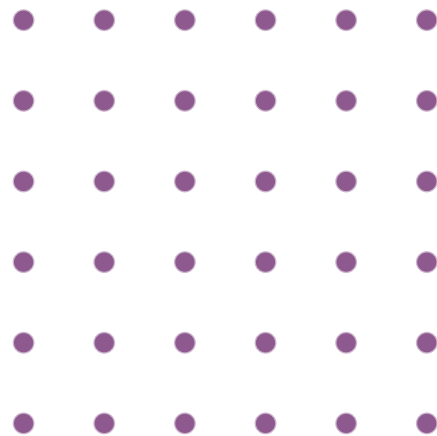


From unvaccinated to immunologist: using story to build trust in vaccine conversations



Elisabeth Marnik, PhD | Executive Director, The Evidence Collective



THE EVIDENCE COLLECTIVE

Science & Medicine Creators Uniting for Public Health.

Disclosures

Elisabeth Marnik, PhD, reports the following relationships with ineligible companies:

*Pfizer (one-time communication advisory board held in 2024)

*Sanofi (planned speaking engagement in Nov 2026)

All relevant financial relationships have been mitigated.

Elisabeth Marnik, PhD discloses that AI tools were only utilized in slide formatting.

Learning Objectives

At the completion of this activity, learners should be able to:

1. Describe how personal narrative and lived experience shape beliefs about vaccines and responses to scientific information.
1. Discuss storytelling techniques to embed scientific information in a way that improves retention and reduces resistance.
1. Identify prebunking strategies that build trust and prevent the spread of vaccine misinformation.



THE EVIDENCE COLLECTIVE

Science & Medicine Creators Uniting for Public Health.

30+ Subject Matter Specialists · 11B+ Reach over last year · 10M+ Combined Social Followers

Increase Speed

Rapid-response collaboration on emerging public health topics to equip trusted messengers to **prebunk** and address concerns.

Improve Coordination

Experts and creators working in silos produce fragmented, confusing messages. We coordinate across disciplines to speak with one clear voice.

Break Echo Chambers

The communities most impacted by false information don't always engage with institutions. We convene other trusted voices to reach them.

Close the skill gap

We train experts to turn solid evidence into clear, compelling messages that drive real engagement.

Supporters:



The Evidence Collective equips, upskills, and helps to sustain health communicators so they can bridge the gap between science and the public

**If we want to better reach people,
we must begin with understanding where
we are today.**

The "4 in 10" Reality

~4 in 10

Americans approve of how
Secretary Kennedy is handling
vaccine policy

- For millions, recent disruptions feel like long-awaited accountability
- People see institutions that stopped listening being forced to answer

The Paradox We're Living In

More

information at our fingertips
than ever before

Declining

trust in science and experts

The problem isn't simply access to evidence, because that isn't enough to reach people on its own.

Why Health Conversations Work Differently Today

The information environment people navigate has fundamentally changed.

The Old World

- Three TV networks and a local paper
- Doctors were the primary source of medical information
- Information mediated through institutions
- Misinformation limited by distribution

The New Reality

- Hyper-fragmented media and social platforms
- Parents have extensive information
- Misinformation spreads rapidly
- Experiences with cost and access shape trust

