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Capacity Building as a Predictor of Service Provision among Community Health Promoters in Nandi County, Kenya

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Capacity building is increasingly recognised as a cornerstone for strengthening community health systems, particularly in underserved regions where Community Health Promoters (CHPs) play a vital role in bridging the gap between households and formal healthcare services. This study examined the role of capacity building in enhancing the effectiveness of CHPs' service provision in Nandi County, Kenya. The research adopted a descriptive design and targeted 1,567 CHPs across six sub-counties, from which a stratified random sample of 306 was drawn. Data were collected using a structured five-point Likert scale questionnaire that was pretested in Uasin Gishu County to ensure reliability and validity. A total of 287 responses were obtained, yielding a 93.8 percent response rate. Descriptive statistics indicated that although many CHPs had received some form of training, gaps persisted in the consistency, adequacy, and relevance of these capacity-building initiatives, which in turn affected their ability to deliver services effectively. Inferential analysis using Pearson correlation showed that capacity building had a statistically significant positive relationship with service provision ($r = 0.518$, $p < 0.01$), while regression analysis confirmed that capacity building was the strongest predictor among all facilitators, explaining a substantial portion of the variance in CHP performance outcomes. CHPs who accessed regular training, mentorship, and learning resources demonstrated greater confidence, improved efficiency, and stronger engagement with their communities. The findings underscore that beyond financial incentives, supplies, and job security, sustained investment in capacity building remains the most critical enabler of community health service delivery. The study concludes that institutionalising structured and continuous professional development programs for CHPs is essential for equipping them with the skills to respond to evolving health challenges, foster innovation, and build trust between communities and health systems. Policymakers and stakeholders are therefore urged to prioritise capacity building as a strategic pathway toward achieving universal health coverage in Kenya and similar contexts.

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INTRODUCTION

Community Health Promoters (CHPs), also referred to as Community Health Volunteers (CHVs), are individuals trained to provide preventive and promotive health services within their communities under the supervision of Community Health Assistants (CHAs). They are typically assigned to about 100 households, where they deliver health education, conduct home visits, facilitate referrals, and collect data, thereby acting as an essential link between households and the formal healthcare system (WHO, 2007; WHO, 2018). Globally, CHPs have become increasingly important in mitigating the shortage of healthcare professionals such as doctors, nurses, and midwives. According to the WHO's *Working Together for Health* report, the global health workforce crisis disproportionately affects low- and middle-income countries, where high disease burden coincides with limited professional capacity, and task-shifting to CHPs has emerged as a viable response (WHO, 2006).

Today, over 1.3 million CHPs worldwide contribute to healthcare delivery, especially in resource-limited settings where they help address both communicable and non-communicable disease burdens (Lassi et al., 2018). Their contributions are particularly critical in sub-Saharan Africa, which bears 24% of the global disease burden but is served by only 3% of the world's health workforce (WHO, 2020). Evidence shows that CHPs are vital in improving maternal and child health, HIV/AIDS care, malaria control, and immunisation uptake (Lehmann & Sanders,

2007; Pradhan & Adhikari, 2022). However, despite their strategic role, CHPs face challenges such as limited training, inadequate financial incentives, shortages of supplies, and difficult working conditions. These constraints compromise both the quality and sustainability of the services they deliver (Glenton et al., 2013; Kok et al., 2015; Lusambili et al., 2021).

In Kenya, the Ministry of Health introduced the Community Health Strategy in 2006, recognising CHPs as key drivers of health promotion and disease prevention (MOH, 2006). Over the years, CHPs have supported progress in maternal and child health, family planning, and infectious disease control. Yet, the system remains fragile: training has often been donor-driven and inconsistent, logistical support is weak, and recognition from government structures has been limited (MOH, 2014). This creates a sustainability gap that undermines their effectiveness, particularly in rural areas where health needs are greatest.

