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Strategic Communication Frameworks for Countering Health-Related Misinformation in the United States

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ABSTRACT

Health-related misinformation has emerged as one of the most consequential public health challenges of the twenty-first century. The rapid proliferation of false, misleading, and inaccurate health claims across digital and interpersonal channels has undermined vaccination programs, delayed appropriate care-seeking behaviors, and eroded trust in medical institutions across the United States. This article presents a systematic analysis of strategic communication frameworks designed to counter health misinformation. This paper is drawn from peer-reviewed literature published between 2012 and 2025. The study examines five major theoretical frameworks: the Inoculation Theory, the Elaboration Likelihood Model, the Extended Parallel Process Model, the Narrative Persuasion Framework, and the Motivational Interviewing Communication Model. The article also explores the role of digital platforms, health communicators, government agencies, and community health workers in implementing these frameworks at scale. The findings suggest that no single framework is universally effective; rather, a coordinated, culturally competent and platform-sensitive multi-framework approach yields the strongest outcomes. The article concludes with practical recommendations for policymakers, public health practitioners and communication researchers seeking to design evidence-based counter-misinformation campaigns. Implications for health equity, media literacy, and institutional trust are also discussed.

INTRODUCTION

Misinformation about health topics has existed throughout recorded history. From erroneous beliefs about the causes of plague in medieval Europe to nineteenth-century patent medicine advertisements, inaccurate health claims have long complicated the work of public health advocates. Yet the rise of the internet and in particular the emergence of social media platforms in the early twenty-first century has fundamentally transformed the scale, speed and reach of health misinformation (Chou *et al.*, 2020; Mohammed & Nunana, 2025; Mohammed & Matilda, 2025). Today, a single misleading claim can circulate across millions of users within hours, often outpacing the capacity of health authorities to issue timely corrections (Vosoughi *et al.*, 2018).

In the United States, the consequences of this phenomenon have been severe. The anti-vaccine movement, energized by debunked claims linking vaccines to autism, contributed to measles outbreaks in communities with declining vaccination rates. During the COVID-19 pandemic, misinformation about the origin of the virus, the efficacy of face masks and the safety of approved vaccines led to measurable delays in vaccination uptake and contributed to excess mortality (Pennycook *et al.*, 2020; Roozenbeek *et al.*, 2020). The World Health Organization declared an “infodemic” running parallel to the pandemic, signaling that the management of information itself had become a public health imperative (2020).

Strategic communication, which is defined here as the purposeful use of communication to achieve specific goals

in ways that are informed by theory and evidence, offers a vital set of tools for countering health misinformation. Communication scholars, behavioral scientists and public health researchers have developed and tested a range of frameworks over the past two decades that address both the cognitive and affective dimensions of belief change, correction of false information and building of resilience against future misinformation exposure (Southwell *et al.*, 2019; Mohammed *et al.*, 2025). These frameworks vary considerably in their assumptions about human cognition, their preferred channels of delivery and their target audiences.

This article provides a comprehensive, critical review of these frameworks, synthesizes evidence on their effectiveness and offers practical guidance for their application in contemporary public health contexts. The central argument advanced here is that effective counter-misinformation communication requires a layered, theoretically grounded approach that is sensitive to audience characteristics, platform affordances and the specific nature of the misinformation being addressed. The article proceeds as follows. Section 2 defines key concepts and maps the landscape of health misinformation in the United States. Section 3 reviews five major strategic communication frameworks. Section 4 examines implementation contexts, including digital platforms, community settings and institutional actors. Section 5 presents two integrative case analyses. Section 6 offers a discussion of implications and Section 7 presents conclusions and recommendations.

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MATERIALS AND METHODS

This study used a systematic narrative review to examine how strategic communication frameworks have been applied to counter health misinformation in the United States. A narrative review was chosen because the topic draws on several fields, including communication science, public health and behavioral psychology and the goal was to find patterns and connections across those fields rather than to calculate a single combined effect size. Only peer-reviewed studies and book chapters published in English between 2012 and 2025 were included. That starting year was chosen because it marks the period when social media became the dominant channel through which Americans encountered health information and misinformation.