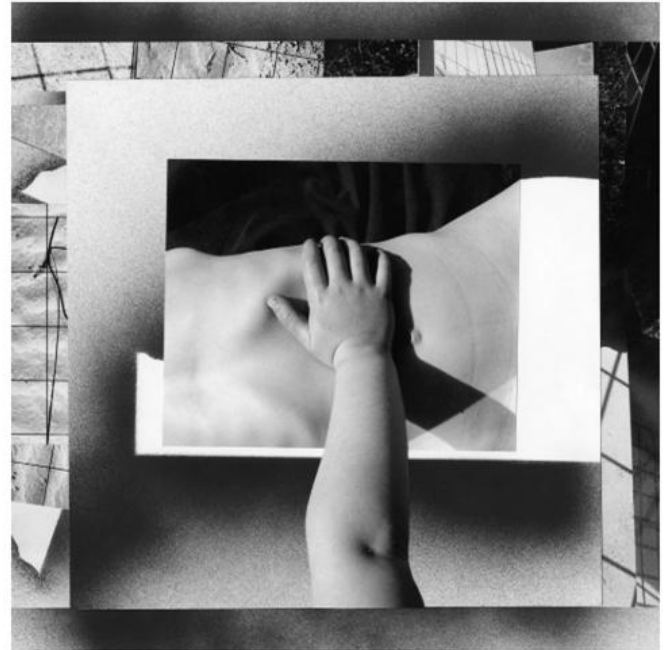
Increasingly, people are not looking for a single authority — they are looking for a trusted navigator to help them make sense of complexity.

**I grew up in a household
that didn't trust science
– including vaccines**

OPINION
GUEST ESSAY

I Grew Up Unvaccinated. Now I'm an Immunologist.

Feb. 27, 2026



Vanessa Woods

Source: *The NYT*

How would you reply?

Take a minute:

How do you react to seeing this?
How would you respond?



Oh great, now my baby boy is vomiting his guts out when he's supposed to be enjoying his holiday.

Dammit, I'm so sick of ignorant people not realizing that their vacc!ne shedding makes the rest of us sick EVERY FLIPPING TIME WE GO AROUND THEM!

Next year, if y'all are vacc!nated, count me and my kids out of your holiday festivities. 🙄

#KeepYourSheddingToYourself 1/2



**Moms, did you give your
children all their
recommended vaccines?**



When someone is confused or has questions these types of response aren't going to help:

 I think you should try to find some people who have had measles or polio and see how they feel about vaccines, or the lack thereof. Don't take my word for it, it's in a book, you can take a look. 📖 🌈 Probably several books, actually. Anyway, if you're not going to do it, I'm sure trying to find polio and measles survivors isn't gonna change your mind, so here's a tip: Costco sells coffins. They proly got itty bitty ones. For the kids.



I only vaccinated the kids I wanted to live.



All the recommend ones because I believe in evidence-based medicine.

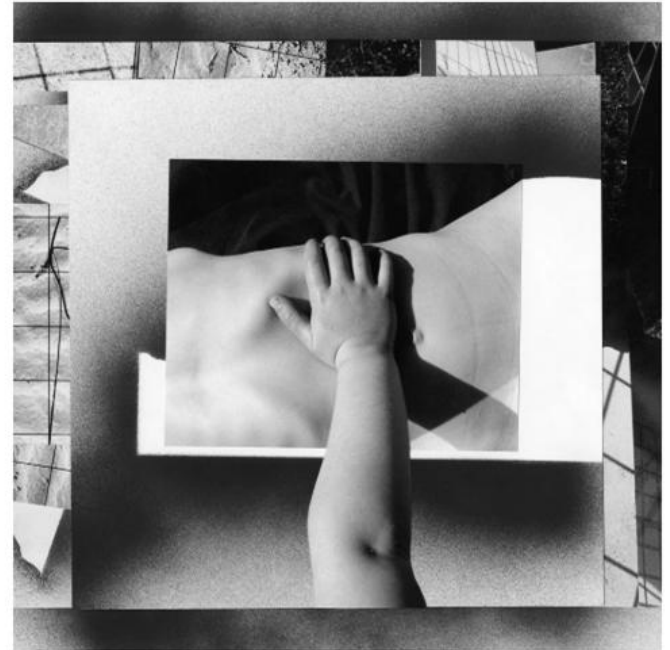
I changed my mind because of:

- People that met me with kindness, patience, curiosity and empathy.
- Building relationships.
- Information.

OPINION
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Source: The NYT

Leading with Empathy & Curiosity

Centering the person before information

Empathy & curiosity first

In a resistant conversation, information isn't the problem.

WHAT WE OFTEN DO

Launch with evidence, statistics, corrections

WHAT THE BRAIN HEARS

You are wrong. I am the authority.

