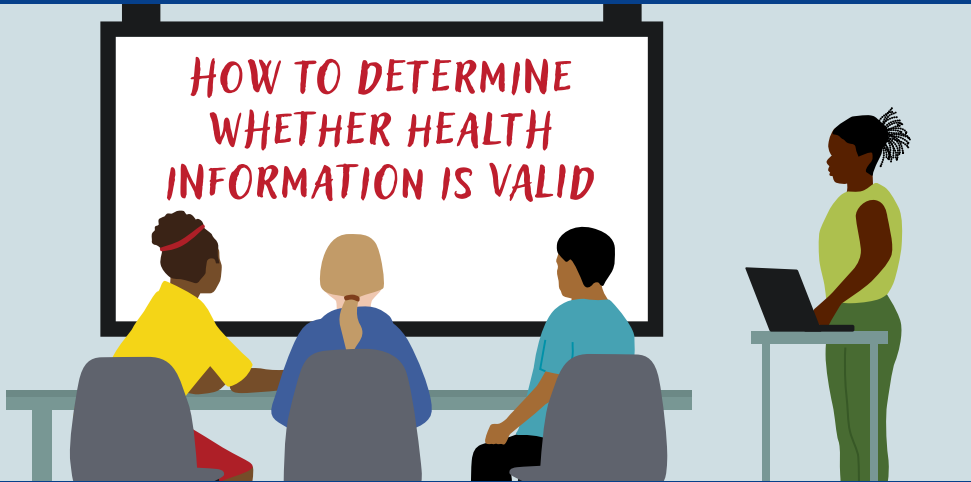
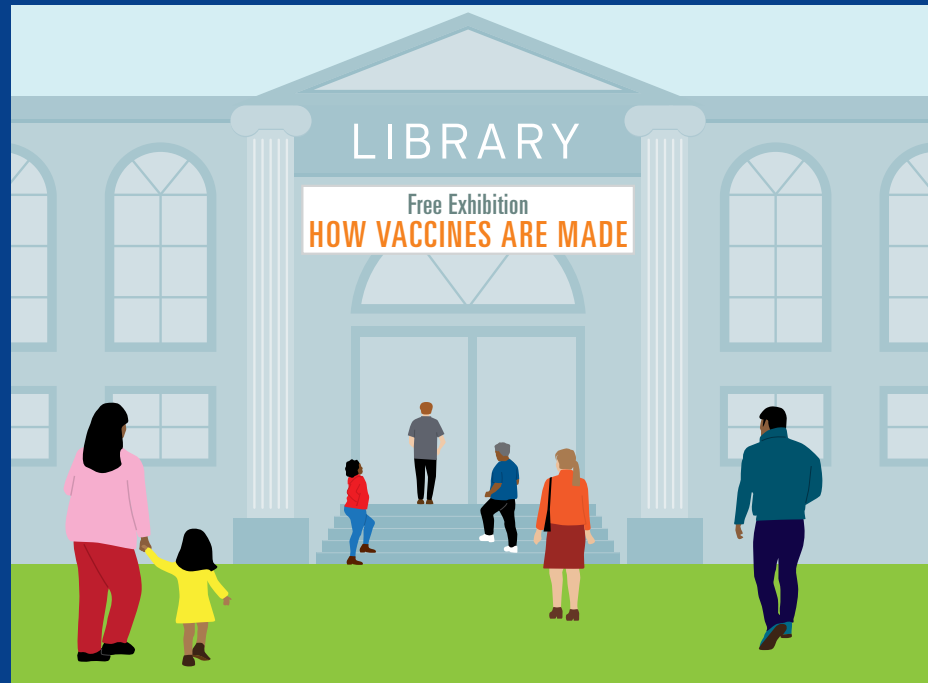


Confronting Misinformation

Opportunities for Law and Policy Innovation



MISINFORMATION • DISINFORMATION



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Introduction

- **Mis- and disinformation have the ability to undermine both the public's health and its trust in public health systems.**
- **There are a variety of law and policy approaches, as well as opportunities for partnerships among spheres of influence, to confront public health mis- and disinformation.**
- **This collection and analysis of evidence-based strategies may help public health officials and staff examine the public health effects of policies related to mis- and disinformation.**

The orchestrated dissemination of mis- and disinformation has been “documented throughout recorded history,” from as early as ancient Rome.¹ More recently, people’s spread of mis- and disinformation has been studied in relation to a variety of medical topics (such as false links between the measles, mumps, rubella (MMR) vaccine and autism² and ineffective alternative medicine for cancer³), as well as other topics affecting health (such as politics and elections^{4,5} and climate change⁶). Although mis- and disinformation received considerable media and research attention during the COVID-19 pandemic, their spread has been a public health concern during many major health events, including the 2009 H1N1 outbreak⁷ and Ebola outbreaks.⁸ With this in mind, the types of misinformation that are of interest to public health are broad, and can include any type of misinformation that affects health. Some relevant examples include medical misinformation (e.g., “false treatments or medical interventions”) and political misinformation that mischaracterizes or casts doubt on evidence-based protective measures.⁹

This publication offers an in-depth look at mis- and disinformation for officials and staff in state, tribal, local, and territorial health departments. It also discusses evidence-based strategies for counteracting their spread and effects through law, policy, community engagement, and other measures. Finally, it may serve as a resource for other parties interested in addressing mis- and disinformation as partners with public health, including community members, journalists, school staff and education officials, and policymakers and decisionmakers. The first section defines terms, examines common sources of mis- and disinformation and discusses how inaccurate information spreads. The next two sections provide a menu of policy options for public health officials and staff to consider for counteracting mis- and disinformation. The remaining sections present evidence on how misinformation spreads among individuals and within communities, as well as policy considerations for public health officials who may reduce mis- and disinformation by partnering with health care practitioners, schools and educational institutions, journalists, social media, and state and local government.

Definitions

Because there is no singular definition of mis- or disinformation, there may be discrepancies in the research, how outcomes are measured, and recommended responses. However, many sources agree on the following definitions:

MISINFORMATION

is false information **shared by people who do not intend to mislead others.**¹⁰

For example, the COVID-19 vaccine **cannot** make a person sick with COVID-19.¹¹ However, some people mistakenly believe that the COVID-19 vaccine can make people sick.¹² When they spread this information through their family and friends, social media, or other mechanisms, it is out of a misguided desire to protect others, rather than to mislead others.

DISINFORMATION

is false information **deliberately created and disseminated with malicious intent.**¹³

For example, the MMR vaccine **does not** cause autism. However, researchers and investigators have determined that the authors of the original publication that suggested such a link committed fraud by deliberately spreading false information with the intent of personal financial gain.¹⁴

Whether false information is categorized as mis- or disinformation may change over time based on who is spreading it and why. For example, there is no link between COVID-19 and 5G cellular technology.¹⁵ When a physician spreads conspiracy theories about COVID-19 and 5G for the purpose of profiting in their medical practice, it would be considered disinformation because of the physician's intent to cause confusion or fear for personal gain.¹⁶ However, when someone who is not a medical professional mistakenly believes this conspiracy and begins to spread it, it would be considered misinformation, because they do not intend to mislead others.