The search was conducted across four academic databases: PubMed, PsycINFO, Communication Abstracts and Google Scholar. Search terms included health misinformation, vaccine hesitancy, inoculation theory, narrative persuasion, motivational interviewing, Elaboration Likelihood Model, Extended Parallel Process Model, counter-misinformation and public health campaigns. These terms were combined using Boolean operators to maximize coverage. Reference lists of key articles were also reviewed manually to find additional relevant sources. A total of 143 sources were initially identified. After applying the inclusion criteria, 74 were kept for full review and 58 are cited directly in this article. Each source was assessed for clarity of design, rigor of methods and relevance to United States public health contexts. Studies that scored poorly on multiple criteria were noted but were not used as primary evidence for the article's main arguments.

LITERATURE REVIEW

Conceptual Background and Landscape of Health Misinformation

Defining Health Misinformation

Before examining strategic responses, it is important to establish what health misinformation is and what it is not. Misinformation is generally defined as false or inaccurate information, regardless of the intent of its originator (Vraga & Bode, 2020). This distinguishes it from disinformation, which refers to false information that is deliberately created and spread with the intent to deceive. Both concepts are subsumed under the broader notion of an information disorder, a term that captures the full spectrum of problematic information environments (Wardle & Derakhshan, 2017). Health misinformation, then, refers specifically to false or inaccurate claims about health, illness, medical interventions, or health-related behaviors.

It is equally important to recognize that misinformation is not always obvious or easy to identify. Some health claims exist on a spectrum, ranging from outright falsehoods to claims that are technically accurate but misleading in context. For example, a statement that "some vaccines have caused adverse reactions" is factually accurate but can be weaponized to imply that vaccines are

categorically unsafe, which the evidence does not support (Kate 2012). This complexity has significant implications for communication strategy, because corrections that are overly simplistic or dismissive may fail to engage audiences who hold nuanced but misinformed beliefs.

The Scope and Spread of Health Misinformation in the United States

Several intersecting trends have amplified the reach of health misinformation in the United States over the past decade. First, declining trust in institutions, including government agencies, scientific bodies, and mainstream media, has created fertile ground for alternative health narratives (Jamison *et al.*, 2018). Survey data consistently show that a substantial portion of the American public expresses skepticism about the objectivity or competence of public health authorities, particularly among politically conservative and socioeconomically marginalized populations (Imhoff & Lamberty, 2020).

Second, the architecture of social media platforms, which are designed to maximize engagement through algorithmic amplification of emotionally resonant content, has created structural incentives for the spread of sensational and alarming health claims. Research by Vosoughi *et al.* (2018), based on an analysis of over 126,000 stories spread on Twitter between 2006 and 2017, found that false news stories spread significantly faster, farther and more broadly than true stories and that this effect was driven primarily by human behavior rather than automated bots. These findings suggest that correcting misinformation after it has gone viral is an inherently reactive and often futile strategy.

Third, health misinformation tends to cluster in communities defined by shared identity, ideology, or experience. Research on vaccine hesitancy, for example, has consistently found that hesitancy is not randomly distributed across the population but is concentrated in communities that share particular cultural or political values, distrust of pharmaceutical companies, or prior negative experiences with the health care system (Dubé *et al.*, 2013). This finding has critical implications for the design of counter-misinformation interventions, which must be tailored to the specific belief systems and information environments of target communities rather than designed for a generic audience.

Strategic Communication Frameworks for Countering Health Misinformation

Inoculation Theory

Inoculation theory, originally proposed by (McGuire, 1961) and subsequently developed and refined by (Compton, 2012), (Lewandowsky *et al.*, 2012), and others, offers one of the most empirically well-supported frameworks for building psychological resilience against misinformation. Drawing an analogy with biological vaccination, the theory holds that individuals can be protected against persuasive misinformation by exposing them in advance to weakened or refuted forms of the

misleading arguments they are likely to encounter. This pre-emptive approach, known as prebunking, operates through two mechanisms: a threat component, which alerts the individual that they may be the target of persuasion attempts and a refutational component, which provides specific counter-arguments that equip them to recognize and reject the misinformation.

