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Public Trust versus Private Engagement: A Comparative Analysis of Digital Health Communication Strategies on Instagram

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ABSTRACT

This study examines the implementation of Cyber Public Relations within the Instagram health communication strategies of Indonesian public and private hospitals. A qualitative content analysis of 3,658 posts (December 2024 to February 2025) revealed distinct strategic approaches. Public hospitals (RSCM, RSUP Fatmawati) emphasised evidence-based infographics, constituting 46-70% of their content, yet achieved lower engagement (averaging 150 likes/post). In contrast, private hospitals (Siloam, Mayapada) attained significantly higher interaction (averaging 1,500 likes/post) through emotional appeals such as patient testimonials, albeit with less medical rigour. Thematically, public hospitals focused on disease prevention (e.g., RSCM: 46% of content), while private hospitals highlighted lifestyle promotion (Mayapada: 35%) and service offerings (Siloam: 25%). Framed by theories of Two-Way Symmetrical Communication and Uses and Gratifications, the results indicate superior audience engagement by private hospitals, evidenced by a 90% call-to-action rate for Mayapada, compared to the limited responsiveness of public hospitals (e.g., RSCM: 25% reply rate). Strategies for countering misinformation also differed: public hospitals directly debunked myths with authoritative sources, whereas private hospitals employed indirect, preventive health education. The study proposes a hybrid model that merges the credibility of public hospitals with the participatory engagement tactics of private institutions. This research offers a practical framework for digital health public relations in resource-limited settings, providing actionable insights for healthcare communicators and policymakers to bridge gaps in public trust and digital engagement.

Keywords: Digital Health Communication, Public Relations, Instagram, Health Misinformation, Public and Private Hospitals, Public Engagement of Curriculum, thus, Proposing a 21st-Century Education-Field Ontology that is Dynamic, Agent-Based.

INTRODUCTION

The proliferation of digital technologies has fundamentally transformed health communication, with social media emerging as a pivotal platform for disseminating health information and fostering public engagement (Chen and Wang, 2021).

Hospitals worldwide have increasingly adopted social media as a strategic tool for health education, leveraging its capacity to reach diverse audiences in real-time (Stellefson et al., 2020). This shift reflects broader trends in digital health communication, where interactive platforms facilitate bidirectional exchanges between healthcare providers and the public (Fitzpatrick, 2023). However, despite its potential, the utilisation of social media for health education remains inconsistent across healthcare institutions, with varying degrees of effectiveness in audience engagement and misinformation management (Desai et al., 2022). This study examines how hospitals employ social media for health education through the lens of Cyber Public Relations (Cyber PR), an emerging paradigm that integrates traditional PR principles with digital strategies to enhance organisational communication (Ki et al., 2024).

The COVID-19 pandemic underscored the critical role of social media in public health crises, as hospitals and health authorities relied on platforms like Twitter and Facebook to share urgent updates about prevention, vaccination, and treatment protocols (Liang et al., 2023). During this period, social media served not only as an information conduit but also as a space for public dialogue, where health professionals could address misconceptions and build trust (Farsi et al., 2022). Yet, the pandemic also revealed systemic challenges, including the rapid spread of misinformation and disparities in health literacy among different demographic groups (Basch et al., 2021; Mansur et al., 2021). These challenges highlight the need for evidence-based strategies to optimise health communication on social media, particularly in hospital settings where accurate information can directly impact patient outcomes (Jiang et al., 2024).

Cyber PR offers a valuable framework for analysing these dynamics, as it emphasises the strategic management of digital communication to achieve organisational goals (Gunawan et al., 2023). Unlike traditional PR, which often focuses on one-way messaging, Cyber PR prioritises interactivity, transparency, and adaptability in digital spaces (Hagelstein et al., 2021; Men et al., 2020; Tong, 2021). For hospitals, this means not only disseminating health information but also fostering meaningful engagement with patients, caregivers, and the broader community (Musso et al., 2020). Key Cyber PR practices include monitoring online conversations, responding to public inquiries in real-time, and collaborating with digital influencers to amplify credible health messages (Hagelstein et al., 2021; Tong, 2021). These practices are particularly relevant in low-resource settings, where social media can bridge gaps in access to healthcare services (Van Zyl et al., 2021).

Despite its growing importance, research on Cyber PR in healthcare remains limited, with few studies examining how hospitals integrate these principles into their social media strategies (Hu et al., 2024). While existing literature has predominantly addressed the technical aspects of health communication (e.g., message design) or epidemiological outcomes of digital campaigns (e.g., vaccination rates) (Hu et al., 2024), less scholarly attention has been given to the internal organisational processes—such as staff training, content planning, and performance monitoring—that underpin effective strategic communication, especially in hospital settings (Abdulsalim et al., 2025; Seibert et al., 2025; Wharton et al., 2025). Additionally, differences between public and private hospitals contribute to inequities in health literacy (Dong et al., 2025). This gap is significant because hospitals operate under unique constraints, including regulatory requirements, ethical considerations, and resource limitations, all of which shape their approach to social media (Gaon et al., 2023; Tayyab et al., 2023).

The present study addresses this gap by investigating the following research questions:

- How do hospitals leverage Cyber PR principles to design and implement health education campaigns on social media?
- What are the key differences in social media strategies between public and private hospitals, and how do these differences impact audience engagement?
- How do hospitals measure the effectiveness of their social media campaigns in terms of health literacy and behaviour change?

To answer these questions, the study employs a qualitative content analysis of social media posts from a diverse sample of hospitals. The findings will contribute to both theory and practice by identifying best practices for Cyber PR in healthcare and proposing a model for evaluating the impact of social media on health education.

The significance of this research extends beyond academic circles, as it has direct implications for healthcare policy and patient care. With the World Health Organization (WHO) declaring misinformation a major threat to global health (WHO, 2020), hospitals must adopt more sophisticated approaches to digital communication (Baghdadi et al., 2023). By applying Cyber PR principles, hospitals can not only counter misinformation but also empower patients to make informed decisions about their health (Johnson and Bylund, 2023). Furthermore, in an era of value-based healthcare, where patient satisfaction and outcomes are closely tied to reimbursement,

effective social media strategies can enhance hospital reputation and foster long-term patient relationships (Wharton et al., 2025).

