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Strengthening Rural Hospital Outpatient Utilization Through Community-Based Health Promotion: An Interrupted Time Series Analysis of Monthly Visits (2021–2025)

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Abstract: Rural hospitals often face challenges in outpatient utilization due to limited access and low public perception of service quality. This study examines the rebranding strategy of Agung Mulia Hospital through community empowerment-based health promotion to reconstruct public trust and increase service visits. The research employs a quantitative approach with Interrupted Time Series (ITS), utilizing secondary data from monthly medical records between 2021 until 2025. Comparative analysis was conducted using descriptive statistics and the paired sample t-test to evaluate changes in visit frequency before and after the implementation of empowerment programs, including free health services and social media expansion. Statistical results reveal a significant increase in outpatient utilization, with the average monthly visits rising from 1340.17 to 1527.43. The maximum number of monthly visits also showed a notable surge, reaching 1887 patients after the intervention, compared to the previous high of 1301. Hypothesis testing through the paired sample t-test confirmed that these differences are statistically significant, indicating that the community-based promotion strategy was effective. The integration of digital transformation and community engagement successfully bridged information gaps and removed social stigmas, ultimately fostering sustainable patient loyalty and providing empirical evidence for the effectiveness of socially embedded rebranding strategies in rural healthcare settings.

Keywords: Health Promotion, Outpatient Services, Community Empowerment.

INTRODUCTION

The use of outpatient services is an essential component of the hospital healthcare system, particularly in rural areas where access to primary and specialized healthcare services remains limited (Key et al., 2022). In such contexts, hospitals often function as the primary point of contact between communities and formal healthcare systems, making outpatient visits a critical indicator of healthcare utilization (Srivastava et al., 2023). However, rural populations frequently encounter structural barriers, including limited healthcare facilities, long travel distances, high transportation costs, and low perceived quality of care Wulandari (2024), Lubis (2025), and Lestari (2018). These constraints contribute to suboptimal outpatient utilization

despite substantial healthcare needs (Stockton et al., 2021). Consequently, this condition may lead to increased reliance on emergency services and reduced patient satisfaction (Hussien, 2024).

From a theoretical perspective, healthcare utilization is not solely determined by service availability but is also strongly influenced by individual perceptions, social relationships, and enabling resources. The Health Belief Model (HBM) posits that individuals are more likely to utilize healthcare services when they perceive susceptibility to illness, recognize the severity of health risks, and believe in the benefits of preventive action (Rosenstock, 1974). In rural contexts, low health literacy and limited awareness often weaken these perceptions, thereby reducing routine outpatient visits. In addition, Service Utilization Theory, particularly Andersen's Behavioral Model, highlights the role of predisposing factors, enabling factors, and perceived need in shaping healthcare-seeking behavior (Andersen, 1995). Limited enabling resources, such as access and affordability, remain persistent barriers in rural settings.

Beyond individual-level factors, Social Capital Theory emphasizes the importance of trust, social networks, and community engagement in influencing health behaviors. Strong social capital facilitates the dissemination of health information, encourages collective awareness, and promotes positive health-seeking behaviors within communities (Putnam, 2000). In this regard, community-based approaches can serve as a strategic mechanism to bridge the gap between healthcare providers and rural populations by strengthening trust and participation.

Agung Mulia General Hospital serves as a public healthcare facility providing referral services for rural and surrounding communities. It functions as a key access point for both outpatient and inpatient services, particularly for populations with limited alternatives. Continuous improvements in infrastructure, healthcare workforce capacity, and service diversification reflect strategic efforts to enhance service quality. These developments position the hospital not only as a curative institution but also as an important actor in promotive and preventive healthcare efforts.

Over the past decade, Agung Mulia General Hospital has demonstrated a consistent increase in outpatient visits. Between 2021 and 2025, the number of patients rose from 15,429 to 19,327, with the most significant increase observed in 2025. While this upward trend suggests growing demand for healthcare services, it does not necessarily indicate optimal or equitable utilization across all segments of the population (Hasan et al., 2021). Many individuals still seek care only when their health conditions worsen, rather than for preventive or routine services. This reflects persistent gaps in health awareness and community engagement (Hosseinzadeh et al., 2022).

