
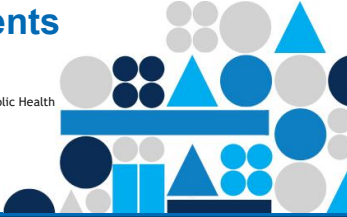


2024 COMMUNITY AND SCHOOL HEALTH PEDIATRIC CONFERENCE

# Give it Your Best Shot! Communicating with Vaccine Hesitant Parents

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## Objectives

By the end of this talk, audience members will be able to:

- Summarize current evidence on vaccine effectiveness, safety, and public health impact relevant to addressing hesitant patient questions.
- Describe common concerns and misconceptions contributing to vaccine hesitancy.
- Demonstrate communication strategies that combine empathy and evidence to build trust and support informed vaccine decision-making in one-on-one conversations.



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**PART 1**

## Why this Moment Matters

*Vaccine Preventable Diseases Return - Federal Disruption - Low Trust Environment*



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## How effective is the influenza vaccine in these vials?





Image: <https://www.gettyimages.com/detail/stock-photo/1049444444>

**“Vaccines alone don’t save lives; Vaccination saves lives”**



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### Immunizations protect America's children every day

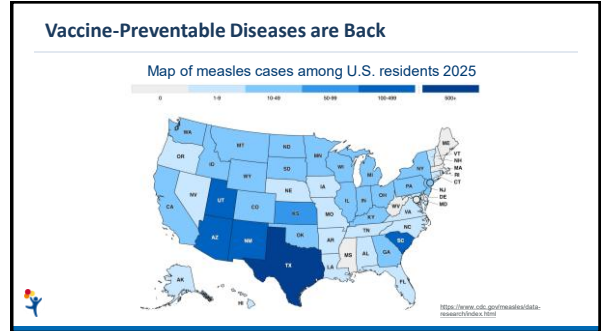
CDC estimates that vaccination of children born between 1994 and 2023 will:

- Prevent more than 500 million illnesses
- Avoid more than 1 million deaths
- Save nearly \$3 trillion

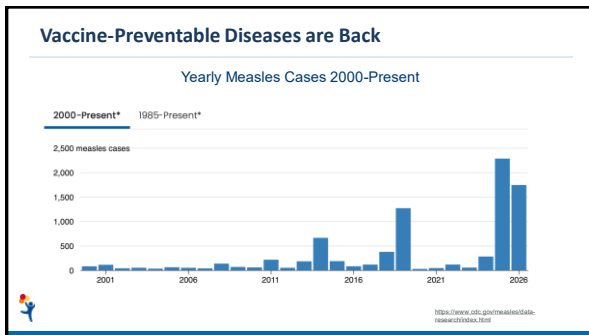
**August 6, 2020**

[https://www.cdc.gov/mmwr/volumes/73/wr/mm7311a2.htm?\\_id=mm7311a2\\_w](https://www.cdc.gov/mmwr/volumes/73/wr/mm7311a2.htm?_id=mm7311a2_w)

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### Why Measles? The Canary in the Coal Mine

## 12-18

Measles  $R_0$ : secondary cases from one infection. Highest of any vaccine-preventable disease

## 95%

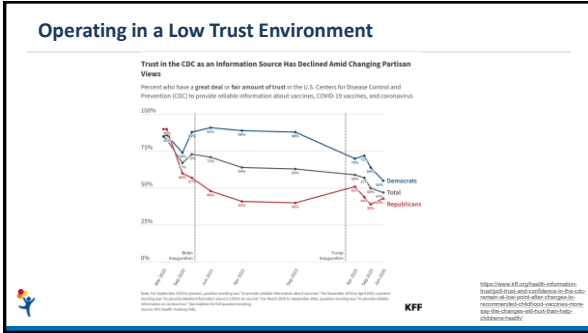
Community immunity threshold required to stop spread

## #1

First disease to return when vaccine coverage begins to erode

*When measles comes back, it signals that immunity gaps are wide enough for any vaccine-preventable disease to exploit.*

