



Communication Strategies for Human Papillomavirus (HPV) Vaccination in Nigeria: A Narrative Literature Review

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Abstract

Human papillomavirus (HPV) vaccination is central to cervical cancer prevention, yet vaccine availability does not necessarily translate into uptake, particularly in contexts shaped by misinformation, sociocultural concerns, trust deficits and unequal access to health information. This study synthesises the literature on communication strategies associated with HPV vaccination in Nigeria and examines how these strategies contribute to awareness, vaccine confidence, acceptance and uptake. A narrative literature review was conducted using Google Scholar, Scopus, PubMed, ScienceDirect, African Journals Online and selected university databases and online journals, focusing primarily on publications from 2023 to 2025. Thematic synthesis identified six interrelated communication strategies: multi-channel and integrated communication; community mobilisation and stakeholder engagement; trusted-messenger communication; message framing, misinformation management and trust-building; audience-centred and culturally responsive communication; and digital and participatory communication. The findings indicate that information exposure alone is insufficient to produce vaccination behaviour. Effective communication is strengthened by credible messengers, culturally appropriate messages, community participation, strategic channel integration and continuous audience feedback. Drawing on McGuire's Communication-Persuasion Theory, the study proposes the Trust-Centred Multi-Channel HPV Communication Model (TMC-HPV), which integrates these communication dimensions with sequential persuasion processes and a feedback mechanism. The model provides a context-responsive framework for strengthening HPV vaccination communication and sustaining vaccine confidence in Nigeria.

Keywords: HPV vaccination, communication strategies, vaccine uptake, vaccine confidence, health communication

Introduction

Cervical cancer remains one of the most preventable yet persistent causes of illness and death among women worldwide (World Health Organization [WHO], 2026; Arbyn et al., 2020). Although persistent infection with high-risk human papillomavirus (HPV) causes virtually all cervical cancer cases, the disease burden remains disproportionately concentrated in low- and middle-income countries, where inadequate access to HPV vaccination, cervical screening and appropriate treatment continues to undermine prevention and control efforts (Small et al., 2017). The World Health Organization (WHO) estimates that cervical cancer caused approximately 660,000 new cases and 350,000 deaths globally in 2022, with the highest burden occurring in low-resource settings (WHO, 2024). HPV vaccination therefore represents a critical component of global efforts to eliminate cervical cancer, particularly when administered before exposure to the virus (Branda et al., 2024).



The global expansion of HPV vaccination, however, has demonstrated that vaccine availability alone does not guarantee uptake (Shapiro, 2022). Acceptance of HPV vaccination is influenced by knowledge, perceived benefits and risks, trust in health institutions, cultural and religious beliefs, parental concerns, misinformation and the credibility of those communicating about the vaccine (Gendler & Blau, 2024). Communication consequently occupies a central position in HPV vaccination programmes because it can shape awareness, address uncertainty, build vaccine confidence and mobilise individuals and communities to participate in vaccination (Cruickshank et al., 2026; Kubura et al., 2025). In settings characterised by information inequalities and diverse sociocultural contexts, effective vaccination communication requires more than the dissemination of factual information; it requires audience-responsive channels, credible and trusted messengers, meaningful community engagement, and communication strategies that address locally expressed beliefs, concerns and sources of misinformation (Bamogo et al., 2025; Kubura et al., 2025).

Nigeria bears a substantial cervical cancer burden, while differences in awareness, vaccine uptake, sociocultural beliefs and access across its diverse geographic settings create important communication challenges. These conditions underscore the need for effective, context-responsive HPV vaccination communication strategies that can address information gaps, build trust and respond to locally specific concerns (Bamogo et al., 2025; John-Akinola et al., 2022). Nigeria introduced HPV vaccination into its national immunisation programme in October 2023, initially targeting approximately 7.7 million girls aged 9–14 years across 16 states, making the introduction one of the largest HPV vaccination campaigns undertaken in the African region (WHO, 2023). The second phase, implemented in 2024, expanded vaccination to additional states, and more than 12 million girls had reportedly been vaccinated by the end of that phase (United Nations Children's Fund [UNICEF], 2024). The scale and speed of this expansion required extensive mobilisation of government institutions, health workers, schools, communities, traditional and religious leaders, the media, and international development partners (UNICEF, 2024).