Theoretical Framework

This study draws upon three foundational communication theories to guide its analysis of Cyber Public Relations (Cyber PR) in the context of hospital communication: the *Two-Way Symmetrical Communication Model*, the *Uses and Gratifications Theory*, and the *Spiral of Silence Theory*. These frameworks collectively provide a comprehensive analytical lens to understand both the producer (hospitals) and the consumer (public) dynamics within digital health communication ecosystems.

Two-Way Symmetrical Communication Model

The Two-Way Symmetrical Model, developed by Grunig and Hunt (1984), emphasises dialogic and reciprocal communication between an organisation and its publics. Rather than unidirectional dissemination of information, this model promotes mutual understanding and responsiveness. In the context of Cyber PR for hospitals, this theory underscores the strategic role of social media platforms in fostering interactive dialogue. It advocates for responsive communication practices, such as promptly addressing public inquiries and feedback, and tailoring messages based on real-time audience input. The emphasis is on engaging the public not merely as passive recipients but as active participants in shaping communication processes (Grunig and Hunt, 1984).

Uses and Gratifications Theory

The second theoretical foundation is the Uses and Gratifications (U&G) Theory proposed by Katz, Blumler, and Gurevitch (1973). This theory centres on audience agency in selecting media content to satisfy specific needs. Within the domain of digital health communication, it helps explain the motivations that drive public engagement with hospital-generated content. These motivations include the need for information (e.g., acquiring accurate health knowledge), social integration (e.g., interacting with patient communities), and entertainment (e.g., engaging with accessible and enjoyable health-related media). Understanding these gratifications enables hospitals to craft content that aligns with user preferences and increases overall engagement effectiveness (Katz et al., 1973).

Spiral of Silence Theory

The Spiral of Silence Theory, introduced by Noelle-Neumann (1974), is used to examine the dynamics of public discourse in health communication, especially in the face of misinformation. This theory posits that individuals are less likely to voice opinions they perceive as being in the minority due to fear of social isolation. In this context, hospitals, as trusted health authorities, have a pivotal role in breaking the spiral by actively disseminating accurate information and encouraging public dialogue. Strategic interventions may include openly addressing viral health myths and promoting safe spaces for public expression, thereby empowering more users to contribute to health discussions (Noelle-Neumann, 1974).

Integrative Application in Cyber PR for Healthcare

The integration of these three theories facilitates a multi-dimensional understanding of hospital-public communication in the digital era. The Two-Way Symmetrical Model informs strategies for audience engagement, promoting active and balanced communication. The Uses and Gratifications Theory sheds light on the content preferences and behavioural motivations of digital audiences. Meanwhile, the Spiral of Silence framework guides reputation management and anti-misinformation strategies, particularly in fostering open dialogue and amplifying authoritative voices.

Practical Implications

In practical terms, the application of these theories leads to several actionable strategies for hospitals engaging in Cyber PR. For audience engagement, hospitals can implement regular Q&A sessions and tailor content to fulfil various audience needs (informational, social, and entertainment). For reputation management, proactive sentiment monitoring and prompt responses to viral health issues are crucial. Lastly, to enhance health literacy, content should be designed for clarity and accessibility across demographic groups, with the support of health influencers serving as trusted opinion leaders.

This theoretical framework thus provides a robust foundation for understanding both institutional communication strategies and audience behaviour in the evolving landscape of digital health communication.

Conceptual Framework

This research conceptual framework integrates the principles of Cyber Public Relations (Cyber PR) with digital health communication strategies to analyse how hospitals utilise social media as a communication tool.

The framework is built on the premise that Cyber PR strategies significantly shape the effectiveness of health communication, particularly in terms of audience engagement, trust-building, and health literacy outcomes.

Key Variables

The independent variable in this study is the *Cyber PR strategy*, comprising three primary components: audience engagement, digital reputation management, and information transparency. Audience engagement refers to the use of interactive content, such as polls and Q&A sessions, as well as the hospital's responsiveness to comments and inquiries. Digital reputation management involves consistent messaging, proactive crisis response, and collaboration with credible health influencers. Information transparency entails the clarity of information sources, the citation of expert opinions, and the inclusion of scientific references within shared content (Lin and Hung, 2022).

The dependent variable is the effectiveness *of digital health communication*, which encompasses public engagement metrics (likes, shares, comments, and click-through rates), information accuracy (minimisation of misinformation and correction of inaccurate content), and the impact on health literacy. The latter can be measured through audience surveys or analytics that assess understanding and behavioural outcomes following exposure to health messages.

Relationships Between Variables

This framework proposes three hypotheses to explore causal relationships.
Hypothesis 1 suggests that engagement-driven Cyber PR strategies—such as interactive and participatory content—are positively associated with increased audience involvement on social media platforms.
Hypothesis 2 posits that information transparency enhances public trust, subsequently reducing the spread of misinformation.
Hypothesis 3 argues that proactive digital reputation management, including timely responses during crises, significantly improves a hospital's public image and credibility.

These hypotheses align with prior empirical findings and are framed within tested communication theories (Grunig and Hunt, 1984).

