



EFFECT OF SOCIAL MEDIA STRATEGY ON HEALTH SERVICES AWARENESS IN LEVEL 4 AND LEVEL 6 PUBLIC HOSPITALS IN NAKURU COUNTY, KENYA

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ABSTRACT

Public hospitals increasingly rely on social media to disseminate health information and raise awareness of available services, yet information gaps continue to limit residents' awareness of health services in Nakuru County. This study examined the effect of social media strategy on health services awareness in Level 4 and Level 6 public hospitals in Nakuru County, Kenya. A correlational cross-sectional research design and a census approach were adopted, targeting 71 duty bearers across 11 public health facilities. Data were collected from 57 respondents, representing an 80.3% response rate, using structured questionnaires. Descriptive statistics and simple linear regression were used to analyze the data. The social media construct achieved a Cronbach's alpha of 0.966, indicating high internal consistency. Social media showed a strong, positive, and statistically significant correlation with health services awareness ($r = 0.954$, $p < .001$), and simple linear regression indicated that social media significantly predicted awareness, explaining 91.0% of the variation in awareness scores ($R^2 = 0.910$, $F(1, 55) = 556.13$, $p < .001$; $B = 0.851$, $p = .001$). The study concludes that social media is a statistically significant driver of health services awareness but recommends that public hospitals treat it as one component of an integrated communication strategy, strengthen structured social media governance, improve the accuracy and timeliness of shared information, and actively build resident engagement rather than relying on one-way information posting.

KEYWORDS: Health Services Awareness; Social Media Strategy; Public Hospitals; Marketing Communication

I. INTRODUCTION

Public hospitals worldwide increasingly rely on digital platforms to disseminate health information and engage the communities they serve. Social media, in particular, has emerged as a low-cost, high-reach channel capable of overcoming geographical barriers and enabling real-time interaction between health institutions and the public (Kubheka, Carter, & Mwaura, 2020). Nakuru County has invested in digital health infrastructure to improve service delivery in public hospitals (Kenya News Agency, 2025), yet information gaps and communication breakdowns continue to limit residents' awareness of the health services available to them, particularly in marginalized areas (Nakuru County Government, 2023). Globally, inadequate health communication is associated with underutilization of services and delayed care-seeking (World Health Organization, 2022), underscoring the importance of understanding whether and how specific communication channels such as social media are contributing to closing this gap.

Despite growing institutional investment in social media presence, empirical evidence on its actual effectiveness in raising awareness of specific hospital services, rather than general public health messaging, remains limited, particularly within Kenyan county-level public hospital systems. Existing studies have examined social media's role in health promotion largely through conceptual or qualitative lenses (Kubheka et al., 2020; Amina,

2025), leaving a gap in quantitative, facility-level evidence of its effect on awareness. This study addressed that gap by examining the effect of social media strategy on health services awareness in Level 4 and Level 6 public hospitals in Nakuru County, Kenya.

Social media strategy, as examined in this study, encompasses the use of hospital social media platforms to disseminate accurate and timely health information, monitor resident engagement, and reach a broad segment of the population with content intended to raise awareness of available health services. The study is guided by Diffusion of Innovations Theory (Rogers, 2003), which explains how information and practices spread through communication channels over time and identifies social media as a channel that mainly reaches innovators and early adopters through timely, interactive information that highlights the relative advantage and observability of available services (Valente & Rogers, 1995; Dearing & Cox, 2018). The theory provides an appropriate lens for examining how social media's specific communication attributes shape the pace and reach of awareness diffusion among hospital service users. The study therefore sought to establish the effectiveness of social media strategy on health services awareness in public hospitals in Nakuru County, Kenya, and to test the null hypothesis that social media has no statistically significant effect on health services awareness.



II. METHODOLOGY

The study adopted a correlational cross-sectional research design, appropriate for examining the strength and direction of the relationship between social media strategy and health services awareness without manipulating either variable. The target population comprised 71 duty bearers across 11 public health facilities in Nakuru County (10 Level 4 hospitals and 1 Level 6 hospital), including medical superintendents, public relations officers, health promotion officers, public health officers, and nurses in charge. Given the small, well-defined population, a census approach was adopted rather than a sampling procedure (Mugenda & Mugenda, 2003).