Communication was therefore embedded in the architecture of Nigeria's HPV vaccination rollout. Non-state and international development actors, including UNICEF, WHO, Gavi and JSI, worked alongside the Federal Ministry of Health and Social Welfare, the National Primary Health Care Development Agency (NPHCDA) and education-sector institutions to support public information, community mobilisation, school-based sensitisation and misinformation management. Communication activities included radio and television messages, local-language materials, interpersonal sensitisation, community mobilisation, engagement of trusted leaders and school-based communication. In communities where concerns about infertility, vaccine safety and the appropriateness of HPV vaccination for young girls were reported, interpersonal communication by health workers and community volunteers provided opportunities to respond directly to questions and misconceptions (UNICEF, 2024).

Most prior research on immunisation communication in Nigeria identified mass media, interpersonal communication, community mobilisation and engagement with local actors as important components of vaccination communication, while also highlighting limitations in the adaptation and implementation of communication strategies at community level (Oku et al., 2016; Oku et al., 2017). However, what remains insufficiently developed is a consolidated communication-focused synthesis of this evidence. Much of the available documentation is dispersed across programme reports, institutional publications, field accounts and a relatively limited body of academic literature. Thus, the communication strategies employed during Nigeria's



HPV vaccination rollout have not been sufficiently brought together and critically examined in relation to their purposes, channels, messengers, implementation contexts and documented outcomes. In particular, there is limited synthesis of how different communication approaches were combined, how they responded to context-specific concerns, and what the Nigerian experience reveals about the relationship between communication, vaccine confidence, community mobilisation and programme sustainability. This gap is important because the transition from initial campaign-based vaccination to sustained routine HPV immunisation will require communication systems capable of maintaining confidence and engagement beyond the initial introduction period.

Against this background, this study was conducted. It is a narrative literature review that sought to examine communication strategies associated with HPV vaccination in Nigeria. The review synthesises available evidence on the principal communication approaches, their implementation across different settings, documented outcomes and the challenges that may affect their sustainability. The study is structured into conceptual clarifications, theoretical framework, discussion, conclusion and implications.

Conceptual Clarification

Communication Strategies

The concept of communication strategies has attracted a number of definitions from different scholars. Steyn and Nunes (2001) conceptualise communication strategy as a planned and strategic process for guiding communication within development interventions, emphasising the identification of relevant issues and stakeholders and the integration of communication into broader development objectives. In the health communication context, Edgar and Volkman (2012) demonstrate the importance of using communication theory to develop messages that are targeted, tailored and relevant to intended audiences and capable of influencing health-related decisions. Taken together, these perspectives suggest that communication strategy extends beyond the simple transmission of information or selection of communication channels; rather, it involves deliberately determining the communication objectives, target audiences, messages, approaches and channels required to achieve intended outcomes. Thus, the literature generally presents communication strategy as a purposeful process in which communication activities are deliberately organised around clearly defined objectives and audience characteristics.

Some studies extend this understanding by identifying goal setting, message development, channel selection, stakeholder engagement and evaluation as interconnected components of communication strategy (Dhaliwal et al., 2024). Therefore, it can be inferred that communication strategies should not be equated with individual media or communication tools; rather, media channels constitute components of a broader strategic process that integrates objectives, audiences, messages, engagement approaches, channel choices and assessment of outcomes. For the present review, communication strategies are therefore understood as planned and audience-responsive approaches for informing, educating, engaging and influencing relevant stakeholders towards desired health-related decisions and behaviours related to HPV vaccination in Nigeria.