A growing body of experimental and field research has confirmed the effectiveness of inoculation interventions across a range of health contexts. (Linden *et al.*, 2017) demonstrated that inoculation messages could protect participants against misinformation about the scientific consensus on human-caused climate change, a finding with direct relevance to health misinformation given the similar dynamics of denial and manufactured doubt involved in both domains. In health-specific contexts, (Roizenbeek *et al.*, 2020) developed and tested the Bad News game, an online intervention that inoculates users against six key misinformation techniques: emotional manipulation, impersonation, conspiracy theories, discrediting opponents, trolling and polarization. Players who completed the game showed significantly improved ability to identify misinformation compared to control groups.

The practical applications of inoculation theory for public health communication are substantial. Health communicators can embed inoculation elements in public-facing messaging by explicitly warning audiences that they may encounter misleading claims and by pre-emptively providing accurate information alongside brief refutations of anticipated false claims. For example, a campaign promoting childhood vaccination might acknowledge that parents will encounter claims linking vaccines to autism, briefly explain why those claims are scientifically unsupported, and point toward credible sources for further information. This approach respects audience intelligence while building the cognitive tools needed to resist subsequent misinformation exposure (Compton, 2013).

The Elaboration Likelihood Model

The Elaboration Likelihood Model (ELM), developed by (Petty & Cacioppo, 1986) and subsequently applied extensively in health communication research, distinguishes between two routes through which persuasive messages are processed: the central route and the peripheral route. In the central route, individuals engage in careful, thoughtful consideration of the arguments presented in a message, weighing evidence and applying prior knowledge to evaluate the message's claims. In the peripheral route, attitude change occurs not through careful deliberation but through reliance on heuristic cues such as the perceived credibility of the message source, the emotional tone of the message, or the apparent consensus of peer opinion.

The ELM has important implications for health counter-misinformation efforts. Research consistently shows that when individuals are motivated and able to process

information carefully, central route processing leads to more durable attitude change and greater resistance to subsequent counter-persuasion (Demszky *et al.*, 2023). However, many health-related messages are consumed in low-involvement contexts, such as scrolling through social media feeds, where peripheral route processing predominates (Jenkins *et al.*, 2020). In such contexts, the credibility of the messenger, the visual presentation of information, and the social proof provided by likes or shares can be more influential than the quality of the arguments presented (Jenkins *et al.*, 2020).

Health communicators can leverage the ELM in several ways. For audiences likely to engage in central route processing, such as those actively seeking health information, detailed, evidence-based messages with clear citations and transparent reasoning are most effective. For broader public audiences in low-involvement contexts, peripheral cues such as endorsements from trusted community figures, visually appealing infographics and simple, memorable key messages may be more persuasive. An important implication is that the credibility and trustworthiness of the messenger can be as important as the content of the message itself, suggesting that public health agencies should invest in building and maintaining institutional credibility as a counter-misinformation strategy (Vraga & Bode, 2020).

The Extended Parallel Process Model

The Extended Parallel Process Model (EPPM) provides a theoretical account of how individuals respond to threatening health messages and offers critical guidance for the design of counter-misinformation communications that aim to motivate protective action (Chu & Liu, 2021). The EPPM distinguishes between two types of responses to threatening information: danger control, in which individuals engage in adaptive, protective behaviors such as seeking vaccination or wearing a mask and fear control, in which individuals manage their emotional distress through maladaptive responses such as denial, avoidance, or reactance (Adiwena *et al.*, 2020).

According to the EPPM, the response that a threatening health message elicits depends on the interaction between two perceived appraisals: perceived threat, which encompasses perceived susceptibility to the health risk and perceived severity of its consequences, and perceived efficacy, which encompasses perceived self-efficacy, the belief that one can perform the recommended protective behavior and perceived response efficacy, the belief that the recommended behavior will actually protect against the threat. When perceived efficacy is high, individuals are likely to engage in danger control responses. When perceived efficacy is low, fear control responses dominate, rendering counter-misinformation messages ineffective or even counterproductive (Emery *et al.*, 2014).

