

Factors Associated with Utilization of Market-Based Health Outposts for Hypertension-Related Services in Vihiga County, Western Kenya

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ABSTRACT

Background: Hypertension is a leading global risk factor for cardiovascular disease and premature mortality, with the greatest burden occurring in low- and middle-income countries. In Kenya, limited access to screening, follow-up, and treatment contributes to poor awareness and blood pressure control. Market-based health outposts have been introduced to improve access to hypertension screening, health education, and referral services, but evidence on their utilization remains limited. This study examined socioeconomic, hypertension knowledge and accessibility factors associated with the utilization of market-based health outposts among adults in Sabatia Sub-County.

Methods: A quantitative cross-sectional study was conducted among 382 adults aged 18 years and above in Sabatia Sub-County, Vihiga County, Kenya. Data were collected using a structured interviewer-administered questionnaire and analysed using descriptive statistics, Pearson's chi-square tests and multivariable logistic regression in Stata version 19Now.

Results: 220 respondents (57.6%) had utilized market-based health outposts. Utilization was significantly associated with different socio-economic factors, physical accessibility factors and hypertension knowledge factors. In the adjusted analysis, participants aged 18–34 years had higher odds of non-utilization than those aged ≥ 55 years (aOR = 4.09; 95% CI: 1.76–9.49; $p = 0.001$). Uninsured participants also had higher odds of non-utilization than insured participants (aOR = 2.07; 95% CI: 1.21–3.52; $p = 0.008$), as did those living ≥ 3 km from an outpost compared with those living 1–3 km away (aOR = 2.38; 95% CI: 1.17–4.86; $p = 0.017$). However, participants with college education, those in the richest wealth index category, adequate knowledge of hypertension and those who walked to the health outposts had lower odds of non-utilization.

Conclusion: Market-based health outposts may extend hypertension screening and health education within rural communities. Utilization was associated with socioeconomic characteristics, hypertension knowledge and geographical accessibility.

Keywords: Health outposts; community health; healthcare utilization; non-communicable diseases; Kenya

INTRODUCTION

Globally, hypertension is major known public health issue that increase the risk of ischaemic, stroke, chronic kidney disease, heart disease and premature death. ^{1–3}

Despite the availability of good and effective preventive and treatment interventions, majority of individuals in low- and middle-income countries substantially remain undiagnosed, untreated or may have poorly controlled hypertension. The burden is linked to particularly population ageing, unhealthy diets, alcohol and tobacco use, obesity and physical inactivity. ^{4,5}

In sub-Saharan Africa, evidence shows that high levels of uncontrolled and undiagnosed hypertension, with low

awareness and treatment rates across many different countries ^{6,7}. Many of the African Countries are currently still adapting to the combined rising burden of communicable and non-communicable diseases, operating in a limited funding landscape, healthcare workers shortages and many infrastructural issues for long-term disease management. Majority of the studies in Kenya have reported a very high burden of hypertension, with many of those affected individuals currently not getting treatment or continuous care from the existing health system. ^{8,9}.

Access to hypertension services in many aspects varies by social economic factors; income, education, employment and health insurance might affect individuals' awareness of available services, ability to meet healthcare-related costs, perceived need for care and the capacity to seek appropriate care services. ¹⁰⁻¹². In rural areas transport costs, long distances and poor road condition may also prevent and delay people from acquiring hypertension services, follow-ups appointments and intentional referral services. ¹³⁻¹⁵.

Community-based driven health system delivery models have become strategies to improve and strengthen access to NCD prevention and management. Community health promoters and Community health workers have been supporting health education, screening, referral and adherence support chronic conditions and hypertension services ¹⁶⁻¹⁸. Many models brought closer to people improve early detection, reduce distance barriers, and create many opportunities for clear engagement out of formal primary health facilities.

In this study, market-based health outposts refer to decentralized community-based service points located within market settings, where traders and community members routinely converge. The outposts provide hypertension-related services including health education, blood pressure screening, lifestyle counselling and referral services. Their public health value depends on whether these services are utilized by community members, including economically and geographically disadvantaged populations.

Limited evidence is available on the utilization of market-based health outposts for hypertension-related services in rural Kenya. Identifying who uses these services and who does not is important for improving community-based NCD programmes and guiding their expansion. The study was guided by a multilevel conceptual approach in which utilization was considered in relation to individual, household, community and health-service factors, with the present analysis focusing on socioeconomic characteristics, hypertension knowledge and physical accessibility. This study examined socioeconomic, hypertension knowledge and accessibility factors associated with the utilization of market-based health outposts among adults in Sabatia Sub-County, Vihiga County, Kenya. These factors were considered within three broad domains: socioeconomic characteristics, hypertension knowledge and physical accessibility.