Visual Representation of the Framework

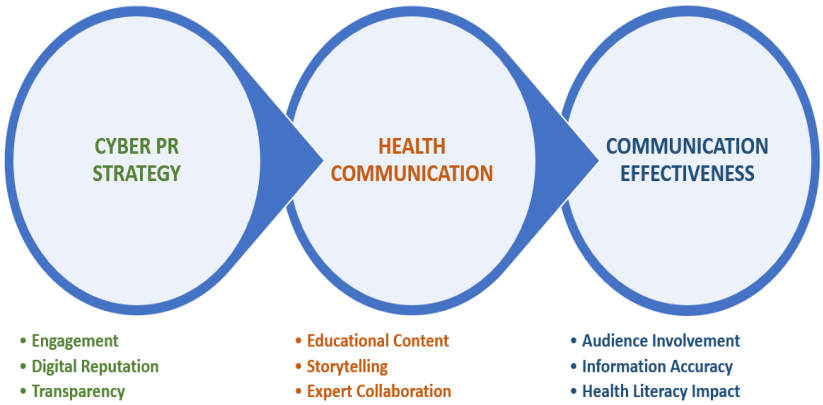

Figure 1. Conceptual Framework

The conceptual framework is visually structured as a flow from Cyber PR Strategies to Health Communication Mechanisms, leading to Communication Effectiveness, as seen in Figure 1.

Theoretical Foundations

This framework draws on the Two-Way Symmetrical Communication Theory (Grunig and Hunt, 1984), emphasising dialogic and reciprocal interaction between hospitals and their audiences. It also incorporates the SMCR model (Source–Message–Channel–Receiver), which facilitates a detailed examination of how hospitals craft messages (source), format them (message), disseminate them through social media platforms (channel), and how they are received and interpreted by the audience (receiver). These models provide a strong foundation for evaluating the dynamics of digital communication in healthcare settings.

Specific Context and Application

This study also considers contextual nuances, particularly the contrast between public and private hospitals, which may differ in resource availability and Cyber PR sophistication. Moreover, the role of platform-specific

strategies is acknowledged; Instagram and Facebook are often leveraged for visual health education, whereas Twitter (X) is instrumental in real-time updates and rapid misinformation response.

Real-world examples reinforce the practical relevance of this framework. For instance, a hospital implementing interactive live sessions on Instagram—featuring Q&A segments—reported a significant increase in engagement and a notable reduction in repetitive vaccine-related queries (Aufa et al., 2020; Ganiem and Agustina, 2023). Conversely, failure to address misinformation swiftly on Twitter led to a remarkable decline in reputation metrics based on social listening tools (Drolsbach and Pröllochs, 2022).

METHODOLOGY

This study adopts a qualitative research design using content analysis to evaluate how hospitals utilise social media in their health education campaigns. Content analysis has been extensively applied in health communication research to assess message framing, user engagement, and thematic trends in digital platforms (Chen and Wang, 2021). The research aligns with the university's Cyber Public Relations (Cyber PR) roadmap, contributing directly to its 2025 focus on model development and strategic innovation in healthcare communication. This study also conducts a simple quantitative analysis to support qualitative findings.

Instagram was selected as the primary platform for this study due to its dominant usage in Indonesia (Ganiem and Agustina, 2023; Risanti and Hani, 2020) and its effectiveness in delivering health education through visually engaging formats. As one of the most widely used platforms in the country—especially among urban and younger demographics—it provides a highly relevant environment for analysing public health communication. Its visual-centric features, such as infographics, carousels, short videos, and story highlights (Bakaievych, 2024; Qian et al., 2024; Towner and Muñoz, 2022), allow complex medical information to be presented in a simplified and appealing manner. Furthermore, Instagram supports two-way communication through interactive tools like live sessions, Q&A stickers, and direct messaging, aligning closely with the principles of Cyber Public Relations. These combined attributes make Instagram the most suitable platform for investigating how hospitals implement digital health education strategies.

The research is structured into four main stages: data collection, data processing, data analysis, and validation. In the data collection phase, social media posts will be gathered from hospital Instagram accounts based on specific criteria: recent activity within three months, public accessibility, and measurable engagement (likes, shares, comments). Content types will be categorised into five groups: infographics, educational videos, text-based posts, storytelling content, and interactive formats. The aim is to develop a categorised dataset that reflects the diversity and engagement patterns of hospital content.

The data was collected from the official Instagram accounts of four national hospitals that actively engaged in health communication during three months from December 2024 to February 2025. The following Table 1 presents details of the Instagram accounts of the selected hospitals:

Table 1. Information of Hospitals' Instagram Accounts

Hospital	Instagram Account	Followers	Posts	Date Joined
RSCM	@rscm.official	82.9K	1,606	May 2016
RSUP Fatmawati	@rs_fatmawati	33.9K	1,905	May 2018
Siloam Hospital	@siloamhospitals	172K	2,395	May 2014
Mayapada Hospital	@mayapadahospital	497K	4,746	August 2015

The selection of these hospitals was based on the following considerations:

Social Media Activity – These hospitals demonstrate consistent activity in publishing health education content across various formats.

Institutional Diversity – The sample includes both public and private hospitals, allowing for a comparative analysis of digital communication strategies.

Audience Engagement and Reach – The accounts possess a substantial number of followers and high levels of user interaction.

Content Diversity – These institutions employ a range of communication formats, such as infographics, educational videos, interactive campaigns, and debunking of health-related misinformation.

In the data processing stage, the collected posts will undergo coding and categorisation, focusing on message type, theme, and level of interaction. A preliminary frequency analysis will help identify the most common content formats and user engagement trends. This step is crucial for structuring the data and preparing it for deeper interpretation in the subsequent analysis phase.

The third stage involves thematic content analysis, emphasising three key dimensions: message framing (informative vs. persuasive), content themes (prevention, lifestyle, services, patient experiences), and engagement

patterns (likes, shares, comments). Additionally, a comparative analysis will explore differences across hospitals in their communication strategies and audience responsiveness, offering insights into effective versus ineffective practices.

The coding process in this study involves systematically labelling Instagram posts based on predefined thematic and rhetorical categories to facilitate content analysis. Each post is coded according to message framing, engagement type, and thematic relevance. For instance, informative content is defined as posts that aim to convey factual health information, such as disease prevention tips, medical guidelines, or vaccination schedules, often using neutral and explanatory language. In contrast, persuasive content includes posts that seek to influence attitudes or behaviours, such as encouraging lifestyle changes, promoting hospital services, or urging participation in health campaigns, typically characterised by motivational language, calls to action, or emotive appeals. These coding distinctions allow for the identification of communication strategies and their effectiveness in engaging the public.

