Addressing HPV Vaccine Misinformation: Protocol for a living systematic review

Protocol information

Version 0.1, December 2025

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Funding

This work was supported by the Gates Foundation (INV-075762). The funders had no role in study design, data collection, analysis and interpretation of data, decision to publish, or preparation of the manuscript.

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Introduction

Addressing HPV vaccine misinformation

Vaccine-related misinformation now poses a serious worldwide risk to public health. The swift evolution of digital platforms, the rising use of social media, and the highly interconnected nature of digital information ecosystems have enabled inaccurate health claims to circulate with speed and influence (Tangcharoensathien et al., 2020). False narratives about vaccines now spread globally within minutes, shaping public perceptions and influencing health behaviours in ways that undermine decades of progress made in immunisation.

The COVID-19 pandemic further revealed the scale of this crisis, where information about vaccine safety (e.g., microchips or infertility) reduced intent by up to 6% in randomised trials across the US (Loomba et al.,2021). In surveys of about 3,000 adults, belief in conspiracy theories correlated with 15-25% lower vaccination rates, contributing to over 200,000 preventable US deaths by mid-2022 (Mousoulidou et al.,2023).

Globally, this fueled outbreaks in under-vaccinated communities, demonstrating how misinformation—often emotional, sensational, or conspiratorial—can fuel fear, amplify distrust, reduce compliance with public health measures, and contribute to vaccine refusal (Loomba et al., 2021; Puri et al., 2020). The World Health Organisation identified vaccine hesitancy, largely fueled by misinformation, as one of the top ten global health threats (WHO, 2019).

Platforms such as Facebook, TikTok, YouTube, X (Twitter), and WhatsApp have become major arenas for misinformation spread, often facilitated by algorithmic amplification and echo chambers that reinforce existing beliefs (Goldenberg, 2023). In Brazil, a case study of fact-checked content from January to July 2020 identified WhatsApp as the primary vector (66% of debunked stories), followed by Facebook (25%), reflecting the platform's role in low-literacy regions (Biancovilli et al., 2021).

The globalised nature of digital misinformation means that anti-vaccine narratives originating in high-income countries (HICs) can quickly permeate information environments in low and middle-income countries (LMICs) (Wilson and Wiysonge, 2020). Given this interconnected infodemic, understanding strategies to address vaccine misinformation early and effectively is now a global health priority.

HPV vaccine misinformation has direct and immediate implications for programme delivery in LMICs, contributing to campaign delays, disruption of school-based

platforms, erosion of trust in adolescent health services, and the need for rapid adaptation of communication and delivery strategies by national immunisation programmes.

The Interconnected Infodemic Ecosystem

The digital information ecosystem operates as a highly interconnected network in which misinformation about one vaccine or health topic can quickly spill over into others. During COVID-19, misinformation about mRNA vaccines, fertility, side effects, and population control narratives became widely circulating themes (Islam et al., 2020). These narratives later reappeared in discussions of other vaccines, including HPV, measles, and polio, demonstrating a cross-vaccine contagion effect.

The spread of misinformation is further intensified by several interconnected dynamics, including the algorithmic amplification of emotionally charged content, the formation of information echo chambers that limit users to like-minded networks, the rapid dissemination of false claims by influential figures, and the adaptation of global misleading narratives into localised, culturally specific rumors. Understanding this ecosystem is essential for identifying how HPV vaccine misinformation emerges, evolves, and spreads across contexts.

Sources of misinformation

During the COVID-19 pandemic, misinformation about vaccines encompassing false claims on safety, efficacy, side effects, and conspiracies like infertility or microchip implantation-primarily disseminated through social media platforms (Ferreira Caceres et al.,2022). Twitter (now X) emerged as the most scrutinised platform, hosting up to 40% anti-vaccine messages compared to pro-vaccine ones, with bots and coordinated networks accelerating spread through spammy hashtags and low-credibility sources (Skafle et al.,2022). This was closely followed by Facebook. YouTube and Instagram amplified video-based falsehoods, with viewers 2-3 times more likely to encounter misleading content, while WhatsApp dominated in regions like Asia, rated as the top misinformation source (74%) due to private group sharing among family and friends (Ngai, Singh, and Yao, 2022). Alternative sites like Reddit and Rumble further hosted unchecked discussions, often migrating to mainstream platforms, with political influencers and non-medical users driving 90% of polarised conversations, eroding trust and reducing uptake by 10-25% in exposed populations. (Hernández et al., 2021). These sources highlight the growing involvement of social media in the spread of misinformation.