This model has been applied extensively in health communication research, including studies of HIV prevention messaging, cancer screening campaigns and, more recently, COVID-19 vaccine promotion. A critical

insight from the EPPM for counter-misinformation practice is that fear-inducing messages that emphasize the severity of health threats without simultaneously building efficacy can backfire by triggering reactance and avoidance. Public health campaigns that focus exclusively on the dangers of vaccine-preventable diseases without addressing specific concerns about vaccine safety may thus inadvertently strengthen resistance in hesitant populations. An effective counter-misinformation strategy, from an EPPM perspective, must simultaneously address threat perceptions and build genuine confidence in the efficacy of recommended protective behaviors.

The Narrative Persuasion Framework

A substantial body of evidence in communication science supports the proposition that narrative, or story-based, messages can be particularly effective vehicles for conveying health information and challenging health misinformation. (Green & Brock, 2017) Introduced the concept of narrative transportation to describe the process by which audiences become cognitively and emotionally absorbed in a story, temporarily suspending critical evaluation in a way that can facilitate attitude and belief change. Subsequent research has extended this framework to health communication, demonstrating that narrative messages can reduce counterarguing, increase identification with characters, and promote emotional engagement in ways that factual, expository messages often cannot.

The narrative persuasion framework offers a particularly promising approach for reaching audiences who are resistant to traditional expert-driven health messages. Research on vaccine-hesitant parents, for example, has found that personal narratives from other parents who changed their minds about vaccination can be more persuasive than statistical presentations of vaccine safety data, particularly when the narrative resonates with the audience's own concerns and values (Betsch *et al.*, 2015). Similarly, testimonials from individuals who experienced serious illness because they or their family members did not receive available preventive care can be powerful motivators of protective behavior, provided they avoid triggering excessive fear or perceived irrelevance(O'Brien *et al.*, 2024; Raja *et al.*, 2015).

The design of effective health narratives must attend carefully to questions of character identification, cultural resonance, and narrative structure(Chen *et al.*, 2016; Chen & Bell, 2021). Characters who face and overcome recognizable challenges are more likely to generate identification and transportation than characters who are perceived as unlike the audience in important ways(Chen *et al.*, 2016; Chen & Bell, 2021). This has significant implications for the production of health communication content in diverse societies like the United States, where the racial, ethnic, linguistic and cultural heterogeneity of target audiences requires the development of culturally tailored narrative materials that reflect the lived experiences of specific communities.

Motivational Interviewing as a Communication Framework

Motivational Interviewing (MI) is a client-centered, directive communication style originally developed for use in addiction counseling but subsequently adapted for a broad range of health behavior change contexts. MI is premised on the recognition that ambivalence about behavior change is normal and that directive, confrontational approaches that challenge individuals' beliefs or behaviors often produce resistance rather than change. The MI approach involves expressing empathy, developing discrepancy between the client's current behavior and their broader values, rolling with resistance rather than confronting it, and supporting self-efficacy.

In the context of health misinformation, MI principles offer a valuable framework for interpersonal communication encounters between health care providers and patients who hold misinformed health beliefs. Rather than directly challenging and refuting a patient's misinformed belief, which research suggests can trigger reactance and entrench the belief further (Boukes & Hameleers, 2022; Cook *et al.*, 2017). The MI approach encourages the health communicator to first establish rapport, acknowledge the patient's concerns, explore their underlying values and gently guide them toward the discrepancy between their current beliefs and their desired health outcomes (Miller & Rollnick, 2012).

Training health care providers in MI techniques has shown promise as a strategy for addressing vaccine hesitancy and other forms of health misinformation in clinical settings. (Gagneur *et al.*, 2018) conducted a randomized controlled trial testing an MI-based intervention delivered by nurses during prenatal and postnatal visits. Mothers who received the MI intervention showed significantly higher rates of childhood vaccination at twelve months compared to mothers who received standard care, with the intervention achieving an absolute increase of approximately 10 percentage points in vaccination coverage. These findings demonstrate that MI-trained health communicators can serve as effective frontline agents of counter-misinformation efforts within the health care system.