WHAT ACTUALLY HELPS

Help the person feel heard first. People trust people. Be curious.

Values and identity

Frame information in a way that aligns with their identity or values. **Affirmation defuses defensiveness and opens the door for the information to be received.**

What values and identities do you resonate with?



Source: Google stock images

Identity		
Individualism	Family	Friends
Language	Philosophy	Personality
Religion	Race	Ethnicity
Nationality	Culture	Community
Disability	Class	Social Status
Consumer Culture	Politics	Lifestyle
Gender	Sexual Orientation	Profession
Hobbies	Memberships	Accomplishments
Media	Experiences	Concept
Expression	Digital Experiences	

Source: Simpllicable

Ways to show empathy

01



CARE & ASK

Affirm their identity and that they care. Then be curious. What do they already know or believe about this?

Do not start with correction.

02



LISTEN

Listen without judgment.
Let them feel fully heard before you say anything.

03



INVITE

Would you be open to hearing what I've seen/learned etc?

Example in action



Oh great, now my baby boy is vomiting his guts out when he's supposed to be enjoying his holiday.

Dammit, I'm so sick of ignorant people not realizing that their vaccine shedding makes the rest of us sick EVERY FLIPPING TIME WE GO AROUND THEM!

Next year, if y'all are vaccinated, count me and my kids out of your holiday festivities. 🙄

#KeepYourSheddingToYourself 1/2

👍 106 💬 1.5K ↻ 10 ➦ 12



sciencewhizliz ✓ 12/23/25



I can understand being upset your kid is sick. It is so hard seeing them that way. I am sorry this is ruining your holiday. I'm curious why you think it's due to vaccine shedding and not an actual virus going around? I'd love to hear more of your thought process. It's not possible to get a stomach bug from someone else's vaccine. Here's a great resource. happy to answer Q's too.

[texaschildrenshealthplan.org/sites...](https://www.texaschildrenshealthplan.org/sites...)

texaschildrenshealthplan.org

www.texaschildrenshealthplan.org

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Stories + Evidence



Evidence gives us information

Data alone doesn't always move people. It can be too abstract, feels impersonal and hard to understand its value.

Stories can help create meaning

story is what makes people care and act.

The anti-vaccine movement uses story to spread false information – and it's personal, emotional, character-driven.

We can include both evidence and a narrative that helps carry it.

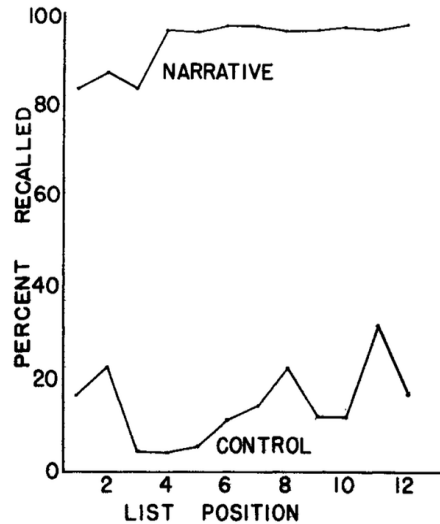
Providing more information is not enough.

“Many people deny science and reject health recommendations despite widely distributed facts and statistics. Didactic science and health communication is often dry, and relies on the false assumption that people make purely evidence-based decisions. Stories can be a powerful teaching tool by capturing attention and evoking emotion.”