HPV Vaccination: Importance and Vulnerability to Misinformation

The human papillomavirus (HPV) vaccine is one of the most effective public health tools for preventing cervical cancer, which remains a leading cause of cancer deaths among women globally (Bashayr et al., 2020). The vaccine has demonstrated over 90% efficacy in preventing HPV related precancers when administered before exposure (Drolet et al., 2019). Yet, despite its strong safety and effectiveness profile, HPV vaccination has been uniquely vulnerable to misinformation, partly due to its association with adolescent sexuality, gender norms, reproductive health, and cultural sensitivities (Dube et al., 2021). Common themes of misinformation surrounding HPV vaccination include claims that the vaccine causes infertility or other reproductive harms, exaggerated accounts of severe adverse effects, fears that vaccination may lead to sexual promiscuity, misinterpretations of vaccine ingredients, especially within religious communities and conspiracy theories suggesting population control or undue Western influence (Carlo et al.,2021). These narratives have led to outbreaks of vaccine refusal, school-based immunisation disruptions, and in some cases, national program suspensions.

Why LMICs Are Disproportionately Affected by HPV Vaccine Misinformation

LMICs bear the greatest burden of cervical cancer, accounting for nearly 90% of global cervical cancer deaths (WHO, 2023). Paradoxically, these same settings face heightened vulnerability to misinformation due to structural, social, and informational constraints. Key drivers of vaccine misinformation include limited access to verified health information, lower digital literacy that makes individuals more susceptible to misleading content, weak communication infrastructures, particularly in rural areas, and deep-rooted mistrust of government or health systems (Denniss et al., 2025). Additionally, the influence of local leaders can either reinforce or counter misinformation, while heavy reliance on traditional media, especially radio, can contribute to the rapid spread of rumours (Denniss et al., 2025).

Evidence from countries such as India, Kenya, Nigeria, and the Philippines has shown that misinformation outbreaks, especially those propagated through WhatsApp, community influencers, or religious networks, can significantly disrupt HPV vaccination campaigns (Suryadevara et al., 2021; Talabi et al., 2023). Unlike high-income settings, where misinformation is often digital-first, misinformation in LMICs spreads simultaneously through online and offline networks, making detection and response more complex and requiring context-specific approaches (Denniss et al., 2025).

Detection of Vaccine Misinformation: Current Approaches

Efforts to detect vaccine misinformation operate across diverse platforms and sources. Key strategies include:

1. Digital and Social Media Listening

   Tools analyse large volumes of social media content using machine learning, keyword tracking, sentiment analysis, and network mapping to identify emerging misinformation trends (Dadzie et al., 2023).

2. Community and Frontline Feedback Systems

   Health workers, civil society actors, and community leaders report rumours and concerns that directly reflect local belief systems and contextual barriers.

3. Traditional Media Monitoring

   Radio, TV, and print media monitoring reveal misinformation circulating through influential mainstream channels, especially important in LMICs.

4. Hybrid Reporting Dashboards

   Integrated systems combine digital, community, and mainstream indicators to generate early warning alerts for Ministries of Health and immunisation partners (UNICEF, 2022). Together, these interventions support real-time detection and adaptive responses to misinformation.

Rationale for a Living Systematic Review

Misinformation around HPV vaccines evolves rapidly across digital and offline networks, making static evidence quickly outdated. A living systematic review (LSR) is essential to track emerging narratives, monitor the impact of programmatic changes, and integrate innovations such as AI models, social listening dashboards, and machine learning classifiers in real time. With HPV vaccination scaling up in LMICs toward WHO 2030 cervical cancer elimination goals, timely, actionable evidence is critical for NITAGs, EPI teams, Ministries of Health and Education, and implementing partners to anticipate misinformation and guide communication strategies.

Evidence from LMICs remains fragmented, and current methods for addressing misinformation vary in effectiveness and scalability. A living review consolidates global research, identifies the most feasible detection strategies for LMICs, and ensures

coordinated, up-to-date guidance, strengthening responses to misinformation and supporting global HPV vaccination efforts.

This LSR is being produced for the Alive HPV Living Evidence and Knowledge Partnership, read more about the partnership here. The goal of Alive is to transform the global evidence ecosystem into a collaborative and coordinated system that is dynamic, reliable, and efficient in responding to the world's evidence needs.