METHODS

Study design and setting

This Cross-sectional quantitative study was conducted in Sabatia Sub-County, Vihiga County, Kenya. The study examined factors associated with the utilization of market-based health outposts.

Study population

The study population comprised adults aged 18 years and above residing in the seven wards of Sabatia Sub-County. Participants were recruited at household level and included both users and non-users of market-based health outposts. Eligibility was not restricted to individuals with a previous diagnosis of hypertension.

Adults were eligible if they were aged 18 years or older, lived in one of the seven wards of Sabatia Sub-County and provided written informed consent. Individuals who were younger than 18 years, did not reside in the study area, were unable to complete the interview or declined to participate were excluded.

Sample size and sampling

The minimum sample size was calculated using Fisher's formula for populations greater than 10,000. Using a 95% confidence level, 5% margin of error and estimated utilization proportion of 50%, the required sample was 384 participants. All seven wards of Sabatia Sub-County were included to ensure geographical representation.

The sample was allocated proportionately according to the number of households in each ward, as presented in **Table 1**.

Chavakali and Mudete markets were purposively selected because they had operational market-based health outposts. Households within the study areas were selected using systematic random sampling. Data collectors followed transect lines from identified central points in each ward. The household nearest to the central point along the selected direction was used as the starting household. Subsequent households were selected using sampling intervals based on the number and distribution of households in each ward.

An eligible adult aged 18 years or older was selected from each household. When several eligible adults were present, one was randomly selected by drawing lots. Households were revisited when selected participants were temporarily unavailable. If no eligible adult was available after the revisit, the next eligible household along the sampling route was approached. Of the 384 adults invited to participate, two declined, resulting in 382 completed interviews and a response rate of 99.5%.

Table 1: Sampling approach

No.	Geographical area name (Per Ward)	Total Households	Proportional sample size
1	Sabatia West	5253	64
2	Izava South	3744	46
3	Izava North	2930	36
4	Chavakali	5134	63
5	North Maragoli	4,494	55
6	Wodanga	4,532	55
7	Busali	5304	65
	TOTAL	31391	384

Data collection

Trained research assistants collected data during household visits using a structured interviewer-administered questionnaire. The questionnaire captured sociodemographic and economic characteristics, hypertension knowledge, awareness and utilization of market-based health outposts, and accessibility factors, including distance, road type, travel time and mode of transport.

The questionnaire was reviewed by a team of research experts to assess the relevance and clarity of its indicator items. It was then pre-tested among 38 adults, who represented approximately 10% of the calculated sample size of 384, drawn from five wards in Vihiga Sub-County. This area was outside the main study site but had a population with characteristics comparable to those of Sabatia Sub-County. The pre-test respondents were not included in the final study.

The pre-test assessed the clarity, sequence and interpretation of each of the questions, the time required to complete the interview and the functionality of the data-collection process. The questions were clearly understood as intended, and no further changes were required in the tools.

Internal consistency of the related questionnaire items used to assess hypertension knowledge was evaluated using responses from the pre-test participants. The items produced a Cronbach's alpha coefficient of 0.88, indicating good internal consistency.

Outcome and explanatory variables

The primary outcome was utilization and non-utilization of market-based health outposts for blood pressure screening or other hypertension-related services. Utilization was operationally defined as self-reported use of a market-based health outpost at least once. Respondents who reported that they had never used a market-based

health outpost were classified as non-users and coded as 1, while those who had used an outpost at least once were classified as users and coded as 0.

The explanatory variables were age, sex, employment status, education level, marital status, household wealth index, health insurance status, monthly household income, hypertension knowledge level, distance to the nearest market-based health outpost, road type, average travel time and main mode of transport.

Data analysis

The quantitative data was analysed by use **Stata version 19 Now**. Frequencies and percentages were used to summarise categorical variables. Pearson's chi-square test was applied to examine bivariate associations between the explanatory variables and utilization of market-based health outposts. Variables identified through the bivariate analysis and considered relevant to the study objectives were included in a multivariable logistic regression model.

The regression model examined factors associated with non-utilization of market-based health outposts. Adjusted odds ratios with 95% confidence intervals were reported.

