

PUBLIC HEALTH COMMUNICATION DURING VACCINE CAMPAIGNS

Dr. Neha Sharma

Assistant Professor

Department of Public Health

School of Health Sciences

Indian Institute of Public Health, Gandhinagar

Gandhinagar, Gujarat, India

Abstract

Public health communication is a central component of vaccine campaigns because immunization decisions are shaped not only by the availability of services but also by trust, perceived relevance, social norms, prior experiences, and the clarity of information received. Campaigns may involve routine immunization, catch-up activities, seasonal vaccination, outbreak response, or the introduction of a new vaccine. In each setting, communication must help people understand what the vaccine is for, who should receive it, where services are available, what to expect, and how to raise questions or report concerns. A communication approach that is accurate but distant, late, or poorly matched to community realities may fail to support informed participation.

This review-based study examines the principles, delivery mechanisms, governance requirements, and implementation challenges of public health communication during vaccine campaigns. It considers the role of audience segmentation, trusted messengers, interpersonal counselling, mass media, community engagement, digital communication, rumor monitoring, and service-linked information. The analysis also addresses communication with populations who face linguistic, geographic, economic, disability-related, or social barriers to accessing health information and vaccination services.

The study indicates that effective vaccine communication is not a one-way exercise in message distribution. It is a continuing process of listening, explaining, responding, coordinating, and adapting. Sustainable approaches connect communication with reliable service delivery, make uncertainty understandable without minimizing concerns, use locally credible sources, provide practical guidance, and establish feedback systems that identify emerging questions. Such measures can strengthen confidence, reduce preventable confusion, support equitable access, and improve the overall quality of vaccine campaign implementation.

Keywords: Vaccine communication; Public health campaigns; Vaccine confidence; Community engagement; Risk communication; Health literacy; Immunization services; Misinformation management; Trusted messengers; Health equity

1. INTRODUCTION

Vaccine campaigns are among the most visible public health activities because they bring together scientific evidence, service delivery, community participation, and public decision-making. Whether a campaign concerns childhood vaccines, adult boosters, maternal immunization, school-based services, occupational protection, or an outbreak response, people require information that is timely, understandable, and connected to the services being offered. Communication shapes how communities learn about eligibility, prepare for appointments, interpret benefits and possible side effects, and decide whether to seek vaccination for themselves or their families.

The communication task is complex because vaccination decisions are rarely determined by a single fact or message. People may have questions about safety, effectiveness, dosage schedules, contraindications, cost, access, past experiences with health services, or stories circulating in their social networks. Their decisions can also be affected by practical constraints such as travel time, clinic hours, fear of lost wages, lack of childcare, language barriers, or difficulties using appointment systems. Therefore, communication cannot be separated from the wider environment in which vaccination is delivered.

Public health agencies increasingly recognize that vaccine communication must combine clear information with community

engagement. Messages are more useful when they explain the purpose of a vaccine, acknowledge questions respectfully, identify the next practical action, and guide people to reliable local support. Effective campaigns also use listening mechanisms, such as community meetings, helplines, health-worker feedback, local media monitoring, and digital listening, to understand concerns before they become barriers to service use.

This paper examines public health communication during vaccine campaigns as a component of equitable immunization practice. It reviews communication principles, message design, delivery channels, misinformation response, institutional responsibilities, and monitoring mechanisms. The study further considers how communication can support informed decision-making while respecting diverse social, cultural, linguistic, and health-literacy needs.

2. LITERATURE REVIEW

The literature on vaccine communication emphasizes that information alone does not automatically produce confidence or demand. Vaccine-related decisions are influenced by perceived risks and benefits, trust in institutions and health workers, community narratives, social identity, personal experiences, and the convenience of accessing services. MacDonald (2015) describes vaccine hesitancy as a context-specific phenomenon that can vary across time, place, and vaccine type, while Dubé et al. (2013) highlight its social and behavioral dimensions. These perspectives suggest that campaigns should avoid treating all delayed or uncertain decisions as identical.