This project will be governed by a steering committee. See *[Note: link to be added later]* for the involved individuals. The coordination is run by an interorganisational tactical team that ensures smooth progress. The tactical team contains members of the HPV vaccine delivery community and representation from the producers of the evidence. The team commissioned to produce this review is eBASE Africa.

Given the rapidly evolving and context-dependent nature of misinformation, a traditional static review would quickly become outdated. An LSR provides an approach that can continuously incorporate new evidence, track emerging patterns, and support timely decision-making for countries introducing or scaling up HPV vaccination. This is particularly important in LMIC settings, where programmes must often adapt to dynamic information environments, resource constraints, and varying. We currently have funding to keep the review living until early 2027, but are exploring options for sustainability beyond that.

Research questions

Primary Research Question

What strategies are effective in addressing HPV vaccine–related misinformation?

Secondary Research Questions

1. What are the common characteristics, sources, and channels of HPV vaccine misinformation reported in the literature?
2. How effective are different interventions (e.g., fact-checking, communication strategies, community engagement approaches) in reducing the spread and impact of HPV vaccine misinformation?
3. What contextual factors (e.g., cultural, social media, geographic setting) influence the success of strategies used to address HPV vaccine misinformation?
4. What gaps exist in current evidence and interventions aimed at addressing HPV vaccine misinformation?

Definition of misinformation

Misinformation is known by many names: misinformation, disinformation, malinformation, rumours, fake news. The definition used in this review is: False or unverified information with or without bad intention (Shiyi et al 2024).

Description of the interventions

This review will examine strategies aimed at addressing HPV vaccine–related misinformation across digital, community, and traditional media environments. Eligible interventions must explicitly seek to reduce the spread or influence of misinformation, improve understanding, or support informed decision-making about HPV vaccination. Interventions may vary in approach, intensity, and delivery channels. The categories include:

1. Communication and Information Correction Strategies

   Approaches that provide accurate information, correct false claims, or counter misleading narratives (e.g., fact-checking, tailored messaging, clarification statements, public health campaigns).

2. Community Engagement and Interpersonal Communication Approaches

   Strategies involving direct interaction with communities, parents, adolescents, health workers, or local leaders (e.g., community dialogues, school-based communication, counselling by frontline health workers).

3. Social and Behaviour Change Communication (SBCC) Interventions

   Approaches targeting attitudes, beliefs, and intentions related to HPV vaccination, often using multi-channel communication and behaviourally informed methods.

4. Traditional Media and Public Awareness Activities

   Use of radio, television, newspapers, or other mass media to provide accurate information and counter rumours.

5. Digital Communication and Online Response Strategies

   Interventions delivered via social media, messaging applications, or online platforms (e.g., corrective content, audience engagement, evidence-based information).

6. Integrated Communication or Multi-Component Approaches

Coordinated interventions combining several of the above components across digital, community, and traditional media channels to reinforce consistent messaging.

7. Legal and Regulatory Strategies

   Approaches that use laws, policies, or regulations to prevent the dissemination of false or harmful vaccine information, such as restrictions on misleading advertisements, social media content moderation policies, or enforcement of public health communication standards.

8. Curriculum Integration and Educational Interventions

   Incorporating vaccine education and addressing misconceptions into school and higher education curricula, across subjects like biology, health education, life skills, or public health courses, to provide sustained knowledge and shape positive attitudes toward HPV vaccination.

Engagement and reporting

The primary users of this LSR will be national decision-makers and their advisors, in low- and middle-income countries (LMICs), involved in HPV vaccine planning and delivery, including but not limited to: EPI managers, HPV focals, NITAG members, and implementing partners. However, this LSR has application to policy, program design, and implementation decisions across multiple system levels including for: global normative and financing institutions, such as WHO, Gavi, and UNICEF; regional technical and learning partners; and evidence intermediaries at all levels.

While the review is not intended to replace national decision-making processes, it is designed to support evidence-informed deliberation by ensuring that decision-makers at all levels have access to a continuously updated, contextually relevant synthesis of HPV vaccine delivery evidence related to addressing misinformation.

We will facilitate and convene a community of users to engage with, support the dissemination of, and directly use evidence that emerges from the LSR. This community and engagement process will focus on collectively refining a rigorous body of evidence to ensure policy and practice questions are met with timely and context-specific answers.

The community will be engaged through three structures.

- A project Steering Group (SG) which is accountable for the development of a living HPV vaccine delivery evidence base that meets the needs of users. It

provides strategic direction and builds legitimacy within the larger project structure. The SG operates at the top of the project governance structure.