Ethical considerations

Ethical approval was obtained from the Kenya Methodist University Institutional Scientific and Ethics Review Committee (KeMU/ISERC/PHT/14/2025). Research authorization was granted by the National Commission for Science, Technology and Innovation (NACOSTI/P/26/4183236), and permission to conduct the study was obtained from the Vihiga County Department of Health.

Before administering the questionnaire, trained research assistants explained the study's purpose, procedures, potential risks and benefits to each participant. Written informed consent was obtained before participation. Participation was voluntary, and participants were informed that they could decline to answer any question or withdraw from the study at any time without penalty.

Questionnaires were administered in a private setting. Participants' names and other direct identifiers were not included in the analytical dataset; unique study codes were used instead. Electronic data were password-protected and accessible only to the research team. The findings were reported in aggregate form to protect participants' anonymity.

RESULTS

Participant characteristics

A total of 382 respondents participated in the study. Most respondents reported Chavakali as their frequently visited market (301; 78.8%), while 81 (21.2%) reported Mudete. Overall, 268 (70.2%) participants were female and 114 (29.8%) were male. Slightly more than half were unemployed (206; 53.9%), 229 (59.9%) had health insurance, and 215 (56.3%) reported monthly household income below KSh 5,000. Respondents aged 55 years and above constituted the largest age group (146; 38.2%).

Utilization of market-based health outposts

Overall, 220 respondents (57.6%) reported ever utilizing market-based health outposts for hypertension-related services, while 162 (42.4%) had never used the services. Utilization was examined across socio-economic, knowledge and accessibility factors.

Socio-economic factors associated with utilization

In bivariate analysis, gender was not significantly associated with utilization ($p=0.710$). However, employment status, education level, marital status, wealth index, health insurance status and monthly household income were significantly associated with health outpost utilization (Table 2). Users were more likely to be employed (54.1%

vs 35.2%), insured (73.2% vs 42.0%) and in higher income categories compared with non-users.

Knowledge of hypertension management

Participants who utilized market-based health outposts had a higher proportion of good/intermediate hypertension knowledge (84.1%) than those who did not utilize the services (56.8%). Poor knowledge was more common among non-users (43.2%) than among users (15.9%). Knowledge level was significantly associated with utilization of market-based health outposts ($p < 0.001$).

Accessibility factors associated with utilization

Distance to the market-based health outpost was significantly associated with utilization ($p < 0.001$). A higher proportion of users lived within 1 km of the market-based health outpost (34.1%) compared with non-users (13.6%), while non-users were more likely to live 3 km or more away (29.6%) compared with users (13.6%). Road type was also associated with utilization ($p=0.012$), as was mode of transport ($p<0.001$). Average time to reach the market-based health outpost was not statistically significant ($p=0.067$).

Table 2: Factors associated with utilization of Market-based health outposts for hypertension management

Variable	Category	Non-users n=162	Users n=220	p-value
Sex	Female	112 (69.1)	156 (70.9)	0.710
	Male	50 (30.9)	64 (29.1)	
Employment status	Employed	57 (35.2)	119 (54.1)	<0.001
	Unemployed	105 (64.8)	101 (45.9)	
Education level	Primary and below	71 (43.8)	100 (45.5)	<0.001
	Secondary	85 (52.5)	87 (39.5)	
	College	6 (3.7)	33 (15.0)	
Marital status	Single	33 (20.4)	23 (10.5)	0.025
	Married	104 (64.2)	158 (71.8)	
	Divorced/Widowed	25 (15.4)	39 (17.7)	
Household wealth index	Poorest	39 (24.1)	43 (19.5)	<0.001
	Poorer	36 (22.2)	43 (19.5)	
	Middle	24 (14.8)	46 (20.9)	
	Rich	55 (34.0)	47 (21.4)	
	Richest	8 (4.9)	35 (15.9)	
Health insurance	No	94 (58.0)	59 (26.8)	<0.001
	Yes	68 (42.0)	161 (73.2)	
Monthly household income	Under 5,000	116 (71.6)	99 (45.0)	<0.001
	5,000-10,000	38 (23.5)	87 (39.5)	
	Above 10,000	8 (4.9)	34 (15.5)	
Knowledge level	Poor knowledge	70(43.2)	35 (15.9)	<0.001
	Adequate knowledge	92 (56.8)	185 (84.1)	
Distance to Market-based health outpost	Under 1 km	22 (13.6)	75 (34.1)	<0.001
	1-3 km	92 (56.8)	115 (52.3)	