Public health communication research also distinguishes between message transmission and meaningful engagement. Message transmission focuses on sending information through posters, announcements, radio, television, websites, or social media. Engagement adds dialogue, listening, participation, and partnership with communities. In vaccine campaigns, engagement helps programme teams recognize the practical and emotional questions that people may not raise through formal channels. It also allows information to be adapted for local languages, cultural references, and

service realities without compromising accuracy.

Risk communication principles are especially relevant when vaccines are introduced rapidly, when a disease threat is changing, or when questions about adverse events receive wide attention. In such situations, the public may seek certainty at a time when some information is still evolving. The communication challenge is to explain what is known, what is being monitored, what actions people can take, and where additional help is available. Guidance on emergency risk communication emphasizes the value of early, transparent, and community-centered communication rather than delayed or overly technical reassurance (World Health Organization, 2017).

Digital media have expanded the reach and speed of vaccine information, but they have also made it easier for inaccurate claims to circulate across communities. Online content can amplify genuine questions, personal stories, misinformation, or coordinated disinformation. A campaign should therefore use digital platforms as one element of a broader communication system that includes verified information, active monitoring, rapid clarification, and off-line support through health workers and community organizations. Communication systems that rely on only one platform may miss people who have limited connectivity or low digital literacy.

2.1 VACCINE CONFIDENCE, HESITANCY, AND DEMAND

Vaccine confidence refers to trust in vaccines, the people who recommend them, and the institutions responsible for providing them. Confidence is strengthened when people experience respectful care, receive consistent information, and see that health services respond fairly to questions and adverse-event concerns. It can be weakened when information is contradictory, when rumors are ignored, when access is difficult, or when people feel dismissed by officials. Communication therefore contributes to demand, but it must be supported by dependable service delivery and ethical practice.

The 5C framework identifies confidence, complacency, constraints, calculation, and collective responsibility as psychological

antecedents that may shape vaccination behavior (Betsch et al., 2018). This framework is useful for communication planning because it shows why the same message may not work for every audience. A person who lacks information may need a simple explanation; a person who faces access constraints may need appointment support or outreach services; a person who is carefully weighing claims may need opportunities to discuss evidence with a trusted health professional. Segmenting audiences by their main questions and barriers can make communication more relevant and less wasteful.

Demand should not be interpreted only as an attitude. A community may value vaccination but still have low uptake when services are poorly timed, distant, costly to reach, or difficult to navigate. Campaign communication must therefore include practical details: location, dates, eligibility, documents required, service hours, transport arrangements, post-vaccination guidance, and contact points for assistance. Linking messages to service readiness protects trust because people who respond to a call for vaccination should be able to complete the expected service journey.

2.2 AUDIENCE-CENTERED MESSAGE DESIGN

Audience-centered communication begins with understanding who needs information, what they already know, what questions they have, and what action is expected. A national campaign may require different materials for parents of young children, adolescents, pregnant persons, older adults, health workers, teachers, religious leaders, employers, migrants, and people with disabilities. These groups may use different information sources and face different barriers. A single general message can be useful for awareness, but it is rarely sufficient for informed decision-making across all groups.

Messages should use plain language, short sentences, clear headings, and specific action prompts. Technical terms may be necessary in professional guidance, but public-facing materials should explain them rather than assume prior knowledge. Visual communication can improve understanding when it uses accessible illustrations, readable contrast, captions, and translations. Messages

should also state where people can obtain answers, particularly for clinical questions that cannot be resolved through posters or short social media posts.

Respectful communication is important when people express uncertainty. Stigmatizing labels, ridicule, or overly forceful messaging can create defensiveness and reduce willingness to ask questions. Health workers and community communicators need practical scripts that acknowledge concerns, provide accurate explanations, correct false claims without repeating them unnecessarily, and guide people toward safe next steps. The goal is not to win an argument but to support an informed and feasible health decision.