- Tactical Group (TG): The TG provides expert guidance and technical oversight to the commissioned production team - eBASE Africa. The TG ensures the development of a robust, high-quality protocol, providing input on PICO frameworks, search strategies, and inclusion criteria and recommending the final base protocol and subsequent major amendments to the SG for formal approval. The Tactical Group is accountable for the quality and currency of the LSR protocol but is not responsible for the operational execution or full dissemination of the LSR itself. The Tactical Group includes membership from the user community, eBASE Africa and Alive.
- Advisory Group (AG): Provides technical input and systems insight to inform the SG's strategic decisions. The AG includes membership from global normative and financing institutions and regional technical and learning partners and evidence intermediaries.

We will establish a free and open data repository to store and manage all data and analyses compiled and generated by the project.

Methods

This study is an LSR and will be updated continually. An LSR is a high quality, up-to-date online synthesis of health research that is updated as data from new relevant research that meets study inclusion criteria becomes available (Elliott et al 2014). This means that, following an initial search from 2000 (GAVI Strategy 1.0) to December 2025, repeat searches will be re-run monthly, any new studies incorporated into the review, and updates will be regularly published. Based on current funding, we anticipate that the last update will be in early 2027, but are exploring options for sustainability beyond that.

The protocol will be registered on PROSPERO. In this protocol, we have considered PRISMA guidance established for LSRs (Akl et al., 2024).

[Note: the methods will be updated to make it clear which methods relate to which research question, once the questions are locked in]

Eligibility criteria

Study types

Inclusion

- Studies that utilize a comparative design
- Observational studies
- Mixed-methods studies
- Case studies

Exclusion

- Opinion pieces, commentaries, and editorials without primary data
- Studies that focus on detecting or describing misinformation, and not on strategies to address misinformation
- Studies without sufficient methodological detail

Publication status

Inclusion

- Published studies for both open and closed journals
- Grey literature, e.g., reports from WHO, UNICEF, ministries of health, and other credible organisations containing sufficient detail to assess risk of bias and extract data

Exclusion

- Authors of conference abstracts or preprints without peer review or sufficient detail will be contacted for additional information and possible inclusion in a subsequent update.

Concepts

Inclusion

- Strategies to address HPV vaccine-related misinformation
- Strategies to address misinformation about other vaccines (e.g., COVID, measles) that are applicable to HPV vaccine contexts

Exclusion

- Studies that focus on vaccine hesitancy or attitudes without describing strategies for addressing misinformation

Participants

Inclusion

- Studies involving any human population exposed to approaches addressing misinformation that is related to vaccines

Exclusion

- No specific human groups will be excluded
- Animal studies

Geographical Context

Inclusion

- Global

Exclusion

- None

Language

Inclusion

- Studies published in English or French

Exclusion

- Languages other than English or French

Year

Inclusion

- Studies published from 2000 (GAVI strategy 1.0)

Exclusion

- Studies published before 2000

Search and screen

Search strategy

A comprehensive search strategy will be developed in collaboration with an information specialist. The search strategy will aim to locate both published and unpublished studies from 2000 onwards. Searches will be performed in the following electronic databases: MEDLINE (PubMed), Embase, Web of Science, Scopus, CINAHL, PsycINFO, EBSCO, Taylor and Francis, ProQuest, and the Cochrane Library. Grey literature will be searched via Google Scholar, Open Alex, WHO IRIS, UNICEF, WHO and Gavi repositories. The search will combine MeSH terms (for controlled vocabulary) with free-text keywords to account for evolving terminology in misinformation research. The strategy will incorporate truncation, wildcards, and proximity operators where supported, and will be adapted per database. This strategy is presented in Appendix 1.

Title and abstract screening

Following the search, all identified citations will be collated and uploaded into EPPI-Reviewer, a web application that enables researchers to manage the entire lifecycle of a review in a single location (Thomas et al., 2023), and duplicates will be removed. Following a pilot test, titles and abstracts will then be screened by two independent reviewers for assessment against the inclusion criteria for the review. Any disagreements will be resolved by a third reviewer or through team discussions.