	>=3 km	48 (29.6)	30 (13.6)	
Road type from home to market-based health outpost	Footpath	34 (21.0)	23 (10.5)	0.012
	Mixed	45 (27.8)	65 (29.5)	
	Murram	54 (33.3)	71 (32.3)	
	Tarmac	29 (17.9)	61 (27.7)	
Average time to market-based health outpost	Under 30 minutes	102 (63.0)	158 (71.8)	0.067
	Over 30 minutes	60 (37.0)	62 (28.2)	
Mode of transport	Walking	80 (49.4)	148 (67.3)	<0.001
	Motorized (bicycle/car/motorcycle)	82 (50.6)	72 (32.7)	

Hypertension knowledge and perceptions

Knowledge of hypertension risk factors varied among the respondents; there was no differences in the responses from women and men were largely similar (Table 3). Stress was the most commonly identified risk factor, reported by 94.4% of women and 92.1% of men. Salt intake was identified by 85.1% of women, while smoking was reported by 71.2% of women and 73.7% of men. Alcohol use, family history and an unhealthy diet were also commonly recognised. Physical inactivity was less frequently identified, with only 16.1% of women and 21.1% of men recognising it as a risk factor. About half of both women (49.8%) and men (52.6%) incorrectly associated weather with hypertension.

Majority of the respondents understood the various health risks and management of hypertension. More than 90% of women and men recognised that hypertension is harmful, while 93.9% of women and 87.6% of men associated it with an increased risk of stroke. Healthy eating and regular physical activity were the widely recognised ways of controlling blood pressure. Most respondents identified fast-food consumption and alcohol use as factors that can raise blood pressure. More than 90% rejected the views that hypertension could be treated by traditional healers or would disappear without treatment. However, one-third of women and one-quarter of men believed that religious prayer or church attendance could be used to manage hypertension.

Table 3: Hypertension knowledge and perceptions by gender

	Female (n=268(70.2%))		Male (n=114(29.8%))	
	NO	YES	NO	YES
Risk factors associated with hypertension				
Physical Exercise	224 (83.9%)	43 (16.1%)	90 (78.9%)	24 (21.1%)
Smoking	77 (28.8%)	190 (71.2%)	30 (26.3%)	84 (73.7%)
Diet	97 (36.2%)	171 (63.8%)	41 (36.0%)	73 (64.0%)
Stress	15 (5.6%)	251 (94.4%)	9 (7.9%)	105 (92.1%)
Religion	220 (82.4%)	47 (17.6%)	94 (83.2%)	19 (16.8%)
Family History	82 (30.6%)	186 (69.4%)	42 (36.8%)	72 (63.2%)

Alcohol Consumption	81 (30.2%)	187 (69.8%)	30 (26.3%)	84 (73.7%)
Gender	230 (85.8%)	38 (14.2%)	98 (86.7%)	15 (13.3%)
The weather	134 (50.2%)	133 (49.8%)	54 (47.4%)	60 (52.6%)
Salt Intake	40 (14.9%)	228 (85.1%)		
Sugar Intake	244 (91.0%)	24 (9.0%)	102 (90.3%)	11 (9.7%)
Pregnancy	40 (15.0%)	227 (85.0%)	42 (36.8%)	72 (63.2%)
Awareness and perception of hypertension and CVD				
Hypertension is bad for you	25 (9.3%)	243 (90.7%)	9 (8.0%)	104 (92.0%)
Fast food increases blood pressure	44 (16.5%)	223 (83.5%)	23 (20.4%)	90 (79.6%)
Alcohol increases blood pressure	75 (28.1%)	192 (71.9%)	28 (25.0%)	84 (75.0%)
Blood pressure improves by a healthy diet	53 (19.8%)	215 (80.2%)	24 (21.2%)	89 (78.8%)
Blood pressure improves with exercise	71 (26.6%)	196 (73.4%)	27 (23.9%)	86 (76.1%)
Blood pressure can be managed by going to church	178 (66.7%)	89 (33.3%)	85 (75.9%)	27 (24.1%)
Blood pressure can be managed by praying	178 (66.9%)	88 (33.1%)	88 (78.6%)	24 (21.4%)
Blood pressure can be managed by a traditional healer	250 (94.3%)	15 (5.7%)	106 (93.8%)	7 (6.2%)
High blood pressure makes you feel sick	38 (14.3%)	228 (85.7%)	13 (11.5%)	100 (88.5%)
High blood pressure is a rare condition	208 (78.8%)	56 (21.2%)	84 (74.3%)	29 (25.7%)
High blood pressure prevents the development of heart disease	175 (65.8%)	91 (34.2%)	74 (65.5%)	39 (34.5%)
High blood pressure increases the risk of a stroke	16 (6.1%)	248 (93.9%)	14 (12.4%)	99 (87.6%)
If you ignore it, high blood pressure will go away on its own	239 (90.5%)	25 (9.5%)	105 (92.9%)	8 (7.1%)