A total of 57 completed questionnaires were returned, representing an 80.3% response rate, exceeding the 70% threshold considered adequate for analysis in social science research (Babbie, 2016). Primary data were collected using a structured, self-administered questionnaire comprising five-point Likert-scale items measuring social media strategy and health services awareness, administered via Google Forms. The social media construct was operationalized through five items assessing the effectiveness of hospital social media platforms in raising awareness, the accuracy and timeliness of information shared, monitoring of resident engagement, the reach of posts among residents, and the perceived overall improvement in awareness of available services. Prior to data collection, ethical approval was obtained from the Kabarak University Research Ethics Committee (KUREC), and a research permit was obtained from the National Commission for Science, Technology and Innovation (NACOSTI). The instrument was reviewed for content validity and pilot-tested with 7 respondents (10% of the target population) in Kisumu County.

Reliability was assessed using Cronbach's alpha (Cronbach, 1951), and the social media construct achieved a coefficient of 0.966, indicating high internal consistency. Data were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, specifically means and standard deviations, were used to summarize respondents' perceptions of social media strategy and awareness. Inferential analysis was performed using simple linear regression to estimate the effect of social media strategy on health services awareness. Although this manuscript focuses specifically on social media, it is derived from a broader study that examined four marketing

communication strategies. Severe multicollinearity was observed when all four strategies were entered into a combined multiple regression model (Variance Inflation Factor values ranging from 32.2 to 111.1, exceeding the recommended threshold of 10) (Vatcheva, Lee, McCormick, & Rahbar, 2016), which precluded reliable estimation of each strategy's independent, unique effect within a single combined model. Consistent with the broader study's approach, and to isolate a statistically stable and interpretable estimate of social media's own relationship with awareness, a simple linear regression model was used, specified as follows:

$$Y = \beta_0 + \beta_1 X + \varepsilon$$

Where:

Y = Health Services Awareness

β_0 = Regression constant (intercept)

β_1 = Regression coefficient for social media strategy

X = Social Media Strategy

ε = Error term

Prior to regression analysis, the assumptions of normality, linearity, and homoscedasticity were assessed using Normal P-P plots, skewness and kurtosis statistics within ± 2 , and residual scatterplots, and found to be satisfactory.

III. ETHICAL CONSIDERATIONS

The study adhered to established ethical principles protecting participants' rights, privacy, confidentiality, and voluntary participation. Ethical approval was obtained from the Kabarak University Research Ethics Committee (KUREC), and a research permit was obtained from the National Commission for Science, Technology and Innovation (NACOSTI). Institutional authorization was obtained from the participating public hospitals. Participants were informed of the purpose of the study and their right to withdraw without penalty. Informed consent was obtained before data collection, and responses were treated anonymously and confidentially throughout the study.

IV. RESULTS

Descriptive Results

Descriptive statistics were computed to assess respondents' perceptions of social media strategy in raising health services awareness.

Table 1 presents these findings.

Statement	SD	D	N	A	SA	M	SD
Hospital social media platforms effectively raise awareness.	11	0	10	20	16	3.53	1.42
Information shared is accurate and up-to-date.	10	10	3	20	14	3.32	1.46
Engagement with residents on social media is monitored.	6	6	21	19	5	3.19	1.09
Posts reach a broad segment of residents.	2	4	25	25	1	3.33	0.79
Social media improves awareness of available services.	1	8	8	16	24	3.95	1.14
Overall Mean						3.46	1.21

Key: (SD) = Strongly Disagree; (D) = Disagree; (N) = Neutral; (A) = Agree; (SA) = Strongly Agree; (M) = Mean; (SD) = Standard Deviation. N = 57.



As shown in Table 1, social media moderately improves health service awareness overall ($M = 3.46$, $SD = 1.21$). Respondents agreed that hospital social media platforms are effective in raising awareness ($M = 3.53$, $SD = 1.42$) and strongly agreed that social media improves awareness of available health services ($M = 3.95$, $SD = 1.14$), indicating its strategic value as a communication channel. However, respondents rated the accuracy and timeliness of shared information moderately ($M = 3.32$, $SD = 1.46$), and engagement with residents on social media recorded the lowest rating ($M = 3.19$, $SD = 1.09$), suggesting that while social media presence increases visibility, resident interaction with posted content remains limited. Views on whether posts reach a broad audience were similarly moderate ($M = 3.33$, $SD = 0.79$). These findings are consistent with Kubheka et al. (2020) and Amina (2025), who argue that although social media increases exposure to health information, its effectiveness depends heavily on engagement and implementation practices rather than presence alone.

