrange activities that working men can attend, and include persons living with disabilities in ward development committees.
5. Researchers: map CBHSS availability across LGAs in Lagos State, and estimate the impact of CBHSS on care-seeking and health outcomes using adjusted, design-based analysis within longitudinal or quasi-experimental study designs.

Data Availability

The datasets generated and analysed during the current study are available from the corresponding author on reasonable request.

Conflict of Interest

The authors declare no conflicts of interest.

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References

Ajisegiri, W. S., Abimbola, S., Tesema, A. G., Odusanya, O. O., Peiris, D., & Joshi, R. (2023). "We just have to help": Community health workers' informal task-shifting and task-sharing practices for hypertension and diabetes care in Nigeria. *Frontiers in Public Health, 11*, Article 1038062. https://doi.org/10.3389/fpubh.2023.1038062

Alonge, S. K. (2025). Availability, accessibility, and utilization of primary health care services in Ogun and Oyo states of Nigeria. *Journal of Asian and African Studies, 60*(7), 4577–4593. https://doi.org/10.1177/00219096241263957

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior, 36*(1), 1–10. https://doi.org/10.2307/2137284

Aregbeshola, B. S., & Olaniyan, O. (2022). Horizontal inequity in the utilization of maternal and reproductive health services: Evidence from the 2018 Nigeria Demographic and Health Survey. *Frontiers in Health Services, 2*, Article 791695. https://doi.org/10.3389/frhs.2022.791695

Baldridge, A. S., Orji, I. A., Shedul, G. L., Iyer, G., Jamro, E. L., Ye, J., Akor, B. O., Okpetu, E., Osagie, S., Odukwe, A., Dabiri, H. O., Mobisson, L. N., Kandula, N. R., Hirschhorn, L. R., Huffman, M. D., & Ojji, D. B. (2024). Enhancing hypertension education of community health extension workers in Nigeria's Federal Capital Territory: The impact of the Extension for Community Healthcare Outcomes model on primary care, a quasi-experimental study. *BMC Primary Care, 25*(1), Article 334. https://doi.org/10.1186/s12875-024-02579-y

Bolarinwa, O. A., Akande, T. M., Janssens, W., Boahene, K., & De Wit, T. R. (2022). Effects of a temporary suspension of community-based health insurance in Kwara State, North-Central, Nigeria. *Pan African Medical Journal, 41*, Article 10. https://doi.org/10.11604/pamj.2022.41.10.27978

Eze, P., Ilechukwu, S., & Lawani, L. O. (2023). Impact of community-based health insurance in low- and middle-income countries: A systematic review and meta-analysis. *PLOS ONE, 18*(6), Article e0287600. https://doi.org/10.1371/journal.pone.0287600

Global Fund to Fight AIDS, Tuberculosis and Malaria. (2014). *Community systems strengthening framework* (Rev. ed.). The Global Fund.

Hagedorn, B., Cooper, J., Loevinsohn, B., & Martufi, V. (2025). The effects of decentralized financing and funding levels on the breadth of services and structural quality to provide those services in primary health facilities in Nigeria. *BMC Health Services Research, 25*(1), Article 394. https://doi.org/10.1186/s12913-025-12512-3

Igbokwe, U., Ibrahim, R., Aina, M., Umar, M., Salihu, M., Omoregie, E., Sadiq, F. U., Obonyo, B., Muhammad, R., Isah, S. I., Joseph, N., Wakil, B., Tijjani, F., Ibrahim, A., Yahaya, M. N., & Aigbogun, E. O., Jr. (2024). Evaluating the implementation of the National Primary Health Care Development Agency (NPHCDA) gateway for the Basic Healthcare Provision Fund (BHCPF) across six Northern states in Nigeria. *BMC Health Services Research, 24*, Article 1404. https://doi.org/10.1186/s12913-024-11867-3

Lawal, A. F., & Lodenstein, E. (2022). Negotiating access to health care for all through social and political accountability: A qualitative study in rural Nigeria. *Social Sciences, 11*(3), Article 128. https://doi.org/10.3390/socsci11030128

Mbaegbu, C. C., Agwu, P., Etiaba, E., & Onwujekwe, O. (2025). Catalyzing community ownership and engagement for functional primary healthcare facilities in Nigeria. *Discover Public Health, 22*, Article 380. https://doi.org/10.1186/s12982-025-00747-8

Nwokoro, U. U., Ugwa, O. M., Ekenna, A. C., Obi, I. F., Onwuliri, C. D., & Agunwa, C. (2022). Determinants of primary healthcare services utilisation in an under-resourced rural community in Enugu State, Nigeria: A cross-sectional study. *Pan African Medical Journal, 42*, Article 209. https://doi.org/10.11604/pamj.2022.42.209.33317