Some sources add a third category of "malinformation," or factual information that people share either for personal gain or with the intention of causing harm.¹⁷ For example, revealing a person's sexual orientation against their will, and with the intent to cause harm to their reputation, would be malinformation.¹⁸

Other labels may be applied to information, with varying levels of usefulness and specificity,

such as conspiracies or conspiracy theories, "fake news," and propaganda.^{19,20} Major global organizations also recognized the term "infodemic" during the COVID-19 pandemic, meaning "an overabundance of information, both online and offline."²¹ This can include both accurate information and "deliberate attempts to disseminate wrong information to undermine the public health response," all amplified by "the technology we rely on to keep connected and informed."²²

This report does not fully spell out mis- and disinformation each time. Unless specified otherwise, any singular mention of either misinformation or disinformation should be interpreted to encompass the other. This is because policy considerations for confronting mis- and disinformation often overlap. However, in determining how to best confront misinformation, it is still useful to distinguish among misinformation, disinformation, and malinformation, and to explore the intent of a person spreading misinformation.

Who Creates and Spreads Misinformation?

Anyone can create or spread misinformation, but reasons and motivations may differ greatly. Some people may simply be mistaken when they share incorrect information. Others may fail to fact-check and conduct a reasonable analysis before sharing. Still others may firmly believe and share misinformation. Those intentionally spreading disinformation, on the other hand, may do so for their own benefit, such as fame, wealth, or gaining advantage by harming another group. Misinformation may especially pose a danger to others when it is spread by people with greater power and influence, apparent expertise, or large audiences, such as politicians and government officials, celebrities, or health care providers. As discussed below, much misinformation and disinformation originally comes from a relatively small number of well-connected individuals.



Throughout this resource, information marked with an asterisk is provided for additional context that may not be within the direct purview of public health action.

How Do People Spread Misinformation?

People can spread misinformation through nearly any type of interaction. Misinformation is often spread widely through media – both traditional media like print, radio, and television, and also social media. Social media and the internet make it particularly easy for any individual to spread and repeat misinformation. People may also spread misinformation among their social circles through less public means, like private messaging. Again, misinformation may be spread more quickly and widely by people with greater power and influence, apparent expertise, or those with large audiences, including politicians and government officials, celebrities, or health care providers. For this reason, such people may pose more of a danger to others when spreading misinformation. Lastly, certain systems and policies facilitate people spreading misinformation, including within traditional media, social media, education, and government broadly.



Considerations for Health Officials and Health Department Staff in Confronting Misinformation

There are many potential harms in people spreading misinformation. Belief in misinformation can cause direct health harms by contributing to a failure to follow public health guidance, both for individuals and communities.^{23,24} More broadly, when people spread misinformation, it leads to the rise of (or reinforcement of) anti-scientific sentiments, and it can undermine trust in journalism and government institutions.²⁵ Lack of trust in science, public health, or government may in turn make individuals even more susceptible to misinformation.²⁶ With this in mind, public health authorities have a key role to play as health promoters and health educators. Confronting misinformation falls within several aspects of the 10 Essential Public Health Services, including assessing health hazards and root causes, engaging in effective communication and education, strengthening communities, and ensuring equitable access to the health care and public health systems.²⁷

This report seeks to examine the effect of mis- and disinformation related policies on public health, and to consolidate evidence-based strategies for public health officials and staff to consider. Several spheres of influence are at play in the spread of misinformation, including individuals and communities, health care practitioners, school systems and education, journalism, social media, and government. **Table 1** on the next page is arranged by these spheres of influence. It summarizes the following for public health authorities:

1. Preventive, systemic efforts that help with preparedness to confront misinformation
2. Responsive efforts to make when misinformation is actively spreading
3. Legal, equity, and other considerations to help ensure that resources and efforts are targeted where they are most needed




It also provides context for efforts to confront misinformation outside of public health, to help public health effectively coordinate with partners.




THE ROLE OF LAW

The terms *law* and *policy* are often used interchangeably. Throughout this document, the term *policy* refers to a written statement of a public agency's or organization's position, decision, or course of action. The term *law* refers specifically to the codification and institutionalization of a policy by a government in the form of an ordinance, statute, or regulation. Thus, all laws are policies, but not all policies are laws.

Constitutional protections for free speech make it difficult to use laws to regulate people spreading misinformation, although under limited circumstances laws may be applied to those who create or spread disinformation. Instead, most considerations related to confronting the spread of mis- and disinformation fall within the realm of non-law policies. Public health entities may consider both appropriate policies permitted under existing law, and policies which may be codified into law.

Table 1. Policy Considerations for Public Health Efforts to Confront Misinformation

Spheres	Preventive Efforts	Responsive Efforts	Additional Considerations
 <p>Individuals and communities</p>	<p>Building trust with communities</p> <ul style="list-style-type: none"> ▪ Community engagement ▪ Accountability ▪ Transparency <p>Prioritizing health education to create resilience to misinformation</p> <ul style="list-style-type: none"> ▪ General education and health promotion ▪ Issue-specific campaigns ▪ Pre-bunking or inoculation against misinformation 	<p>Making factual information available and debunking misinformation</p> <ul style="list-style-type: none"> ▪ Providing and promoting factual information through the following channels: <ul style="list-style-type: none"> ▫ Existing public health websites ▫ Social media ▫ Journalists ▫ Local partners such as leaders, celebrities, or community health workers (CHWs) ▪ Debunking misinformation <ul style="list-style-type: none"> ▫ Addressing underlying fallacies/ rhetorical strategies and providing other causal explanations ▫ Prioritizing (e.g., based on rating, popular source, cross-platform sharing) ▫ Using other evidence-based strategies ▫ Supporting independent fact-checkers <p>Holding individuals who create and spread mis- and disinformation accountable*</p> <ul style="list-style-type: none"> ▪ Pursuing legal remedies, e.g., fraud charges ▪ Examining professional licensing board policies that hold those that spread misinformation accountable 	<p>Centering equity through the following methods:</p> <ul style="list-style-type: none"> ▪ Prioritizing communications to communities most at risk or affected by misinformation based on factors such as: <ul style="list-style-type: none"> ▫ Access to health information ▫ Access to health infrastructure ▫ Access to resources ▫ Predisposition to conspiracy thinking ▪ Accounting for sociodemographic differences in the spread and effect of misinformation
 <p>Health care practitioners</p>	<p>Collaborating with providers and educating them on how to work with public health to address misinformation</p>	<p>Prioritizing debunking misinformation that comes from health care providers</p> <p>Examining state licensing board regulations that hold licensed professionals accountable when they create or spread misinformation*</p>	
 <p>School systems and education</p>	<p>Collaborating with educational institutions to ...</p> <ul style="list-style-type: none"> ▪ Incorporate critical thinking into curriculum (K–12) ▪ Incorporate health, media, and digital literacy into curriculum (K–12) ▪ Embed specific education on misinformation (K–12 and higher education) <p>Collaborating with libraries to enhance community engagement and education on misinformation</p>	<p>Collaborating with schools, libraries, and other education partners to make factual information available and to debunk misinformation</p>	<p>Note that state and local law and policy establish education curricula, which may limit the ability of public health to collaborate directly with educators</p>

Spheres	Preventive Efforts	Responsive Efforts	Additional Considerations
 <p>Journalism</p>	<p>Collaborating with journalists to ...</p> <ul style="list-style-type: none"> ■ Maintain ongoing relationships and build trust between public health professionals and journalists ■ Improve the quality of health journalism 	<p>Collaborating with journalists to make factual information available and debunk misinformation</p>	<p>Note that some people, especially in more rural areas or without access to adequate internet, may not have sources of information outside of journalism and traditional media</p>
 <p>Social media</p>	<p>Establishing a social media policy and presence</p>	<p>Making factual information available and debunking misinformation through social media</p>	<p>Note that efforts to confront misinformation are situated within a larger system for regulation of social media platforms</p>
 <p>State and local government*</p>	<p>Maintaining the independence and authority of public health*</p>	<p>Supporting free speech, free press, and civic engagement*</p>	<p>Note that confronting misinformation in this sphere of influence is situated in a much larger public health context, including the public's confidence in – and support for – public health authority, and the effectiveness of community engagement to align government and public health with local communities</p>

*This information is provided for context but may not be within the direct purview of public health action.