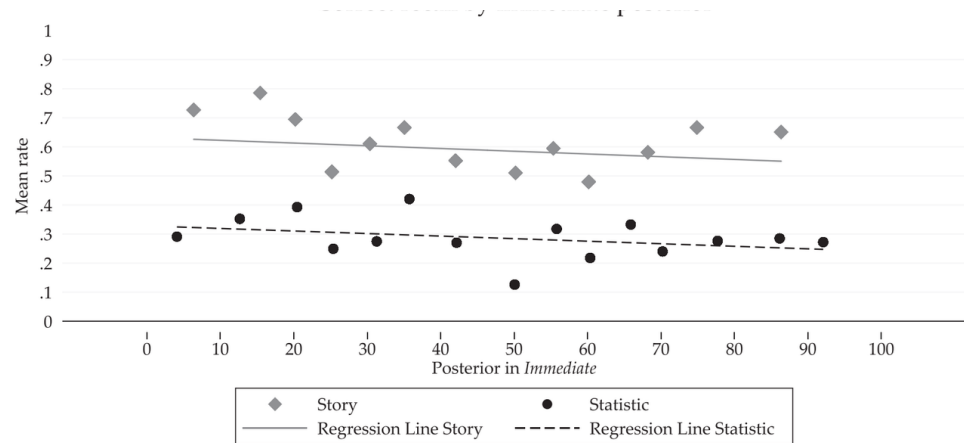
Dudley et al., Patient Education and Counseling, 2023

Narratives help the brain retain information

In controlled experiments, information embedded into stories was better remembered.



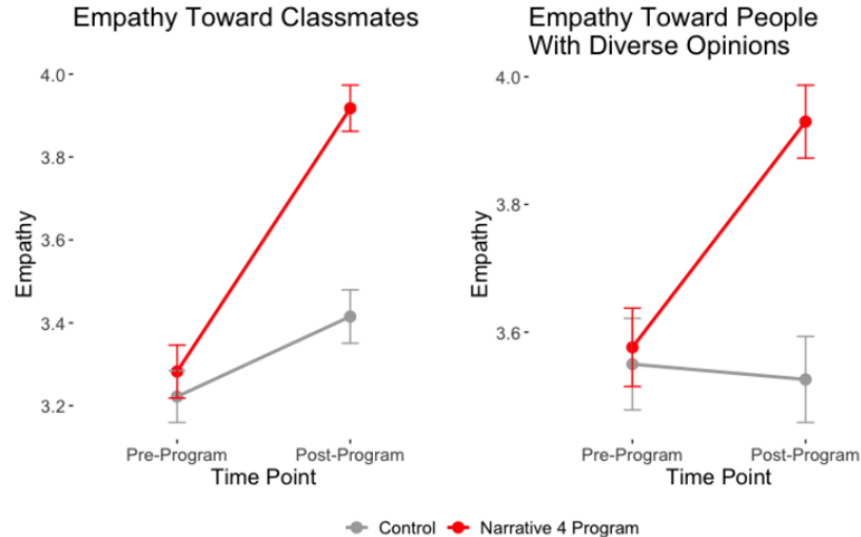
Source: Bower & Clark, *Psychonomic Science*, 1969



Source: Graeber et al, *The Quarterly Journal of Economics*, 2024

Narratives can promote empathy

In a recent preprint, students who participated in storytelling interventions reported striking results.



From Kubin et al, OSF preprint, 2026

Stories can better reach audiences

Storytelling approaches are particularly effective on topics where direct persuasion triggers resistance (e.g. vaccine hesitancy, HIV, sexual health, substance use) and also with communities that have been historically excluded.

EXAMPLES:

Improved cervical cancer screening

Narratives increased retention and action. “Women who saw the narrative were significantly more likely to have had or scheduled a Pap test”

Murphy et al, Am J of Public Health, 2015

Fostering behavior change

“Storytelling, in digital and oral formats, improved health knowledge, self-efficacy, and preventive behaviors.”