Multivariable logistic regression analysis

In the adjusted analysis, education, age, wealth index, health insurance status, knowledge level, distance to the market-based health outpost and mode of transport were significantly associated with non-utilization of market-based health outposts (Table 4). Respondents aged 18–34 years had higher odds of non-utilization than those aged 55 years and above (aOR = 4.09; 95% CI: 1.76–9.49; $p = 0.001$). Uninsured respondents also had higher odds of non-utilization than insured respondents (aOR = 2.07; 95% CI: 1.21–3.52; $p = 0.008$). Similarly, respondents living 3 km or more from an outpost had higher odds of non-utilization than those living 1–3 km away (aOR = 2.38; 95% CI: 1.17–4.86; $p = 0.017$). However, college education, membership in the richest wealth category, adequate hypertension knowledge and walking as the main mode of transport were associated with lower odds of non-utilization.

Table 4: Multivariable logistic regression analysis of factors associated with non-utilization of market-based health outposts

Variable	Category	Adjusted OR	95% CI	p-value
Sex	Female	1.00	Reference	
	Male	1.454	0.808-2.618	0.212
Employment level	Unemployed	1.00	Reference	
	Employed	0.674	0.390-1.166	0.158
Education level	Primary and below	1.00	Reference	
	Secondary	0.838	0.431-1.626	0.600
	College	0.265	0.075-0.938	0.040
Health insurance	Yes	1.00	Reference	
	No	2.067	1.214-3.520	0.008
Wealth index	Poorest	1.00	Reference	
	Poorer	0.842	0.401-1.771	0.650
	Middle	0.854	0.390-1.872	0.693
	Rich	0.999	0.472-2.115	0.998
	Richest	0.261	0.081-0.838	0.024
Age	55+	1.00	Reference	
	18-34	4.086	1.759-9.492	0.001
	35-54	1.343	0.666-2.709	0.409
Marital status	Married	1.00	Reference	
	Single	1.047	0.459-2.386	0.914
	Divorced/Widowed	1.368	0.649-2.882	0.410
Knowledge level	Poor knowledge	1.00	Reference	
	Adequate knowledge	0.478	0.278-0.822	0.008
Distance	1-3 km	1.00	Reference	
	Under 1 km	0.680	0.348-1.329	0.259
	>=3 km	2.381	1.168-4.857	0.017
Road type	Murram	1.00	Reference	
	Footpath	1.930	0.886-4.205	0.098
	Mixed	0.835	0.427-1.633	0.598
	Tarmac	1.015	0.498-2.068	0.968
Transport	Motorized	1.00	Reference	
	Walking	0.444	0.246-0.803	0.007

DISCUSSION

This study found that more than half of the respondents had used market-based health outposts, indicating that these decentralised service-delivery models provide an accessible platform for hypertension screening and health promotion in rural Kenya. This finding is consistent with findings that community-based and primary healthcare initiatives can enhance hypertension awareness, screening and follow-up, particularly if access to facility-based services is hindered^{16,18,19}.

Socio-economic factors were significantly associated with utilization in the bivariate analysis. Employment status, income, health insurance coverage and wealth status were associated with the use of market-based health outposts, indicating that engagement with decentralised services may still reflect broader socio-economic inequalities. This finding is consistent with evidence that income, education and health insurance are associated with healthcare access and non-communicable disease management in low- and middle-income countries^{10,11,20}.