Policy Considerations Related to Mis- and Disinformation

Policy considerations for confronting people's spread of mis- and disinformation and their harms apply to a variety of entities and organizations. These may include public health entities; other health organizations and researchers; internet, media, and technology companies; and governments broadly. The remainder of this report focuses on considerations that are relevant for public health officials and staff, while it provides context on other efforts that public health officials and staff may examine when engaging in interdisciplinary and cross-sector collaborations. All subsequent sections can be cross-referenced with [Table 1](#).

EVALUATION

A meta-analysis of “19 research reports that documented the results from 24 individual studies” attempting to “correct health-related misinformation” on social media platforms found that most efforts had at least some positive effects.²⁸ These studies applied controlled experimental designs by “compar[ing] attitudes, intentions, and behaviors of individuals who were exposed to misinformation that subsequently was corrected [with] those who were exposed to the misinformation but not to its correction, or to neutral conditions.”²⁹ While the studies had largely positive implications for efforts to correct misinformation, the meta-analysis made note of the following nuances:

- Misinformation spread by peers was more difficult to correct than misinformation spread by news organizations.
- Corrections from experts were more effective than corrections from non-experts.
- Misinformation about infectious disease was particularly resistant to correction.
- The more individuals care about an issue, the more receptive they may be to correction of misinformation.³⁰

There are other potential options for evaluating the effectiveness of efforts to address misinformation. One option, for instance, would be to review evaluations developed for more general health promotion, and to apply those evaluations to efforts to confront misinformation.³¹ This framework for evaluation might include the following:

- **Formative evaluation:** How were goals and strategies for anti-misinformation campaigns developed – e.g., what stakeholders and decision-makers were brought to the table?
- **Process evaluation:** How – and how well – was information distributed – e.g., how many events were held, how many community members were reached, how many times were social media posts liked or re-shared?
- **Outcome evaluation:** Was the campaign successful in its goals – e.g., were more people convinced to get vaccinated or wear a mask?
- **Impact evaluation:** How did the campaign affect individual participants – e.g., did the campaign change individuals' feelings about or trust in science, or improve their overall health literacy?³²

Addressing Misinformation Among Individuals and Communities

To understand the policy considerations for confronting people who are spreading mis- and disinformation among individuals and communities, it is first helpful to understand why people may believe or disbelieve misinformation.

Selected Evidence Base

People generally have one of three reactions when they are exposed to health misinformation. Such exposure can decrease belief in public health information (e.g., causing vaccine hesitance),³³ have no effect on their beliefs, or reduce belief in the misinformation itself.³⁴ Alongside these varying responses, uptake of misinformation can also occur “despite exposure to (scientifically) accurate” information, “in the absence of accurate” information, or “within historical or contextual legacies” (e.g., fears after 9/11 contributing to the anthrax scare).³⁵

Sociodemographic differences

Different sociodemographic populations may react differently to misinformation. For example, some studies suggest younger adults are more likely to believe and to share COVID-19-related misinformation, although historically, older adults have been more likely to share misinformation.³⁶ Populations have also been affected differently by COVID-19 vaccine misinformation based on categories such as gender, socioeconomic status, employment status, and religious beliefs.³⁷

Susceptibility and resilience to mis- and disinformation

Outside of sociodemographic differences, certain predispositions, patterns of thinking, and beliefs may make individuals more susceptible or less susceptible to mis- and disinformation.

For example, people who are more aware that knowledge can be faulty have been shown to be more likely to investigate and fact-check misinformation.³⁸ By contrast, people who are predisposed to conspiracy thinking are more likely to accept conspiracy theories.³⁹

Research is mixed on how partisanship and political ideology influences belief in misinformation. Some studies have found that the effects of political orientation and religious beliefs are marginal, and that trust in science is the biggest predictor of individual tendency to believe misinformation.⁴⁰ Other studies have found that when sociopolitical beliefs are tied to an individual’s identity, they may contribute to the spread of misinformation through “the existence of echo chambers.”⁴¹ That is, when a person ties their beliefs to who they are, they become more resistant to having those beliefs corrected. This is worsened if the person is exposed only to information that reinforces their beliefs within their social circles. For example, if a person is exposed to, and comes to believe, misinformation that masking is not effective to protect against the spread of COVID-19, they may come to see themselves as

Populations have been affected differently by COVID-19 vaccine misinformation based on categories such as gender, socioeconomic status, employment status, and religious beliefs.

a “person who opposes public masking.” If these beliefs continue to affect their perception of their identity and continue to be reinforced by those around them, they will be less receptive to correction of the misinformation. As another example of the potential effect of political beliefs, sentiments toward local government officials may also influence belief in misinformation.⁴²

Evidence on the influence of religious identity and belief in misinformation is similarly mixed, although religious themes have been prevalent in some forms of misinformation, including that related to COVID-19. Some studies have shown that a strong sense of religious identity, or strength of political partisanship, may increase likelihood to believe misinformation,⁴³ yet some religious denominations and communities have been shown to be more trustful of state and local governments.⁴⁴ While trust in state and local government is generally associated with belief in accurate information, governments themselves may also spread misinformation, as described in the [Confronting Misinformation by and Through State and Local Governments](#) section.^{45,46}

Health, media, and digital literacy

Lastly, lower levels of health, media, and digital literacy contribute to the spread of misinformation. Lower literacy on these topics may also contribute to worse health outcomes, and may make people more vulnerable to the negative health impacts of misinformation belief.⁴⁷ For example, people who have trouble finding, understanding, or applying health information are more likely to underuse preventive health services, to have greater rates of emergency care and hospitalization, and to fail to understand or follow medical and health guidance.⁴⁸ In the context of COVID-19, people with lower health literacy are affected more often, and with worse outcomes.⁴⁹ They also may be less able to distinguish between accurate information and misinformation.⁵⁰ Levels of literacy in the population differ based on sociodemographic characteristics, situational factors (such as current health concerns), and environmental factors (such as access to resources and support).⁵¹



SPECTRUM OF BELIEF

Taking the above factors as a whole, people may fall on a spectrum of belief to disbelief. As a result, these people may have varying receptiveness and levels of risk when it comes to believing accurate information or misinformation.⁵²

Public health officials and staff may wish to consider how these differences affect strategies to confront misinformation, such as tailoring messaging and targeting

communications. For example, individuals at opposite ends of the spectrum – whether fully convinced of public health guidance or fully convinced of misinformation – may be firmly entrenched in their beliefs, and unresponsive to efforts to change their opinions.⁵³ However, people in the center of the spectrum, who have varying degrees of confidence in public health guidance, may be more receptive.⁵⁴

Policy Considerations for Individuals and Communities

Preventive efforts

To confront misinformation among individuals and communities, public health practitioners may consider preventive efforts to build trust with communities, and to prioritize health education to create resilience to misinformation.