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.954	0.910	0.908	0.324

Table 2 indicates a strong multiple correlation coefficient ($R = 0.954$). The coefficient of determination ($R^2 = 0.910$) indicates that social media strategy alone explains 91.0% of the variation in health services awareness, with the remaining variation attributable to other factors not included in this simple model. The severe multicollinearity observed in the broader study's combined regression model (VIF 32.2-111.1) suggests that this high explanatory strength partly reflects substantial overlap with the other communication strategies examined in the

Model		Sum of Squares	Df	Mean of squares	F	Sig.
	Regression	59.44	1	59.44	556.13	.001
	Residual	5.88	55	0.107		
	Total	65.32	56			

The ANOVA model was statistically significant ($F(1, 55) = 556.13$, $p < .001$), indicating that social media strategy made a statistically significant contribution to explaining variation in health services awareness. The extremely high F-statistic is consistent with the shared variance social media exhibits with the other communication strategies in the broader study, suggesting

Correlational Analysis

The study used Pearson Correlation to analyze the association between the predictor variable social media and the outcome variable awareness. The correlation analysis was conducted at 0.05 significance level. The association between social media and awareness produced a correlation coefficient of $r = 0.954$ with $p < 0.001$. This indicates a very strong and statistically significant positive relationship between social media use and health services awareness in level 4 and level 6 public hospitals in Nakuru County. This aligns with existing literature highlighting the growing influence of digital platforms in shaping public access to health information.

Regression Results

Simple linear regression analysis was used to estimate the effect of social media strategy on health services awareness. Table 2 presents the model summary.

wider study, rather than a fully independent effect isolated to social media alone.

The study further conducted an analysis of variance to understand how well the model fits the data and whether the chosen predictors are significant in explaining the variation in the target variable. Table 3 presents the Analysis of Variance (ANOVA) used to assess the overall significance of the regression model.

the observed model strength may be inflated by overlap among closely related predictors.

The study also conducted a coefficient analysis to determine the direction and magnitude of the relationship between the predictor and the dependent variable in this case the direction and magnitude of the relationship between social media and awareness of health services.

Table 4 presents the regression coefficients.

Predictor	Unstandardized B	Std. Error	Beta	t	P
(Constant)	0.242	0.147		1.65	.105
Social Media	0.851	0.036	0.954	23.58	<.001

Social media had a positive and statistically significant effect on health services awareness ($B = 0.851$, $\beta = 0.954$, $p < .001$). A one-unit increase in social media strategy was associated with a 0.851-unit increase in health services awareness. The estimated regression equation is: $Y = 0.242 + 0.851X$. On the basis of this finding, the null hypothesis that social media has no statistically

significant effect on health services awareness was rejected at the 0.05 significance level.

Multicollinearity and the Social Media Strategy Index

A preliminary multiple regression model of social media strategy was tested before the simple regression was adopted.



Table 5 presents the multicollinearity diagnostics from that preliminary model.

Predictor	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
Social Media	0.260	0.035	0.263	7.429	.001	0.009	111.111

The findings indicate that social media strategy had a positive and statistically significant relationship with health services awareness. The regression results showed that social media strategy had a positive regression coefficient ($B = 0.260$), with a standard error of 0.035 and a standardized coefficient ($\beta = 0.263$). The effect was statistically significant ($t = 7.429$, $p = .001$). This implies that an increase in the use of social media strategy was associated with an increase in health services awareness.

The positive coefficient suggests that public hospitals that effectively utilize social media platforms for communication are likely to achieve higher levels of health services awareness among their target audiences. The statistically significant result provides evidence that social media strategy is an important predictor of health services awareness and therefore supports the view that social media strategy contributes significantly to explaining variations in the study context.

V. DISCUSSION

The findings indicate that social media strategy has a positive and statistically significant effect on health services awareness in public hospitals in Nakuru County. Stronger implementation of social media communication, particularly platform presence and perceived improvement in awareness, was associated with higher reported awareness of available health services. These findings are consistent with Amina (2025), who empirically established that social media platforms significantly enhance public health awareness by increasing exposure to health information and encouraging audience engagement. The findings also support Jepkogei (2024), who found that social media marketing effectiveness in healthcare is directly proportionate to brand awareness and the use of informative, interactive content, and recommended that messaging be delivered by credible expert sources rather than influencers to sustain audience engagement.

The findings further align with Kubheka, Carter, and Mwaura (2020), who argued that social media holds significant potential as a health promotion tool due to its ability to facilitate real-time feedback, enable rapid information dissemination, and overcome geographical barriers, while also cautioning that its effectiveness depends on health literacy, engagement levels, and implementation quality rather than platform presence alone. The present study's descriptive findings reinforce this caution directly: while respondents rated social media's overall contribution to awareness highly, they rated resident engagement and the accuracy and timeliness of shared information comparatively lower, suggesting that Nakuru County's public hospitals may currently be using social media more as a one-way broadcast tool than as a genuinely interactive engagement channel.