Human Papillomavirus (HPV) and vaccination

Human papillomavirus (HPV) is a group of more than 200 related viruses, some of which are classified as high-risk because persistent infection can cause cellular changes that may progress to cancer (Graham, 2017). HPV is very common and is primarily transmitted through sexual



contact; most infections are transient and are naturally cleared by the immune system (Wolf et al., 2024). However, persistent infection with oncogenic HPV types, particularly HPV 16 and 18, is responsible for the vast majority of cervical cancers and is also associated with cancers of the anus, penis, vulva, vagina and oropharynx (Okunade, 2020). Cervical cancer remains a major global health problem, with the highest burden occurring in low- and middle-income countries, including Nigeria (WHO, 2024).

HPV vaccination is consequently a primary cancer-prevention intervention, designed to prevent infection with HPV types that cause most HPV-related cancers rather than to treat an existing infection (Laurent et al., 2018). WHO recommends routine vaccination of girls aged 9–14 years, preferably before exposure to HPV, with the appropriate schedule determined by national recommendations (WHO, 2022). The Centers for Disease Control and Prevention (CDC) reports that HPV vaccination can prevent more than 90% of cancers caused by HPV (CDC, 2025). Importantly, vaccination does not eliminate the need for cervical cancer screening because it does not protect against every oncogenic HPV type and does not treat infections that have already been acquired (WHO, 2022). The importance of HPV vaccination therefore extends beyond individual protection: high uptake among the eligible population can substantially reduce HPV transmission, cervical precancer and, ultimately, cervical cancer. However, the effectiveness of vaccination programmes depends not only on vaccine efficacy and availability but also on public awareness, acceptance, trust, access and timely uptake, making communication an important component of HPV cancer prevention (Aminu et al., 2026).

Theoretical Framework

The Communication for Persuasion Theory, developed by social psychologist William J. McGuire (1984), provides a useful framework for this study (McGuire, 1981). The theory conceptualises persuasion as a sequential process through which individuals are first exposed to a message, attend to and comprehend it, develop interest or personal relevance, accept its implications, retain the information, make decisions based on it, act upon those decisions, receive reinforcement and ultimately integrate the new behaviour into their everyday lives (McGuire, 1984; Nicely Aken, 2008). Rather than assuming that exposure to information automatically produces behaviour change, the theory recognises that successful persuasion depends on several interconnected psychological processes (Rimer & Glassman, 1984). It therefore draws attention to the need for communication messages to be sufficiently clear, relevant and engaging to move audiences from awareness and understanding towards acceptance and action. This is particularly relevant to HPV vaccination, where awareness of HPV and cervical cancer does not necessarily translate into vaccine acceptance or uptake.

The relevance of Communication for Persuasion Theory to HPV vaccination communication also lies in its recognition of selective exposure, selective perception and selective retention. Individuals may be more receptive to information that corresponds with their existing beliefs, experiences and perceived needs, while messages that conflict with existing attitudes may receive limited attention or be interpreted differently. In the context of HPV vaccination in Nigeria, these processes are important because parents, adolescents and other stakeholders may interpret vaccination messages in relation to existing knowledge of HPV, perceptions of vaccines, cultural and religious beliefs, concerns about safety and the association of HPV with sexual activity. On this premise, effective communication strategies should not be limited to disseminating factual information but should consider audience characteristics, message relevance, cultural context, trust and the concerns that shape interpretation and acceptance. The theory therefore provides a useful



lens for examining how HPV vaccination communication strategies in Nigeria seek to move audiences from message exposure and awareness to understanding, acceptance, decision-making and vaccination behaviour.

Methodology

This study adopted a narrative literature review design to synthesise evidence on communication strategies associated with HPV vaccination in Nigeria. Literature was searched through Google Scholar, Scopus, PubMed, ScienceDirect and African Journals Online (AJOL), alongside several university databases and online journals. The review focused primarily on publications from 2023 to 2025. Eligible sources included peer-reviewed studies and theses or dissertations addressing communication, awareness, vaccine confidence, misinformation, mobilisation or related behavioural dimensions of HPV vaccination. The analysis compared findings across sources, identifying common patterns while distinguishing communication activities from vaccination outcomes to avoid unsupported causal claims.