This study acknowledges several methodological limitations that may affect the interpretation and generalizability of the findings. First, the sample is limited to four hospitals, which may not represent the broader patterns of digital health communication across countries. Consequently, the results may not be fully generalizable to healthcare institutions with differing sociocultural or technological contexts. Second, the analysis is confined to a single social media platform—Instagram—which, while popular and visually driven, may not capture the full spectrum of hospitals' online communication strategies deployed across platforms such as Facebook, Twitter, or TikTok. This platform-specific focus introduces the potential for platform bias, limiting the diversity of content formats and user interaction patterns observed in the study.

Finally, findings will be validated through existing literature to ensure alignment and relevance. The study aims to produce a refined strategic framework for hospital-led digital health communication, culminating in academic publications, conference presentations, and policy recommendations.

FINDINGS

The content analysis of Instagram posts from RSCM, RSUP Fatmawati, Siloam Hospital, and Mayapada Hospital (December 2024–February 2025) yielded 3,658 posts categorised by message framing, thematic focus, and engagement patterns.

Table 2. Comparison of Message Framing of Public and Private Hospitals

Dimension	RSCM	RSUP Fatmawati	Siloam Hospital	Mayapada Hospital
Informative vs. Persuasive	Informative	Informative–Persuasive	Informative with promotional tone	Persuasive
Formal vs. Informal	Formal	Semi-formal	Formal	Informal

Message Framing (Table 2) shows that RSCM predominantly uses an informative and formal style (58–70% infographics), RSUP Fatmawati combines informative and persuasive tones with semi-formality, Siloam blends informative and promotional styles, and Mayapada adopts a persuasive and informal approach.

Table 3. Distribution of Content Themes by Hospital Category

Content Theme	RSCM	RSUP Fatmawati	Siloam Hospital	Mayapada Hospital
Disease Prevention	High	Moderate	High	Moderate
Lifestyle Promotion	Low	Moderate	High	Very High
Hospital Services	Moderate	Moderate	High	Very High
Patient Experiences	Rare	Occasional	Minimal	Frequent

Content Themes (Table 3 & Figure 2) indicate that public hospitals emphasize disease prevention (RSCM: 46%; RSUP Fatmawati: 24–35%), while private hospitals focus more on lifestyle promotion (Siloam: 29%; Mayapada: 35%) and hospital services. Patient experience content is rare in public hospitals but frequent in Mayapada (15%).

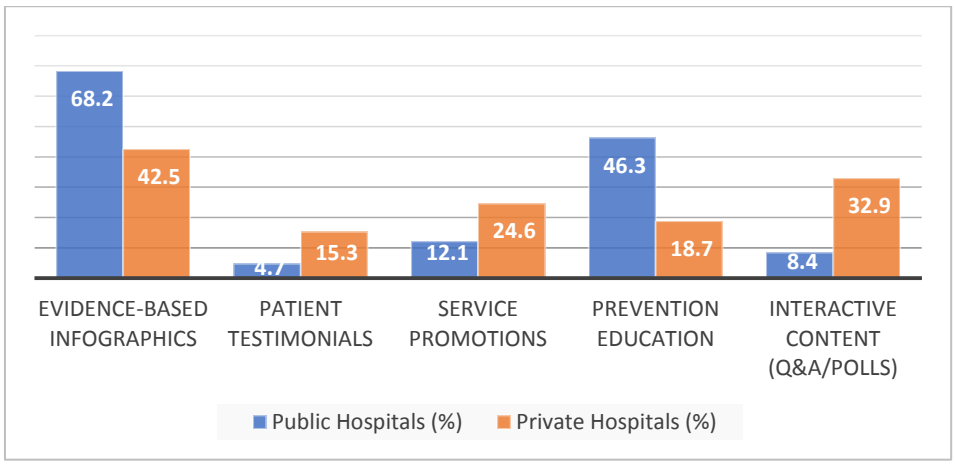

Figure 2. Content Strategy Distribution - Public vs. Private Hospitals

Engagement Patterns (Table 4 & Figure 3) reveal higher interaction for private hospitals, with Mayapada averaging 1,500 likes per post and frequent call-to-action prompts, compared to RSCM's average of 150 likes and 25% responsiveness rate.

Table 4. Audience Engagement Patterns Observed

Indicator	RSCM	RSUP Fatmawati	Siloam Hospital	Mayapada Hospital
Likes & Comments	Low	Moderate	Variable	High
Shares & Discussions	Rare	Occasionally encouraged	Limited	Active
Responsiveness	Minimal	Some admin responses	Low	Moderate–High

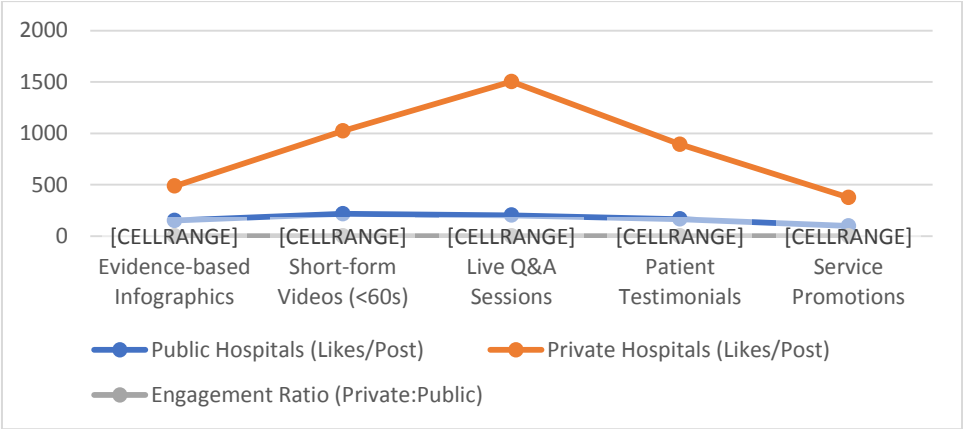

Figure 3. Engagement Performance by Content Format

Analysis of communication effectiveness (Table 5) reveals that public hospitals excelled in evidence-based education (RSCM: 46% prevention content) but suffered from low interactivity (RSCM: 150 likes). Private hospitals leveraged storytelling (Mayapada: 15% testimonials) and interactivity (Siloam giveaway: 2,322 likes), though over-commercialisation (Siloam: 25% service posts) occasionally diluted medical depth.