Nagarkar et al, Am J Health Promotion, 2025

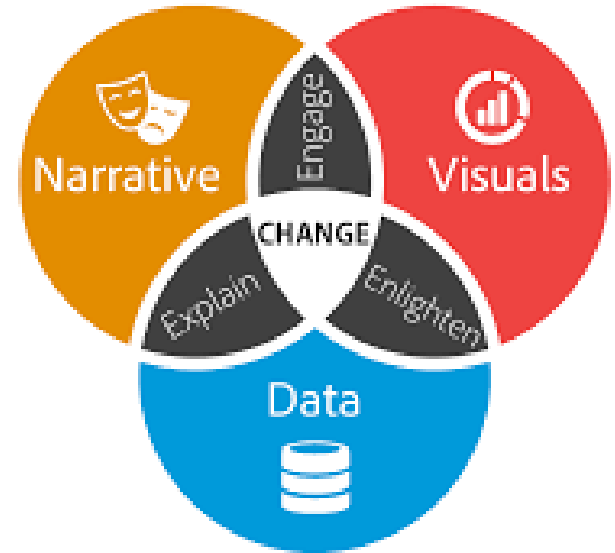
Increased mammograms in low-income African American Women

“The narrative video was better liked, enhanced recall, reduced counterarguing, increased breast cancer discussions with family members and was perceived as more novel. Women who watched the narrative video also reported fewer barriers to mammography, more confidence that mammograms work, and were more likely to perceive cancer as an important problem affecting African Americans.”

Kreuter et al, Patient Education & Counseling, 2010

What is data storytelling?

At its core, data storytelling is the ability to transform data into visual, written, and/or spoken narratives to enhance understanding and inspire action.



Source:
effectivedatastorytelling.com

What is data storytelling?



In public health, a well-curated data narrative will:

- Make data and information feel accessible and relevant
- Help people make sense of their personal experiences and the experiences of others
 - Nurture empathy
- Challenge sweeping generalizations about
 - A population, behavior, or event by providing nuance and context
- Include an implicit or explicit call to action

Knowledge Check -1

A patient says they heard that the COVID vaccine changes your DNA. Which opening do you think is the best one?

- A. COVID-19 vaccines change your DNA?! You may have heard this, but it isn't true.
- B. I understand why that's concerning to hear, but that's not true and not something to worry about.
- C. That is not true! We know that...
- D. I understand why that's concerning to hear. In fact, my own brother called me and asked me this exact question when the vaccines were first available...

Knowledge Check -1: Answer

A patient says they heard that the COVID vaccine changes your DNA. Which opening do you think is the best one?

- A. COVID-19 vaccines change your DNA?! You may have heard this, but it isn't true.
- B. I understand why that's concerning to hear, but that's not true and not something to worry about.
- C. That is not true! We know that...
- D. I understand why that's concerning to hear. In fact, my own brother called me and asked me this exact question when the vaccines were first available...**

Who?

Who is your audience of interest?

Who is doing the communicating?

...And how is power acknowledged, managed, and ***shared*** between speaker and audience?



Reference: [Bryan Mathers](#)

What if the *Who* Doesn't Involve You At All?

- Sometimes, it's not about *how* the story is told.
- It's about who is doing the storytelling, and whether they have a pre-established and positive relationship with the audience. This is where **Cultural Brokers/Trusted Messengers** are essential!

Adjusting the Same Message for Different Audiences

The data/core information stays the same, but the message framing should change depending on who you are communicating to:

Each audience has different:

- Goals
- Beliefs
- Values
- Fears
- Knowledge gaps

We need to keep our audiences in mind when communicating.

Caregivers

I want my loved ones to be healthy and I don't want to do anything that could hurt them.

Clinicians

I want to give the best and most accurate information to my patients.

Politicians

I want to represent the desires of my constituents while being thoughtful of the goals of other stakeholders.

Agency leadership

I want to make sure my employees are meeting expectations and our overall mission.

Watch your language:

Technical Accuracy vs. Plain Language

Plain language is not “dumbing it down.” It is opening the door.

- **Example:**

- Technical:

- “Incidence was higher among those unvaccinated”

- Plain language:

- “New cases were highest among people who were unvaccinated.”