Discussion

Across the literature, six interrelated communication strategies emerge: multi-channel communication; community mobilisation and stakeholder engagement; trusted-messenger communication; message framing, misinformation management and trust-building; audience-centred and culturally responsive communication; and digital and participatory communication.

Theme 1. Multi-channel and Integrated Communication

The literature demonstrates that HPV vaccination communication is most effective when messages are disseminated through multiple complementary channels rather than relying on a single medium. Mikailu et al. (2024), for example, found that community health talks and radio campaigns were among the commonly used communication approaches for cervical cancer prevention in Niger State. Although these channels contributed to increased awareness, their influence on sustained behavioural change was more limited, suggesting that information exposure alone may not be sufficient to translate awareness into vaccination behaviour. Similarly, Aragaw et al. (2023) found that factors associated with parents' willingness to vaccinate their daughters included knowledge and other contextual characteristics, reinforcing the importance of communication-related factors in shaping vaccine-related intentions. Evidence outside Nigeria further supports integrated communication. Bochniak et al. (2026) observed that HPV-related social marketing campaigns increasingly combine different media channels, with the Internet and social media platforms featuring prominently alongside other forms of campaign communication.

Theme 2. Community Mobilisation and Stakeholder Engagement

A second major theme is the use of community mobilisation and stakeholder engagement to create an enabling social environment for HPV vaccination. This approach extends communication beyond the transmission of information to include advocacy, consultation, community sensitisation, stakeholder meetings and mobilisation of local structures. Isiaka et al. (2025), examining nine states in Nigeria, found that civil society organisations contributed to HPV vaccine acceptance through advocacy communication, health education, awareness campaigns, community sensitisation, stakeholder engagement and trust-building. Advocacy visits, interpersonal sensitisation and capacity-building activities were particularly important in generating willingness to accept vaccination. However, inadequate funding and insufficient mobilisation personnel restricted the reach and effectiveness of these activities. This finding is reinforced by Elemuwa et al. (2024), who highlighted the contribution of Ward Development



Committees and other Ward Health System structures to grassroots mobilisation, culturally responsive communication and the management of misinformation and trust deficits. The study nevertheless identified weak infrastructure, uneven implementation of ward structures and poor stakeholder coordination as constraints. Therefore, the literature indicates that community mobilisation serves two related purposes. First, it extends the reach of vaccination messages into communities where conventional media may have limited influence; and, secondly, it creates social legitimacy for vaccination by involving structures that communities already recognise. This is particularly important for HPV vaccination because decisions concerning adolescent girls may involve parents, schools, health workers, community leaders and other influential actors.

Theme 3. *Trusted-Messenger Communication*

Closely related to community mobilisation is the strategic use of trusted messengers. The reviewed studies consistently indicate that the credibility of the communicator can be as important as the content of the message. Healthcare workers, peers, community actors and other trusted intermediaries appear repeatedly across the literature as important sources through which HPV vaccination information gains credibility. Njogu et al. (2024), comparing Kenya, India and Nigeria, identified healthcare workers as central communicators in HPV vaccination promotion and demonstrated that communication strategies must be adapted to national health-system and sociocultural realities. The study particularly emphasised multisectoral collaboration, targeted social mobilisation and adaptive communication as mechanisms for improving trust and reach. Similarly, Bufumoh et al. (2023) suggested that interpersonal communication emerged as an important source of HPV awareness. This indicates that face-to-face discussions, peer interactions and relational networks can play a significant role in shaping understanding and behavioural responses.

Also, Lama et al. (2021) found that parents valued accurate and transparent information but expressed mistrust towards some government, pharmaceutical and healthcare institutions. Participants therefore emphasised the importance of credible communication, straightforward explanations and opportunities to obtain further information through community spaces, word-of-mouth networks and social media. Similarly, Johnston et al. (2026) demonstrated that digital vaccine communication could be strengthened when linked to community health workers, showing that digital communication can benefit from trusted human intermediaries. It can therefore be inferred that trust is relational rather than purely informational. Providing more information may not resolve hesitancy where the communicator is perceived as untrustworthy. HPV vaccination campaigns consequently benefit from combining accurate messages with messengers who possess social, professional or community credibility.