2.3 COMMUNICATION CHANNELS AND TRUSTED MESSENGERS

Vaccine campaigns commonly use a mix of interpersonal, community, mass-media, and digital channels. Interpersonal communication by doctors, nurses, community health workers, pharmacists, and trained volunteers is particularly important for questions that require individualized discussion. Community channels, including local leaders, schools, workplaces, resident groups, and civil-society organizations, can help campaigns reach people through familiar settings. Mass media can increase awareness rapidly, while digital channels can provide updates, appointment links, and shareable materials.

Trusted messengers should be selected with attention to both credibility and relevance. Clinical experts can explain evidence and safety monitoring; local health workers may be better placed to discuss service logistics; community leaders can help address local concerns; and people with lived experience may make information more relatable. However, messengers must be trained and supplied with updated, consistent materials. A trusted messenger who receives incomplete information may unintentionally create confusion.

Channel selection should not exclude people who are offline, have limited literacy, use minority languages, or require accessible formats. Radio, community announcements, printed materials, mobile outreach, sign-language interpretation, easy-to-read materials, and direct assistance can remain essential. A

comprehensive strategy recognizes that communication equity is part of health equity.

3. OBJECT OF STUDY

The primary object of this study is to examine how public health communication can support effective, ethical, and equitable vaccine campaigns. The paper focuses on the relationship between communication practices, community trust, service access, and campaign implementation. It considers communication before, during, and after vaccination activities, including routine outreach, special campaigns, and emergency responses.

The study reviews key elements of vaccine communication: audience research, message design, health-worker counselling, community engagement, channel coordination, rumor monitoring, digital communication, accessibility, service information, adverse-event communication, and feedback mechanisms. It also examines how communication failures may contribute to misinformation, missed opportunities, delayed uptake, distrust, confusion about eligibility, and inequitable access.

A further aim is to identify institutional measures that enable communication to remain accurate and responsive throughout a campaign. These measures include clear communication plans, coordination between programme and service teams, training for spokespersons and frontline workers, approval processes for public materials, monitoring dashboards, partnerships with local organizations, and procedures for addressing emerging concerns.

3.1 COMMUNICATION PLANNING REQUIREMENTS

Communication planning should begin before public announcements are released. Campaign teams need to clarify the vaccine objective, target population, service model, clinical guidance, eligibility rules, referral arrangements, and the information that people must receive at each stage. A plan should identify priority audiences, priority questions, suitable languages, accessible formats, channels, spokespersons, and escalation pathways for complex clinical or safety queries.

Planning should also anticipate predictable concerns. These may include fears of side effects, confusion about dosage schedules,

uncertainty about whether a person is eligible, concerns about fertility or chronic conditions, questions about vaccine quality, or worries about missing work. Anticipatory communication does not mean guessing every rumor. It means preparing plain-language explanations, frequently asked questions, referral protocols, and rapid-response procedures so that routine questions do not overwhelm frontline staff.

The timing of communication matters. Early awareness can help communities prepare, but campaign announcements should be aligned with confirmed service readiness. If messages invite people to attend a clinic before staff, supplies, records, and support arrangements are ready, the resulting frustration can damage trust. Communications teams should therefore work closely with logistics, clinical, and local implementation teams.

3.2 MESSAGE AND SERVICE ACCESSIBILITY

Public communication should be usable by people with diverse literacy levels, languages, sensory needs, and digital access. Printed materials should use readable typography, clear hierarchy, and straightforward instructions. Audio, video, and digital materials should provide captions, transcripts, sign-language interpretation where appropriate, and content that can be accessed through assistive technologies. Service points should also offer verbal explanations and support for people who need help completing registration or consent procedures.

Accessible communication includes more than format. It requires messages that explain what a vaccine campaign can and cannot do, what reactions may be expected, which symptoms need medical attention, and where follow-up care is available. Information should be honest about uncertainty and should distinguish common expected reactions from events that require further assessment. This approach helps people make sense of their experiences and reduces the tendency for isolated stories to fill information gaps.