Nandi County provides a relevant case for examining these issues. The county has approximately 242 health facilities, only 63% of which are publicly managed, with the rest operated by private or faith-based providers (County Government of Nandi, 2020). This fragmentation, coupled with challenging terrain, high population pressure, and cultural barriers, makes CHPs indispensable in reaching underserved households. Yet, they often work without adequate supplies, financial support, or

continuous professional development, limiting their potential impact. These contextual realities underscore the urgent need to identify and strengthen the key facilitators of CHP service provision.

Although global and regional studies have examined enablers of CHP effectiveness, including security of tenure, financial incentives, supply of commodities, and training, few have isolated the specific contribution of capacity building as an independent determinant of service provision (Lehmann, 2007; Kok et al., 2015; Lusambili et al., 2021). In Kenya, capacity-building efforts remain irregular and unevenly distributed, raising concerns about sustainability. This lack of empirical focus on capacity building represents a critical research gap, as continuous training and mentorship are essential for equipping CHPs to adapt to emerging health challenges such as rising non-communicable diseases and pandemic responses.

The present study, therefore, examined the facilitators of service provision by Community Health Promoters in Nandi County, with a particular focus on capacity building. Specifically, it explored the role of security of tenure, training and capacity development, financial incentives, and availability of supplies and commodities in enhancing CHP service delivery. By focusing on these dimensions, the study sought to generate practical insights that can inform policy and strengthen community health systems.

This research is significant for several reasons. First, it provides empirical evidence to guide policymakers, county governments, and healthcare stakeholders in designing sustainable strategies to improve CHP performance. Second, it contributes to the global discourse on optimising community health systems, particularly in resource-constrained contexts. Finally, it expands the academic literature by providing context-specific findings for rural Kenya, which can serve as a reference for similar settings regionally and globally. While the study was conducted within the geographic and cultural

boundaries of Nandi County, the findings are relevant to comparable low-resource environments. The study assumes that CHPs provide honest and accurate responses about their work environment, and acknowledges that financial and logistical constraints may have limited the breadth of data collection. Nonetheless, it provides robust and contextually grounded insights into how CHPs can be better supported to deliver quality services and advance progress toward universal health coverage.

Problem Statement and Research Gap

Although Community Health Promoters (CHPs) are widely acknowledged as essential to achieving universal health coverage, their effectiveness continues to be constrained by systemic challenges. Studies across Sub-Saharan Africa and Kenya highlight four primary facilitators of CHP performance: security of tenure, financial incentives, supply of commodities, and capacity building (Lehmann & Sanders, 2007; Lusambili et al., 2021). However, while the importance of capacity building is frequently mentioned, its role as a critical determinant of service provision has not been adequately examined in empirical research. Much of the existing literature tends to present capacity building alongside other enablers without isolating its independent contribution to service delivery outcomes (Kok et al., 2015).

In Kenya, CHP training has historically been irregular, donor-driven, and unevenly distributed across counties, raising concerns about sustainability and long-term impact (Glenton et al., 2013; Ministry of Health, 2014). Counties such as Nandi, characterised by rural settings and logistical constraints, particularly depend on CHPs to extend health services to households that are otherwise beyond the reach of formal healthcare systems (Republic of Kenya, 2014). Yet, many CHPs in these contexts lack continuous professional development, limiting their ability to adapt to emerging health challenges such as rising non-communicable diseases, pandemics, and evolving community needs (Pradhan & Adhikari, 2022).

This gap in evidence undermines the ability of policymakers, county governments, and health system managers to prioritise and institutionalise capacity-building initiatives. Without systematic investment in training and mentorship, CHPs risk remaining underutilised despite their strategic potential to improve health outcomes (WHO, 2018; Macinko et al., 2019). This study addresses this gap by empirically analysing the role of capacity building in enhancing CHP service provision in Nandi County, thereby providing actionable insights for strengthening community health systems in Kenya and similar settings.

MATERIALS AND METHODS

This study employed a descriptive cross-sectional design, which was appropriate for examining facilitators of Community Health Promoters' (CHPs) service provision in Nandi County at a single point in time (Mugenda & Mugenda, 2003; Sekaran & Bougie, 2011).

