

# The Public Health Communicators Guide to Misinformation



**PUBLIC HEALTH**   
**COMMUNICATIONS**  
**COLLABORATIVE**

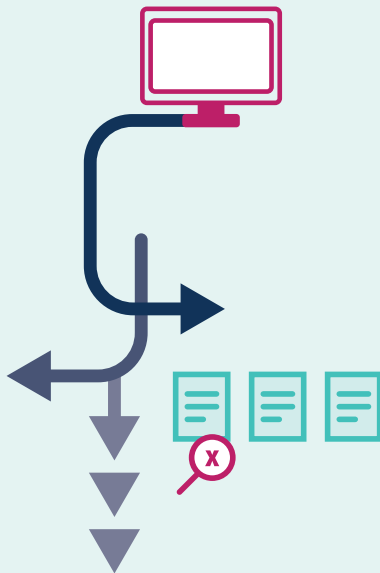
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Public health communicators must share accurate and timely health information in an increasingly complex environment. With false and misleading health narratives on the rise, they navigate community distrust on top of rapidly changing information in the digital age.

Building continued trust in public health requires communicators to learn how to identify false narratives and respond with clarity, accurate information, and accessible language. This guide, developed by the Public Health Communications Collaborative in partnership with the Infodemiology Training Program, will provide foundational insights into the current misinformation landscape and an overview of tools for assessing risk and determining response.



## Understanding the Misinformation Environment

False narratives can spread in various ways, including word of mouth and other non-digital channels. However, the rise of the internet, social media platforms, and artificial intelligence has rapidly increased the spread of information – whether that information is accurate or inaccurate. An article might land at the top of a website because of the number of clicks it has received, the past search history of the user, or paid advertising dollars. None of these drivers necessarily consider the accuracy of the information.

In the same way epidemiology studies the spread of diseases, infodemiology studies the spread of information to better understand false narratives and the public’s questions and concerns. When digital information spreads rapidly, it is often called “going viral.” Similarly, misinformation, disinformation, and malinformation have been called “social viruses.” Understanding the spread of public health misinformation sits at the intersection of epidemiology and infodemiology.



## Defining Misinformation, Disinformation, and Malinformation

These are multiple types of false information and each requires a different approach:

- ▶ **Misinformation** is information that is false, partially inaccurate, or misleading.  
*Who spreads it?* Anyone can spread misinformation. People who spread misinformation often do so unintentionally and may not intend to cause harm.
- ▶ **Disinformation** is a claim that is false and spread intentionally.  
*Who spreads it?* “Bad actors” who know that the information they are spreading is false, partially inaccurate, or misleading. They may be spreading disinformation for many reasons, like in order to gain influence or make a profit.
- ▶ **Malinformation** is when accurate information is intentionally manipulated to cause harm.  
*Who spreads it?* “Bad actors” who spread malinformation may take accurate information out of context or share incomplete information. Similar to disinformation, this is done deliberately with the intent to cause harm.



	Is the information true or accurate?	Is there malicious intent by the person spreading the information?
<b>Misinformation</b>	No	No
<b>Disinformation</b>	No	Yes
<b>Malinformation</b>	Sometimes	Yes

Even though the information is based on truth, it is intentionally taken out of context or misrepresented in a way that changes the accuracy.



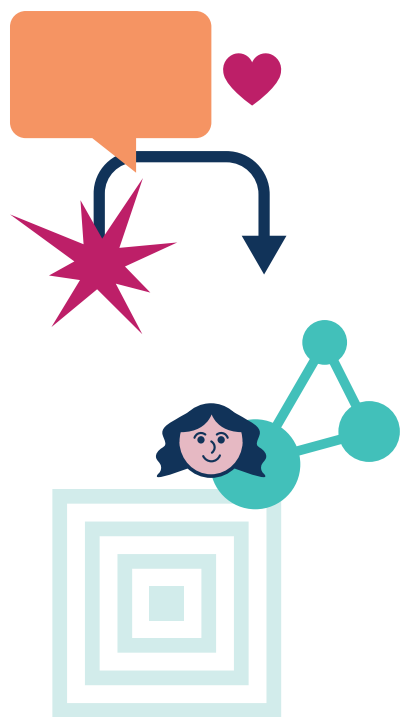
## Identity Influences Interpretation

Our worldview, values, culture, and existing biases are all filters through which we process information, and these factors heavily influence what information we ultimately believe or distrust. Online platforms have become sophisticated at mapping these identities and serving people content that matches their current preferences. This can be dangerous for the spread of false narratives, because research shows that people are more likely to believe headlines that fit within their current worldview. For example, if someone is already skeptical about the financial policies of a particular pharmaceutical company, they will be more susceptible to misinformation about drugs manufactured by that pharmaceutical company.