Equity-focused communication should identify people who may face exclusion: residents of remote areas, informal workers, migrants, older persons, people with disabilities, people in institutional settings, and groups who have historically experienced discrimination or poor

treatment in health systems. Communication plans should pair tailored messages with real service adaptations, such as mobile clinics, extended hours, translated support, or assisted registration.

3.3 GOVERNANCE, ETHICS, AND ACCOUNTABILITY

Vaccine communication is an institutional responsibility, not merely a publicity function. Programme managers, clinical teams, communications staff, local authorities, and community partners need shared roles and agreed decision-making procedures. Public materials should be clinically reviewed, updated when guidance changes, and clearly dated. Health workers should know which information they are authorized to provide and where to refer questions that require specialist advice.

Ethical communication respects autonomy, privacy, and informed decision-making. It should not rely on manipulation, concealment, or unverified claims. Campaign messages must avoid exaggerating benefits, dismissing legitimate concerns, or presenting a choice as simple when a person needs clinical assessment. Where vaccination policies involve legal or administrative requirements, the communication should clearly distinguish between public-health advice, service eligibility, and formal policy obligations.

Accountability is strengthened when agencies publish reliable contact channels, correct errors promptly, communicate changes clearly, and report how concerns are being handled. Complaint and feedback systems should be accessible, non-punitive, and connected to real operational improvements. Communication quality can then be assessed not only by the number of materials distributed but by whether

people can understand information, complete service steps, and obtain support when needed.

4. RESEARCH METHODOLOGY

The present study adopts a review-based, descriptive, analytical, and comparative methodology to examine public health communication during vaccine campaigns. The study synthesizes literature on vaccine confidence, health communication, risk communication, community engagement, health literacy, misinformation, and immunization programme implementation. Its purpose is to identify recurrent communication requirements and to develop an integrated framework for campaign planning and evaluation.

The analysis is based on secondary evidence from peer-reviewed studies, international guidance, public health communication frameworks, immunization strategy documents, and applied programme literature. Sources were interpreted through thematic categories that connect communication practice with community trust, access to services, inclusion, governance, and adaptive learning. The study does not claim to measure the impact of a single campaign; rather, it compares recurring concepts and implementation lessons across the literature.

To organize the review, the study uses a campaign pathway perspective. It follows the movement from audience understanding and message development to channel delivery, service navigation, feedback, and adaptation. This pathway helps distinguish communication gaps from operational and structural barriers, and it treats feedback as a source of programme improvement rather than a final reporting exercise.

4.1 RESEARCH DESIGN

Component	Description
Research Type	Review-based, descriptive, analytical, and comparative
Approach	Public health communication, vaccine confidence, and immunization implementation analysis
Data Source	Peer-reviewed literature, public health guidance, immunization strategy documents, and communication frameworks
Analysis	Thematic synthesis and comparative assessment of

Method	communication practices and service-linked requirements
Focus Area	Vaccine campaigns, community engagement, message design, misinformation response, service access, and equity

4.2 SOURCES AND ANALYTICAL CATEGORIES

The study considers the following evidence categories for analysis:

- Vaccine confidence, hesitancy, and behavioral drivers of immunization.
- Risk communication, public health emergency communication, and community engagement.
- Health-worker communication, patient counselling, and informed decision-making.
- Digital communication, misinformation management, and rumor monitoring.
- Equity, accessibility, health literacy, and communication barriers affecting service access.

Each evidence source is examined according to the communication question addressed, intended audience, recommended messenger or channel, practical action required from the public, linkage with service delivery, risks of miscommunication, and mechanisms for feedback or adaptation.

4.3 LIMITATIONS OF THE STUDY

Because this is a review-based study, the analysis does not substitute for local audience research or campaign-specific evaluation. Communication needs can differ across diseases, vaccine products, service settings, legal frameworks, media environments, and community histories. Findings should therefore be adapted through local consultation, field testing, and ongoing monitoring rather than applied as a fixed universal model.

The study also recognizes that communication outcomes cannot be assessed independently of vaccine availability, workforce capacity, access barriers, and the wider performance of health services. A well-designed communication plan cannot compensate for persistent service failure. Conversely, reliable services can lose public confidence when explanations are delayed, inconsistent, or inaccessible.