Previous studies have demonstrated that factors such as digital marketing, marketing mix, brand image, and communication strategies significantly influence patient decisions and hospital visitation interest. However, these approaches largely emphasize transactional and promotion-driven strategies, with limited attention to community empowerment as a behavioral driver. As a result, the role of community engagement in shaping trust, perception, and healthcare utilization remains underexplored (Miller et al., 2021).

This study addresses this gap by positioning community empowerment as a behavioral driver of healthcare utilization, integrating insights from Health Behavior Theory, Social Capital Theory, and Service Utilization Theory. Unlike conventional promotional approaches, community-based health promotion emphasizes participatory engagement, trust-building, and collective awareness, which are particularly relevant in rural settings. Furthermore, this study contributes to the literature by linking community empowerment with hospital rebranding strategies, especially in the context of institutional transformation from Maternal and Child Health Hospitals (RSIA) to General Hospitals (RSU), where public perception and trust reconstruction play a crucial role.

Empirically, this study employs an Interrupted Time Series (ITS) approach to evaluate the impact of community-based health promotion on outpatient utilization at Agung Mulia General Hospital. It examines trends before and after the implementation of the intervention and assesses its effectiveness in sustaining service utilization. By doing so, this research provides novel evidence on how socially embedded promotional strategies can enhance healthcare utilization in rural contexts through behavioral and community-driven mechanisms.

METHOD

This study employs a quantitative approach using an Interrupted Time Series (ITS) design. This study employs a quantitative approach using an Interrupted Time Series (ITS) design with segmented regression analysis to evaluate the effect of community-based health promotion interventions on outpatient service utilization at Agung Mulia General Hospital. The ITS approach is specifically chosen because it allows for a robust examination of longitudinal data by analyzing changes in both level (immediate effect) and trend (slope change) before and after the intervention. Unlike simple pre-post comparisons, segmented regression enables the distinction between pre-existing trends and the actual impact of the intervention over time.

The intervention start point is clearly defined as January 2023, marking the official implementation of the hospital's rebranding, free health service programs, social media expansion, and community empowerment initiatives. Accordingly, the observation period is divided into two segments: the pre-intervention phase (January 2021–December 2022) and the post-intervention phase (January 2023–December 2025). Monthly outpatient visit data are collected continuously across these time points to ensure sufficient observations for detecting temporal patterns and intervention effects.

Secondary data are obtained from the hospital's medical record database in the form of aggregated monthly outpatient visit counts across multiple polyclinics. These include general medicine, internal medicine, pediatrics, and other specialist services. The use of aggregated numerical data ensures objectivity and consistency in measurement, while maintaining patient confidentiality, as no individual-level data are accessed. All records are anonymized in accordance with institutional data protection standards.

The statistical analysis is conducted using segmented regression of time series data, modeled as:

$$Y_t = \beta_0 + \beta_1 T_t + \beta_2 X_t + \beta_3 (T_t \times X_t) + \varepsilon_t$$

where Y_t represents the number of outpatient visits at time t, T_t denotes time since the start of observation, X_t is a dummy variable indicating the intervention period (0 = pre-intervention, 1 = post-intervention), and $(T_t \times X_t)$ represents the interaction term capturing changes in trend after the intervention. In this model, β_0 indicates the baseline level of visits, β_1 reflects the pre-intervention trend, β_2 estimates the immediate level change following the intervention, and β_3 measures the change in trend after the intervention.

Prior to regression analysis, descriptive statistics are used to summarize visit patterns across time. Diagnostic tests, including normality assessment of residuals and autocorrelation checks (e.g., Durbin-Watson test), are performed to ensure model validity. If autocorrelation is detected, appropriate corrections such as autoregressive terms are incorporated into the model.

This analytical approach provides a more accurate estimation of the intervention's impact by controlling for underlying temporal trends and allowing for the identification of both immediate and sustained effects on outpatient service utilization.

RESULTS AND DISCUSSION

Results

Changes in the Number of Patients 2021-2022

Table 1. Integration of Patient Engagement & Improvement Activities (2021–2022)

Year	Total Patient Visits	Δ Visits	Key Empowerment Activities	Δ Activities
2021	15.429	-	Free healthcare outreach program in rural areas (472)	-
2022	16.342	+913	1. Free healthcare outreach program in rural areas (497)	+25
			2. Health education and promotion in Islamic boarding schools in-Pacitan (148)	

Comparisons in 2021 and 2022 show an increase in outpatient visits of 913 visits. This increase occurred in line with the increasing intensity of community empowerment activities, and there was an increase in participation in empowerment activities carried out.