As a result, online communities like social media networks can become echo chambers that reinforce existing ideas – whether or not those ideas are based on accurate or trustworthy information. On a mass scale, this can lead to “groupthink” and an otherwise obscure piece of misinformation on one person’s social media feed may quickly become a mainstream conspiracy theory.

## Why People Spread Misinformation

There are many factors that lead people to accidentally spread false information.



- **If misinformation sparks an emotional response, people are more likely to believe or share it.** Fear, anger, and outrage stoke the spread of misinformation, often by preying on good intentions. For example: If a parent reads a false claim that children are consuming a dangerous chemical in school lunches, they might share the misinformation on social media to help inform their friends or other families at the school. They act out of fear and the desire to protect others.
- **People may share misinformation as a path to social connection.** By sharing a social media post that highlights beliefs or opinions, a person may be inviting conversation or conflict as a way to interact with others.
- **Algorithms promote content that is popular or likely to drive web traffic, regardless of accuracy.** When false content enters an individual’s social media echo chamber, it is possible that the content has already gone “viral” for a combination of reasons previously outlined. The success of these posts (sometimes labeled “clickbait”) can snowball and it can be difficult to resist sharing a piece of content tailored to your identity and preferences – even if this includes misinformation.
- **People share misinformation out of habit.** Research shows that people who habitually share a lot of content on social media are less likely to confirm whether information is true before they share it. On the flip side, people with weaker sharing habits were almost four times more discerning about the headlines they shared (Ceylan et al., 2023). In other words, if you are prone to habitually posting on social media, it is more likely misinformation will be part of the content you share.



- **Poor media literacy skills lead to the spread of misinformation.** A 2022 study found that only 42% of respondents reported learning to analyze science news stories for bias and credibility in high school, and only 38% had learned how messages on advertising, TV, and social media affected people’s thoughts, beliefs, feelings, and actions. Thinking critically about whether information is accurate or trustworthy is a learned skill that can decrease the spread of misinformation.
- **When people consume content quickly, they are more likely to spread misinformation.** Speed reading can also be a driver for misinformation on social media. Rather than taking time to process information, users are scrolling and sharing at a rapid pace. By not taking time to pause and determine the accuracy of the content, misinformation can be catapulted by quick clicks.



## Key Takeaways: Understanding the Misinformation Environment

- **False narratives** can spread in various ways, including word of mouth and other non-digital channels. However, the rise of the internet, social media platforms, and artificial intelligence has rapidly increased the spread of information.
- In the same way epidemiology studies the spread of diseases, **infodemiology** studies the spread of information to better understand false narratives and the public’s questions and concerns.
- **Misinformation** is information that is false, partially inaccurate, or misleading and is often spread unintentionally. **Disinformation** is a claim that is false and spread *intentionally*. **Malinformation** is when accurate information is intentionally manipulated with the desire to cause harm to specific individuals or organizations.
- Our identity influences the way we interpret information, meaning people are more likely to believe headlines that fit within their current worldview. As a result, online communities like social media networks can become echo chambers that reinforce our existing ideas – whether or not those ideas are based on accurate or trustworthy information.
- Why people spread misinformation:
  - » If misinformation sparks an emotional response, people are more likely to believe or share it.
  - » People may share misinformation as a path to social connection.
  - » Algorithms promote content that is popular or likely to drive web traffic – regardless of accuracy – and it can be difficult to resist sharing.
  - » People share misinformation out of habit or because of poor media literacy skills.
  - » When people consume content quickly, they are more likely to spread misinformation.



## Assessing Risk and Determining Responses

Understanding misinformation and the threat of false narratives are important skills for today's public health communicators. However, tracking these narratives, assessing risk levels, and developing a response are critical next steps to move from identification to action.

### Tracking Misinformation and False Narratives

Before you can assess the risk of misinformation and false narratives, it is important to track what false claims are being shared and where. Even if you are not equipped to manage sophisticated tracking tools within your organization, several free public health resources can help.