Table 5. Effective and Ineffective Hospital Communication Strategies

Strategy Dimension	Public Hospitals (RSCM & RSUP Fatmawati)	Private Hospitals (Siloam & Mayapada)
Effective Practices	Consistent medical education; evidence-based credibility	Emotional appeal, strong storytelling and visuals
Ineffective Practices	Low audience engagement; overly formal tone	Over-commercialisation; potential lack of medical depth

Misinformation Handling (Table 6 & Figure 4) shows public hospitals using direct rebuttals with authoritative sources, while private hospitals rely on preventive education and trend-sensitive content.

Table 6. Comparative Overview of Misinformation Handling

Strategy	Public Hospitals	Private Hospitals
Misinformation Countering	Directly debunks hoaxes and myths	Uses general health education without direct rebuttal
Response to Trending Topics	Slow and reactive	Adaptive and trend-sensitive
Public Education Strategy	Evidence-focused, institutional tone	Relatable wellness content without confrontation

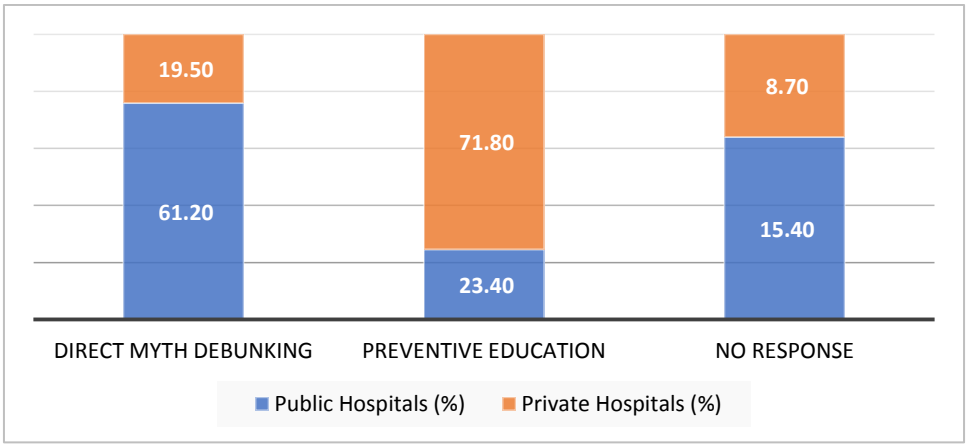

Figure 4. Misinformation Response Strategies - Public vs. Private Hospitals

Table 7. Summary Comparison of Communication Strategies

Dimension	Public Hospitals	Private Hospitals
Strengths	Reliable information, medical authority	High engagement, emotional appeal
Weaknesses	Poor interactivity, rigid tone	Overuse of persuasion; sometimes lacks medical specificity
Communication Style	Top-down, informative	Human-centred, engaging
Misinformation Approach	Explicit rebuttal	Indirect, preventive education

Summary Comparison (Table 7) highlights that public hospitals offer credible, evidence-based content with low interactivity, while private hospitals achieve higher engagement but sometimes lack medical depth. Figure 5 below provides an empirical basis for all the results above.

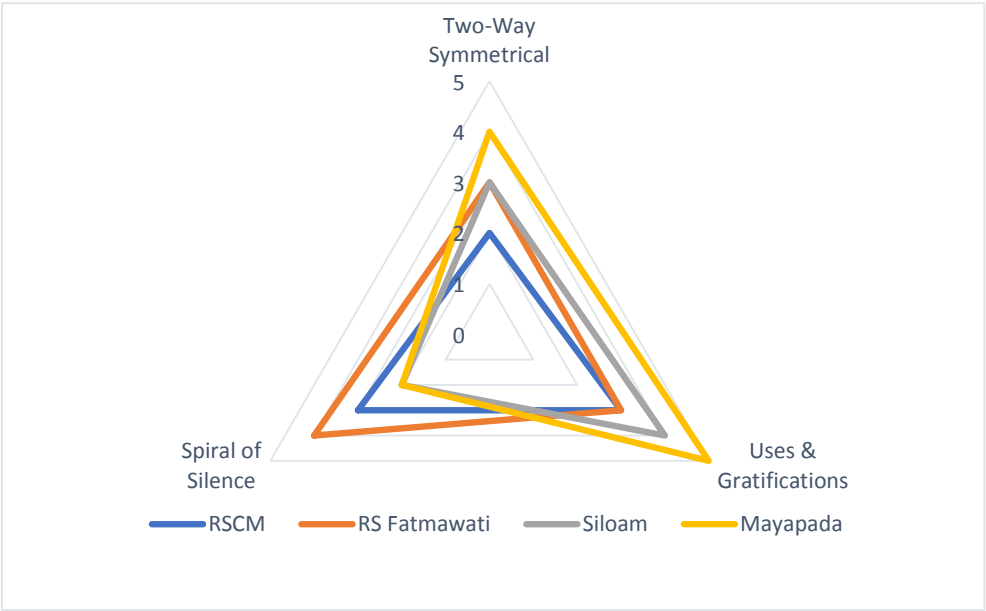

Figure 5. Trends in the Use of Theory in Content

DISCUSSION

The findings reveal distinct communication strategies between public and private hospitals, reflecting institutional priorities and audience engagement patterns. Public hospitals, consistent with their role as authoritative medical institutions, prioritise evidence-based educational content in formal formats such as infographics. This approach aligns with previous observations by Stellefson et al., who noted that fact-based messaging enhances credibility but may limit audience interaction (Stellefson et al., 2020). In this study, similar to trends reported by Zakaria et al., such strategies fulfilled cognitive informational needs but resulted in lower engagement metrics (Zakaria et al., 2020). Conversely, which resonates with the engagement-focused findings of Musso et al., private hospitals employed human-centred, persuasive content incorporating testimonials and interactive campaigns (Musso et al., 2020). These tactics address emotional and social gratifications but as observed in other commercial health communication settings (Risanti and Hani, 2020), may risk reducing the medical specificity of messages.