Changes in the Number of Patients 2022-2023

Table 3. Integration of Patient Engagement & Improvement Activities (2022–2023)

Year	Total Patient Visits	Δ Visits	Key Empowerment Activities	Δ Activities
2022	16.342	-	1. Free healthcare outreach program in rural areas (497)	-
			2. Health education and promotion in Islamic boarding schools in Pacitan (148)	-
2023	17.242	+900	1. Free healthcare outreach program in rural areas (524)	+27
			2. Health education and promotion in Islamic boarding schools in Pacitan (151)	+3
			3. Outreach visits to private healthcare providers (general practitioners, nurses, midwives, and primary care clinics) (51)	-
			4. Health promotion and health education activities targeting PKK members and community health volunteers in villages around Agung Mulia General Hospital, Pacitan, including areas in Kebonagung, Donorojo, and Pacitan districts. (368)	-

Between 2022 and 2023, total outpatient visits increased from 16,342 to 17,242, reflecting an additional 900 visits and indicating a continued positive trend following the initial intervention phase. This improvement occurred alongside the expansion of community-based empowerment activities, particularly community-based health outreach programs, which rose from 497 to 524 activities, and health counseling and education in Islamic boarding schools, which increased from 148 to 151 activities.

Changes in the Number of Patients 2023-2024

Table 3. Integration of Patient Engagement & Improvement Activities (2023–2024)

Year	Total Visits	Δ Visits	Main Activities (Total)	Key Changes
2023	17,242	–	Outreach (524); School Health Edu (151); Provider Visits (51); Community Health Promotion (368)	–
2024	18,059	+800	Outreach (568); School Health Edu (154); Provider Visits (54); Community Health Promotion (470); Seminars (150); Circumcision (70)	Outreach (+44); Community Promotion (+102); Others slight increase

Between 2023 and 2024, total outpatient visits increased from 17,242 to 17,781, reflecting a gain of 539 visits and indicating a continued upward trend in service utilization. This improvement aligns with the expansion and intensification of community-based empowerment activities, particularly community-based health outreach programs, which increased from 524 to 568 activities, and health promotion through community organizations, which showed a substantial rise from 368 to 470 activities.

Changes in the Number of Patients 2024-2025

Table 4. Integration of Patient Engagement & Improvement Activities (2024–2025)

Year	Total Visits	Δ Visits	Total Activities	Key Expansion Focus
2024	18,059	–	6	Outreach, education, community programs
2025	19,327	+1,268	11	Expanded outreach, public events, home care, CSR

Table 5. List of Rebranding Activities (2021–2025)

Year	Program Intensity	Main Activities	Frequency Trend
2021	Low	Basic outreach and CSR programs	Limited (annual)
2022	Low–Moderate	Outreach, school-based education, public events	Slight increase
2023	Moderate	Expanded outreach, provider engagement, seminars, home care	Regular & structured
2024	High	Community organization engagement, increased outreach, education expansion	More frequent & diverse
2025	Very High	Large-scale outreach, public events, home care expansion, CSR intensification	Highly intensive & continuous

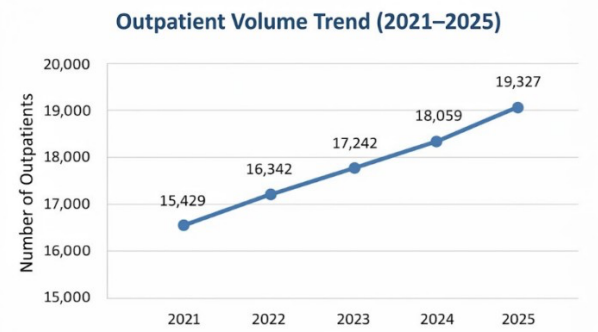

Figure 1. Graphic of Outpatient Volume Trend (2021-2025)

Between 2024 and 2025, outpatient visits increased from 18.059 to 19,327, reflecting a substantial rise of 1,453 visits and indicating a stronger upward trend compared to previous periods. This growth coincided with a notable expansion in several key community-based empowerment activities, particularly community-based health outreach programs, which increased from 568 to 612 activities, and large-scale participation in government-organized events, which rose significantly by 78 activities. Additional increases were observed in health counseling at Islamic boarding schools, health safari programs targeting independent practitioners, and health promotion through community organizations, alongside a marked rise in free circumcision services.