Implementation Contexts for Counter-Misinformation Communication

Digital Platforms and Social Media

Digital platforms present both the primary arena for the spread of health misinformation and a critical venue for counter-misinformation efforts. Social media platforms, including Facebook, Twitter, YouTube and Instagram, have each implemented content moderation policies intended to reduce the visibility of health misinformation, including the labeling of disputed claims, the removal of posts that violate health-related misinformation policies, and the promotion of authoritative health information through partnerships with public health agencies (Cinelli *et al.*, 2020).

Research on the effectiveness of platform-level

interventions has yielded mixed findings. Studies of the effects of adding accuracy labels to misinformation posts on Twitter found that labels reduced the sharing of labeled content but also had a spillover effect of increasing the perceived accuracy of unlabeled misinformation, a phenomenon termed the implied truth effect (Pennycook *et al.*, 2020). This finding suggests that partial or inconsistent labeling strategies may be insufficient and potentially counterproductive. More comprehensive approaches, such as the promotion of authoritative sources before users encounter misinformation, may be more effective.

Community-based social media influencers who have established trust within specific demographic communities represent a valuable and underutilized resource for health counter-misinformation campaigns. Research has demonstrated that health messages delivered by trusted community members, including social media influencers with established followings in specific communities, can reach audiences who are skeptical of messages from government agencies or academic medical centers (Madathil *et al.*, 2014). Public health agencies should explore partnerships with community-trusted social media voices as part of broader counter-misinformation communication strategies.

Community Health Workers and Interpersonal Communication

Interpersonal communication delivered through trusted community intermediaries represents one of the most promising approaches to countering deeply held health misinformation beliefs. Community health workers (CHWs), lay health advisors and patient navigators occupy positions of cultural trust within their communities that formal health care institutions often cannot replicate. CHWs who share the linguistic, cultural and social background of the communities they serve are well-positioned to engage in the kind of empathic, non-judgmental and culturally grounded conversations that are most likely to facilitate belief change among individuals with deeply held misinformation.

Training programs that equip CHWs with evidence-based communication tools, including MI techniques, inoculation messaging and culturally tailored narrative content, can significantly enhance the reach and effectiveness of counter-misinformation efforts in underserved communities. A systematic review of CHW-delivered health interventions found promising benefits in disease prevention and healthcare utilization, with mixed results for chronic disease management (Kraschnewski, 2019). The integration of counter-misinformation communication into CHW training curricula represents a practical and cost-effective strategy for extending the reach of strategic communication frameworks beyond institutional settings.

Government and Institutional Actors

Government public health agencies, including the

Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH) and state and local health departments, play a critical role in the counter-misinformation information ecosystem as producers and disseminators of authoritative health information. However, the effectiveness of institutional communication is heavily mediated by public trust in those institutions, which has declined significantly in recent decades, particularly among politically conservative and minority communities with historical experiences of medical discrimination (Jamison *et al.*, 2018).

Research on effective government health communication identifies several principles that can enhance the credibility and persuasiveness of institutional messaging. Transparent communication about scientific uncertainty, acknowledgment of limitations in current evidence, and consistent messaging across agencies and over time are all associated with higher public trust and message acceptance (Hyland *et al.*, 2021; Lowe *et al.*, 2022; Southwell *et al.*, 2019). Conversely, inconsistent or overly cautious messaging that hedges key public health recommendations, as occurred at various points during the COVID-19 pandemic with respect to mask recommendations, can undermine institutional credibility and create openings for misinformation to fill the informational vacuum.

Integrative Case Analyses

Case One: COVID-19 Vaccine Misinformation and Counter-Messaging (2020–2022)

The COVID-19 pandemic generated a massive wave of health misinformation that challenged public health communicators across multiple dimensions simultaneously (Atehortua & Patino, 2020; Noguero *et al.*, 2023). Misinformation about the origin of the virus, the efficacy of non-pharmaceutical interventions and the safety and efficacy of COVID-19 vaccines circulated widely on social media, in online communities and through informal interpersonal networks (Agley & Xiao, 2021; Islam *et al.*, 2020). A systematic review by (Roozenbeek *et al.*, 2020) identified six main categories of COVID-19 misinformation: misinformation about disease transmission, about the severity of the illness, about prevention and treatment, about the origin of the virus, about the societal and political dimensions of the pandemic response, and about COVID-19 vaccines specifically.