While market-oriented health outposts facilitate hypertension screening within the community, their utilization may still hinge on individuals' ability to purchase the necessary post-screening care. Individuals without insurance may exhibit reluctance to participate in screenings due to the potential financial burden of future

diagnostic testing, medications, or follow-up appointments. Research in Kenya has similarly indicated that healthcare expenses lead to unmet needs, whereas health insurance alleviates the financial strain linked to continuous hypertension management. This suggests that community screening should be linked to affordable referral, diagnostic and treatment services, particularly for people without health insurance.^{21,22}

Higher education and household wealth index may make it easier for individuals to recognize the importance of routine blood pressure screening and act on health information. Education strengthens the ability to understand hypertension risks and navigate available healthcare services, while greater substantial financial resources help in meeting transport and follow-up health-care costs. This current socioeconomic pattern reflects the evidence from Kenya showing how hypertension screening and treatment are used more frequently by wealthier and better-educated individuals in the society. However, education and wealth index represents several related advantages, and the cross-sectional design does not establish the mechanisms underlying these associations.²³ This finding is consistent with evidence that socio-economic status is associated with both normal healthcare-seeking behaviour and the different type of healthcare services used in sub-Saharan Africa and other low- and middle-income countries^{10,24}.

Knowledge level was significantly associated with utilization of market-Based health outposts. Adequate knowledge on hypertension was more visible among users in the bivariate analysis and this was clearly associated with lower odds of non-utilization after adjustment. This suggests that respondents with adequate knowledge were more likely to use the established market-based health outposts, because the population better understood hypertension risks and the importance of screening and early detection. Existing evidence clearly indicates that knowledge of hypertension can support regular screening and appropriate health-care-seeking behaviour; however, the same knowledge should be complemented by trusted, accessible, and adequately equipped services to promote sustained market-based health outposts utilization.

Physical access remained important despite the population locating the outposts within community markets. Residents living far away may still have to face additional transport cost, travel time, and difficulties associated with current poor road conditions, which can discourage the use of services that are preventive rather than urgently needed. The lower non-utilization observed among respondents who walked may indicate that the health outposts were accessible to residents living nearby or could be incorporated into their regular market visits. Similar complicated barriers have been reported in rural and peri-urban areas, where transport availability, distance, and road conditions influence access to primary health care services.^{14,15,25} These findings denote the need to firmly locate market-based health outposts according to the normal population distribution and ensure usual travel patterns are observed rather than assuming that their placement within the markets makes them equally accessible to everyone in the community.

Overall, market-based health outposts offer a practical way to bring hypertension screening and education closer to communities. However, their reach may remain uneven unless implementation considers the financial, knowledge-related and geographical factors that influence whether community members use them.

STRENGTHS AND LIMITATIONS

This study achieved a high response rate and included both users and non-users of established market-based health outposts recruited at household level. However, the cross-sectional design does not allow causal inferences or establish temporal relationships. Self-reported utilization and knowledge of hypertension may have been affected by recall or social desirability bias, and utilization was not independently verified using outpost service records. In addition, the binary measure of utilization captured ever-use but did not assess frequency or continuity of service use.

CONCLUSION

Market-based health outposts could extend hypertension screening and health education to rural communities. Utilization was associated with socioeconomic factors, physical accessibility and hypertension knowledge. Efforts to strengthen these services should focus on community health education, equitable placement and linkage to affordable follow-up care.

RECOMMENDATIONS

- Strengthen community health education on hypertension risk factors, complications and the importance of routine blood pressure screening, with particular attention to younger adults and identified misconceptions.
- Locate future market-based health outposts according to population distribution, distance and common travel routes to improve access for communities living farther from markets.
- Link outpost screening to affordable diagnostic, treatment and follow-up services, particularly for uninsured and low-income residents.

FOR FUTURE RESEARCH

Future research should explore whether market-based health outposts are associated with improved blood pressure control, medication adherence and other clinical outcomes over time. Research is also needed to assess their cost-effectiveness, identify barriers experienced by non-users and determine how the model can be implemented and sustained across different settings. Longitudinal and qualitative studies could further examine frequency and continuity of service use and explain barriers and facilitators experienced by users and non-users.

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AUTHOR CONTRIBUTIONS

Isaac Mukoko conceptualized the study, developed the methodology, participated in data collection, analysed and interpreted the data, and drafted the manuscript. **Wilson** supported the study setup, data collection, and data analysis. **Dr. Masinde** and **Dr. Malusha** provided academic supervision, methodological guidance, and critical review of the manuscript. All authors reviewed and approved the final manuscript.

DATA AVAILABILITY STATEMENT

The datasets generated and analysed during this study are available from the corresponding author upon reasonable request, subject to ethical approval and protection of participants' confidentiality.

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no competing interests.

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