A subset of items from the pilot test, that have been double screened and reconciled by two reviewers, will be used to iteratively develop and test the use of Large Language Models (LLMs) for screening. Prompts will be developed using the inclusion and exclusion criteria for the review and run in EPPI Reviewer using the integrated OpenAI GPT-4.1 model. The performance of the LLM will be evaluated by comparing it to the gold standard human reviewer judgements to determine the accuracy of the model in correctly including and excluding citations. Once the prompt has been refined and evaluated to accurately achieve above .95 recall, it will be deployed on all remaining unscreened citations. A 10% random selection of records will then be screened by an independent human reviewer to calculate agreement with the LLM, after which all included citations will be screened by an independent reviewer.

Full text screening

Two reviewers will independently assess the full text of studies retained after title and abstract screening. Discrepancies will be resolved by a third reviewer, or through team discussions. Reasons for exclusion will be documented. The results of the search and the selection process will be illustrated on a PRISMA flow diagram.

Data extraction

Data will be extracted using a standardized form (see Appendix 2 for the data extraction form). For each study retained after full-text screening, one reviewer will extract the data, and a second reviewer will verify the data for accuracy and completeness.

Using a subset of studies with data extraction verified by two reviewers, LLM prompts will be iteratively developed and tested for all items on the data extraction form using the integrated OpenAI GPT-4.1 model within EPPI Reviewer. The prompts will be applied to all studies included at full text with a 10% random subset double screened by a human reviewer. If agreement is above 95%, the LLM will extract the remaining studies and then verified by a human reviewer for accuracy and completeness.

The extraction form will include details on the following areas:

- Study characteristics: author, year, country, setting, study design, aim, funding.
- Detection method: digital/social media listening, community feedback, traditional media monitoring.
- Type of misinformation detected (fertility fears, safety concerns, sexual promiscuity myths, etc.)
- Outcomes related to detection effectiveness or utility
- Contextual factors influencing detection (eg, digital literacy, sociocultural norms)
- Key findings and conclusions.

Risk of bias

Risk of bias will be assessed to ensure the trustworthiness, relevance, and overall quality of the studies included in this review. Two reviewers will independently appraise each study using the Joanna Briggs Institute (JBI) critical appraisal tools, which provide structured criteria for evaluating different study designs, including qualitative, quantitative, observational, and mixed-methods research. Any disagreements will be resolved through discussion or by consulting a third reviewer.

The JBI tools allow assessment of key aspects such as the clarity of study objectives, appropriateness of methodology, adequacy of data collection and analysis, and

transparency of reporting. The results of the risk of bias assessment will inform the interpretation of findings and contribute to the overall confidence placed in the body of evidence.

Analysis

A narrative synthesis will be the primary method of analysis, given the expected heterogeneity in study designs, detection methods, platforms, and contexts. The synthesis will be structured around the review's specific questions. Studies will be grouped and described by:

- Method of addressing misinformation
- Geographical area and income level of the countries concerned
- Effectiveness or utility for public health decision-making

If a sufficient number of homogeneous studies report comparable quantitative outcome measures (e.g., coverage rates), then a meta-analysis will be performed. For instance, if we find sufficient studies, then pairwise meta-analyses will be performed, including forest plots displaying individual study estimates and pooled estimates with 95% confidence intervals.

Certainty assessment

Certainty of the evidence of effect will be assessed using the GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach. The GRADE approach offers a structured framework for assessing the certainty of a wide range of different evidence types and supporting healthcare decision-making (Neumann I, Schünemann H (Editors) 2024).

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Appendices

Appendix 1. Search Strategy

MeSH Terms

Category	**MeSH Terms**
HPV and Vaccines	"Papillomavirus Vaccines"[Mesh]; "Papillomavirus Infections/prevention and control"[Mesh]; "Vaccines"[Mesh]; "COVID-19 Vaccines"[Mesh]; "Measles Vaccine"[Mesh]; "Vaccination Hesitancy"[Mesh]
Misinformation	"Health Misinformation"[Mesh]; "Communication Barriers"[Mesh]; "Health Communication"[Mesh]; "Social Media"[Mesh]; "Consumer Health Information"[Mesh]; "Health Literacy"[Mesh]
Interventions/Strategies	"Health Education"[Mesh]; "Health Promotion"[Mesh]; "Mass Media"[Mesh]; "Social Marketing"[Mesh]; "Patient Education"[Mesh]; "Behavior Therapy"[Mesh]; "Community Health Services"[Mesh]; "Public Health Informatics"[Mesh]