Building trust with communities

To confront misinformation effectively, public health authorities may consider systems-level efforts that build foundational trust in science, and trust in public health as a government institution, within communities. Such trust can create receptiveness toward public health actions, guidance, and messaging. For instance, trust in science is a significant predictor of individuals' COVID-19-related beliefs.⁵⁵ There has been a small decline in trust for medical and other scientists since the start of the COVID-19 pandemic, although overall levels of trust remain relatively high.⁵⁶ However, survey respondents' political beliefs correspond to significant differences in trust for medical and other scientists. Ninety percent of Democratic and Democrat-leaning individuals expressed either a fair amount or a great deal of confidence that scientists “act in the best interests of the public,” with very little decline throughout the pandemic.⁵⁷ However, for Republican and Republican-leaning individuals in 2021, confidence in medical scientists declined over 20 percentage points to a low of 66%, while confidence in other scientists declined to 63%.⁵⁸

On the other hand, people express middling trust in public health authorities across levels and jurisdictions,⁵⁹ and trust has declined or remained low for other government officials.⁶⁰ Making “honest, clear, reliable scientific knowledge” available may increase public trust in health institutions and evidence-based research, while accountability and transparency may improve how the public views government public health decisions.⁶¹ Research by the Organisation for Economic Co-operation and Development (OECD) identifies factors that are important for trust in government, including reliability, responsiveness, openness, integrity, fairness, and inclusive policy making.⁶² This research further recognizes that trust in government may differ based on socioeconomic factors for individuals and groups, and discusses potential strategies for enhancing trust along different dimensions.⁶³ For example, trust in government COVID-19 vaccination campaigns was found to be increased by an “open[ness] to public scrutiny,” timely release of information, and transparent communication, while “clear and open communication with citizens” from the scientific community helped maintain trust through prolonged crisis.⁶⁴

Groups experiencing systemic discrimination may disproportionately distrust government and public health, due to both historical injustice and medical mistreatment, as well as present-day harms and inequities.⁶⁵ In particular, a lack of linguistically and culturally relevant health information may leave these populations vulnerable to the spread and effects of misinformation. With an equity mindset, public health entities can confront misinformation in a way that seeks to reduce and eliminate disparities caused by these systemic differences.⁶⁶

BUILDING COMMUNITY TRUST IN PUBLIC HEALTH

The Communities for Immunity initiative⁶⁷ partnered with museums and libraries in 2021 and 2022 to confront people's spread of misinformation and increase confidence in COVID-19 vaccines. Through this initiative, local health officials in Springfield, Massachusetts, partnered with local arts organizations to form the Trust Transfer Project (TTP).⁶⁸ While the original goal was for artists to create “positive public health messages,” the project uncovered a need for more fundamental work in rebuilding the community's trust in public health.⁶⁹

TTP was found to have “increased availability of accurate information about the safety and effectiveness of COVID and Influenza vaccines,” as well as “knowledge of and confidence in” those vaccines “among residents of color,” which supported “increases in the rate at which Springfield residents – especially people of color – receive[d] COVID-19 vaccinations in 2022.”⁷⁰ Additional benefits of TTP included engaging with and compensating local artists, as well as developing partnerships and scaling a system of grassroots communication. The project now provides additional messaging around mental health and food justice.⁷¹

Public health entities may consider incorporating an equity framework into efforts that seek to build community trust, especially within communities that are disproportionately affected by health inequities. Ensuring equitable “access to public services”⁷² and effective, inclusive community engagement^{73,74} can help rebuild and improve relationships with local residents. For example, public health may be able to foster trust by prioritizing communications and resources for populations who are most susceptible to or at risk of harm from misinformation,⁷⁵ based on factors like access to health information, access to health infrastructure, and access to resources.^{76,77} In addition, public health may be able to partner with community-based organizations, religious and interfaith organizations, or other trusted community leaders to facilitate connection and trust.^{78,79,80}

Prioritizing health education to create resilience to misinformation

Public health may use general health education campaigns, as well as campaigns dedicated to specific issues like COVID-19, to help inform the communities and increase resilience to misinformation. These campaigns may be helpful both in stopping people from spreading misinformation and in building their resiliency to misinformation spread by others. Public health may also use this as an opportunity to collaborate with schools, and even libraries, to facilitate education.



PRE-BUNKING OR INOCULATING AGAINST MISINFORMATION

Outside of general education campaigns and other efforts to build trust, public health authorities may consider “pre-bunking” or “inoculating” the public against specific mis- or disinformation. That is, the public can be warned about sources of misinformation or faulty reasoning in advance to encourage more critical thinking.⁸¹ In one study, for example, researchers created a game where players act as a “fake news creator.”⁸² The exposure to intentionally fictional misinformation served as a warning, and made participants significantly better at spotting misinformation and perceiving manipulative content as less reliable.⁸³

Responsive efforts

For responsive efforts to confront misinformation among individuals and communities, public health practitioners may consider actions to make factual information available and to debunk misinformation.

Making factual information available

Public health entities, as well as other government agencies, may seek to make available and promote factual information.⁸⁴ Exposure to accurate information online may increase people's belief in that information.^{85,86} While offline messaging has been studied less, there is some evidence that efforts like SMS messaging and health promoters speaking in public spaces have increased uptake of COVID-19 preventive measures.^{87,88}

Public health authorities may make factual information available and promote it through existing government websites and dedicated public health social media platforms. They may also do so by collaborating with journalists, media, and other local partners, such as community health workers, community leaders, or celebrities.⁸⁹ Additionally, community-based organizations and religious and interfaith organizations may be helpful partners for efforts to build trust, make factual information available, and confront misinformation.

EXAMPLES OF RESPONSIVE EFFORTS FROM HEALTH DEPARTMENTS

- “[N]umerous state health departments ... established dedicated COVID-19 Call Centers to triage incoming questions” and otherwise sought to make accurate information available, including through social media and communications tailored for specific communities.⁹⁰
- The Maryland Department of Health used social media, hosting an expert Q&A on Twitter and tweeting facts.⁹¹
- The California Department of Public Health tried a first-of-its-kind intervention, launching a chatbot in Spanish and English to provide factual information about COVID-19 and vaccines, particularly to the Latinx community.⁹²



Debunking misinformation

When people have spread mis- and disinformation, public health can debunk, fact-check, and label it, or potentially seek to remove it from circulation. Authorities may be able to debunk misinformation both independently and with the numerous partners mentioned throughout this report. In particular, government and public health entities can support a variety of independent fact-checking efforts as part of debunking.⁹³

Failure to address misinformation can imply agreement with it, so it can be important to speak up.⁹⁴ The method of addressing mis- and disinformation is also important; government and public health may need to address mis- or disinformation carefully, to avoid inadvertently causing individuals to remember the misinformation itself more, or to misremember the correct information.^{95,96} To this end, many sources recommend using a “sandwich,” i.e., leading with accurate information, debunking related misinformation, and then reiterating accurate information to emphasize and encourage remembrance of the accurate material.^{97,98}

Those debunking misinformation may need to address logical and rhetorical fallacies in the source or content, in addition to the misinformation itself.⁹⁹ Fallacies in health-related mis- and disinformation can include: “mischaracterization of [a] disease or protective measures, false treatments or medical interventions, scapegoating of groups of people, and conspiracy theories, which are often focused on the existence or origin of the pathogen, profiteering, or politics.”^{100,101} Common rhetorical and logical strategies people use to support mis- and disinformation include: use of fake experts and decrying true experts, selectively using obscure or discredited literature to support a point while ignoring refutations, setting impossible expectations (e.g., a “vaccine must be 100% safe and effective”), “misrepresentation and false logic” (e.g., “jump[ing] to erroneous conclusion and us[ing] false or illogical analogies”).¹⁰²

The Centers for Disease Control and Prevention (CDC) applies these debunking strategies to addressing COVID-19 vaccine misinformation:

- First, lead with a clear, relevant, and memorable fact: “The COVID-19 vaccine will not make you sick with COVID-19.”
- Mark text or provide a verbal warning: “Misinformation alert!”
- Explain the logical and rhetorical fallacies people have used to support the misinformation: “Some people are saying that the COVID-19 vaccine will give you COVID-19. That is **not true**. While you may feel sick after getting the COVID-19 vaccine, that is a sign your body is building protection against the virus that causes COVID-19.”
- Finally, provide alternative, correct information to replace the misinformation: “The COVID-19 vaccine **cannot** make you sick with COVID-19. COVID-19 vaccines teach your immune system to recognize and fight the virus that causes COVID-19. Sometimes this process can cause symptoms, such as fever and chills. These symptoms are normal and are signs that the body is building protection against the virus that causes COVID-19.”¹⁰³

TIMING

Timing may be especially important for interventions; debunking misinformation before it has time to take hold or compound is critical. For example, research shows SMS messages in early 2021 increased uptake of COVID-19 vaccines,¹⁰⁴ while similar messaging later in 2021 had no impact.¹⁰⁵ This aligns with prior research which demonstrates “belief perseverance” or the “continued influence effect,” where false information may continue to affect judgment even after it has been debunked.¹⁰⁶ In other words, once a person is certain about the validity of a belief, it becomes more difficult to change that belief.¹⁰⁷

More information on these strategies applied in the context of vaccination can be found in the United Nations Children’s Fund (UNICEF) Vaccine Misinformation Management Field Guide.¹⁰⁸

Public health officials and staff may also contemplate which mis- and disinformation to address. The Public Health Communications Collaborative publishes misinformation alerts with a risk rating,¹⁰⁹ and some researchers suggest criteria for prioritizing certain misinformation over others. Criteria for prioritization may include feedback or questions public health receives from the community, and the popularity or traction of misinformation, such as whether it is coming from a popular source like a celebrity or politician, or whether people are cross-publishing misinformation to multiple media platforms.¹¹⁰

POLICIES FOR HOLDING INDIVIDUALS WHO CREATE AND SPREAD MIS- AND DISINFORMATION ACCOUNTABLE*

Additional recommendations for preventing the spread of misinformation among individuals and communities target the source of mis- and disinformation. Such recommendations may involve punishing or holding accountable the individuals who create or spread mis- and disinformation, especially health care workers like physicians. Holding health care workers accountable typically involves professional licensing regulations. Individuals, whether licensed professionals or not, may also be held legally accountable for spreading misinformation when their speech is accompanied by harmful action, such as fraud. These strategies are discussed further in the following sections.

* While some of the activities in this box may be outside the scope of public health authorities, they are provided to contextualize how public health efforts to confront misinformation may align or coordinate with other efforts.

Addressing Misinformation by and Through Health Care Practitioners

Although many of the policy considerations related to individuals will also apply to health care practitioners, public health officials and staff would benefit from considering the unique ways in which health care practitioners may be particularly valuable partners in confronting misinformation, as well as particularly damaging sources of mis- and disinformation.

Preventive Efforts

As preventive efforts to confront misinformation in partnership with health care practitioners, public health officials may collaborate with and educate providers about how to work with public health.

Collaborating with and educating providers about how to work with public health

Health care practitioners may be well-positioned to confront misinformation, especially in cases where they have established relationships and trust with people to whom they provide ongoing care.¹¹¹ Some studies have documented that health care practitioners want more training about how to work and collaborate with public health,¹¹² including training about how to “build a social media presence” and correct misinformation.¹¹³ Here are some examples of how health care practitioners – and public health and health care practitioners in collaboration – have attempted to confront mis- and disinformation:

- **Training community health workers to confront misinformation in areas that are disproportionately affected by health inequities.** As part of the Community Engagement Alliance Against COVID-19 Disparities (CEAL), an initiative of the National Institutes of Health, the School of Health Professions at the University of Southern Mississippi trained community health workers to increase outreach and the availability of factual health information for Black, Indigenous, and other people of color.¹¹⁴
- **Funding provider-based outreach and counseling through health plan coverage.** New York City launched an innovative collaboration “with health plans to pay for provider-initiated outreach for COVID-19 vaccine counseling programs.”¹¹⁵ This local effort prompted changes to federal policy, permitting states to adopt this strategy for themselves.¹¹⁶
- **Training nurses and community members to provide door-to-door education, setting a foundation for building trust.** After reviewing data that showed vaccination rates were low in rural communities and communities with less access to health resources (in part due to misinformation), the Louisiana Public Health Institute (LPHI) launched an online training program for door-to-door public health education.¹¹⁷ Through the program, trained, local organizers were paired with nurses to have conversations and answer people’s questions.

Health care practitioners may be well-positioned to confront misinformation, especially in cases where they have established relationships and trust with people to whom they provide ongoing care.

Although specifically designed for COVID-19, LPHI hopes the program can serve as a foundation for efforts to build trust, and to educate health care providers on how better to communicate with their communities.

- **Continuing education units (CEUs) for health care providers on confronting misinformation.** The Duke University Clinical and Translational Science Institute developed a Program on Medical Misinformation, providing CEU-approved education to health care providers about confronting misinformation.¹¹⁸

Responsive Efforts

As a responsive effort to confronting misinformation spread by health care practitioners, public health officials and staff may prioritize debunking misinformation from health care providers.

Prioritizing the debunking of misinformation from health care providers

Because health care providers may be trusted sources and appear authoritative on medical matters, public health officials and staff may consider targeting misinformation coming from providers as a priority for debunking efforts. The importance of these efforts is exemplified by studies from the Center for Countering Digital Hate, which identified just 12 individuals, several of whom are physicians, who were responsible for producing 65% of COVID-19 vaccine misinformation on social media platforms at the time of the report.^{119,120}



POLICIES OF STATE LICENSING BOARDS THAT HOLD LICENSED PROFESSIONALS ACCOUNTABLE FOR CREATING OR SPREADING MISINFORMATION*

Health care providers may also be held accountable through professional licensing regulations that prohibit creating or spreading misinformation, with most efforts focused specifically on physicians.

However, as many as 26 states have considered taking the opposite approach, exploring legislation to limit their state medical board's ability to punish physicians for misinformation,¹²¹ although journalism on these bills reports that only North Dakota approved such legislation.¹²² By contrast, California passed a law confirming the Medical Board of California has authority "to discipline doctors who promote COVID-19 misinformation by classifying it as unprofessional conduct."¹²³

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Addressing Misinformation Through School Systems and Education