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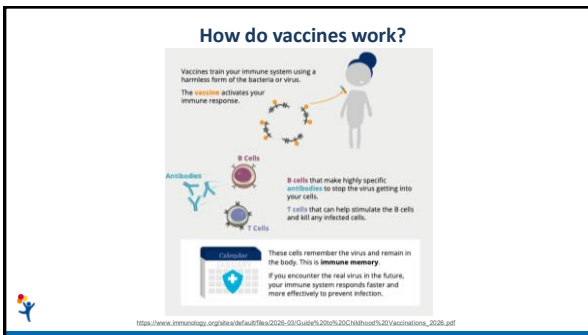
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## PART 2

# What are Vaccines?

Vaccines - Vaccine Ingredients

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### What's in a vaccine?

- Water**: The main ingredient.
- Active ingredient**: A very small amount of a harmless form of the bacteria or virus you are immunising against.
- Adjuvants**: Create a stronger immune response to the vaccine. Pose no significant risk to health in the very small quantities used. Example: Aluminium; naturally found in drinking water at higher levels.
- Preservatives and stabilisers**: Maintain vaccine quality, safe storage and prevent contamination. Example: Sorbitol; naturally found in fruit in larger amounts.
- Residual traces**: of substances that have been used during vaccine manufacture, measured as parts per million or billion in the final vaccine. Example: Formaldehyde; naturally found in human body.

https://www.immunology.org/sites/default/files/2020/08-03/Guide%20to%20COVID-19%20Vaccinations\_2020.pdf

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## Types of Vaccines

Vaccine Formulation	Examples
Live Attenuated	MMR, Polio (Sabin oral), Chickenpox (Varicella), Smallpox, Yellow Fever, Rotavirus, Influenza (nasal only)
Inactivated, Viral Inactivated, Bacterial	Influenza (injected), Polio (Salk), Rabies, Hep A, Pertussis, Cholera, Plague
Subunit, Recombinant, Polysaccharide and Conjugate	Influenza (some), Hep B, HPV, Hib, Pertussis (aka 'whooping cough'), Pneumococcal disease, Shingles (Varicella zoster)
Toxoid	Tetanus, Diphtheria
Viral Vector	SARS-CoV-2 (J&J, no longer in use)
mRNA	SARS-CoV-2 (Pfizer, Moderna)

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## PART 3

## How we Recommend Vaccines

Vaccine Recommendations · Safety Monitoring

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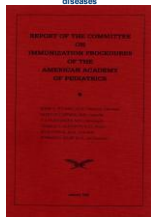
## Vaccine Recommendations Started with AAP



Personal photo

Prior to the creation of the ACIP in 1964, the main body that made recommendations on vaccine use in the U.S. was the Committee on Infectious Diseases (CID) of the American Academy of Pediatrics.

First Red Book, 1939; 8 pages, 18 diseases



Pfeising, Peter. *Redman, The Red Book Through the Ages*, Pediatrics, Nov 2013

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## Pre-ACIP Vaccine Recommendations

- **1960:** Public Health Service issued recommendations on the use of oral polio vaccine and influenza vaccine
- **1962:** Advisory Committee on Poliomyelitis Vaccine
- **1963:** Advisory Committee on Measles Vaccine

Crowd waiting for polio vaccination (1962)



Historyofvaccines.org

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### Formation of ACIP: 1964

- Proliferation of new vaccines made ad hoc committee approach untenable.
- ACIP formed to consider “disease epidemiology and burden of disease, vaccine efficacy and effectiveness, vaccine safety, economic analyses and implementation issues”



CDC, Clifton Road Campus (1960)



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### Vaccine Recommendations: 1960s to 1990s

- Large measles outbreaks in late 1980's/early 1990's
- **1989:** both ACIP and AAP recommend a second dose of MMR for all children
- Although AAP and ACIP worked closely, differences in schedules persisted
  - Biggest difference was timing of second MMR dose – ACIP (4-6); AAP (11-12)

Sixth grader shows proof of immunization against the measles in 1989.