The application of the Two-Way Symmetrical Communication Model (Grunig and Hunt, 1984) is evident in the private sector's frequent use of interactive tools, echoing findings from Farsi et al. and Zhou and Xu, such as live Q&A sessions and prompt comment replies (Farsi et al., 2022; Zhou and Xu, 2021), who demonstrated that dialogic formats foster stronger audience relationships. In contrast, public hospitals' limited responsiveness mirrors the communication gap identified by Ullah et al., highlighting the need for greater reciprocity in digital engagement (Ullah et al., 2023).

Through the lens of the Uses and Gratifications Theory (Katz et al., 1973), the divergence in strategy can be explained by differences in audience motivations. As also noted in preventive health campaigns by Stellefson et al., public hospitals predominantly fulfil informational needs, while consistent with narrative-based approaches outlined by Musso et al., private hospitals meet social and emotional needs (Musso et al., 2020; Stellefson et al., 2020). However, neither sector fully addresses the spectrum of gratifications. This supports the hybrid model proposed by Seibert et al., which integrates fact-based credibility with emotional resonance to maximise both engagement and trust (Seibert et al., 2025).

The contrast in effective and ineffective strategies reflects the broader differences in institutional objectives and audience targeting approaches. The public sector's emphasis on credibility and evidence-based information aligns with previous findings by Stellefson et al., who observed that such content strengthens trust but limits interaction when not paired with participatory elements (Stellefson et al., 2020). This study confirms that low responsiveness and rigid formality, as also noted by Ullah et al., reduce opportunities for relationship building (Ullah et al., 2023).

Private hospitals' success in employing emotional appeal and storytelling mirrors the engagement patterns reported by Musso et al., yet the tendency toward over-commercialisation echoes concerns raised by Risanti and Hani regarding the risk of diluting educational value (Musso et al., 2020; Risanti and Hani, 2020). These findings suggest that both sectors could benefit from adopting hybrid approaches—public hospitals integrating interactive features, and private hospitals reinforcing medical accuracy—to address the weaknesses identified in their respective strategies.

Misinformation management strategies reflect the Spiral of Silence Theory (Noelle-Neumann, 1974). Public hospitals in this study openly refuted myths using authoritative sources, like the corrective strategies described by Baghdadi et al. and consistent with the WHO's infodemic management framework (Baghdadi et al., 2023; WHO, 2020). Paralleling the "soft messaging" method discussed by Fathi et al., private hospitals adopted an indirect, lifestyle-oriented approach to reduce resistance (Fathi et al., 2024). As also recommended by Drolsbach and Pröllochs, these complementary strengths suggest that joint campaigns—combining public-sector authority with private-sector adaptability—could be more effective in countering misinformation, (Drolsbach and Pröllochs, 2022).

The divergent approaches to misinformation management and public engagement between public and private hospitals extend beyond mere communication tactics; they reflect deeper socio-political and economic structures. The public sector's authoritative, evidence-led rebuttals underscore its role as a state-backed institution responsible for safeguarding national health literacy, a function aligned with public policy and governance studies. In contrast, the private sector's adaptive, trend-sensitive strategies are indicative of a market-oriented model that prioritises brand reputation and customer relationship management. This disparity highlights a critical dimension of digital inequality, where resource allocation and institutional mandates create an uneven landscape for public health communication. Addressing this requires not only hybrid communication models but also policy-level interventions to ensure that credible health information is both accessible and engaging across all societal sectors, thereby mitigating the cultural and educational disparities exacerbated by the digital divide.

Finally, the absence of standardized evaluation metrics, particularly among public hospitals, limits the ability to measure behavioural change and long-term impact. This observation is consistent with the concerns raised by

Dong et al., who stressed the need for robust digital health performance indicators (Dong et al., 2025). Developing such frameworks, incorporating both engagement metrics and health literacy outcomes, would enable more evidence-based strategies and support the sustained effectiveness of hospital-led social media communication.

CONCLUSION

This study analysed how Indonesian public and private hospitals implement Cyber Public Relations (Cyber PR) strategies on Instagram to promote health education. The findings reveal contrasting communication styles: public hospitals prioritise informative, evidence-based content with limited interactivity, while private hospitals employ emotionally engaging narratives and interactive tools to drive higher user engagement. Despite their strengths, both approaches show limitations—public hospitals struggle with responsiveness, and private institutions risk over-commercialisation.

By applying the Two-Way Symmetrical Communication Model, Uses and Gratifications Theory, and Spiral of Silence Theory, the study demonstrates the value of integrating credibility and engagement in hospital communication. A hybrid strategy that combines scientific rigour with emotional resonance is recommended to improve digital health literacy and trust.

This research contributes to the field of media and communication by delineating the operationalisation of Cyber PR in the distinct contexts of public and private hospitals. The proposed hybrid strategy, which integrates the scientific rigour of public institutions with the engagement proficiency of private entities, offers a practical model for enhancing digital health literacy. Beyond its immediate application, this study holds broader implications for cultural sociology and public policy. The findings illustrate how digital platforms like Instagram are not merely channels for information but are active sites for the cultural production and transmission of health norms. The strategies employed by these hospitals shape public perceptions of authority, trust, and community in health matters.

To strengthen the effectiveness of digital health communication, several interdisciplinary recommendations are proposed. For policymakers, it is imperative to establish national guidelines and standardised evaluation metrics that move beyond surface-level engagement indicators to encompass audience comprehension and behavioural intention. Furthermore, public investment in digital capacity-building for state-run hospitals is crucial to address the identified resource and skill gaps. Hospitals are advised to adopt the aforementioned hybrid strategies, whilst future research should employ longitudinal and experimental designs to measure the long-term impact of such communication on health behaviours. Finally, cross-sector collaboration should be encouraged, fostering partnerships that leverage the authority of public institutions and the agility of private entities. Such collaborative campaigns could serve as a powerful model for inclusive public health communication, ultimately contributing to a more resilient and health-literate society.