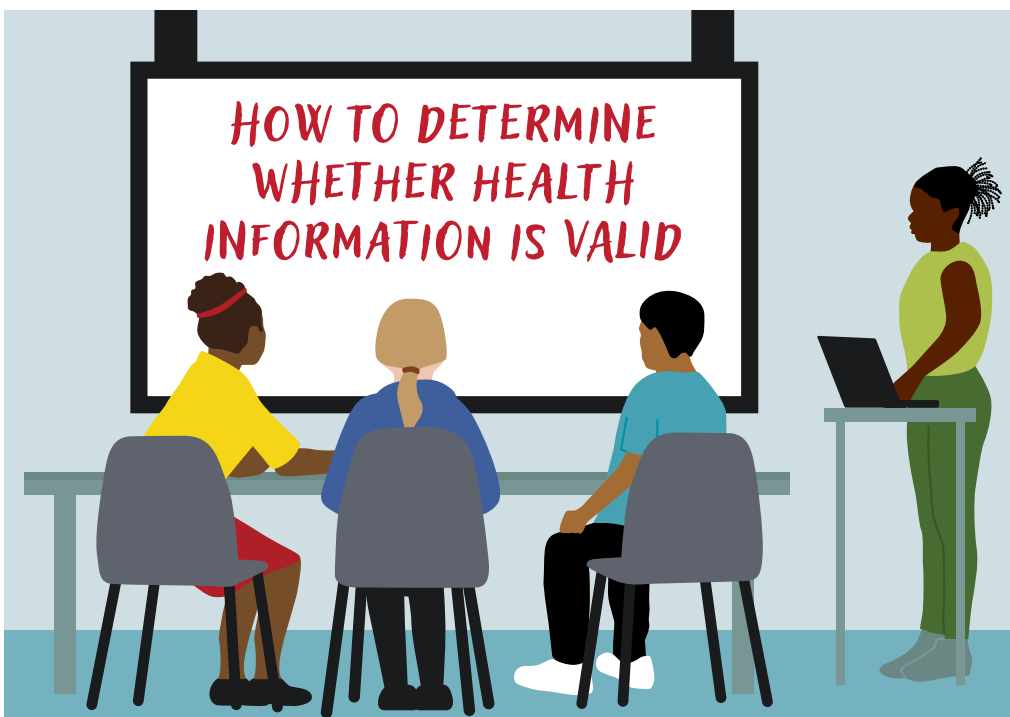
Collaborating with K–12 Schools to Incorporate Critical Thinking and Health, Media, and Digital Literacy into the Curriculum

Public health may collaborate with schools and educators on critical thinking and literacy initiatives, providing health expertise in efforts to confront people spreading misinformation and to build resilience to misinformation. Debunking efforts may be incorporated into these strategies as well. Reports often examine ways that governments, public health, and social media and technology companies engage in media, digital, and health literacy efforts.^{124,125}

Comprehensive health education improves children’s health literacy and has sometimes been shown to improve health outcomes.¹²⁶ CDC, the U.S. Department of Health and Human Services (HHS), and other government and non-governmental organizations provide frameworks for better integrating health education in K-12 school curricula.¹²⁷

As an example, Finland’s population has been rated as first out of 35 European countries in media trust, and first in media literacy and resilience to misinformation, drawing the attention of other nations that seek to build misinformation resiliency.¹²⁸ Finnish officials largely credit their misinformation education and media literacy campaigns and reforms to emphasize critical thinking in public education.¹²⁹

Comprehensive health education improves children’s health literacy and has sometimes been shown to improve health outcomes.



Collaborating with Educational Institutions to Embed Specific Education on Misinformation into the Curriculum

Public health officials and staff may consider working with school systems and education officials to embed education on misinformation into primary school, secondary school, and higher education curricula.¹³⁰ For example, the Association of American Medical Colleges has given grants to universities to support “teaching health sciences students how to dispel medical disinformation.”¹³¹

Collaborating with Libraries to Enhance Community Engagement and Education

In addition to collaborations with schools, public health may also collaborate with libraries as institutions with a vested interest in literacy and community education. For example, through funding from NIH’s All of Us Research Program and the National Library of Medicine, “Spanish speaking healthcare providers, librarians, and community organizers” were brought together to produce podcasts “promot[ing] health literacy” and accurate information about COVID-19.¹³² In another example, a collaboration between public health and public and academic libraries in San Diego engaged in a coordinated effort to improve health literacy and resilience to misinformation.¹³³



STATE AND LOCAL LAWS AND POLICIES OFTEN DETERMINE EDUCATION CURRICULA*

The legal power to determine and set education curricula is reserved to state and local governments under the 10th Amendment.¹³⁴ Therefore, state and local laws and policies may limit the ability to develop new curricula, or to modify existing curricula, and could interfere with public health collaboration efforts. Many states have recently made attempts to control curricula such as banning the teaching of critical race theory or imposing so-called “Don’t Say Gay” laws that prohibit instruction on sexual orientation and gender identity.¹³⁵ Some laws may also require teaching curricula that conflict with public health evidence and practices. For example, structural stigma and discrimination negatively affect the health of LGBTQ+ people;¹³⁶ however, in Texas law, HIV-related curricula require “emphasis, provided in a factual manner and from a public health perspective, that homosexuality is not a lifestyle acceptable to the general public and that homosexual conduct is a criminal offense.”¹³⁷ This is the case despite the fact that criminalization of such conduct was held unconstitutional in 2003.¹³⁸

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Addressing Misinformation Through Journalism

Public health may collaborate with journalists through traditional, mainstream media. To provide context for such a collaboration, it may also be important for public health authorities to understand how people spread misinformation through media, and other pressures faced by the media industry.

Selected Evidence Base

Traditional, mainstream media (such as television, radio, and print) play a substantial role in the spread of misinformation. By providing a platform for people spreading misinformation, or by directly reporting misinformation, traditional media can both be a primary source of misinformation and also enhance the spread of misinformation through other means. For example, people may use social media to repeat and more widely spread misinformation that has been platformed by mainstream media. One study found that while just 17% of online conspiracy theory information came from mainstream sources, the content from mainstream sources accounted for 60% and 55% of the total shares on Facebook and Twitter, respectively.¹³⁹ In fact, a study of the insurrectionist movement in the United States found that 42% of involved individuals get their news from at least one mainstream media source (like Fox, One America News, CNN, or NPR), while just 20% got their news from social media.¹⁴⁰ Researchers believe misinformation from mainstream news sources was spread much more than misinformation from alternative or fringe sources because mainstream sources have a much larger audience and seem much more credible and trustworthy.¹⁴¹

Traditional, mainstream media (such as television, radio, and print) play a substantial role in the spread of misinformation.

The pandemic has highlighted general challenges faced by the journalism industry, which have facilitated both people spreading and believing misinformation. Local journalism has sharply declined: “In the U.S., 200 counties do not have a local newspaper, nearly 50% of counties only have one newspaper, usually a weekly, and more than 6% of counties have no dedicated news coverage at all.”¹⁴² With a lack of local news to “shape community views around common values and beliefs” and “creat[e] a sense of shared purpose,” individuals may be forced to “get most of their news from social media, leaving them vulnerable to mis- and disinformation and exacerbating political polarization.”¹⁴³

This echoes the sentiments of individual journalists, who saw their mission of public service threatened, and struggled to confront misinformation and hold up the veracity of medical experts.¹⁴⁴ Another review of the state of health journalism found that shortening news cycles, increasing competition, and a lack of resources all led to a decline in quality reporting.¹⁴⁵ Other common practices like embargoes by academic publishers,¹⁴⁶ sensationalism,¹⁴⁷ and spin¹⁴⁸ can further contribute to mistrust in journalism and science.

Collaborating with Journalists to Maintain Ongoing Relationships, Build Trust, and Improve the Quality of Health Journalism

There is some evidence that quality health journalism positively influences healthy behaviors and can increase health literacy.¹⁴⁹ Public health officials may consider policy efforts to increase the quality of journalism through improved academic programs, continuing professional education, and better collaboration among public health, researchers, and journalists and editors.¹⁵⁰ When writing on health topics, journalists can consider further discussing “costs, the quality of the evidence, the existence of alternative options, and the absolute magnitude of potential benefits and harms.”¹⁵¹ At the same time, researchers can continue to study how improvements in the quality of health journalism affect the public’s understanding of health and their health literacy.¹⁵² Finally, public health, researchers, communications scholars, and working journalists can consider collaborating to develop criteria for successful policy efforts.¹⁵³ These strategies may also encompass efforts for public health and journalism to debunk misinformation in collaboration. For example, public health professionals may be able to use tools like op-eds to platform public health in traditional media and to reach a wider audience with public health messaging.^{154,155}



Confronting Misinformation Through Social Media

To understand social media-related policy considerations, it is first helpful to examine how people spread misinformation on social media platforms, and efforts that have been used to confront the spread.