5. DATA ANALYSIS

The thematic analysis indicates that vaccine communication operates through a sequence of linked functions. First, it helps people recognize the purpose and relevance of vaccination. Second, it provides practical information that enables service use. Third, it creates opportunities to discuss concerns and receive respectful answers. Fourth, it allows programme teams to detect changing questions, misinformation, or barriers. Finally, it supports accountability by explaining how decisions are made and where people can seek help. Weakness at any point can reduce the effectiveness of the wider campaign.

Trust and messenger credibility emerge as central themes. A technically accurate statement may have limited value when it is delivered by a source that the intended audience does not know or trust. Conversely, local health workers and community representatives may have high credibility but need clear, up-to-date materials to avoid inconsistent guidance. Campaigns therefore need a messenger strategy that combines scientific authority with community relevance. The strategy should include spokesperson training, escalation routes for complex questions, and coordination across national and local levels.

Clarity and actionability are equally important. Many public messages focus on general encouragement but omit practical instructions. People need to know whether they are eligible, where services are offered, when to attend, what documents to bring, whether an appointment is needed, and what follow-up support is available. When a campaign changes its schedule or eligibility, updates must be rapid and visible across all channels. Repeated confusion about logistics may be interpreted by the public as a sign that the programme itself is unreliable.

The analysis further shows that misinformation management should be integrated with community listening. Not

every inaccurate claim requires a public response, and repeating a false claim in a highly visible message can sometimes increase its salience. However, programme teams should identify questions that are spreading widely or preventing service use, prepare concise evidence-based explanations, and deliver them through sources the community recognizes. Responses should focus on the correct information, the reason for the guidance, and the practical steps people can take to verify claims or seek individual advice. Service-linked communication is a recurring requirement. Messages that encourage vaccination without explaining access arrangements may leave people motivated but unable to act. In contrast, a campaign that aligns communication with appointment systems, transport support, mobile outreach, clinical counselling, and post-vaccination care can reduce the gap between intention and uptake. This coordination is especially important for populations facing time, travel, language, or documentation barriers.

Monitoring and feedback complete the communication cycle. Quantitative indicators such as call volume, website visits, content reach, appointment completion, and missed appointments can show where people are seeking information or encountering obstacles. Qualitative feedback from health workers, community groups, and local media can reveal questions that are not visible in formal data. Campaign teams should review these signals regularly and use them to revise materials, retrain communicators, adjust services, or engage additional partners.

6. DISCUSSION

The findings suggest that vaccine communication should be treated as a continuous public health function rather than a short promotional activity. A campaign begins before the first poster is released, because trust is shaped by previous experiences with health services and institutions. It continues after vaccination sessions begin, because people may have new questions about side effects, schedules, family decisions, or local rumors. A communication approach that is planned only for launch day is unlikely to remain adequate throughout this process.

One important implication is that campaign communication must be coordinated with

operations. The public experience of a vaccine campaign includes every point of contact: hearing about the vaccine, understanding eligibility, arranging attendance, arriving at the service point, receiving counselling, being vaccinated, and accessing post-vaccination advice. A delay, mismatch, or unclear instruction at any step can become a communication problem because people interpret the experience through the lens of trust. Coordination meetings between communications, clinical, logistics, and local implementation teams are therefore essential. The discussion also highlights the limits of a purely corrective approach to misinformation. Rumors often reflect deeper issues such as distrust, past harms, perceived exclusion, fear of adverse events, or uncertainty about authorities. Simple debunking may not address these underlying concerns. A stronger approach combines verified information with local listening, respectful dialogue, transparent safety communication, and visible responsiveness to service failures. It should also avoid presenting people with questions as irrational or irresponsible.