- ▶ **Misinformation Alerts:** Compiled by the Public Health Communications Collaborative and powered by the Public Good Projects, *Misinformation Alerts* are based on a combination of automated media monitoring and manual review by public health data analysts. Analysts triangulate publicly available data from many sources – such as social media, broadcast television, newspapers and magazines, news websites, online videos, blogs, and more – to provide an accurate, but not exhaustive, list of currently circulating false claims. The Public Health Communications Collaborative uses these alerts to inform new resources and messaging tools on a regular basis.
- ▶ **The Monitoring Lab:** The Monitoring Lab from Infodemiology.com uses publicly available media data to monitor real-time health narratives (not just misinformation) around the country. This includes general questions and concerns, false claims, conspiracy theories, gaps in knowledge, positive sentiment, and more. Trending information is compiled into “dashboards” on four active health topics: vaccines, opioids, mental health, and reproductive health. The website also offers regional and state dashboards to monitor and track conversations and trends by geography.

### Analyzing Sources to Assess Risk Level

When tracking narratives and assessing risk level, it is important to understand the qualities that make misinformation low, medium, or high risk. Resources like [Misinformation Alerts](#) and [The Monitoring Lab](#) rely on quantifiable measures – like velocity (the speed of information spread) and reach (the number of people exposed to narratives) – to assess the risk level associated with a particular claim. While each organization will have its own thresholds and levels for risk, here is one framework the [Infodemiology Training Program](#) has developed to categorize narrative risk levels:

- **Low-risk narratives** are limited in reach and don't have a significant impact on your community. They may signal that your audience has certain knowledge gaps in information, confusion, or general concern, but oftentimes low risk narratives do not pose a direct health threat or are not rapidly spreading.





- **Medium-risk narratives** pose a health threat for several reasons. One is their velocity, or potential to spread at a high speed. Another is that the information is circulating among a priority population, such as misinformation about vaping circulating among teens. Finally, unlike a low-risk narrative that may be rooted in genuine confusion, a medium-risk narrative uses tactics that make it more likely to spread – like emotional language, cherry picking misleading data, or citing false claims to stoke public concern.
- **High-risk narratives** have exponential velocity, reach a large number of people, and have significant potential to influence someone’s health decisions. These narratives often include several of the hallmark drivers of misinformation explained in the previous section, such as triggering an emotional response, targeting people with a certain worldview, or preying on poor media literacy skills. High-risk false narratives are often more memorable than accurate information.

## Tools for Responding: Inoculation Theory

Once you have identified tools and resources to track misinformation and assess its risk level, there are several different tools to help develop appropriate responses. In the same way doctors inoculate against a virus, public health communicators can help inoculate against the social virus of misinformation. Inoculation theory holds that people can be trained to identify and reject misinformation in the same way our immune systems can be trained to identify and fight harmful pathogens. Inoculation theory includes two methods: prebunking and debunking.

### PREBUNKING

Prebunking is a preventive intervention. By building up a person’s *mental defenses* to misinformation – the same way inoculation builds immune defense – prebunking works to limit misinformation before it can spread. It does this in several ways:

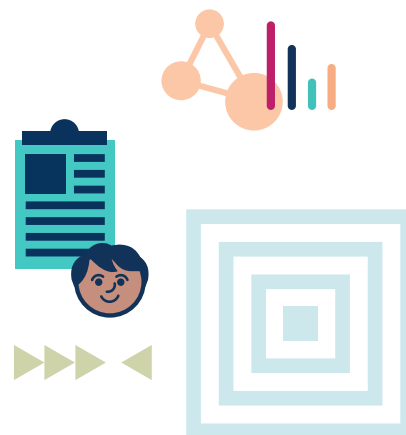
- **Filling gaps in knowledge:** False narratives are often rooted in confusion, questions, and concerns. By tracking narratives online, you can uncover these trends and use prebunking to answer the public’s questions proactively – filling knowledge gaps with accurate information.
- **Focusing on the facts:** *Fact-based prebunking* emphasizes the facts in your response, rather than directly repeating misinformation. For example, media monitoring reveals claims that vitamin C supplements are more effective than the flu shot. Rather than comment on the merits of vitamin C, a fact-based approach combats this false narrative by emphasizing that the flu shot provides the best protection from the flu. This *fact-based* approach to public health communications avoids amplifying false information.
- **Breaking down the tactics used to spread misinformation:** *Logic-based prebunking* helps the public identify and understand the characteristics of misinformation. Encouraging people to think critically about sources, be wary of sensationalized headlines, or read content thoroughly before sharing are all examples of logic-based prebunking.