Words that can be misunderstood & alternatives

Word / Phrase	What people hear	What should be used instead
Works	"This will fully stop the bad thing from happening."	"Reduces risk," "lowers the chance," "makes severe outcomes much less likely."
Effective	Guaranteed protection. I won't get sick.	"Highly protective," "provides strong protection against severe disease." "works by reducing risk of complications"
Immunity	"A force field that prevents infection."	"Immune protection," "immune response," "trained immune system."
Prevents	"This will never happen."	"Reduces the likelihood," "helps prevent," "lowers transmission risk."
Safe	"Zero risk, nothing can go wrong."	"Very low risk," "benefits greatly outweigh risks," "well-studied safety profile." "safer than diseases they prevent"
Protection	"I can't get sick at all."	"Protection against severe illness," "protection against hospitalization and death."
Misinformation	"You're saying I'm stupid or lying." Censorship	"Incorrect information," "inaccurate claim," "not supported by evidence." "false" "lies" "rumors"

Credit: Kristen Panthagani, MD, PhD. You Can Know Things.

Narrative Structure: The Anatomy of a Data Story

1. Situation

What is the context? What is happening?

2. Tension

What is the problem, gap, or challenge?

3. Insight

What does the data reveal?

4. Human meaning

What does this mean for real people?

5. Action

What should happen next?



Source: Google stock image

Example

You're talking to a friend who has a 12-year-old and she brings up concerns about her daughter getting the human papillomavirus (HPV) vaccine because of concerns they found online.

First: lead with empathy and curiosity –

I know you want to make the best health decisions for your daughter.
What concerns do you have about it?

[Pause and listen]

Ask – can I share with you why I will/did/would get my daughter vaccinated?

Example

1. Situation
2. Tension
3. Insight
4. Human Meaning
5. Action

I have a friend named Sarah who's a teacher and a mom. About fifteen years ago, her doctor found HPV during her pap smear. She'd been exposed years earlier, and her immune system couldn't clear it on its own. She ended up needing multiple procedures over two years to remove precancerous cells. She told me, "If the HPV vaccine had been available when I was younger, I wouldn't be going through this now." She was right.

The HPV vaccine prevents the main types of HPV responsible for 90% of cervical cancers. Millions of people have gotten it since 2006, and in countries with high vaccination rates, cervical cancer rates have dropped by 88%. I also looked into the concerns I hear online about fertility, about safety. Studies show no impact on fertility, and we have 18+ years of data showing it's safe. That's why I plan to vaccinate my kids once they're old enough. Getting them vaccinated before they have a risk of exposure helps lower the risk of cancer which is really amazing.

Do you have other questions? I am happy to talk with you more and connect you to resources if you want them.

The “So What” Test

After every data point or piece or information you want to share, ask yourself:

- *“So what does this mean for this audience? Why may this matter to them?”*

This allows you connect the information to the person's identity and values

Example:

- Data point: sexually transmitted infection (STI) rates increased among adolescents
 - So what for clinicians?
 - Screen and counsel.
 - So what for schools?
 - Strengthen prevention education.
 - So what for parents?
 - Create space for honest conversations.
 - So what for policymakers?
 - Fund youth-centered services.

The Role of Uncertainty

A strong story does not hide uncertainty. It explains it.

- What we know
- What we do not know yet
- What we are watching
- What action is still reasonable now



Source: Google stock image

Knowledge Check -2

What is the primary purpose of the 'so what' test when crafting a message?

- A. To check that the information is directly relevant to the specific audience's concerns and values.
- B. To ensure the message uses the appropriate statistics and connects to values.
- C. To verify that the information effectively contradicts common myths someone may be exposed to.
- D. To check that the information is relevant and accurate.

Knowledge Check -2: Answer

What is the primary purpose of the 'so what' test when crafting a message?

- A. **To check that the information is directly relevant to the specific audience's concerns and values.**
- B. To ensure the message uses the appropriate statistics and connects to values.
- C. To verify that the information effectively contradicts common myths someone may be exposed to.
- D. To check that the information is relevant and accurate.