Statistics Descriptive

Table 6. Descriptive Statistical Analysis Results

Statistics			
		Before Empowerment	After Empowerment
N	Valid	30	30
	Missing	0	0
Mean		1481,75	1340,17
Std. Error of Mean		32,110	15,757
Median		1502,00	1321,00
Std. Deviation		111,232	86,305
Variance		12372,568	7448,626
Minimum		1301	1152
Maximum		1684	1518

Based on the descriptive statistical table, it is known that the average value of outpatient visits before empowerment is 1340.17, while the average value after empowerment is 1527.43. The standard deviation value before empowerment is 86.305, while after empowerment is 125.971. The pre-empowerment minimum is 1152 (visits) and the maximum is 1301 (visits), while the post-empowerment minimum is 1518 (visits) and the maximum is 1887 (visits).

Normality Test Shapiro-Wilk

Table 7. Test of Normality Results

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistics	df	Sig.
Before Empowerment	,113	30	,200*	,955	30	,227
After Empowerment	,126	30	,200*	,964	30	,399

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the Shapiro-wilk normality test, the value of outpatient visits before empowerment was 0.227 > 0.05 so that the data on outpatient visits before empowerment were distributed normally. The value of outpatient visits after empowerment was 0.399 > 0.05 so that the data on outpatient visits before empowerment was distributed normally.

Homogeneity Test

Table 8. Homogeneity Test Results

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Visit	Based on Mean	3,322	1	58	,074
	Based on Median	2,648	1	58	,109
	Based on Median and with adjusted df	2,648	1	51,709	,110
	Based on trimmed mean	3,214	1	58	,078

Based on the sig homogeneity test (based on mean) of outpatient visits before and after empowerment was 0.074 > 0.05, so that the variant of patient visit data before empowerment and after empowerment was homogeneous.

Uji Hypothesis

Table 9. Hypothesis Test Results

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before Empowerment	1340,17	30	86,305	15,757
	After Empowerment	1527,43	30	125,971	22,999

The average value of outpatient visits before empowerment was obtained with an average of 1340.17, while the value of outpatient visits after empowerment was obtained on average 1527.43. The standard deviation value of outpatient visits before empowerment was 86.305, while the standard deviation of outpatient visits after empowerment was 125.971. The standard error value of outpatient visits before empowerment was 15,757, while the standard error of outpatient visits after empowerment was 22,999.

Paired Samples Test

Table 10. Paired Samples Test

Paired Samples Statistics									
		Mean	Std. Deviation	Std. Error Mean	Std. Deviation		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Before Empowerment	1340,17	30		-238,045	-136,488			15,757
	After Empowerment	1527,43	30						22,999

The value of sig. (2-tailed) outpatient visits before and after empowerment 0.000 < 0.05 then Ha was accepted and H0 was rejected, so there was a difference in the average outpatient visit before and after empowerment.

Discussion

Trends in the Utilization of Outpatient Services at Agung Mulia Hospital Before and After the Implementation of Community Empowerment-Based Health Promotion

The use of outpatient services is a fundamental part of the hospital health care system, especially in rural areas that often face limited access to primary and specialist services (Idealistiana & Ciptaningsih, 2022). Hospitals in rural areas serve as the main point of contact between the local population and the formal health system, so the number of outpatient visits is a key indicator in measuring the utilization of overall health services. Significant access challenges, such as limited facilities, long distances, transportation costs, and low public perception of service quality, are often the main obstacles to increasing visits (Batrisyia et al., 2025).

Agung Mulia Hospital holds a strategic position as a referral service provider for people in the countryside and its surroundings. As the main access point for outpatient and inpatient services for populations with limited choice of health facilities, the hospital continues to strive to develop infrastructure and diversify services. This effort puts Agung Mulia Hospital not only in a curative role, but also supports promotive and preventive services to improve the health level of the surrounding community sustainably.

The results of descriptive statistical analysis showed that the average number of outpatient visits before the empowerment program was 1,481.75 visits per month. This figure recorded a minimum value of 1,301 visits and a maximum value of 1,684 visits during the initial observation period. The fluctuations that occurred during the period reflect that service utilization has not fully reached temporal stability before community-based health promotion interventions are intensively implemented.