Theme 4. *Message Framing, Misinformation and Trust-Building*

The literature also demonstrates that what is communicated matters as much as where or by whom it is communicated. Thus, message framing emerges as an important strategy for addressing concerns, correcting misinformation and influencing perceptions of HPV vaccination. Asare et al. (2023) provide particularly strong evidence through their evaluation of the 3R communication model: reframe, reprioritise and reform. The intervention used targeted message framing and interactive education with parents and adolescents and reported improvements in attitudes, confidence and vaccine acceptability. The findings demonstrate the potential for communication to influence vaccination decisions when messages directly address the cognitive and attitudinal factors underlying acceptance. Dorleans et al. (2025) similarly found that the framing of vaccination influenced parental preferences. Messages incorporating scientific



explanations, age-specific recommendations, cancer prevention and positive social norms were associated with greater vaccine acceptance, although communication had limited influence among strongly anti-vaccination individuals. Evidence from Nigeria by Elemuwa et al. (2024) identified misinformation and trust deficits as issues requiring grassroots communication responses, while Mikailu et al. (2024) reported that low literacy and cultural resistance constrained comprehension and acceptance of cervical cancer prevention messages.

Cottick (2023) adds a digital dimension by demonstrating that communication effectiveness on Twitter/X depended not simply on the availability of accurate information but also on rhetorical engagement, emotional language, message framing and frequency of interaction. Government agencies and NGOs were found to use fewer persuasive techniques and post less frequently than general users. These findings suggest that effective HPV communication should move beyond information provision to strategic persuasion and trust-building. Messages need to explain why vaccination is recommended, address concerns about safety and eligibility, connect vaccination with cancer prevention, correct misinformation and, where appropriate, use positive social norms.

Theme 5. Audience-Centred and Culturally Responsive Communication

Another prominent theme is the need to adapt communication to the characteristics, beliefs, information needs and social environments of specific audiences. The reviewed studies challenge the assumption that a standardised HPV vaccination message will produce similar responses across populations. Dhusiya et al. (2025) found that low awareness, confusion, cultural and fear-driven hesitancy, weak school communication and institutional trust deficits shaped stakeholder responses to HPV vaccination. Participants nevertheless demonstrated greater willingness when communication involved trusted sources and community engagement structures. Similarly, Lama et al. (2021) showed that parents preferred clear, straightforward and non-technical explanations, including transparent information on risks, benefits, side effects and eligibility. The findings also highlighted the importance of representation in communication materials.

The importance of audience adaptation is also evident in Tyagi and Warriar (2026), whose animation-based intervention was developed through a needs assessment and co-design process with an underserved population. Improvements in knowledge and attitudes following the intervention suggest that communication designed around the experiences and preferences of specific audiences can improve acceptability. Johnston et al. (2026) similarly demonstrated the value of culturally and linguistically appropriate communication by developing multilingual content through a human-centred design process and linking digital materials with community health workers. This theme is particularly important for Nigeria because communication operates within diverse linguistic, cultural, religious and socioeconomic environments. The implication is that audience segmentation and contextual adaptation should be treated as strategic requirements rather than optional refinements. Communication intended for parents may need to emphasise safety, cancer prevention and eligibility, whereas communication directed at adolescents may require peer-oriented, visually engaging and age-appropriate content.