The research was conducted in Nandi County, Kenya, which has six sub-counties and a population of 885,711 (KNBS, 2019). Community Health Promoters in the county serve approximately 100 households each, providing services such as health promotion, disease prevention, and referrals. The target population comprised all 1,567 CHPs distributed across the six sub-counties (Table 1).

Table 1: Target Population Distribution per Sub-County

Sub-County	Population
Nandi Hills	291
Chesumei	225
Tinderet	206
Aldai	238
Emgwen	220
Mosop	387
Total	1,567

Sample Size and Sampling Procedure

The sample size was determined using Yamane's formula for finite populations with a 95% confidence level and 5% margin of error, yielding 306 respondents. Stratified random sampling was

employed, with sub-counties serving as strata, followed by proportionate allocation of participants (Krejcie & Morgan, 1970). Purposive sampling ensured inclusion of CHPs with at least one year of experience and active service at the time of the study.

Table 2: Sampling Frame

Sub-County	Population	Proportion (%)	Sample Size
Mosop	291	19.18%	57
Emgwen	225	14.83%	45
Chesumei	206	13.58%	41
Nandi Hills	238	15.68%	48
Aldai	220	14.51%	45
Tinderet	387	25.52%	70
Total	1,567	100%	306

Primary data were collected using a structured questionnaire administered to 306 CHPs. The tool captured sociodemographic characteristics and variables of interest: security of tenure, capacity building, financial incentives, and supply of commodities. Responses were recorded on a five-point Likert scale.

A pre-test was conducted among 30 CHPs in Uasin Gishu County, selected due to its demographic similarity to Nandi. Content validity was ensured through expert review, while construct validity was checked against the study's conceptual framework. Reliability testing yielded

a Cronbach's alpha coefficient above 0.7, confirming internal consistency.

Data were coded, cleaned, and analysed using SPSS version 27. Descriptive statistics (frequencies, percentages, means, and standard deviations) summarised participant characteristics and study variables. Inferential analysis employed Spearman's correlation to assess relationships and multiple regression analysis to determine the predictive effect of independent variables (capacity building, financial incentives, supply of commodities, and security of tenure) on service provision. Statistical significance was set at $p < 0.05$.

Ethical clearance was obtained from the Kenya Methodist University Ethics and Research Committee. Authorisation was further secured from the National Commission for Science, Technology, and Innovation (NACOSTI) and the Nandi County Department of Health. Written informed consent was obtained from all participants, confidentiality was maintained, and no identifiers were collected.

RESULTS AND DISCUSSION

Out of the 306 Community Health Promoters (CHPs) who were sampled, 287 successfully completed and returned the questionnaires, giving a response rate of 93.8%. The remaining 19 CHPs (6.2%) did not return the questionnaires or provided incomplete responses and were therefore excluded from the analysis. The majority were

female, aged between 31 and 40 years, with most having attained secondary education and served for more than three years.

Descriptive Findings

Most respondents had received some form of training since their deployment; however, refresher opportunities were irregular, and content was not always aligned with emerging health needs. This reflects broader evidence that training for CHPs in Kenya is often fragmented and donor-driven rather than systematically institutionalised (Glenton et al., 2013; Lusambili et al., 2021). The lack of regular mentorship and updated guidelines undermines service quality and limits CHPs' adaptability to rising burdens of non-communicable diseases and pandemics (Pradhan & Adhikari, 2022).

Correlation Analysis

Pearson correlation analysis showed that capacity building was strongly and positively associated with service provision ($r = 0.518$, $p < 0.01$), more than financial incentives ($r = 0.412$, $p < 0.01$), supply of commodities ($r = 0.376$, $p < 0.01$), and security of tenure ($r = 0.289$, $p < 0.05$) (Table 3). These findings align with studies from Uganda and Ethiopia, which have consistently reported that capacity building through training and mentorship enhances CHP motivation, confidence, and efficiency in service delivery (Lehmann & Sanders, 2007; Kok et al., 2015).