PBS News, Photo By Glen Martin/The Denver Post



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### Vaccine Recommendations: 1960s to 1990s

- **1993:** CDC convened summit with AAP and other societies to develop strategies to eliminate VPDs by vaccinating 90+% of US children by age 2
- One outcome of this summit - resolution to develop a single, easy-to-understand schedule and format for routine childhood vaccines

Rosalynn Carter, Betty Bumpers and the babies celebrate the launch of Every Child By Two



Source: Vaccinate Your Family



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### First Harmonized Immunization Schedule

#### Recommended Childhood Immunization Schedule United States - January 1995

Vaccines are listed under the routinely recommended ages. Shaded bars indicate range of acceptable ages for vaccination.

Age Vaccine	Birth	2 mos	4 mos	6 mos	12 mos	15 mos	18 mos	4-6 yrs	11-12 yrs	14-16 yrs
Hepatitis B <sup>1</sup>	Hep B-1									
Diphtheria, Tetanus, Pertussis <sup>2</sup>		DTP	DTP	DTP	DTP or DTaP at 15+ m			DTP or DTaP	Td	
H. influenzae type b <sup>3</sup>		Hib	Hib	Hib	Hib					
Polio		OPV	OPV	OPV				OPV		
Measles, Mumps, Rubella <sup>4</sup>					MMR			MMR	MMR	

<sup>1</sup> Infants born to HBsAg-positive mothers should receive the second dose of hepatitis B vaccine before age 1 month. <sup>2</sup> Shaded bars indicate range of acceptable ages for vaccination. <sup>3</sup> Hib vaccine is not recommended for children with certain immunodeficiencies. <sup>4</sup> MMR is not recommended for children with certain immunodeficiencies. <sup>5</sup> MMR is not recommended for children with certain immunodeficiencies.



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## PART 4

## The Vaccine Information Ecosystem

Vaccine Information Ecosystems · Vaccine Hesitancy Continuum · Social Media



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## Let's Play a Game: 1800s or 2026?

"Vaccination has caused more deaths since its introduction than those caused by war or famine." -1800s

"Vaccination is a method of mass destruction, a method of depopulation." -2026

"The facts, though often suppressed by pro-vaccination activists, have always been accessible to people who are willing to question." -2026

"Vaccination provides no protection. When exposed to infection, people suffer just as much as others." -1800s



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Cowpox vaccine, 1802

Image: Library of Congress, Prints & Photographs Division, LC-USZ62-3162, converted to JPEG with the GIMP 2.4.3, image quality 88. Downloaded from Wikimedia Commons.



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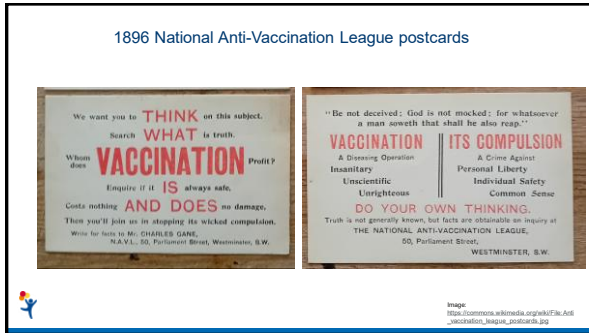
"Death the Vaccinator", published by the London Society for the Abolition of Compulsory Vaccination in the late 1800s



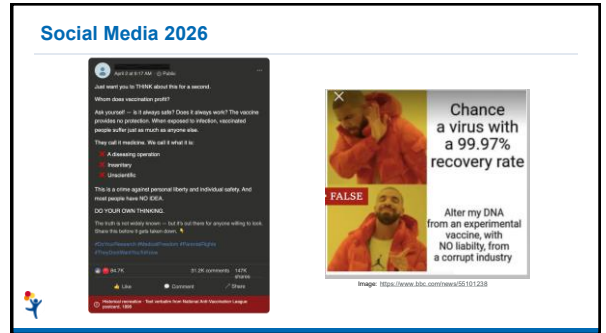
Image: [https://commons.wikimedia.org/wiki/File:London\\_Society\\_for\\_the\\_Abolition\\_of\\_Compulsory\\_Vaccination\\_1860.jpg](https://commons.wikimedia.org/wiki/File:London_Society_for_the_Abolition_of_Compulsory_Vaccination_1860.jpg)