Health workers occupy a particularly important role because they translate policy into patient-level communication. They may be asked questions that are emotional, clinical, cultural, or logistical. Training should therefore cover active listening, plain-language explanation, shared decision-making where appropriate, communication about expected side effects, referral procedures, and techniques for responding to misinformation without confrontation. Health workers should receive supportive supervision and updated materials rather than being expected to manage complex conversations alone.

Equity must be built into both content and delivery. Campaigns that rely mainly on internet access, official-language materials, centralized clinics, or standard working-hour services can unintentionally exclude people who are already underserved. Inclusive communication considers rural and urban differences, language diversity, disability access, migrant populations, informal workers, gendered care responsibilities, and local patterns of media use. Importantly, inclusive communication needs to be accompanied by accessible services; otherwise, tailored

messages may raise expectations that the system cannot fulfill.

Finally, communication evaluation should look beyond reach metrics. High numbers of views, impressions, or materials distributed do not necessarily indicate comprehension, trust, or successful vaccination. Evaluation should assess whether priority groups received information in a usable form, whether they could act on it, whether their questions were answered, and whether communication helped reduce avoidable barriers. A mixed-method approach that combines service data with community feedback provides a stronger basis for improvement.

7. CONCLUSION

This study concludes that public health communication is a foundational element of vaccine campaigns because it connects scientific guidance with community understanding and practical service use. Effective communication helps people recognize why vaccination is recommended, identify when and where to obtain services, understand what to expect, and seek support for questions or concerns. It also helps

8. RECOMMENDATIONS

- Develop a written communication plan for every vaccine campaign, including audience groups, priority questions, languages, channels, spokespersons, approvals, and feedback routes.
- Conduct rapid audience and community listening before launch to identify concerns, trusted information sources, practical barriers, and preferred communication formats.
- Use plain language and provide clear action details on eligibility, dates, locations, appointment procedures, costs, documents, and follow-up support.
- Coordinate public messaging with verified service readiness so that people who respond to campaign information can complete the vaccination journey without avoidable delays.
- Train health workers, community communicators, and spokespersons in respectful counselling, active listening,

programme teams recognize misinformation, confusion, and access barriers before they undermine campaign performance.

The analysis shows that strong communication depends on accuracy, transparency, audience relevance, trusted messengers, accessible formats, two-way engagement, and close alignment with service delivery. One-way information campaigns may increase awareness, but they are not sufficient when people need individualized counselling, translated materials, disability-accessible communication, or help overcoming logistical constraints. Communication should therefore be integrated into immunization planning, budgeting, workforce preparation, and monitoring systems.

Sustained progress requires public health institutions to treat communication as an accountability practice. By listening to communities, responding clearly to evolving questions, and ensuring that promises made in public messages match the services people encounter, vaccine programmes can strengthen trust and support more equitable participation in immunization.

misinformation response, and referral procedures.

- Use multiple channels, including interpersonal communication, community networks, mass media, digital platforms, radio, print, and mobile outreach, rather than relying on a single platform.
- Ensure materials are accessible through translations, captions, transcripts, readable design, assistive-technology compatible digital content, and direct support for people who need help.
- Establish rumor and question monitoring systems that collect signals from health workers, community partners, helplines, media, and digital channels.
- Communicate vaccine safety information transparently, including expected reactions, reporting pathways, and the role of safety monitoring systems.
- Measure communication quality through comprehension, service navigation, feedback resolution, and equity indicators, not only reach or content distribution.