## DEBUNKING

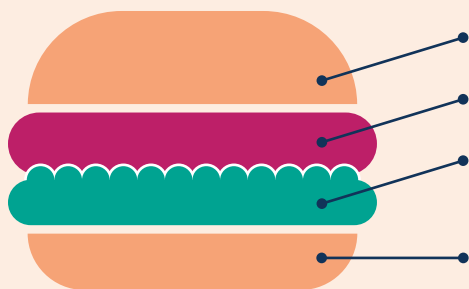
While prebunking aims to prevent the spread of misinformation, debunking is a reactive approach that responds directly to false claims. When debunking a claim, it is critical to communicate with plain language and clearly explain why the information is false. Using scientific jargon may only add to confusion or skepticism. Leading with and focusing on the facts keeps critical public health messaging front and center. Remember to tailor your messaging to your audience and emphasize the evolving nature of scientific information, when appropriate.

Even when successfully executed, debunking content will rarely have the same reach as “viral” misinformation, and there is no guarantee the content will reach the same audiences who viewed a false claim.



## Truth Sandwich Method for Debunking

Break down debunking with the Truth Sandwich method:



1. Always start your Truth Sandwich with a **fact**
2. Introduce a **warning** that you are resharing a false claim
3. **Explain the misinformation**, including any tactics that helped it spread
4. Finish your Truth Sandwich with a **fact**, replacing the misinformation with correct information

FACT	Childhood vaccines are extremely safe and effective at preventing the spread of disease.
WARNING	You might have heard an old myth....
MISINFORMATION	that falsely connects vaccines and autism.
FACT	This is not true. Research shows there is no link between vaccination and autism. In fact, vaccines are the best way to keep your child safe from deadly diseases.





## When to Use Prebunking vs. Debunking

Ultimately, your approach to prebunking or debunking will depend on the context of the situation, guidelines within your organization, and the risk level of misinformation. Remember that misinformation is often designed to go “viral.” Above all, it is important to consider whether or not your approach will stifle or amplify the “social virus” of misinformation. Avoid tactics that will *unnecessarily* amplify the spread of misinformation. Prebunking always avoids repeating a false claim, whereas debunking addresses it directly.

Using the previous definitions, consider the following.