Theme 6. Digital and Participatory Communication

The existing literature further shows the growing use of digital, peer-mediated and participatory communication, but also indicates that their effectiveness depends on content quality, audience preferences, interactivity and integration with other communication approaches. Koskan et al. (2022) found that young people preferred visually engaging digital content, including



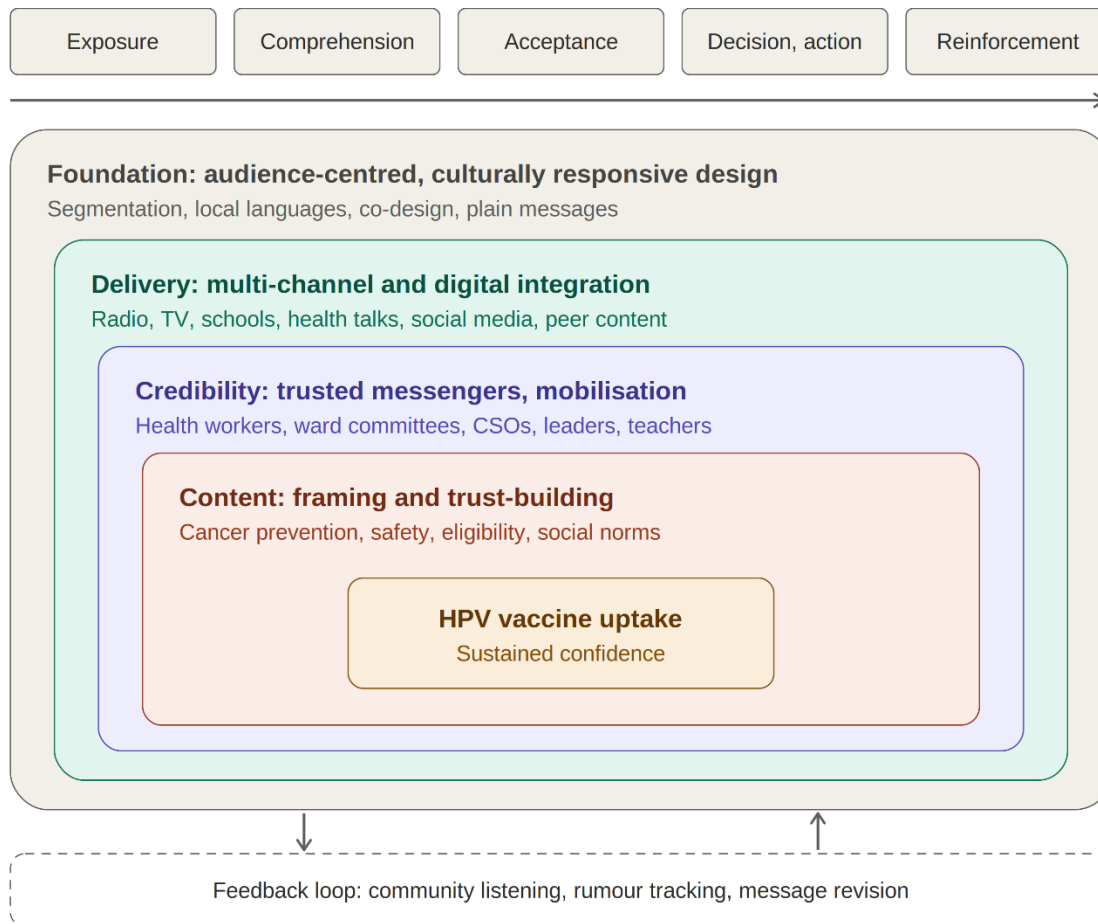
educational YouTube videos featuring healthcare professionals and peers, as well as Instagram memes and infographics. This suggests that digital communication is more likely to attract young audiences when it reflects their existing media practices and preferences. Akerele and Olanrewaju (2026) reported that peer-driven social media communication was positively associated with knowledge, perceived susceptibility and cues to action among female university students in Kwara State. However, actual vaccination uptake remained low, with stigma and perceptions linking HPV vaccination and cervical cancer to sexual activity identified as important barriers. Cottick (2023) similarly demonstrated that digital visibility and persuasive engagement matter. Institutional actors such as governments and NGOs were less active and less rhetorically engaging on Twitter/X than general users, indicating that simply having an institutional presence online does not guarantee effective communication. The literature therefore expands digital communication beyond conventional social media posting. Digital and participatory communication should not be perceived as substitutes for interpersonal or community communication; rather, it supports a hybrid communication model in which digital media, peer communication, creative formats and face-to-face engagement reinforce one another.