Selected Evidence Base

Types of misinformation

A study of COVID-19-related misinformation on social media found that most misinformation was a “reconfiguration, where existing and often true information is spun, twisted, recontextualised, or reworked.”¹⁵⁶ Most social media interactions that people had with misinformation, the study found, were with this reconfigured information.¹⁵⁷ “[M]isleading or false claims about the actions or policies of public authorities” were the single largest category of claims (39%).¹⁵⁸

Sources of mis- and disinformation

Individuals with more influence or a large following tend to pose a greater threat as sources of misinformation on social media because their popularity can cause misinformation to spread more widely. While a smaller number of posts containing misinformation were spread “from politicians, celebrities, and other prominent public figures,” posts from these individuals “accounted for 69% of total social media engagement [with misinformation].”¹⁵⁹ In other words, even though prominent people make up a small portion of the population and a relatively small amount of social media posts, their following leads to misinformation reaching a much broader audience. By comparison, while a larger number of posts about misinformation came from laypeople, they generated far less engagement with other users.¹⁶⁰ This is similar to the findings of the Center for Countering Digital Hate study, which found that just 12 individuals were responsible for producing misinformation on COVID-19 vaccines that accounted for 65% of social media engagement with misinformation.^{161,162}

In one examination, from January to March 2020, most “posts rated false by fact-checkers” were removed or had warnings attached, however there was variation between social media platforms.¹⁶³ For instance, “[o]n Twitter, 59% of posts rated as false” remained up, while just 27% remained up on YouTube and 24% on Facebook.¹⁶⁴

Distribution of mis- and disinformation on social media

People’s ability to spread a large amount of information rapidly through social media has garnered much attention and study, especially during the COVID-19 pandemic. A common theory holds that people’s spread of misinformation on the internet occurs partially because of distracted thinking – i.e., that people share or reshare content simply because they are distracted and do not take the time to engage in reasoning or fact-checking themselves.¹⁶⁵ However, some studies have questioned

Individuals with more influence or a large following tend to pose a greater threat as sources of misinformation on social media because their popularity can cause misinformation to spread more widely.

the role that social media and distracted thinking on social media plays in whether people believe misinformation. Instead, these studies have found that people are more susceptible to misinformation because of their predispositions and beliefs.¹⁶⁶

Despite the more extensive media studies performed in recent years, it remains unclear how much misinformation spreads through private groups or messaging.¹⁶⁷

Preventive Efforts

As preventive efforts to confront misinformation, public health officials and staff may establish a social media policy and presence.

Establishing a social media policy and presence

Public health and government may seek to make available and promote factual information, which can be done in part through social media.¹⁶⁸ When setting broad communications and media strategies, health departments may find it useful to consult foundational resources from the Public Health Accreditation Board's Standards and Measures and CDC's Public Health Emergency Preparedness and Response Capabilities,¹⁶⁹ as well as NACCHO resources.¹⁷⁰ Broader state or local government policies on communication and social media may apply to state and local health departments as well.¹⁷¹ While existing policies may incorporate broad enough language that public health efforts to confront misinformation would fall under their umbrella,¹⁷² health departments may also consider social media



strategies that affirmatively address community engagement, outreach, the provision of factual information, pre-bunking or inoculating, and confronting or debunking misinformation. Social media efforts to confront mis- and disinformation may also be incorporated into activities like strategic planning.¹⁷³

Social media platforms may collaborate with government and public health entities to support distribution of factual information by “[o]ffering free advertising to authorities,” and promoting factual content.¹⁷⁴ Other than developing content from scratch, public health platforms can reshare and uplift accurate information from other sources, and can provide criteria to help the public identify credible sources of health information on social media.

OTHER SOCIAL MEDIA INTERVENTIONS*

Social media and other media companies may seek to make more factual information available, either on their own or in collaboration with public health entities and governments.¹⁷⁵ Social media and tech companies may also employ a variety of debunking strategies, such as applying warning labels to content, overlaying factual information on top of content that contains misinformation,¹⁷⁶ making use of artificial intelligence or crowdsourcing to identify misinformation,¹⁷⁷ and restricting the accounts of users who repeatedly spread misinformation.¹⁷⁸

Many sources also identify ways in which the broader systems of social media platforms can be changed. For example, social media platforms could adjust their algorithms to break “virality circuits” and halt the spread of misinformation.¹⁷⁹ Others suggest that social media platforms can partner with the academic sector and researchers, sharing data to better analyze and understand misinformation.¹⁸⁰ Social media platforms can also disclose their “content moderation policies and practices” to increase transparency and monitoring of misinformation.¹⁸¹

REGULATION OF SOCIAL MEDIA PLATFORMS

Governments may be able to regulate social media platforms, but these regulations can raise concerns about free speech protections.¹⁸² Comparatively, as private entities, social media companies are relatively free to regulate speech, and misinformation, on their platforms. For example, Facebook successfully defended against a lawsuit by an anti-vaccine group claiming that Facebook’s censoring of their content violated the First Amendment.^{183,184} However, some advocates argue that social media platforms may be too driven by commercial incentives to self-govern in a way that protects public health.¹⁸⁵



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Confronting Misinformation by and Through State and Local Governments*

Governments at all levels, in addition to public health departments, may consider broader systems efforts that confront the spread of mis- and disinformation.

Selected Evidence Base

In studies that examined government actions on misinformation during the COVID-19 pandemic, the findings are complex. These studies have found some positive efforts to confront people's spread of, or belief in, misinformation, such as "disseminating and increasing access to factual information," "engaging in media or digital literacy campaigns," and "us[ing] administrative and criminal enforcement strategies to address commercial fraud for fake COVID-19 prevention or cures."^{186,187} However, studies also identify negative efforts that may encourage people to spread or believe misinformation, such as "blocking or refusing to release factual information," dissemination of mis- and disinformation by the government itself, restricting freedom of press and speech, and "prosecut[ing] citizens and journalists and enact[ing] new laws criminalizing expression about COVID-19 or the government's response to it."^{188,189}

Some nations have accused other nations of engaging in disinformation campaigns for political reasons, "target[ing] the erosion and undermining of public trust in political and public health processes."^{190,191} For this reason, some disinformation may be a matter of national security, to be handled by or in partnership with defense and cybersecurity experts.^{192,193} However, governments and government officials may also spread misinformation. In the context of pandemics, governments have been documented spreading misinformation about disease itself, as well as treatment and prevention measures.^{194,195}

The First Amendment protects freedom of speech and expression, complicating the regulation of mis- and disinformation as forms of expression.

The First Amendment and Government Regulation

There are specific actions state governments may take to confront the spread of misinformation by licensed professionals, particularly health care providers. However, the protection of the First Amendment and other existing statutes can make legal regulation difficult.