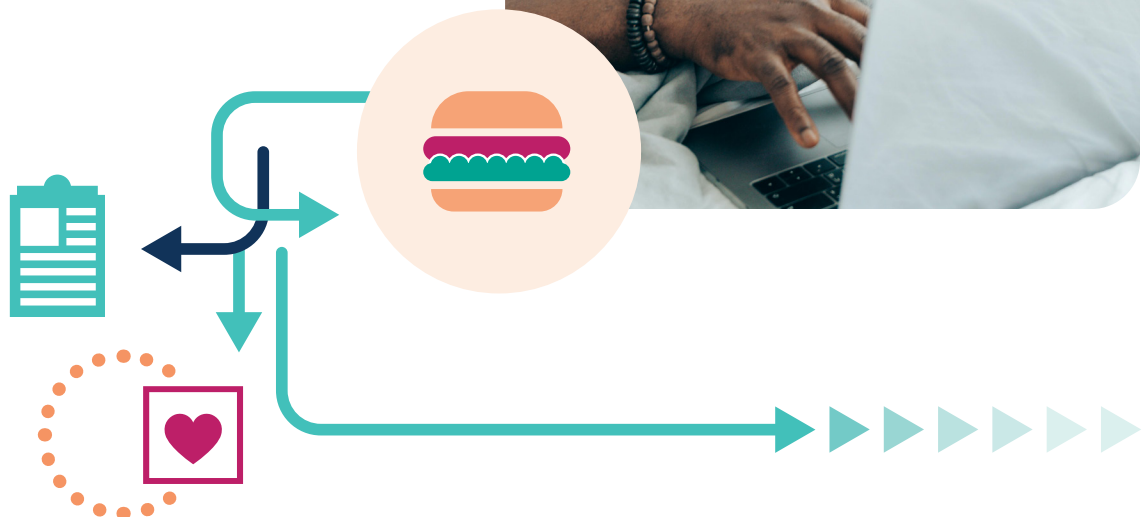
Narrative Type	Considerations for Response
<p>▶ <b>Low-risk narratives</b> are limited in reach and don't have a significant impact on your community or their health decision making. They may signal that your audience has certain knowledge gaps in information, confusion, or general concern, but oftentimes low-risk narratives do not pose a direct health threat or are not rapidly spreading.</p>	<p>Prebunking is a good fit for low risk narratives because it is designed to clear up confusion or fill gaps in knowledge. Because low-risk narratives usually have limited reach, prebunking helps ensure you will not speed up the spread of false claims by directly addressing them through debunking.</p>
<p>▶ <b>Medium-risk narratives</b> pose a health threat for several reasons. One is their velocity, or potential to spread at a high speed. Another is that the information is circulating among a priority population, such as misinformation about vaping circulating among teens. Finally, unlike a low-risk narrative that may be rooted in genuine confusion, a medium risk narrative uses tactics that make it more likely to spread — like emotional language, cherry picking misleading data, or citing false claims to stoke public concern.</p>	<p>Prebunking is also a good fit for medium-risk narratives, largely because their reach is relatively moderate. If a medium-risk narrative reaches a priority population and poses a public health risk, you could consider a debunking approach that is tailored to reach those specific audiences. Medium-risk narratives that have persisted for a long time or occasionally spike in reach could also be a good fit for debunking.</p>
<p>▶ <b>High-risk narratives</b> have exponential velocity, reach a large number of people, and have significant potential to influence someone's health decisions. These narratives often include several of the hallmark drivers of misinformation explained in the previous section, such as triggering an emotional response, targeting people with a certain worldview, or preying on poor media literacy skills. High-risk false narratives are often more memorable than accurate information.</p>	<p>While high-risk narratives can use prebunking, they are often the best candidate for debunking. This is because they have a wide reach and the potential to influence the health behaviors of a large proportion of the population. Using the fact sandwich method will help avoid amplifying false claims when debunking.</p>

When in doubt about your approach, it is always safer to default to prebunking to avoid amplifying false claims. Prebunking can be used at any risk level to complement your debunking strategy or to buy you time as you assess whether or not you need debunking. Developing a plan within your organization to track narratives and assess risk level will provide a solid foundation to determine which tools to use to respond to misinformation in your community.



## Key Takeaways: Assessing Risk and Determining Response

- Before you can assess the risk of misinformation and false narratives, it is important to track what false claims are being shared and where. If you are not sure where to start, check out free resources like PHCC's [Misinformation Alerts](#) and [The Monitoring Lab](#).
- Develop or adapt a framework for your organization that characterizes the risk of misinformation. Based on risk level, determine your response.
- **Prebunking** is a preventive response to misinformation. It fills gaps in knowledge, focuses on the facts, and breaks down the tactics used to spread misinformation.
- **Debunking** is a reactive approach to misinformation. One of the best methods for debunking is the “truth sandwich” which directly addresses the misinformation, but wraps the false claims in facts.
- Above all, it is important to consider whether or not your approach will stifle or amplify the “social virus” of misinformation. **Avoid tactics that unnecessarily amplify the spread of misinformation.**
- When in doubt, prebunk. Prebunking always avoids repeating a false claim, whereas debunking addresses it directly.





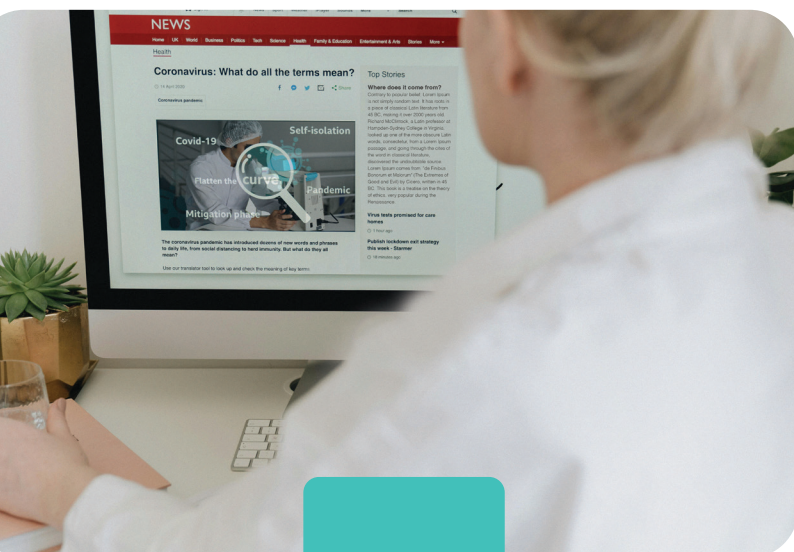
## A Public Health Perspective: The Impact of Misinformation