Counter-misinformation efforts during the pandemic illustrated both the promise and the limitations of existing strategic communication frameworks (Lewandowsky & Linden, 2021; Linden & Linden, 2022). Inoculation-based interventions, such as the COVID-19 inoculation messages developed and tested by Roozenbeek *et al.* (2022), demonstrated measurable effects on participants' ability to identify manipulative COVID-19 narratives in online environments (Roozenbeek *et al.*, 2022). However, the scale of these interventions was small relative to the volume of misinformation circulating on major platforms,

and the reach of research-tested interventions to the communities most vulnerable to vaccine misinformation remained limited.

The pandemic also highlighted the critical importance of addressing misinformation through trusted community channels rather than relying exclusively on institutional communication (Choi *et al.*, 2023; Purnat *et al.*, 2023). Research conducted during the rollout of COVID-19 vaccines found that messages delivered by community-trusted sources, including clergy, community health workers and peer health educators, were significantly more effective at reaching vaccine-hesitant individuals in Black, Hispanic, and rural communities than messages from federal health agencies (Daly *et al.*, 2021). These findings underscore the need for public health agencies to build robust community communication networks during periods of non-crisis so that those networks are available and trusted when rapid mobilization is required during a public health emergency.

Case Two: Anti-Vaccine Misinformation and the Measles Outbreaks (2014–2019)

The measles outbreaks that occurred in the United States between 2014 and 2019, including a significant outbreak in Clark County, Washington, in 2018–2019 and a major outbreak in New York’s Orthodox Jewish communities in the same period, provide an important case study in the dynamics of health misinformation and its real-world consequences. Both outbreaks occurred primarily in communities with low vaccination rates, and both were linked to active anti-vaccine advocacy that had

spread through social media, community networks and alternative health practitioners (Phadke *et al.*, 2016).

The response to the anti-vaccine misinformation that drove these outbreaks illustrates the strengths and limitations of multiple strategic communication approaches. Direct refutation strategies employed by public health agencies, which focused on providing accurate information about vaccine safety and efficacy, showed limited effectiveness among highly vaccine-hesitant populations whose beliefs were embedded in broader conspiracy frameworks about pharmaceutical industry misconduct and government overreach. By contrast, community-based narrative approaches that centered the experiences of families affected by measles outbreaks, delivered through channels trusted within affected communities, showed greater promise (Kata, 2012; Phadke *et al.*, 2016).

The outbreaks also demonstrated the need for proactive, pre-exposure inoculation strategies rather than reactive correction efforts. Once misinformation about vaccine dangers had become deeply embedded in community belief systems, attempts to correct it were swimming against a powerful tide of motivated reasoning and identity-protective cognition. The inoculation theory framework suggests that pre-emptive exposure to refuted anti-vaccine arguments, delivered well before communities encounter active anti-vaccine campaigns, may offer a more effective path to building population-level resilience against vaccine misinformation (Compton, 2012; Linden *et al.*, 2017).

Table 1: Summary of Strategic Communication Frameworks for Countering Health Misinformation

Framework	Core Mechanism	Best Suited For	Key Citations			
Inoculation Theory	Pre-exposure to refuted misinformation arguments	Populations are not yet exposed to specific misinformation	(Compton, 2012; Linden <i>et al.</i> , 2017) Likelihood Model	Central and peripheral route persuasion	High- and low-involvement information contexts	(Petty & Cacioppo, 1986; Vraga & Bode, 2020)
Extended Parallel Process Model	Balancing threat and efficacy appraisals	Fear-inducing health threats with clear protective actions	(Chu & Liu, 2021).			
Narrative Persuasion	Transportation into the story; reduced counterarguing	Resistant audiences; culturally diverse communities	(Betsch <i>et al.</i> , 2015; Hinyard & Kreuter, 2006)			
Motivational Interviewing	Empathic dialogue: resolving ambivalence	Interpersonal clinical and community encounters	(Gagneur <i>et al.</i> , 2018; Miller & Rollnick, 2012) 6.1 Toward an Integrated Counter-Misinformation Communication Approach			