The implementation of community-based social service programs across villages such reflects a consistent intervention strategy that aligns with the increasing trend of outpatient visits from 2022 to 2025. In 2021, community-based empowerment activities were still in the initial or baseline stage, with relatively lower intensity compared to subsequent years. Social service programs had begun to be implemented in several rural areas, involving basic health services and limited specialist support. Although community response was already positive, the scale of participation and outreach remained within the planned capacity, with patient attendance generally aligning with the set quota. The majority of participants were elderly patients, followed by smaller proportions of surgical, maternal, and pediatric cases, indicating early identification of priority health needs in the community. Distribution of medicines and vitamins was carried out according to available supplies without significant shortages, reflecting a more controlled demand at this stage. Hospital management had also initiated program supervision and communication efforts, though these were not yet as intensive or structured as in later years.

Each year, these activities were strengthened by involving specialist doctors, including internal medicine and surgical services, which contributed to high community enthusiasm, often exceeding the participant quota of 150 individuals. The dominance of elderly patients, accounting for approximately 65% of participants, followed by surgical cases (20%) and maternal and pediatric groups (15%), indicates that the program effectively targets priority health groups in rural areas. Over time, the expansion of similar outreach activities, such as health promotion through community organizations, health counseling, and participation in government events, demonstrates a progressive intensification of interventions, particularly evident in the significant increases observed in 2023–2024 and 2024–2025. The consistent distribution of medicines, even requiring reserve supplies, further highlights the growing demand for services. In parallel, active involvement of hospital management through direct engagement and program monitoring supports the sustainability of these interventions.

Data after the implementation of the empowerment program showed an increase in the average number of visits to 1,527.43 per month, compared to 1,340.17 before empowerment. This increase is also reflected in the shift of the minimum value from 1,152 visits before empowerment to 1,518 visits after empowerment, as well as the maximum value which rose from 1,684 visits to 1,887 visits. The hypothesis test using the paired sample t-test confirmed that there was a statistically significant difference in the frequency of outpatient visits before and after the implementation of community empowerment-based health promotion strategies, as indicated by a significance value of 0.000 (< 0.05). These findings demonstrate that the empowerment program had a significant positive impact on increasing outpatient service utilization.

The effectiveness of this program can be explained through the theoretical framework of community empowerment and health behavior change. According to the Health Belief Model and Social Cognitive Theory, individuals are more likely to utilize health services when they perceive benefits, receive cues to action, and observe positive experiences from their social environment. Community-based empowerment activities function as both informational and social reinforcement mechanisms, reducing perceived barriers such as fear, cost concerns, and lack of trust. Direct interaction with healthcare workers at the village level also strengthens self-efficacy and perceived accessibility, which are critical determinants of healthcare utilization in rural populations. Therefore, the increase in outpatient visits is not merely a result of increased service availability, but a behavioral shift driven by improved trust, awareness, and perceived value of healthcare services.

This increase in visits was triggered by the strong commitment of management and the active involvement of health workers in providing education at the village level. Free healthcare programs, social media content expansion, and in-person community engagement

initiatives have proven effective in attracting public interest in getting checked (Ranjan & Saeed, 2026).

This study proposes a conceptual pathway in which community empowerment acts as the primary driver of trust formation, which subsequently leads to increased healthcare utilization. Empowerment initiatives such as health education, outreach services, and community engagement create repeated positive interactions between healthcare providers and the community. These interactions gradually build interpersonal and institutional trust. Trust then becomes a mediating factor that influences patients' decisions to seek care, adhere to treatment, and recommend services to others. In this context, the relationship can be understood as: EmpowermenT, Trust, Utilization, where trust serves as the critical bridge transforming awareness into actual service use.

The community's collective awareness of the importance of routine medical examinations began to be formed through integrated education programs. The combination of community empowerment and the digitalization of health services is an effective model to overcome health literacy barriers in rural areas (Gomes et al., 2023). The success of Agung Mulia Hospital in increasing the number of visits provides empirical evidence that a rebranding strategy that focuses on active community participation can create more sustainable patient loyalty.

The achievement of average monthly visits that show a positive trend proves that a grassroots approach is able to change people's habits in seeking medical help formally. The increase in the value of the lower limit and the upper limit of the number of patients reflects the expansion of the range of services that are now beginning to penetrate layers of society that were previously difficult to reach by ordinary promotional methods.