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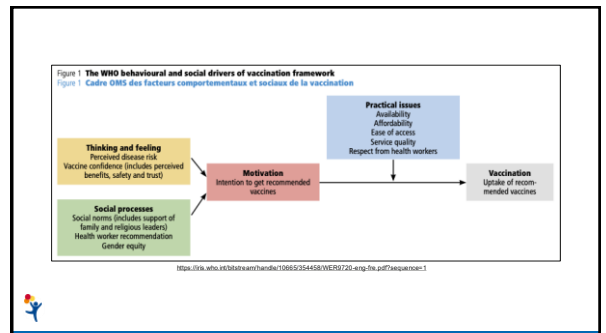
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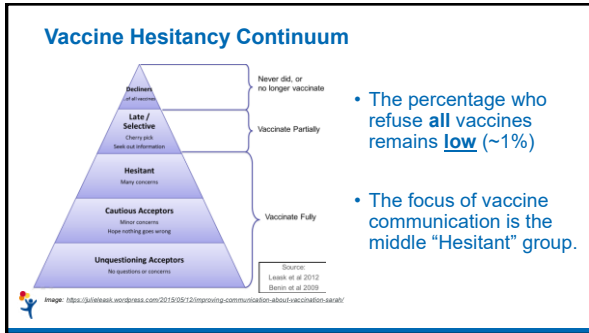
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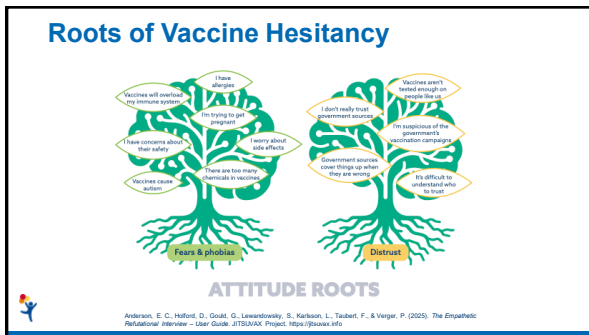
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Most parents vaccinate their children without hesitancy according to the recommended schedule!

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### Roots of Hesitancy

#### Distorted risk perception

A skewed idea of the risks and benefits.  
Believing a disease is less damaging than vaccination against it.  
- e.g. 'It's just a cold, I don't need to risk vaccination for that.'

#### Distrust

A lack of trust in sources, often authorities which may include scientists, medics, pharmaceutical companies or politicians.  
Suspicion of vaccination because of who endorses it.  
- e.g. 'The vaccine was rushed out without proper testing'

#### Worldview and politics


Political views or opinions about how society should be organised.  
A sense that vaccination goes against how society should operate.  
- e.g. 'The vaccines someone should take should be determined by a medical doctor, not a politician.'

Anderson, E. C., Helford, D., Guak, G., Leventhewsky, S., Karlsson, L., Toubert, F., & Verger, P. (2025). The Empathetic Refusional Interview – User Guide. JTSU/AVAX Project. <https://jtsuax.info>

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### Common concerns and misconceptions: Autism

The Lancet (1998), Wakefield et al. suggest a relationship between MMR vaccine and autism



- Case series methodology (12 cases)
- Most cases were self-referrals from anti-vaccine groups
- Several cases' symptoms began before (5) MMR vaccine
- Before submission, Wakefield had applied for patents on a vaccine to rival MMR vaccine
- Wakefield received >£400,000 from lawyers to prove the MMR vaccine was dangerous

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### Common concerns and misconceptions: Autism