9. REFERENCES

1. Betsch, C., Schmid, P., Heinemeier, D., Korn, L., Holtmann, C., and Bohm, R. (2018). Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. *PLOS ONE*, 13(12), e0208601.
2. Chou, W. Y. S., Oh, A., and Klein, W. M. P. (2018). Addressing health-related misinformation on social media. *JAMA*, 320(23), 2417-2418.
3. Dubé, E., Laberge, C., Guay, M., Bramadat, P., Roy, R., and Bettinger, J. A. (2013). Vaccine hesitancy: An overview. *Human Vaccines and Immunotherapeutics*, 9(8), 1763-1773.
4. Fischhoff, B. (2013). The sciences of science communication. *Proceedings of the National Academy of Sciences*, 110(Suppl. 3), 14033-14039.
5. Glanz, K., Rimer, B. K., and Viswanath, K. (Eds.). (2015). *Health behavior: Theory, research, and practice* (5th ed.). Jossey-Bass.
6. Hornsey, M. J., Harris, E. A., and Fielding, K. S. (2018). The psychological roots of anti-vaccination attitudes: A 24-nation investigation. *Health Psychology*, 37(4), 307-315.
7. Jolley, D., and Douglas, K. M. (2014). The effects of anti-vaccine conspiracy theories on vaccination intentions. *PLOS ONE*, 9(2), e89177.
8. Kasperson, R. E., Renn, O., Slovic, P., Brown, H. S., Emel, J., Goble, R., Kasperson, J. X., and Ratick, S. (1988). The social amplification of risk: A conceptual framework. *Risk Analysis*, 8(2), 177-187.
9. Kreuter, M. W., and Wray, R. J. (2003). Tailored and targeted health communication: Strategies for enhancing information relevance. *American Journal of Health Behavior*, 27(Suppl. 3), S227-S232.
10. Larson, H. J., Jarrett, C., Eckersberger, E., Smith, D. M. D., and Paterson, P. (2014). Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: A systematic review of published literature, 2007-2012. *Vaccine*, 32(19), 2150-2159.
11. Leask, J., Kinnnersley, P., Jackson, C., Cheater, F., Bedford, H., and Rowles, G. (2012). Communicating with parents about vaccination: A framework for health professionals. *BMC Pediatrics*, 12, 154.
12. Lewandowsky, S., Ecker, U. K. H., Seifert, C. M., Schwarz, N., and Cook, J. (2012). Misinformation and its correction: Continued influence and successful debiasing. *Psychological Science in the Public Interest*, 13(3), 106-131.
13. MacDonald, N. E., and the SAGE Working Group on Vaccine Hesitancy. (2015). Vaccine hesitancy: Definition, scope and determinants. *Vaccine*, 33(34), 4161-4164.
14. Nyhan, B., Reifler, J., Richey, S., and Freed, G. L. (2014). Effective messages in vaccine promotion: A randomized trial. *Pediatrics*, 133(4), e835-e842.
15. Opel, D. J., Heritage, J., Taylor, J. A., Mangione-Smith, R., Salas, H. S., DeVere, V., Zhou, C., and Robinson, J. D. (2013). The architecture of provider-parent vaccine discussions at health supervision visits. *Pediatrics*, 132(6), 1037-1046.
16. Schmid, P., Rauber, D., Betsch, C., Lidolt, G., and Denker, M.-L. (2017). Barriers of influenza vaccination intention and behavior: A systematic review of influenza vaccine hesitancy, 2005-2016. *PLOS ONE*, 12(1), e0170550.
17. UNICEF. (2020). Building trust in COVID-19 vaccines and health communication. United Nations Children's Fund.
18. van der Linden, S. (2022). Misinformation: Susceptibility, spread, and interventions to immunize the public. *Nature Medicine*, 28, 460-467.
19. Witte, K., and Allen, M. (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. *Health Education and Behavior*, 27(5), 591-615.
20. Wilson, S. L., and Wiysonge, C. (2020). Social media and vaccine hesitancy. *BMJ Global Health*, 5(10), e004206.
21. World Health Organization. (2017). Communicating risk in public health emergencies: A WHO guideline for emergency risk communication policy and practice. World Health Organization.
22. World Health Organization. (2020). Immunization Agenda 2030: A global strategy to leave no one behind. World Health Organization.

-
23. World Health Organization. (2020). Managing the COVID-19 infodemic: Promoting healthy behaviours and mitigating the harm from misinformation and disinformation. World Health Organization.
 24. World Health Organization. (2022). Behavioural and social drivers of vaccination: Tools and practical guidance for achieving high uptake. World Health Organization.
 25. World Health Organization. (2024). WHO competency framework: Risk communication and community engagement. World Health Organization.