The success of touching meaningful statistical figures clearly provides a strong foundation for management to continue to develop empowerment programs as the main strategy in maintaining the stability of hospital operations in the future. The shift in these numbers is not a coincidence but the result of a synchronization between the public's need for accurate health information and the availability of services that are increasingly accessible to rural residents.

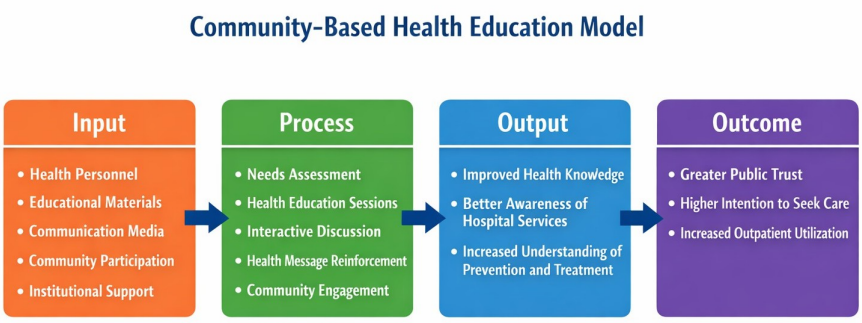

Figure 2. Community-Based Health Education Model

These findings are consistent with international studies on rural healthcare systems. Research conducted in rural areas of India, Sub-Saharan Africa, and Latin America has demonstrated that community-based health promotion significantly improves healthcare utilization by strengthening trust and reducing socio-cultural barriers. For example, community health worker programs in rural India and Ethiopia have shown that regular outreach and culturally sensitive education increase patient visits and adherence to medical care. Similarly, studies in Latin America highlight that integrating local community structures into health promotion strategies enhances the credibility of health institutions and fosters long-term patient engagement. Compared to these contexts, the approach implemented at Agung Mulia Hospital aligns with global best practices, particularly in its integration of social interaction, local cultural engagement, and gradual digitalization.

The Effectiveness of Community Empowerment Integration and Service Digitalization in Increasing Public Trust in Rural Areas

The integration between community empowerment and the digitalization of health services is the main pillar in transforming public perception in rural areas that tend to have close social characteristics (Tenriangka et al., 2025). The use of digital technology in health promotion often faces literacy barriers in rural areas, so active community involvement is needed to bridge the information gap. This synergy creates a more organic mechanism for delivering information because health messages do not only come from digital devices, but are also validated by trusted local figures or community members (Sidii, 2025).

Public trust in rural areas is strongly influenced by social interactions and first-hand experiences felt by their surrounding environment. The use of social media platforms combined with face-to-face education at the village level allows hospitals to be present in a more personal and inclusive manner in the daily lives of residents (Wijaya et al., 2025). This hybrid approach ensures that digital transformation does not leave less tech-savvy groups behind, but rather embraces them through existing social networks to build stronger patient loyalty (Jabbar et al., 2026).

Based on the results of descriptive statistical analysis, the average outpatient visit before the empowerment program was 1340.17 visits, while after the implementation of the program increased to 1527.43 visits. An increase was also seen in the maximum value of visits from 1301 to 1887 visits, which showed an increase in service achievement after the intervention was implemented. Meanwhile, the minimum value of visits also changed from 1152 to 1518 visits, indicating a shift in data distribution to a higher direction after the program was running. In terms of data variation, the standard deviation increased from 86,305 to 125,971, indicating that after the intervention, there was a more diverse variation in visits between observation periods. In general, this data illustrates an increase in the trend of outpatient visits after the empowerment and integration of health worker education strategies and social media programs were implemented.

Validation through the paired sample t-test reinforced the finding that the change in the number of visits did not occur by chance, but was the result of a measurable promotional strategy. The success of achieving statistically significant numbers shows that the community responds positively to the ease of access to digital information and the physical presence of hospitals in their communities. This fact confirms that the integration of empowerment and digitalization is effective in overcoming the doubts of the public who may previously feel unfamiliar or reluctant to access formal health services at Agung Mulia Hospital.