**Table 1. Studies that fail to support an association between measles-mumps-rubella vaccine and autism.**

Source	Study design	Study location
Taylor et al., 1999 [5]	Ecological	United Kingdom
Farrington et al., 2001 [6]	Ecological	United Kingdom
Kaye et al., 2001 [7]	Ecological	United Kingdom
Dales et al., 2001 [8]	Ecological	United States
Fombonne et al., 2006 [9]	Ecological	Canada
Fombonne and Chakrabarti, 2001 [10]	Ecological	United Kingdom
Taylor et al., 2002 [11]	Ecological	United Kingdom
DeWilde et al., 2001 [12]	Case-control	United Kingdom
Makela et al., 2002 [13]	Retrospective cohort	Finland
Madsen et al., 2002 [14]	Retrospective cohort	Denmark
DeStefano et al., 2004 [15]	Case-control	United States
Peltola et al., 1999 [16]	Prospective cohort	Finland
Patja et al., 2000 [17]	Prospective cohort	Finland

Image: Corbis JS, Offit PA. Vaccines and autism: a tale of shreds and hypotheses. Clin Infect Dis. 2009;48(6):656-661. doi:10.1093/cid/cin976


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### Common concerns and misconceptions: "Too many, too soon"

#### "Too Many Too Soon" Is a Myth

Babies' immune systems can handle far more than the vaccines they receive.

Daily exposure to germs, food, and the environment challenges the immune system way more than vaccines do.

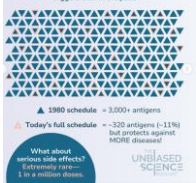


**UNBIASED SCIENCE**

Research estimates that a baby's immune system is exposed to 30,000 vaccines at once based on their immune system's capacity.

#### Are All These Shots Safe?

Vaccines today expose kids to fewer immune triggers than in the past!



▲ 1980 schedule = 3,000+ antigens

▲ Today's full schedule = ~320 antigens (~11%) but protects against MORE diseases!

What about nervous system effects? Extremely rare—less than a million shots.

**UNBIASED SCIENCE**

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### Common concerns and misconceptions: Vaccine Ingredients

#### Why is aluminum used in vaccines?

Aluminum is used as an **adjuvant** in some vaccines to enhance immune response and improve effectiveness. It was the first adjuvant approved for human vaccines and remains widely used today.

Aluminum adjuvants work by:

- Prolonged Antigen Exposure**: Aluminum adjuvants bind to the vaccine antigen (the part that triggers the immune response) and slowly release it, allowing the immune system more time to recognize and react to it.
- Immune Stimulation**: Aluminum adjuvants also cause mild inflammation. Signals are released from cells which activate immune pathways and encourages the production of antibodies.

Aluminum adjuvants reduce the amount of antigen needed, leading to **fewer doses** and a **lower risk of side effects**.

#### Aluminum Exposure

- Aluminum is the 3rd most abundant element on Earth.
- It's naturally found in food, water, and air.
- Aluminum is used in extremely tiny doses in some vaccines (e.g., DTaP, pneumococcal conjugate, HPV, and hepatitis B), but not in live vaccines like MMR, Chickenpox, or polio.

**ADULTS**

- Adults ingest 7-9 mg daily through their diet.

**INFANTS**

Over 6 months, an infant gets around 4 mg of aluminum from vaccines.

Compare this with dietary intake:

- Breastfed infants: 7 mg
- Formula-fed infants: 38 mg
- Soy formula-fed infants: 177 mg

**UNBIASED SCIENCE**

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## Common concerns and misconceptions: Aluminum



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## Common concerns and misconceptions

### Correlation ≠ Causation



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## PART 6 a

# Evidence-Based Vaccine Communication

What People Need · Things to Avoid



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## What Families need

### What they're asking us:

- "What is recommended now?"
- "Why are there different recommendations?"
- "I'm just confused."