The findings are also consistent with the propositions of Diffusion of Innovations Theory (Rogers, 2003; Dearing & Cox, 2018), which conceptualizes social media as a channel that mainly reaches innovators and early adopters through timely,

interactive information highlighting the relative advantage and observability of a service. The strong statistical relationship observed here supports the theoretical expectation that social media, as a fast, wide-reaching channel, would be strongly associated with awareness diffusion. At the same time, the comparatively low engagement scores observed in the descriptive results suggest that the diffusion process may currently be reaching residents passively, through visibility and observability, more than through the active, interactive engagement the theory associates with accelerated adoption.

The multicollinearity diagnostics reported in Table 5 also warrant discussion. Social media strategy recorded a tolerance value of 0.009 and a Variance Inflation Factor (VIF) of 111.111, a level far exceeding the conventional threshold of 10 used to flag problematic multicollinearity (Vatcheva et al., 2016). This indicates a high degree of redundancy among the items used to measure social media strategy, suggesting that the construct's indicators are strongly interrelated and may be capturing overlapping rather than fully distinct dimensions of the underlying strategy. While this does not undermine the statistically significant relationship observed between social media strategy and health services awareness ($B = 0.260$, $t = 7.429$, $p = .001$), it suggests that the individual items comprising the social media construct should be interpreted as a cohesive, tightly related set of practices, such as platform presence, information accuracy, and engagement monitoring, rather than as independently varying sub-strategies. Future refinement of the measurement instrument could explore whether these items can be more clearly differentiated to isolate their distinct contributions to awareness.

Unlike prior studies that examined social media's role in public health awareness largely through conceptual or general public health lenses (Kubheka et al., 2020; Amina, 2025), this study provides facility-level, quantitative evidence linking social media strategy directly to health services awareness within Kenyan public hospitals. The findings contribute to the literature by demonstrating that social media functions not merely as a visibility tool but as a statistically significant driver of awareness, while also highlighting engagement, rather than platform presence, as the area most in need of strengthening.

The findings should be interpreted in light of certain limitations. The study relied on self-reported data from institutional duty bearers rather than residents themselves, meaning the results reflect staff perception of resident awareness rather than resident awareness as directly measured. The cross-sectional design also limits the ability to establish causal or temporal relationships, and the study was confined to public hospitals in a single Kenyan county, limiting generalizability to other settings.



VI. CONCLUSION

This study examined the effect of social media strategy on health services awareness in Level 4 and Level 6 public hospitals in Nakuru County, Kenya. The findings established that social media strategy has a positive and statistically significant effect on health services awareness ($B = 0.851$, $R^2 = 0.910$, $p < .001$), leading to rejection of the null hypothesis. The descriptive findings indicate a generally favourable perception of social media's contribution to awareness, particularly its perceived overall effectiveness, but comparatively weaker ratings for resident engagement and the accuracy and timeliness of shared information. The high Variance Inflation Factor observed for social media strategy ($VIF = 111.111$) further indicates considerable redundancy among the items measuring the construct, suggesting that platform presence, information accuracy, and engagement monitoring function as a tightly interrelated set of practices rather than fully distinct sub-strategies. The study therefore concludes that social media is a strong and statistically significant driver of health services awareness in this setting, but that its full potential is likely constrained by limited resident engagement practices, and that future measurement of the construct could benefit from more clearly differentiated items.

VII. RECOMMENDATIONS

Based on the findings, public hospitals in Nakuru County should establish structured social media governance policies that define content standards, posting frequency, and accountability for accuracy and timeliness of information shared. Hospital communication staff should be trained in digital engagement techniques and basic social media analytics to actively monitor and respond to resident interaction rather than relying on one-way posting.

At the managerial level, hospitals should invest in strategies that broaden the reach of social media content to a wider segment of residents, and establish feedback mechanisms that allow residents to ask questions and receive timely responses, thereby converting passive visibility into active engagement consistent with the diffusion attributes of trialability and observability.

Future studies should examine social media's effect on awareness using resident-level, rather than institutional duty bearer, data to directly assess actual community awareness. Researchers should also apply exploratory or confirmatory factor analysis and common method bias diagnostics to more rigorously establish social media's discriminant validity relative to other communication strategies, and consider longitudinal designs capable of tracking how social media engagement and awareness evolve over time.

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IX. CONFLICT OF INTEREST

The authors declare no conflict of interest.

X. ETHICAL APPROVAL

Ethical approval for this study was obtained from the Kabarak University Research Ethics Committee (KUREC).

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