The success of this integration lies in its ability to reconstruct trust through the active participation of the community in every health promotion initiative. The community is no longer seen as a mere marketing object, but as a strategic partner who has a role in spreading positive values regarding hospital services (Nandyal et al., 2021). The community's sense of ownership of the existence of Agung Mulia Hospital grows when they are directly involved in the free health service program and open dialogue facilitated by the medical team.

The use of social media as a digital channel serves to strengthen the messages that have been conveyed offline, thereby creating consistency of information that increases the credibility of the institution. Reducing communication barriers through digitalization, supported by strengthening social capital in villages, effectively removes negative stigmas or fear of costs that often overshadow rural residents. This pattern creates a sustainability model where the public trust built will be the main foundation for the long-term growth of outpatient service utilization (Pratama et al., 2025).

The achievement of average monthly visits that show a positive trend proves that a grassroots approach is able to change people's habits in seeking medical help formally. The increase in the value of the lower limit and the upper limit of the number of patients reflects

the expansion of the range of services that are now beginning to penetrate layers of society that were previously difficult to reach by ordinary promotional methods. The success of touching meaningful statistical figures clearly provides a strong foundation for management to continue to develop empowerment programs as the main strategy in maintaining the stability of hospital operations in the future. The shift in these numbers is not a coincidence but the result of a synchronization between the public's need for accurate health information and the availability of services that are increasingly accessible to rural residents.

Long-term commitment to maintaining a high frequency of visits relies heavily on the consistency of education conducted by change agents on the ground. The transformation of people's behavior from an emergency treatment search pattern to routine check-ups is the strongest indicator of the success of the interventions that have been carried out. The sense of security and comfort that patients feel when interacting with health workers at the village level is a key catalyst that accelerates the process of spreading positive information from word of mouth naturally. The existence of hospitals is no longer seen as a scary place for small communities, but as a center for health solutions that are inclusive and always ready to serve without discriminating economic backgrounds.

Implications of Community-Based Promotion Strategies on Long-Term Sustainability of Patient Loyalty at Agung Mulia Hospital

This study contributes to the existing literature by providing empirical evidence from an Indonesian rural healthcare setting, demonstrating how the integration of community empowerment and digital health promotion can simultaneously enhance trust and service utilization. Unlike many previous studies that examine these factors separately, this research highlights their synergistic relationship within a single intervention framework. The findings offer a practical model for rural hospitals seeking sustainable growth through socially embedded strategies rather than relying solely on infrastructure expansion or conventional marketing approaches.

Health promotion strategies rooted in community empowerment create much stronger emotional and social bonds than conventional marketing methods that are only transactional. Patient loyalty in rural areas is often not only based on the sophistication of medical technology, but is more influenced by mutual trust and personal closeness between service providers and the local community (Arifin et al., 2025). The operational sustainability of a hospital in remote areas depends heavily on its ability to become an integral part of the social life of citizens, where health facilities are no longer considered as foreign institutions but as partners in maintaining the well-being of life (Suryani et al., 2025).

Promotive and preventive approaches that are carried out consistently at the village level are able to change the behavior patterns of the community from those that originally only came when they were sick to routine visits for prevention. This behavioral transformation is the key foundation for long-term loyalty as patients experience the ongoing benefits of the healthcare provided. Healthcare institutions that successfully integrate local values into their communication strategies will be more resilient in the face of competition, as the trust that has been built in the community is difficult to replace by other service providers (Azka & Zaim, 2025).

Statistical data shows that the average monthly outpatient visits increased from 1340.17 before the empowerment program to 1527.43 after its implementation. This upward trend is also reflected in the maximum number of visits, which rose from 1301 to 1887 visits, indicating a broader reach and increased utilization of hospital services following the intervention. In addition, the increase in the minimum value from 1152 to 1518 suggests that even the lowest level of monthly visits shifted upward after the program was implemented, indicating a more consistently higher utilization pattern. The results of the paired sample t-test ($p = 0.000 < 0.05$)

demonstrate a statistically significant difference between outpatient visits before and after the empowerment strategy. These findings provide strong evidence that the implemented empowerment activities, including community-based health education and service outreach, were effective in increasing public awareness and translating it into higher utilization of outpatient health services.

This increase in the number of visits is not just a momentary spike, but reflects continued growth in service utilization. The success of achieving significant numbers in the post-intervention period proves that the rebranding strategy that focuses on community participation is able to maintain the interest of patients to continue to use the services of Agung Mulia Hospital. The fact that visits are increasing at various specialist polyclinics also shows that public trust has permeated the different types of services offered by hospitals.