### What they want from us:

- A trusted navigator with expertise
- A clear recommendation
- Reassurance that *they can trust you*



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## If Parents Have Questions: Lead With Empathy



### 1. Parents are understandably confused

- News headlines
- Social media
- Conflicting messages

### 2. Your first move = empathy and partnership

#### Example language:

*"I can see why this feels confusing. There are a lot of conflicting messages. Ultimately, this is your decision to make. Do you mind sharing why you are hesitant to vaccinate?"*

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## Addressing Vaccine Hesitancy: What to avoid



Image: <https://www.shutterstock.com/image-vector/stop-do-not>

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## The Fear Appeal

### Effective Messages in Vaccine Promotion: A Randomized Trial

BYRON B. NEFFER, PH.D., JASON NEFFER, PH.D., STEPHEN RICHIEY, PH.D., and GARY L. FRIED, M.D., MPH\*

WHAT'S NEW ON THIS SUBJECT: measles-mumps-rubella immunization

- Parents were randomly assigned to receive 1 of 4 interventions:
- (1) info explaining the lack of evidence that MMR causes autism
  - (2) info about measles, mumps, and rubella from VIS
  - (3) images of children with measles, mumps, rubella
  - (4) a dramatic narrative about a severe case of measles
  - (5) Control group

Byron B. Neffer, Jason Neffer, Stephen Richiey, and Gary L. Fried. Effective messages in vaccine promotion: a randomized trial. *Pediatrics*. 2014;133(4):e835-e842. doi:10.1542/peds.2013.2365

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## The Fear Appeal

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WHAT'S NEW ON THIS SUBJECT: measles-mumps-rubella immunization

- None of the interventions increased parental intent to vaccinate, and they often **BACKFIRED**
- Refuting claims of an MMR/autism link **decreased** intent to vaccinate among parents who had the least favorable vaccine attitudes
- Images of sick children **increased** expressed belief in a vaccine/autism link

Byron B. Neffer, Jason Neffer, Stephen Richiey, and Gary L. Fried. Effective messages in vaccine promotion: a randomized trial. *Pediatrics*. 2014;133(4):e835-e842. doi:10.1542/peds.2013.2365

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### The Backfire Effect

**PUBLIC HEALTH**  
**CDC communication undermines trust in vaccines**  
Uncertainty-based framing raises doubt, lowers vaccination intentions, and boosts science denial  
Robert Bittorf<sup>1</sup>, Ulrike Schneider<sup>2</sup>, Corinna Betsch<sup>3</sup>, Lou Liberman<sup>4</sup>

After the CDC revised its vaccine-autism webpage in November 2025 to suggest the link "has not been ruled out," researchers tested three conditions:

- (1) the old consensus-based statement
- (2) the new "uncertainty-based" statement
- (3) no statement at all

Bittorf R, Schneider A, Betsch C, Liberman L. CDC communication undermines trust in vaccines. Science. 2026 Apr 30;392(6797):475-477.

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### The Backfire Effect

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- **The expected finding:** The "uncertainty-based" CDC statement reduced vaccination intentions and increased endorsement of science-denial strategies.
- **The underreported finding:** Among parents, vaccination intentions for their children were lower in both statement conditions compared to receiving no information at all – including after reading the consensus-based statement that says vaccines do NOT cause autism.
- **Take-home point:** Simply raising the vaccine-autism question, even to debunk it, may activate doubt in some parents. Be deliberate about how you open the conversation.

Bittorf R, Schneider A, Betsch C, Liberman L. CDC communication undermines trust in vaccines. Science. 2026 Apr 30;392(6797):475-477.

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### The Data Dump

What if we just give them more information?

Information deficit model = "data dump"

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### The Persuasion Trap

This assumes these decisions are simple decisions made on scientific-based logic alone.

**Why it backfires:**

- Pressure can harden hesitancy
- People feel judged or dismissed
- Trust must come first

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## The Debate Trap



Vaccine conversations are NOT debates



### Why it backfires:

- Debate shifts focus away from relationship
- Triggers **defensiveness** and **identity protection**
- Reinforces misinformation through repetition



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## It's Not Just About the Facts

How we communicate about vaccines is just as important as What we communicate.