Debunking vs. prebunking false information

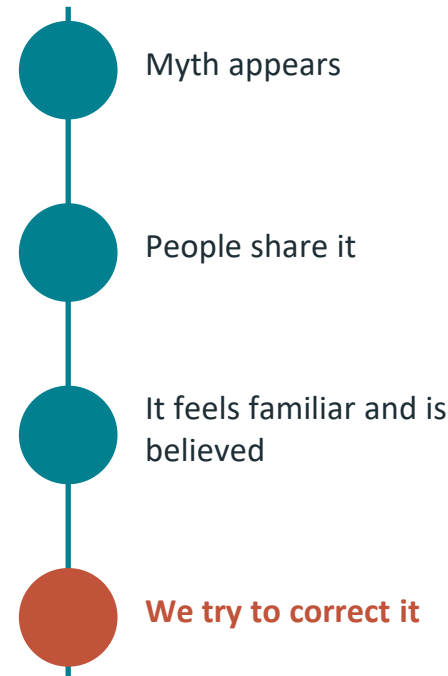
Why inoculation theory beats debunking

Debunking is valuable but an uphill battle

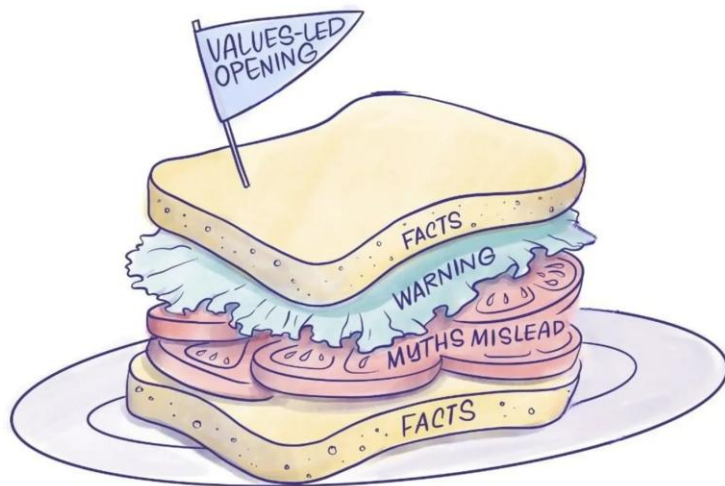
Repeating a myth can reinforce it.

The brain processes familiar information as true. The more we hear something, the more we are likely to believe it.

By the time we're correcting false information, many people have already seen it and may believe it.



The truth sandwich



TRUTH SANDWICH

* An adaptation by The Workshop of George Lakoff's Truth Sandwich.

Facts

Lead with the facts (make them simple and sticky using expert sources)



Warn about the myth

Warn your audience about the myth (just once)



Expose the manipulation technique

Explain how and why the myth is misleading (such as a conspiracy theory)