Management's commitment to instituting a community-based promotion strategy is a determining factor so that patient loyalty does not fade over time. The active involvement of health workers as agents of change in villages ensures that health messages are delivered in a sustainable and personalized manner to every level of society. This sense of trust born from direct interaction effectively removes doubts regarding the quality of services and costs, which have often been the main obstacles for rural residents to access hospitals (Wijaya et al., 2025).

The digitization of services that goes hand in hand with the strengthening of social capital at the local level provides easy access to information that strengthens loyalty. Patients who feel well-informed and involved in their health process tend to have higher levels of satisfaction and a willingness to recommend services to others. This pattern of reciprocal relationships between Agung Mulia Hospital and its community ultimately creates a resilient health ecosystem, where patient loyalty grows organically through trust that is continuously nurtured (Irawan et al., 2025).

The synergy between digital technology and local wisdom through the involvement of community leaders has succeeded in breaking down the barrier that has been hindering the flow of health information in rural areas. Validation of health messages carried out by trusted people in the surrounding environment provides a guarantee of credibility that cannot be replaced by any conventional advertising. The use of social media platforms as a means of two-way communication allows the hospital to listen directly to the aspirations and concerns of residents and provide a quick and targeted response. This integration creates an atmosphere of openness that gradually removes negative stigmas and establishes a new image of the hospital as a modern institution but still has an emotional closeness to the people.

The utilization of digital assets combined with the physical presence of officers in the field ensures that every generation layer can benefit from technological advances without feeling marginalized. People who start to feel literate in health information will tend to be more critical and selective in choosing service facilities, so that improving quality standards accompanied by easy digital access is the main key in winning the public's heart. The sense of belonging that grows in the soul of every community member towards the existence of hospitals is a very valuable social capital for the sustainability of health services in remote areas. Honest and transparent communication patterns about costs and types of services have been proven to eliminate the financial fear that often becomes a scoon for rural families when they have to go to the hospital.

CONCLUSION

Community-based health promotion strategies implemented at Agung Mulia Hospital have demonstrated a substantial impact on increasing outpatient service utilization. Statistical evidence shows that the average monthly visits increased from 1340.17 before the intervention to 1527.43 after the implementation of the empowerment program. This improvement indicates a clear upward trend in service utilization following the intervention. The integration of free

healthcare services, expanded social media outreach, and direct community engagement has effectively reduced barriers such as low health literacy and unfavorable public perceptions in rural areas. Furthermore, the results of the paired sample t-test ($p = 0.000$) confirm that the difference in outpatient visits before and after the intervention is statistically significant. These findings suggest that a socially embedded approach that emphasizes trust-building and continuous community interaction is more effective in increasing patient utilization than conventional promotional strategies.

This study provides a theoretical contribution by reinforcing the role of community empowerment as a key mechanism in influencing healthcare utilization in rural settings. The findings support the proposition that empowerment-based interventions do not only improve access, but also function as a trust-building process that mediates behavioral change. By demonstrating the pathway empowerment → trust → utilization, this study extends existing health promotion theories, particularly in the context of rural healthcare systems where social interaction and community validation play a crucial role. The integration of digital outreach with face-to-face engagement further enriches the conceptual understanding of how hybrid health promotion models can overcome structural and socio-cultural barriers.

Despite these promising findings, this study has several limitations. First, the research was conducted in a single hospital setting, which may limit the generalizability of the results to other regions with different socio-cultural characteristics. Second, the use of a quasi-experimental design without a control group makes it difficult to fully attribute the observed changes solely to the intervention, as external factors may also influence healthcare utilization. Third, the study relies on aggregate visit data, which does not capture individual patient behavior or long-term adherence patterns in detail. These limitations should be considered when interpreting the findings.

Sustainable patient loyalty is fostered when a hospital successfully transitions from being a foreign institution to becoming an integral partner in the community's social life. The research highlights that active involvement of healthcare workers at the village level and the digitalization of services work in synergy to eliminate doubts regarding service quality and costs. Public trust grows organically through these reciprocal relationships, ensuring that the increase in visits is not merely a temporary spike but a reflection of long-term behavioral change. Management's commitment to maintaining these community-centered initiatives serves as the foundation for the hospital's continued growth and resilience in the face of competition.

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