The facts are **necessary** but often **not sufficient**.



Image: <https://www.bridgerr.com/special-report/introduction-to-facts-2018-entirepage>

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## PART 6 b

## Evidence-Based Vaccine Communication

Face-to-face communication: Announcement Format · Motivational Interviewing · Myth Busting



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## Parent Responses

Start the vaccine conversation by presuming parents or patients are interested in vaccinating. And make a clear recommendation.

Example: "Madison's records show she's missing her second MMR dose." or "John is due for 3 shots."

Parent wants vaccines (with or without subsequent questions)

Example: "OK."

Parent responds with questions or concerns

Example: "Umm... what are the side effects?"

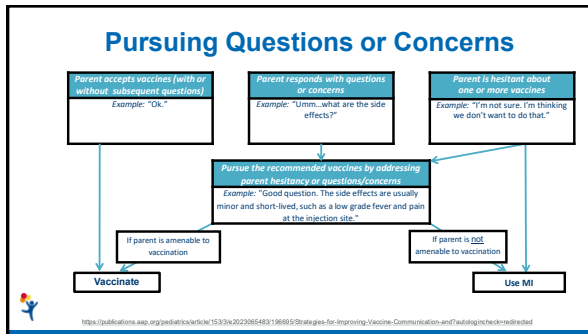
Parent is hesitant about one or more vaccines

Example: "I'm not sure. I'm thinking we don't want to do that."



<https://publications.aap.org/pediatrics/article/153/3/e20220654/3/156695/Strategies-for-Improving-Vaccine-Communication-and-Autolog-check-needed>

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### What is Motivational Interviewing (MI)?

- 1 Partnership
- 2 Acceptance
- 3 Compassion
- 4 Evocation
- 5 Empathy

Motivational interviewing is a patient-centered, guiding communication style for enhancing a person's **own** motivation for change or behavioral activation.

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### Why use MI with a Vaccine-hesitant Parent?

- MI is effective and efficient.
- What we think will change someone's mind:
  - Persuasion
  - Knowledge and facts
- What actually leads to change:
  - Connecting to a person's values
  - Ambivalence toward change is typical

Image: <https://www.rn.org/conditions-and-care-area/pediatrics/pediatric-urology>

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### Motivational Interviewing 101

- **Open-ended questions**
  - Curiosity! Explore and understand parent's stance.
- **Reflections and Affirmations**
  - Improves parent engagement by helping them feel supported, appreciated, and understood.
- **Ask permission to share**
  - Encourages partnerships, deepens rapport, and allows a parent to understand themselves and their motivations on a deeper level.
- **Autonomy support**
  - Enhances a parent's sense of control and makes them feel more at ease with the conversation.

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## Motivational Interviewing 101

- **Open-ended questions**
  - "Can you tell me about your concerns?"
  - "What potential benefits do you see to vaccinating your daughter today?"
- **Reflections and Affirmations**
  - "It sounds like you are worried about the side effects of the vaccine."
  - "You clearly care a lot about your child's health."
- **Ask permission to share**
  - "Would you mind if I shared with you why I think this is an important vaccine to get today?"
- **Autonomy support**
  - "Ultimately, this is a decision that only you can make".

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## How to Deal with Myths

<b>FACT</b>	Lead with the fact if it's clear, pithy, and sticky—make it simple, concrete, and plausible. It must "fit" with the story.
<b>WARN ABOUT THE MYTH</b>	Warn beforehand that a myth is coming... mention it once only.
<b>EXPLAIN FALLACY</b>	Explain how the myth misleads.
<b>FACT</b>	Finish by reinforcing the fact—multiple times if possible. Make sure it provides an alternative causal explanation.