Obi, C., Ojiakor, I., Etiaba, E., & Onwujekwe, O. (2024). Collaborations and networks within communities for improved utilization of primary healthcare centers: On the road to universal health coverage. *International Journal of Public Health, 69*, Article 1606810. https://doi.org/10.3389/ijph.2024.1606810

Ogah, P. O., Uguru, N., Okeke, C., Mohammed, N., Ogbe, O., Ashiver, W. G., & Aina, M. (2024). Primary health care in Nigeria: Best practices and quality of care in Nigeria. *BMC Health Services Research, 24*(1), Article 963. https://doi.org/10.1186/s12913-024-11406-0

Ogunyemi, A. O., Balogun, M. R., Ojo, A. E., Welch, S. B., Onasanya, O. O., Yesufu, V. O., Omotayo, A. T., & Hirschhorn, L. R. (2024). Barriers and facilitators to the delivery of age-friendly health services in

primary health care centres in southwest, Nigeria: A qualitative study. *PLOS ONE, 19*(3), Article e0288574. https://doi.org/10.1371/journal.pone.0288574

Ojielo, N. C., Etiaba, E., & Onwujekwe, O. (2024). To what extent do community members participate in planning, implementing health programs within their communities and what are the benefits of their participation in Nigeria? *International Journal of Community Medicine and Public Health, 11*(7), 2518–2527. https://doi.org/10.18203/2394-6040.ijcmph20241804

Okoli, C., Hajizadeh, M., Rahman, M. M., & Khanam, R. (2020). Geographical and socioeconomic inequalities in the utilization of maternal healthcare services in Nigeria: 2003–2017. *BMC Health Services Research, 20*, Article 849. https://doi.org/10.1186/s12913-020-05700-w

Okusanya, B., Nweke, C., Akeju, D., & Ehiri, J. (2023). Early infant diagnosis of HIV infection: A mixed-method study of uptake and challenges at primary health centers in Lagos State, Nigeria. *BMC Health Services Research, 23*(1), Article 1038. https://doi.org/10.1186/s12913-023-09824-7

Oliphant, N. P., Ray, N., Bensaid, K., Ouedraogo, A., Gali, A. Y., Habi, O., Maazou, I., Panciera, R., Muñiz, M., Sy, Z., Manda, S., Jackson, D., & Doherty, T. (2021). Optimising geographical accessibility to primary health care: A geospatial analysis of community health posts and community health workers in Niger. *BMJ Global Health, 6*(6), Article e005238. https://doi.org/10.1136/bmjgh-2021-005238

Oluedo, E., Obikeze, E., Nwankwo, C., & Okonronkwo, I. (2023). Willingness to enroll and pay for community-based health insurance, decision motives, and associated factors among rural households in Enugu State, Southeast Nigeria. *Nigerian Journal of Clinical Practice, 26*(7), 908–920. https://doi.org/10.4103/njcp.njcp_612_22

Oniyire, F., Ajose, T., Andu, L., Adepase, A., Abayomi, A., Ogunyemi, O., Ogboye, O., Oyenuga, O., Ibiyemi, O., Abdulrahman-Giwa, Z., Adejumo, A., Ajanaku, B., Adewale, B., & Mogaji, H. (2025). Infrastructure, service delivery, and staffing gaps in primary health care facilities in Lagos State, Nigeria: A state-wide assessment. *Discover Public Health, 22*(1), Article 906. https://doi.org/10.1186/s12982-025-01321-y

Oseni, T. I. A., Olawumi, A. L., Salam, T. O., Issa, A., Abiso, M. A., Sanusi, I., & Ilori, T. (2024). The role of community health workers in the management of hypertension in Nigeria. *BMC Primary Care, 25*(1), Article 266. https://doi.org/10.1186/s12875-024-02521-2

Ozor, O., Etiaba, E., & Onwujekwe, O. (2024). Strengthening the effectiveness of community health system: Assessing the factors that enhance or constrain the delivery of health services within communities in Nigeria. *Health Research Policy and Systems, 22*(1), Article 124. https://doi.org/10.1186/s12961-024-01204-9

Sampson, S., Umar, L., Obi-Jeff, C., Oni, F., Ayodeji, O., Ebinim, H., Eboreime, E., Omeje, O., Ujah, O., Oluwatola, T., Shuaib, F., Samuel, O., Nto, S., & Okagbue, H. (2024). Assessment of the compliance with minimum quality standards by public primary healthcare facilities in Nigeria. *Health Research Policy and Systems, 22*(1), Article 133. https://doi.org/10.1186/s12961-024-01223-6

Wright, K., Odugbemi, B., Popoola, B., Oduntan, K., Fagbemi, T., Abdurrazaq, H., Adepase, A., Oniyire, O., Lajide, D., Ogboye, O., & Mustafa, I. (2024). Implementation of primary health care in Lagos Nigeria: An assessment of governance and service availability. *Journal of Community Medicine and Primary Health Care, 36*(2), 1–18. https://doi.org/10.4314/jcmphc.v36i2.1