Conclusion and Implication

The review's central finding is that exposure to information does not automatically produce vaccination. Awareness may be enhanced through media and health talks, but vaccination uptake depends on trust, credible messengers, culturally appropriate messages and community legitimacy. Based on the foregoing, the study proposes a model called the Trust-Centred Multi-Channel HPV Communication Model (TMC-HPV), which aligns with McGuire's (1984) persuasion sequence and incorporates a feedback loop for sustaining confidence in routine immunisation:

Figure 1. *Trust-Centred Multi-Channel HPV Communication Model (TMC-HPV)*

McGuire's persuasion sequence



Source: Author's synthesis of the reviewed literature.

Explanation of the conceptual model

Figure 1 presents an integrated model of communication strategies for HPV vaccine uptake, anchored in McGuire's persuasion sequence. The model combines five sequential stages of persuasion: exposure, comprehension, acceptance, decision/action and reinforcement with four nested communication dimensions that shape the effectiveness of HPV vaccination campaigns. The nested structure suggests that successful communication depends not on a single strategy but on the interaction of audience-centred design, communication delivery, messenger credibility and message content, culminating in HPV vaccine uptake and sustained confidence.

The outermost layer, audience-centred and culturally responsive design, provides the foundation for the communication process. It emphasises the need to understand the characteristics, information needs, cultural contexts and concerns of target audiences before designing vaccination communication. Strategies such as audience segmentation, the use of local languages, co-design and plain-language messages can make HPV vaccination information more accessible and relevant. This foundation supports the audience's progression from initial exposure to comprehension within McGuire's persuasion sequence.



The second layer, multi-channel and digital integration, concerns how HPV vaccination messages are delivered. The model proposes the complementary use of radio, television, schools, health talks, social media and peer-generated content to maximise reach and reinforce messages across communication environments. Rather than treating these channels as alternatives, the model views them as interconnected platforms through which audiences encounter and process HPV vaccination information. This supports repeated exposure and comprehension while creating opportunities for movement towards acceptance.

The third layer, trusted messengers and community mobilisation, emphasises the role of credibility and social influence in the persuasion process. Health workers, ward committees, civil society organisations, religious and traditional leaders, teachers and peers can provide credible information, address concerns and mobilise communities. Their involvement is particularly important where vaccination decisions are influenced by interpersonal relationships, community norms and trust in institutions. Thus, credible messengers can facilitate the transition from comprehension to acceptance and decision/action.

The innermost layer, message framing and trust-building, focuses on what is communicated and how it is presented. Messages that emphasise cancer prevention, vaccine safety, eligibility and positive social norms can make HPV vaccination more meaningful and acceptable to audiences. The model also recognises the need to address misinformation and concerns that may undermine confidence. Effective message framing therefore contributes to acceptance, informed decision-making and eventual vaccination.

At the centre of the model is HPV vaccine uptake and sustained confidence, representing the desired communication outcome. The placement of uptake at the centre indicates that the four communication dimensions are not independent interventions but interconnected conditions that collectively support movement through McGuire's persuasion sequence from exposure to reinforcement. Sustained confidence is particularly important because communication should not end with the initial vaccination decision; reinforcement is required to maintain positive attitudes, strengthen confidence and support continued acceptance of HPV vaccination.

The feedback loop completes the model by introducing an iterative dimension to the persuasion process. Community listening, rumour tracking and message revision enable campaigners to monitor how audiences respond to HPV vaccination communication and adapt strategies accordingly. Communication is therefore not conceived as a linear, one-way transmission of information. Rather, audience responses feed back into communication design, delivery, messenger selection and message development. The model consequently combines McGuire's sequential persuasion process with an adaptive, two-way communication approach, recognising that effective HPV vaccination communication requires both progression through psychological stages of persuasion and continuous responsiveness to audience feedback.

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