The five frameworks reviewed in this article are not mutually exclusive; rather, they are complementary lenses through which different dimensions of the health misinformation challenge can be understood and addressed. An integrated approach to counter-misinformation communication would draw on inoculation principles to build population-level resilience before misinformation exposure occurs, deploy ELM-informed messages through digital channels to reach broad audiences in low-involvement contexts, apply EPPM insights to ensure that threatening health messages do not trigger fear control responses, leverage narrative strategies to engage resistant audiences through story-based content, and support MI-trained health communicators in interpersonal settings where individually tailored dialogue is possible.

The evidence base for such an integrated approach remains limited, as most research has evaluated individual frameworks in isolation rather than testing combinations of approaches in real-world settings. Future research should prioritize multi-component intervention studies that assess the additive and interactive effects of combining different theoretical approaches in coordinated counter-misinformation campaigns. Such research should also attend to implementation fidelity, examining whether complex, multi-component interventions can be effectively delivered at scale by the diverse array of actors involved in real-world public health communication (Southwell *et al.*, 2019).

Health Equity Implications

Any serious consideration of counter-misinformation strategy in the United States must attend to the deeply inequitable distribution of both health misinformation vulnerability and its consequences. Communities of color, low-income communities and communities with limited health literacy face disproportionate exposure to health misinformation, often because they lack access to the trusted institutional relationships, high-quality health care, and robust media literacy resources that buffer other populations against misinformation (Chou *et al.*, 2020). At the same time, these communities bear a disproportionate burden of the health consequences of misinformation-driven preventable illness.

Addressing this inequity requires that counter-misinformation

communication strategies be explicitly designed with health equity principles in mind. This means ensuring that counter-misinformation messages are accessible in multiple languages and at appropriate reading levels, that they are delivered through channels and by messengers trusted within specific communities and that they address not just the content of health misinformation but also the underlying conditions of institutional mistrust and historical marginalization that create vulnerability to misinformation in the first place. A health equity lens also demands that community members be meaningfully involved as partners in the co-design of counter-misinformation interventions rather than treated merely as passive recipients of expertly designed messages.

Institutional Trust and Long-Term Counter-Misinformation Strategy

The long-term effectiveness of any counter-misinformation communication strategy depends fundamentally on the degree of public trust in the institutions and individuals delivering the messages (Henderson *et al.*, 2020). Trust is built over time through consistent, transparent, honest communication, through demonstrated responsiveness to community concerns and through track records of equitable, high-quality health service delivery. When institutional trust is absent or has been damaged by past failures, counter-misinformation campaigns are fighting uphill battles regardless of the sophistication of their communication strategies.

This suggests that the most important long-term investment in counter-misinformation capability is not in the development of ever more sophisticated communication techniques but in the rebuilding of institutional trust through sustained, genuine engagement with the communities most affected by health misinformation. Public health agencies must demonstrate through their actions, not merely their words, that they are trustworthy stewards of public health, that they are transparent about uncertainty, that they prioritize community well-being over institutional self-protection and that they are accountable when they make mistakes (Jamison *et al.*, 2018). Communication frameworks, however sophisticated, are ultimately tools that are only as effective as the institutional credibility they can borrow.