Table 3: Correlation between Facilitators and Service Provision

Variable	Service Provision (r)	p-value
Capacity building	0.518**	0.000
Financial incentives	0.412**	0.001
Supply of commodities	0.376**	0.002
Security of tenure	0.289*	0.013

*Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed).

Regression Analysis

Multiple regression analysis confirmed that capacity building was the strongest predictor of service provision. The model explained a significant proportion of variance in CHP

performance outcomes ($R^2 = 0.41$, $F = 12.37$, $p < 0.001$). Capacity building had the highest standardised beta coefficient ($\beta = 0.435$, $p < 0.001$), followed by financial incentives ($\beta = 0.296$, $p < 0.01$), supply of commodities ($\beta =$

0.215, $p < 0.05$), and security of tenure ($\beta = 0.148$, $p < 0.05$) (Table 4).

Table 4: Regression Analysis Results

Variable	β (Beta)	t-value	p-value
Capacity building	0.435	6.27	0.000
Financial incentives	0.296	4.12	0.001
Supply of commodities	0.215	2.95	0.004
Security of tenure	0.148	2.18	0.031
Model Summary	$R^2 = 0.41$, $F = 12.37$, $p < 0.001$		

INTERPRETATION OF FINDINGS

The regression results demonstrate that capacity building is the most critical determinant of CHP effectiveness. Respondents who had access to consistent training, mentorship, and updated learning resources performed significantly better in engaging households, providing education, and delivering basic services. This finding supports earlier research from Kenya and other Sub-Saharan African countries, which shows that beyond financial and material support, sustained capacity building enables CHPs to adapt to evolving community health needs and fosters long-term motivation (MOH, 2014; WHO, 2018).

Although financial incentives and commodity supplies were also significant predictors, their influence was weaker compared to training and mentorship. This suggests that while financial and material support can motivate CHPs in the short term, long-term sustainability of service provision is better secured through systematic skill development and knowledge strengthening (Macinko et al., 2019).

Overall, the results confirm that capacity building is not merely supportive but foundational to CHP effectiveness. Institutionalising continuous professional development within Kenya's Community Health Strategy would enhance service delivery, improve community trust, and accelerate progress toward universal health coverage.

CONCLUSION AND RECOMMENDATIONS

This study examined the facilitators of Community Health Promoters' (CHPs) service

provision in Nandi County, Kenya, with a particular focus on capacity building. The findings revealed that while financial incentives, supply of commodities, and security of tenure contribute to CHP performance, capacity building emerged as the strongest predictor of service provision. CHPs who received consistent training, mentorship, and access to updated learning resources demonstrated higher levels of effectiveness in delivering health services at the community level.

The results underscore that capacity building is not only an enabling factor but a foundational determinant of sustainable service delivery. Without systematic investment in continuous professional development, other facilitators such as incentives and commodities may yield only temporary improvements. Strengthening capacity building, therefore, offers the greatest potential for enhancing CHP motivation, skill, and resilience in addressing community health challenges.

Recommendations

- Institutionalise Continuous Professional Development:** County governments, through the Ministry of Health, should establish structured, regular training and mentorship programs for CHPs to ensure ongoing skill development and alignment with emerging health needs.
- Integrate Capacity Building into Policy Frameworks:** The Community Health Strategy should explicitly prioritise capacity building as a core component of CHP support,

ensuring sustainability beyond donor-driven initiatives.

- **Develop Standardised Training Curricula:** A harmonised national curriculum should be developed and updated to include training on non-communicable diseases, pandemic preparedness, digital health tools, and other emerging priorities.
- **Strengthen Mentorship and Supervision:** Supervisory structures should be enhanced to provide on-the-job mentorship, peer learning, and continuous feedback mechanisms for CHPs.
- **Allocate Dedicated Funding:** National and county governments should allocate budget lines for CHP capacity building to reduce reliance on external partners and ensure program continuity.

By implementing these recommendations, Kenya and other low-resource settings can maximise the potential of CHPs, enhance primary healthcare delivery, and accelerate progress toward universal health coverage.

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