REFERENCES

Abdulsalim, S., Anaam, M. S., Farooqui, M., Alshammari, M. S., Alfadly, S., Alolayan, J., Aljarallah, A. A., and Alsahali, S. (2025). Evaluation of Social Media Addiction and Its Relationship with Anxiety and Academic Performance Among Medical and Non-Medical Students: A Cross-Sectional Study from Saudi Arabia. *Healthcare*, *13*(3). DOI: 10.3390/healthcare13030295

Aufa, B. Al, Sulistiadi, W., and Djawas, F. A. (2020). Measuring Instagram Activity and Engagement Rate of Hospital: A Comparison Before and During COVID-19 Pandemic. *2020 3rd International Seminar on Research of Information Technology and Intelligent Systems (ISRITI)*, 562–566. DOI: 10.1109/ISRITI51436.2020.9315490

Baghdadi, J. D., Coffey, K. C., Belcher, R., Frisbie, J., Hassan, N., Sim, D., and Malik, R. D. (2023). #Coronavirus on TikTok: user engagement with misinformation as a potential threat to public health behavior. *JAMIA Open*, *6*(1), ooad013. DOI: 10.1093/jamiaopen/ooad013

Bakaievych, Y. (2024). Decision journalism in new media: specifics of content and methods of promotion. *Obraz*. DOI: 10.21272/obraz.2024.3(46)-40-60

Basch, C. H., Meleo-Erwin, Z., Fera, J., Jaime, C., and Basch, C. E. (2021). A global pandemic in the time of viral memes: COVID-19 vaccine misinformation and disinformation on TikTok. *Human Vaccines & Immunotherapeutics*, *17*(8), 2373–2377. DOI: 10.1080/21645515.2021.1894896

Chen, J., and Wang, Y. (2021). Social Media Use for Health Purposes: Systematic Review. *Journal of Medical Internet Research*, *23*(5), e17917. DOI: 10.2196/17917

Desai, A. N., Ruidera, D., Steinbrink, J. M., Granwehr, B., and Lee, D. H. (2022). Misinformation and Disinformation: The Potential Disadvantages of Social Media in Infectious Disease and How to Combat Them. *Clinical Infectious Diseases*, *74*(Supplement_3), e34–e39. DOI: 10.1093/cid/ciac109

Dong, Z., Zhang, Z., Liang, X., and Yang, M. (2025). The positive impact of an internet-based post-diagnosis disease management model on patients undergoing opportunistic screening for upper gastrointestinal cancer: A randomized controlled trial. *Patient Education and Counseling*, *134*, 108684. DOI: 10.1016/j.pec.2025.108684

Drolsbach, C., and Pröllochs, N. (2022). Diffusion of Community Fact-Checked Misinformation on Twitter. *Proceedings of the ACM on Human-Computer Interaction*, *7*, 1–22. DOI: 10.1145/3610058

Farsi, D., Martinez-Menchaca, H. R., Ahmed, M., and Farsi, N. (2022). Social Media and Health Care (Part II): Narrative Review of Social Media Use by Patients. *Journal of Medical Internet Research*, *24*(1), e30379. DOI: 10.2196/30379

Fathi, M., Gilavand, A., Darabi, A., and Ahmadi, M. (2024). Impact of Social Media Use on the Development of Health Literacy. *Evidence Based Health Policy, Management and Economics*. DOI: 10.18502/jebhpme.v8i1.16615

Fitzpatrick, P. (2023). Improving health literacy using the power of digital communications to achieve better health outcomes for patients and practitioners. *Frontiers in Digital Health*, *5*. DOI: 10.3389/fdgth.2023.1264780

Ganiem, L. M., and Agustina, A. (2023). Cyber Public Relations Strategies for Enhancing Public Engagement: A Case Study of Koja Hospital Instagram. *Athena: Journal of Social, Culture and Society*, *1*(3), 116–129. DOI: 10.58905/athena.v1i3.104

Gaon, N., Schlosberg, Y. G., and Zivan, R. (2023). Scheduling operations in a large hospital by multiple agents. *Engineering Applications of Artificial Intelligence*, *126*, 107074. DOI: 10.1016/j.engappai.2023.107074

Grunig, J. E., and Hunt, T. (1984). *Managing Public Relations*. New York: Holt, Rinehart and Winston.

Gunawan, B., Ratmono, B. M., and Abdullah, A. G. (2023). Cybersecurity and Strategic Management. *Foresight and STI Governance*. DOI: 10.17323/2500-2597.2023.3.88.97

Hagelstein, J., Einwiller, S., and Zerfass, A. (2021). The ethical dimension of public relations in Europe: Digital channels, moral challenges, resources, and training. *Public Relations Review*, *47*, 102063. DOI: 10.1016/J.PUBREV.2021.102063

Hu, J., Li, C., Ge, Y., Yang, J., Zhu, S., and He, C. (2024). Mapping the Evolution of Digital Health Research: Bibliometric Overview of Research Hotspots, Trends, and Collaboration of Publications in JMIR (1999-2024). *Journal of Medical Internet Research*, *26*, e58987. DOI: 10.2196/58987

Jiang, S., Tay, J., Ngien, A., and Basnyat, I. (2024). Social Media Health Promotion and Audience Engagement: The Roles of Information Dissemination, Organization-Audience Interaction, and Action Confidence Building. *Health Communication*, *39*(1), 4–14. DOI: 10.1080/10410236.2022.2150809

Johnson, S., and Bylund, C. (2023). Identifying Cancer Treatment Misinformation and Strategies to Mitigate its Impacts with Improved Radiation Oncologist-Patient Communication. *Practical Radiation Oncology*. DOI: 10.1016/j.prro.2023.01.007