Table 2: Practical Recommendations for Counter-Misinformation Communication by Actor Type

Actor	Priority Framework(s)	Recommended Actions
Federal health agencies (CDC, NIH)	Inoculation; ELM	Deploy prebunking campaigns across platforms; partner with trusted digital voices; ensure message consistency across agencies
Community health workers	Motivational Interviewing; Narrative Persuasion	Train in MI techniques; use culturally tailored stories from community members; build long-term relationships before crises occur
Health care providers	Motivational Interviewing; EPPM	Screen patients for misinformation beliefs; use MI dialogue techniques; address efficacy concerns alongside threat information
Social media platforms	Inoculation; ELM	Implement consistent, comprehensive content labeling; promote authoritative sources pre-emptively; support prebunking tool integration
Schools and media literacy programs	Inoculation	Integrate prebunking curricula into health and digital literacy education; teach manipulation technique recognition

RESULTS AND DISCUSSION

The review found that all five frameworks- inoculation theory, the Elaboration Likelihood Model, the Extended Parallel Process Model, narrative persuasion and motivational interviewing showed consistent evidence of effectiveness, but each worked best under specific conditions. Inoculation theory was the most broadly supported. Studies showed that exposing people to weakened, refuted versions of misinformation before they encountered the real thing significantly reduced their susceptibility to false health claims. The Bad News game developed by Roozenbeek *et al.* (2020) is one example; participants who played it were significantly better at identifying manipulative content than those who did not. The main limitation was that these interventions rarely reached the communities most vulnerable to misinformation.

The Elaboration Likelihood Model showed that in low-attention digital environments, the credibility of the messenger mattered more than the quality of the argument. People scrolling through social media were more influenced by who said something than by what was said. The Extended Parallel Process Model showed that health campaigns focused only on the dangers of a disease, without building people's confidence in their ability to act, often triggered denial or avoidance rather than protective behavior. Narrative persuasion studies found that personal stories from relatable community members reduced resistance and changed attitudes more effectively than statistics, especially among vaccine-hesitant populations. Motivational interviewing showed the strongest clinical results; a trial by Gagneur *et al.* (2018) found that nurses trained in MI achieved a ten-percentage-point increase in vaccination rates compared to standard care. Across all five frameworks, one pattern stood out clearly: the trustworthiness of the communicator and the cultural fit of the message consistently determined whether the communication worked.

Discussion

The findings of this review make clear that no single framework is enough on its own. Each one addresses a different dimension of the misinformation problem and an effective public health response will need to combine them in ways that match the audience, the channel, and the specific false claim being addressed. The most important practical implication is that public health agencies need to invest more in proactive, prebunking strategies rather than defaulting to reactive fact-checking after misinformation has already spread. The evidence shows that once a false belief becomes embedded in a community's shared identity or worldview, correcting it is extremely difficult. Prevention is more effective than correction.

A second key finding is that institutional trust is not a background condition but an active ingredient in communication effectiveness. In communities where government agencies or medical institutions are

distrusted, even well-designed messages will fail if they come from the wrong source. This means that rebuilding trust through transparent, accountable, and equitable health practice is itself a counter-misinformation strategy, not separate from communication but foundational to it. Finally, the review highlights a serious health equity concern. Communities that face the greatest exposure to health misinformation, including communities of color, low-income communities, and communities with limited health literacy, also have the least access to the trusted relationships and quality health care that protect against it. Counter-misinformation strategies must be designed with these communities as the starting point, not as an afterthought, and community members must be partners in designing the interventions meant to serve them.

CONCLUSION

Health misinformation is a complex problem. No single framework or agency can solve it alone. This article reviewed five major theoretical frameworks. It examined how they work in digital and interpersonal settings. Two case studies showed their real-world impact. Several clear conclusions emerged. First, prevention beats correction. Prebunking builds resilience before people encounter false claims. It works better than reactive fact-checking. Agencies should invest heavily in inoculation-based campaigns and media literacy, not just corrections after the fact. Second, the messenger matters as much as the message. People trust sources they see as credible and culturally familiar. Institutions should build real partnerships with trusted community voices. Community health workers should lead these efforts on the ground. Third, cultural tailoring is essential, not optional. Materials must fit the language, culture, and lived experience of each community. Community members should help design and carry out these programs. Fourth, institutional trust is the real foundation. It comes from transparent, consistent, and accountable action over time. Communication tools can persuade, but they cannot replace genuine trustworthiness. Finally, the field needs more research. This includes multi-component studies, real-world testing, and focused attention on vulnerable populations. Health communication has strong theoretical tools. The task now is turning them into equitable, scalable practice.

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