The First Amendment protects freedom of speech and expression, complicating the regulation of mis- and disinformation as forms of expression. Because the content or viewpoint of speech is protected under the US Constitution,¹⁹⁶ it is nearly impossible to regulate misinformation based on its content. While there are extremely narrow categories of unprotected speech that can be regulated – including incitements to violence or illegal conduct, fighting words, true threats, and obscenity¹⁹⁷ – most

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health-related misinformation would not fall into these categories. While government does have greater ability to regulate the “time, place, and manner of expressive conduct,” in public fora, regulation of speech must still be content-neutral. These laws limit government to content-based restrictions in non-public fora as defined by case law (e.g., airports, private websites, and military bases).¹⁹⁸

Even if the government were able to regulate speech in a way that confronts people’s spreading of misinformation, such government regulation generally raises concerns about the chilling of speech, potentially encouraging conditions under which misinformation may thrive. By contrast, proponents of speech regulation as a tool to confront people’s spreading of misinformation believe it may be possible, during an emergency, to craft narrowly tailored provisions that strike an appropriate balance between protecting health and limiting free speech.¹⁹⁹

Social Media Regulation

Governments may be able to regulate social media platforms, although these regulations raise similar concerns about chilling free speech.²⁰⁰

From a legal standpoint, regulation of social media companies is limited by Section 230 of the Communications Decency Act of 1996, often referred to simply as Section 230.²⁰¹ Section 230 generally grants social media platforms and other types of websites immunity from civil liability for content their users post.²⁰² It also grants immunity for removing or restricting access to content.²⁰³ This is generally considered necessary for these platforms to survive, and for information exchange to continue over the internet, as it would be “impossible for services to review every users’ speech” and “[w]ithout Section 230’s protections, many online intermediaries would intensively filter and censor user speech, while others may simply not host user content at all.”²⁰⁴ Regardless of these broad protections, Section 230 has also helped prevent some efforts that would have encouraged misinformation. For example, Florida and Texas both passed laws in 2021 attempting to prohibit “social media companies from banning controversial posts, and discouraging them from engaging in content moderation.”²⁰⁵ In both instances, federal judges held that these laws were preempted by conflict with Section 230.²⁰⁶ However, appellate courts have since reached differing conclusions, leaving open the possibility states may be able to prohibit social media companies from moderating content despite Section 230.^{207,208}

Policymakers and researchers have identified the following legal strategies for regulating social media:

- Making amendments to Section 230, such as making social media platforms liable when their algorithms perpetuate the spread of health-related misinformation during a public health emergency.²⁰⁹
 - Courts have left open the possibility that the existing language of Section 230 could be interpreted to hold social media platforms and content providers liable when their algorithms recommend certain content. While cases that involved this issue reached the Supreme Court in the 2022–2023 term, the Court decided those cases on other grounds, continuing to leave open the possibility of liability under the existing language of Section 230.²¹⁰

Even if the government were able to regulate speech in a way that confronts people’s spreading of misinformation, such government regulation generally raises concerns about the chilling of speech, potentially encouraging conditions under which misinformation may thrive.

- Setting procedural safeguards, such as requiring social media platforms to be more transparent in their “content moderation policies and practices.”²¹¹
- Increasing internet user privacy, or otherwise disincentivizing social media’s focus on user engagement and profits, to prevent the spread of misinformation.²¹²
- Using antitrust law to limit the power of large data companies.²¹³

Preventive Efforts

State and local governments may put in place preventive efforts to maintain the independence and authority of public health.

Maintaining the independence and authority of public health

Researchers have found that “independent health agencies free from political interference” and protected in their ability “to communicate scientific information to the public” may be able to more effectively confront misinformation, including misinformation spread by government actors.²¹⁴

By supporting local information networks, governments, across levels and jurisdictions, may also be able to support the distribution of factual information and prevent people’s spread of and belief in misinformation. A 2020 report from the UNC Center for Media Law and Policy discussed educating the public on the importance of journalism, the lack of necessary resources in local journalism, and how to limit the power of major social media companies by either increasing data privacy or using antitrust laws to break them up.²¹⁵

Responsive Efforts

State and local governments may support free speech, a free press, and civic engagement as a responsive effort to confront misinformation.

Supporting free speech, a free press, and civic engagement

Government misinformation about health may be countered by policies that support free speech, a free press, and civic engagement.²¹⁶

EXAMPLE OF GOVERNMENT EFFORTS TO CONFRONT MISINFORMATION

San Diego voted by a narrow margin “to declare medical misinformation a public health crisis.”²¹⁷ The declaration mandated that “[c]ounty health officials will identify and label misinformation, and offer accurate information,” and that the officials would “identify gaps in health information, as well as questions and concerns, especially in hard-to-reach communities.”²¹⁸ Additional measures included further developing community engagement, and investing in additional infrastructure and partnerships to confront misinformation.^{219,220}

Conclusion

Understanding of misinformation has continued to evolve throughout the COVID-19 pandemic as new evidence has become available. It will be important to continuously monitor and assess the evidence base to inform potential legal and policy solutions that could address misinformation at the systems level. While this report primarily addresses misinformation in the context of COVID-19, it is also important to apply systems thinking to other types of misinformation that can affect public health. This may include misinformation about other diseases and preventive measures, misinformation about other types of medical treatment, misinformation about climate change, and political misinformation.

Many of the sources we reviewed about how public health can seek to address misinformation were programmatic in nature. That is, the sources focused either on the practices or programs public health could or did put into place to address misinformation, or on how public health could address discrete pieces of misinformation. However, law and policy are also powerful tools that create opportunities to improve health equity. This report seeks to make connections among law, policy and public health by exploring what types of policies public health authorities may want to consider that could support their programmatic efforts to address misinformation and improve health outcomes.

Resources

U.S. Surgeon General

- [Advisory: Confronting Health Misinformation](#)
- [Community Toolkit for Addressing Health Misinformation](#)

Centers for Disease Control and Prevention (CDC)

- [10 Essential Public Health Services](#)
- [How to Address COVID-19 Vaccine Misinformation](#)

Cybersecurity and Infrastructure Security Agency

- [Mis-, Dis-, and Malinformation Resource Library](#)
- [COVID-19 Disinformation Toolkit](#)

Department of Homeland Security

- [Report: Combatting Targeted Disinformation Campaigns](#)
- [Article: Attempt at forming Disinformation Government Board suspended due to disinformation](#)
- [Media Literacy & Critical Thinking Online](#)

Law Library of Congress

- [Initiatives to Counter Fake News in Selected Countries](#)
- [Government Responses to Disinformation on Social Media Platforms](#)

National Academies of Sciences, Engineering, and Medicine

- [Communications Perspectives: Lessons from COVID-19 on Executing Communications and Engagement at the Community Level During a Health Crisis](#)

Public Health Communications Collaborative

- [Misinformation Alerts](#)

Johns Hopkins Center for Health Security

- [Publications on Misinformation](#)

Stanford University

- [Civic Online Reasoning](#)

MITRE

- [COVID-19 Health Communications Playbook](#)

Center for Countering Digital Hate

- [Publications on Mis- and Disinformation](#)

World Health Organization

- [Infodemic](#)
- [Public Health Research Agenda for Infodemics](#)

Organisation for Economic Co-operation and Development (OECD)

- [Policy Responses to COVID-19: Combatting COVID-19 disinformation on online platforms](#)
- [EU Disinfo Lab](#)

Center for Strategic & International Studies

- [Countering Misinformation with Lessons from Public Health](#)
- [Publications on Misinformation internationally](#)

UNICEF

- [Digital misinformation/disinformation and children](#)
- [Countering Online Misinformation Resource Pack](#)
- [Vaccine Misinformation Management Field Guide](#)

UNESCO

- [Journalism, fake news & disinformation: handbook for journalism education and training](#)

Broadband Commission for Sustainable Development

- [Balancing Act: Countering Digital Disinformation While Respecting Freedom of Expression](#)

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