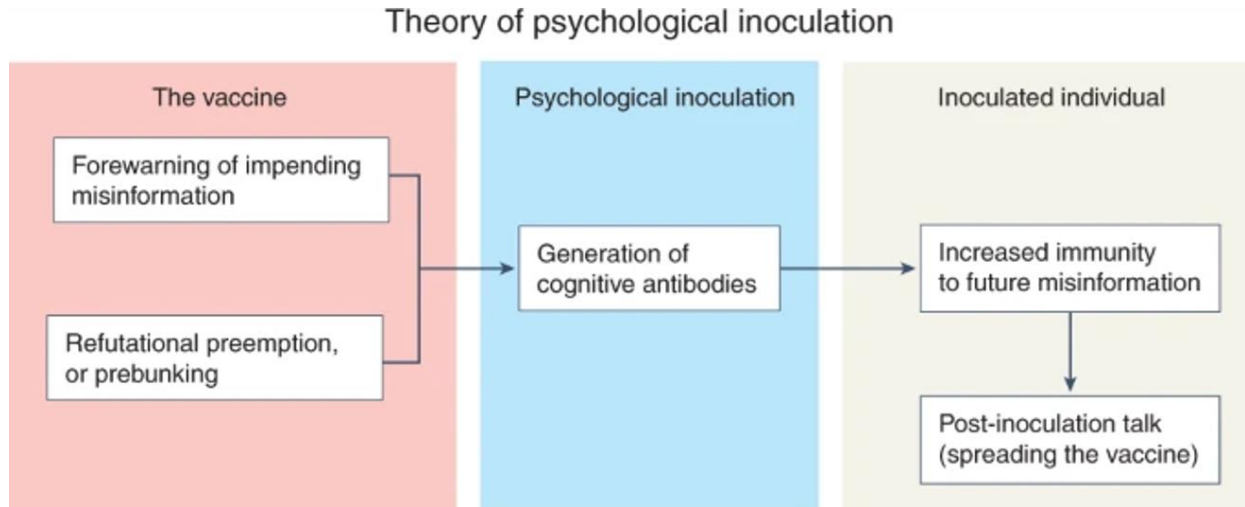
Facts

End by reinforcing the facts and provide a credible alternative explanation

Source: PMID: 35273402

Immunizing against misinformation

- Inoculation theory/ “pre-bunking”
- Helps people become less susceptible to misinformation over time.
- This requires advance preparation
 - E.g. Obstetricians and pediatricians preparing new parents for false information



Prebunking: Inoculation Before Exposure

DEBUNKING

→ Reactive — after exposure

→ Fights familiarity

→ Can reinforce the myth

→ Corrects the claim

PREBUNKING

→ Proactive — before exposure

→ Helps get ahead of myths

→ Builds cognitive resistance

→ Names the tactic, not just the claim

Three prebunking tips

01

Name the technique

*"You might hear claims that **use fear** about side effects to discourage vaccines. Here's what that looks like and why it's misleading."*

02

Flag it before it arrives

"Before your next appointment, I want to flag something you might see online that sounds convincing but leaves out important context."

03

Use trusted voices inside the community

Prebunking works best through messengers people already trust such as faith leaders, local figures, peer health workers.

Prebunking strategies

Fallacy	What it sounds like	Why it's misleading and how to prebunk
Correlation vs. Causation	"Autism rates increased with increased use of vaccines containing thimerosal."	Two things happening simultaneously don't mean one caused the other. Autism diagnoses continued rising even after thimerosal was removed from childhood vaccines.
Cherry-Picking Evidence	Citing one flawed study while ignoring dozens of high-quality studies showing the opposite.	Science relies on the weight of evidence, not individual studies, especially unvetted preprints.
Moving the Goalposts	When one safety concern is debunked, immediately shifting to a new concern without acknowledging the previous claim was wrong	This prevents productive discussion and suggests the conclusion (vaccines are dangerous) was predetermined.
False Balance	There are concerns on both "sides" when presenting one flawed study against the overwhelming scientific consensus.	Not all viewpoints deserve equal weight - evidence quality and consensus matter.
Appeal to Fear	Dramatically overstating small, well-understood risks while ignoring much larger disease risks	Fear-based messaging prevents rational risk assessment. Contextualize the information presented more globally, e.g., rather than allowing a discussion to focus on a singular risk of the vaccine, compare it to the diseases it prevents.

Source: *The Evidence Collective*

Remember it takes time

Plant seeds, and understand it can take time to see if any change in decisions result.

Your job is to keep the relationship strong so that when they're ready to reconsider, they come back to you—not to the random internet.



Source: Google stock image

Utilize your local community

We can't do this work alone. We can make the biggest impact by connecting with other trusted messengers and helping patients access them as well.

Consider finding pro-science and evidence based medicine organizations and people in your community to work with:

- Local non-profits
- Faith leaders
- Other medical providers



Source: Google stock image

Knowledge Check -3

True or false?

The most effective strategy for addressing misinformation is to wait until someone asks you about it or you see it spreading a lot on social media.

Knowledge Check -3: Answer

True or false?

The most effective strategy for addressing misinformation is to wait until someone asks you about it or you see it spreading a lot on social media.

False - Prebunking is most effective which means you prepare people ahead of time



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How we help:

- Access to our network of experts and communicators
- Partnerships on shared topic interests
- Topic and event briefs
- Webinar and trainings

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