Katz, E., Blumler, J. G., and Gurevitch, M. (1973). Uses and gratifications research. *Public Opinion Quarterly*, *37*(4), 509–523. DOI: 10.1086/268109

Ki, E., Ertem-Eray, T., and Hayden, G. (2024). The evolution of digital public relations research. *Public Relations Review*. DOI: 10.1016/j.pubrev.2024.102505

Liang, X., Yan, M., Li, H., Deng, Z., Lu, Y., Lu, P., Cai, S., Li, W., Fang, L., and Xu, Z. (2023). WeChat official accounts' posts on medication use of 251 community healthcare centers in Shanghai, China: content analysis and quality assessment. *Frontiers in Medicine*, *10*. DOI: 10.3389/fmed.2023.1155428

Lin, T.-Y., and Hung, T.-M. (2022). How to Reduce Errors and Improve Transparency by Using More Precise Citations. *Frontiers in Cardiovascular Medicine*, *9*. DOI: 10.3389/fcvm.2022.866279

Mansur, S., Saragih, N., Ritonga, R., and Damayanti, N. (2021). Fake News on Social Media and Adolescent's Cognition. *Jurnal ASPIKOM*, *6*(1), 29. DOI: 10.24329/aspikom.v6i1.827

Men, L., O'Neil, J., and Ewing, M. (2020). Examining the effects of internal social media usage on employee engagement. *Public Relations Review*. DOI: 10.1016/j.pubrev.2020.101880

Musso, M., Pinna, R., Trombin, M., and Carrus, P. P. (2020). Social Media to Improve Health Promotion and Health Literacy for Patients Engagement, in E. Zaramenskikh and A. Fedorova (eds), *Digital Transformation and New Challenges* (pp. 103–120). Cham: Springer International Publishing.

Noelle-Neumann, E. (1974). The Spiral of Silence a Theory of Public Opinion. *Journal of Communication*, *24*(2), 43–51. DOI: 10.1111/j.1460-2466.1974.tb00367.x

Qian, S., Lu, Y., Peng, Y., Shen, C., and Xu, H. (2024). Convergence or divergence? A cross-platform analysis of climate change visual content categories, features, and social media engagement on Twitter and Instagram. *Public Relations Review*. DOI: 10.1016/j.pubrev.2024.102454

Risanti, Y. D., and Hani, R. (2020). Brand Value Propositions Campaigns Through Social Media Instagram. *European Journal of Molecular & Clinical Medicine*, *7*(1), 3794–3802.

Seibert, A. M., Matheu, M. M., Buckel, W., Moores Todd, T., MD Vines, C., Bledsoe, J., Balls, A., Hellewell, J., Smout, R. J., Lopansri, B. K., Stanfield, V. K., Wormser, V. R., Gwiazdon, M., Willis, P., Wallin, A., Hersh, A., Patel, P. K., Webb, B. J., and Stenehjem, E. (2025). 388. Co-Testing: Increasing HIV Testing in Patients Undergoing Sexually Transmitted Infection Evaluation in a Large Integrated Healthcare Network. *Open Forum Infectious Diseases*, *12*(Supplement_1), ofae631.123. DOI: 10.1093/ofid/ofae631.123

Stellefson, M., Paige, S. R., Chaney, B. H., and Chaney, J. D. (2020). Evolving Role of Social Media in Health Promotion: Updated Responsibilities for Health Education Specialists. *International Journal of Environmental Research and Public Health*, *17*(4). DOI: 10.3390/ijerph17041153

Tayyab, A., Ullah, S., Mahmood, T., Ghadi, Y., Latif, B., and Aljuaid, H. (2023). Modeling of Multi-Level Planning of Shifting Bottleneck Resources Integrated with Downstream Wards in a Hospital. *Applied Sciences*. DOI: 10.3390/app13063616

Tong, S. (2021). Public relations practice in the digital era: trust and commitment in the interplay of interactivity effects and online relational strategies. *Journal of Marketing Communications*, *28*, 799–819. DOI: 10.1080/13527266.2021.1951814

Towner, T., and Muñoz, C. (2022). A Long Story Short: An Analysis of Instagram Stories during the 2020 Campaigns. *Journal of Political Marketing*, *21*, 221–234. DOI: 10.1080/15377857.2022.2099579

Ullah, E., Baig, M., Gholamhosseini, H., and Lu, J. (2023). Use of pager devices in New Zealand public hospitals as a critical communication tool: Barriers & way forward. *Heliyon*, *9*. DOI: 10.1016/j.heliyon.2023.e18717

Van Zyl, C., Badenhorst, M., Hanekom, S., and Heine, M. (2021). Unravelling 'low-resource settings': a systematic scoping review with qualitative content analysis. *BMJ Global Health*, *6*. DOI: 10.1136/bmjgh-2021-005190

Wharton, B. R., Stokes, D. J., Johnson, A. J., Girardi, N. G., Manfre, M. G., Keeter, C., Shinsako, K. K., McCarty, E. C., Bravman, J. T., and Frank, R. M. (2025). Patient Perceptions of Social Media Use by Orthopaedic Surgeons: Comparing Responses Across the United States. *Arthroscopy, Sports Medicine, and Rehabilitation*, 101097. DOI: 10.1016/j.asmr.2025.101097

World Health Organization (WHO). (2020). *Managing the COVID-19 infodemic: Promoting healthy behaviours and mitigating the harm from misinformation and disinformation*. World Health Organization. Available at: https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation (Accessed: 15 May 2025).

Zakaria, M. R., Mustaffa, N., and Mohamad, E. M. W. (2020). The Use of Credibility Dimension Resources in Health Information Provision. *Solid State Technology*, *63*(6), 3128–3141.

Zhou, A., and Xu, S. (2021). Digital Public Relations Through the Lens of Affordances: A Conceptual Expansion of the Dialogic Principles. *Journal of Public Relations Research*, *33*, 445–463. DOI: 10.1080/1062726X.2022.2046585