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## How to Deal with Myths - Example

**Parent:** "I have heard the HPV vaccine causes infertility." Fact

**Provider:** "That's a common concern. The HPV vaccine is safe and very important because it prevents cancer. Would it be OK if I share some important facts with you that may help clarify this myth?" Ask permission to share

**Parent:** "OK" Fact

**Provider:** "The HPV vaccine does not cause infertility. Extensive research from around the world has found no evidence supporting this claim. Ensuring your daughter receives the HPV vaccine can actually protect her future fertility by preventing certain types of cancer that could impact it later on." Explain fallacy

Fact

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## Examples

**Patient:** "I've seen a lot about how the MMR vaccine causes autism. I'm not sure I want my child to get it."

**The Trap** "Actually, that's wrong. The CDC changed their website recently for political reasons and you can't trust them or anything you see on social media. Measles is bad, it can kill your child..."

**Try This Instead** "It makes sense that you would have questions, there's a lot of confusing information out there, and you want to make sure this is safe. Can I share what we know about where that concern came from?"

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### Values: Meeting People Where They Are

Meeting people where they are means integrating an understanding of values, customs, and traditions into your approach, without making assumptions.

#### Authentic Interaction

Many cultures prioritize face-to-face conversations and meaningful connections over efficiency. Taking time to build trust, without rushing, refraining from judgment, and meeting people where they are, can strengthen the provider-patient relationship and improve health outcomes.

#### Learn About Your Community

Invest time in understanding the people you serve. Where do they come from? What religions are practiced? What foods are meaningful? These details help you connect authentically, communicate more effectively, and create a welcoming environment for all patients.



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### How to Spot Misleading Claims: Prebunking

- Just as vaccines build immunity to disease, **psychological inoculation** (“pre-bunking”) builds immunity to misinformation
- Exposes people to common manipulation tactics
- Teaching patients how falsehoods spread helps them **spot and resist misinformation**

**MISINFORMATION STARTS WITH A FEELING**

One year, a misleading claim is made. A year from now, your coach drops. That feeling is normal. In fact, people who avoid false health claims naturally.

They've built up stronger emotional reactions before critical thinking.

**WHY THIS MATTERS**  
Misleading claims are everywhere! Once you recognize the patterns, you can confidently evaluate any claim.

**THE GOOD NEWS!**  
The reality works if you don't let them come in!

**WHAT YOU CAN DO**

- Talk with your doctor, healthcare team, or a trusted caregiver. You bring it up.
- Ask questions. You will not be judged or labeled as uneducated.
- Please, before you share online or with other people.

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### How to Spot Misleading Claims

**8 SIGNS A HEALTH CLAIM ISN'T TRUSTWORTHY**

- **AM I BEING OFFERED A SIMPLE FIX TO A COMPLEX PROBLEM?**  
Watch for: Overly simple
- **AM I BEING OFFERED A SIMPLE FIX TO A COMPLEX PROBLEM?**  
Watch for: Overly simple
- **IS THIS CLAIM TRYING TO MAKE ME FEEL A WAY?**  
Watch for: Emotional manipulation
- **DOES IT USE UNCERTAINTY TO DENY THE SCIENCE?**  
Watch for: Exaggerated science
- **DOES IT CLAIM TO BE FAST AND EASY?**  
Watch for: Exaggerated claims
- **IS SOMEONE PROFITING FROM THIS CLAIM?**  
Watch for: Conflicts of interest
- **WHERE DO THE INFORMATION COME FROM?**  
Watch for: Fake experts
- **COULD THIS HAVE BEEN COVERED BY A P?**  
Watch for: Unethical sources


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Resources

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### Where Can I Find Credible Information?

- Clinical Guidance**
  - AAP, AAFP, ACOG, ACP, etc
  - Immunize.org
  - IDSA
  - NFID
- For Patients & Students**
  - CHOP Vaccine Education Center
  - Voices for Vaccines
  - Vaccinate Your Family
  - HealthyChildren.org (AAP)
- Stay Current**
  - CIDRAP/Vaccine Integrity Project
  - The Evidence Collective
  - Unbiased Science
  - Community Immunity Substack



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**“Vaccines alone don’t save lives; vaccination saves lives.”**



Image: <https://www.aap.org/newsroom/campaigns-and-tools/immunizations/gallery>

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## Thank You

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