Keywords

- HPV and Vaccines: HPV vaccine*, Gardasil*, Cervarix*, papillomavirus vaccine*, COVID* vaccine*, measles vaccine*, "vaccine*", vaccination*, immunization*, "cervical cancer prevention"
- Misinformation Variants: misinform*, disinfor*, "fake news", rumor*, rumour*, "false information", hoax*, myth*, antivax*, "vaccine hesitancy", "vaccine refusal"
- Interventions/Strategies: address*, counter*, correct*, combat*, intervene*, "fact check*", "fact-checking", "communication strateg*", "community engagement", "social behavior change", SBCC, "public awareness", "health campaign*", "messaging", "counseling", "debunk*", "myth bust*", "pre-bunking*"
- Channels/Platforms: "social media", Twitter, X, Facebook, Instagram, TikTok, WhatsApp, YouTube, radio, television, newspaper*, "community meeting*", school*, clinic*, "health worker*"
- Outcomes: effectiveness, impact, uptake, coverage, trust, "behavior change", cultural, stigma, fertility, promiscuity

Search string (PubMed)

(

("Papillomavirus Vaccines"[Mesh] OR "Papillomavirus Infections/prevention and control"[Mesh] OR "Papillomavirus Vaccines"[tiab] OR HPV[tiab] OR Gardasil*[tiab] OR Cervarix*[tiab] OR "HPV vaccine*"[tiab])

OR

("Vaccines"[Mesh] OR "COVID-19 Vaccines"[Mesh] OR "Measles Vaccine"[Mesh] OR "Vaccination Hesitancy"[Mesh] OR COVID*[tiab] OR measles[tiab] OR "vaccine*"[tiab] OR vaccination*[tiab] OR immunization*[tiab])

)

AND

("Health Misinformation"[Mesh] OR "Communication Barriers"[Mesh] OR "Health Communication"[Mesh] OR "Social Media"[Mesh] OR misinform*[tiab] OR disinfor*[tiab] OR "fake news"[tiab] OR rumor*[tiab] OR rumour*[tiab] OR "false information"[tiab] OR hoax*[tiab] OR myth*[tiab] OR antivax*[tiab] OR "vaccine hesitancy"[tiab] OR "vaccine refusal"[tiab])

AND

("Health Education"[Mesh] OR "Health Promotion"[Mesh] OR "Mass Media"[Mesh] OR "Social Marketing"[Mesh] OR "Patient Education as Topic"[Mesh] OR "Community Health Services"[Mesh] OR address*[tiab] OR counter*[tiab] OR correct*[tiab] OR combat*[tiab] OR intervene*[tiab] OR "fact check*"[tiab] OR "fact-checking"[tiab] OR "communication strateg*"[tiab] OR "community engagement"[tiab] OR "behavior change"[tiab] OR SBCC[tiab] OR campaign*[tiab] OR "public awareness"[tiab] OR debunk*[tiab] OR "myth bust*"[tiab])

Appendix 2: Data Extraction Form

1. General Study Information

- Authors
- Year of Publication
- Title of Study
- Journal / Source
- Country / Region
- World Bank Income Classification (HIC, MIC, LIC)
- Setting (urban, rural, national, online/digital)

2. Study Characteristics

- Study Design (experimental, quasi-experimental, RCT, observational, qualitative, mixed methods, content analysis, evaluation)
- Population / Sample (platform users, community members, general public, health workers)

3. Characteristics, Sources and Channels of Misinformation

- Sources of misinformation (social media users, politicians, community leaders, influencers, journalists, healthcare workers)
- Channels where misinformation appears

4. Intervention Strategies Used to Address HPV Vaccine Misinformation

- Type of Intervention Strategy
- Description of Strategy (how it was designed, delivered, duration)
- Target Audience (parents, adolescents, general public, HCWs, policymakers)
- Channels Used for Intervention (social media, radio, community meetings, schools, clinics)
- Intervention Intensity (one-time, continuous, periodic)

5. Effectiveness of Interventions

- How effectiveness was measured
- Implementation Successes
- Implementation Challenges/Barriers

6. Contextual Influences on Strategy Success

- Cultural factors (religious norms, beliefs about sexuality, community trust)
- Social factors (peer influence, social network dynamics, stigma)
- Political factors (government trust, political misinformation)
- Digital ecosystem factors (platform algorithms, digital literacy levels)
- Health system capacity factors
- LMIC-specific considerations
- Equity considerations

7. Evidence Gaps Identified in the Study

- Research gaps
- Policy gaps
- Data quality limitations

8. Key Findings and Author Conclusions

- Main conclusions regarding misinformation strategies
- Policy or practice recommendations
- Study limitations (as stated by authors)