Misinformation is pervasive across disciplines, but there are unique impacts on the field of public health.

**Erosion of trust in public health:** Misinformation erodes trust by undermining the science, good intentions, and expertise that are the foundation of public health communications. This can happen in two ways.

First, the negative emotions of fear, anger, or outrage that are often associated with a piece of misinformation may become conflated with public health information more broadly. For example, if someone reads a scary piece of misinformation about a COVID-19 vaccine, they may become fearful of other types of vaccines, too.

Second, imagine a scenario where someone believes a piece of misinformation and then they find out the claim is untrue. After finding out the claim is untrue, they might mistakenly misplace the blame or skepticism on public health officials, instead of the original author of the misinformation.



### Compromised public health communications:

Misinformation almost always spreads at a faster speed than credible public health communications. If health misinformation is dominating someone's social media, it can compromise the ability of accurate information to break through their echo chamber – especially when online algorithms prioritize content that drives high engagement, like misinformation.

**Inequitable health outcomes:** Social and systemic inequities can make a person more susceptible to misinformation. As a result, misinformation has the power to influence decisions people make about their health and could lead to negative health outcomes.

For example, communities that have experienced racism or mistreatment by health providers or researchers may be *legitimately* fearful or skeptical of public health and related public health communications. This fear and skepticism – caused through no fault of the individual – may affect their interpretation of misinformation and have a direct impact on health decisions and outcomes.

Media literacy skills, or the ability to think critically about media messages and their influence, are also important for separating accurate information from inaccurate information. Lower levels of education or a lack of access to technology may result in lower levels of media literacy – leaving individuals more susceptible to misinformation.





## Actionable Takeaways: The Impact of Misinformation on Public Health

Once you've developed your response plan, use the following best practices to craft your communications.

- **Know your audience:** Understanding the social norms, biases, attitudes, and behaviors of your audience can help make communications more memorable and actionable. This can include developing [culturally driven communications](#) and prioritizing [social media accessibility](#). Find ways to talk to your audiences about their communications channel preferences to make sure your materials resonate, or use data-driven insights – like social media analytics or media monitoring – to find patterns that can inform your communications.
- **Start with the most important facts:** People have a short attention span, and it is only growing shorter in the digital age. They also remember the gist of information more easily than detailed facts and figures. Craft your communications accordingly – with the most important facts up front – and don't bury the lead in a long list of information.
- **Use plain language:** Make your communications easy to find, understand, and use by using plain language writing. Avoid jargon, use short, direct sentences, and organize information in a way that is easy to understand. [Read more about plain language for public health.](#)
- **Say what you know, but also what you don't:** To build a strong foundation of trust with your audience, be transparent about what you know, what you don't know, and what is being done to find answers. It is important to openly acknowledge that information may evolve based on emerging science, especially when [communicating about uncertainty](#). When answering tough questions that may detract from factual information, consider using [bridging statements](#) to stay grounded in core messages.
- **Make it timely:** When fighting a virus, outcomes are better when you respond quickly. The same is true for misinformation. Even if the situation is still evolving, open lines of communication with your audience to let them know you are tracking an ongoing situation and will share more information when you can.

Thank You

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This guide was developed in summer 2024 by the Public Health Communications Collaborative and informed by the Infodemiology Training Program.

### More Information

- » [Infodemiology Training Program \(ITP\)](#)
- » [Plain Language for Public Health](#)
- » [Strategies for Culturally Driven Public Health Communications](#)
- » [A Practical Guide to Prebunking Misinformation](#)
- » [Building Bridging Statements](#)
- » [Accessible Social Media for Public Health](#)
- » [Trusted Messengers Study](#)