



VACCINE HESITANCY TOOLKIT:

Ways to Address Misinformation
& Disinformation About Vaccines.

This project was developed in coordination with Illinois Chapter, American Academy of Pediatrics and supported by the Centers for Disease Control and Prevention of the U.S. Department of Health & Human Services. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, or the U.S. Government.

TABLE OF CONTENTS

Introduction 3

What are Misinformation & Disinformation? 4

Misinformation, Disinformation, and Vaccine Hesitancy 6

 How Do Misinformation and Disinformation Spread? 7

 What Drives Vaccine Hesitancy? 9

Addressing Misinformation and Disinformation 11

 Individual 12

 Clinical Room 13

 Motivational Interviewing 15

 Clinic System 17

Vaccine Refusal 19

Resources 21





INTRODUCTION

The COVID-19 Pandemic created widespread and long-lasting societal disruptions. It brought to light the deeply rooted inequities within our society and created opportunities for bad actors to spread disinformation. These inequities, along with rampant mis- and disinformation has increased vaccine hesitancy throughout the United States. This toolkit was developed with pediatric healthcare providers in mind to take actionable steps in mitigating the impact of mis- and disinformation and increasing vaccine confidence.

Throughout this toolkit, we refer to both misinformation (false but not intended to deceive) and disinformation (false and deliberately misleading), as both contribute to vaccine hesitancy.



A photograph of a man and a young girl looking at a tablet together. The man is on the right, smiling, and the girl is on the left, looking down at the tablet. The image is overlaid with a semi-transparent blue filter. The title text is centered over the image.

WHAT ARE MISINFORMATION & DISINFORMATION?



UNDERSTANDING THE TERMINOLOGY

Before we dive into specifics, it is important we are on the same page about all the newest terminology.



Misinformation defined:

Unintentionally or unknowingly giving out false or inaccurate facts.

Ex: A neighbor tells you that they heard COVID-19 vaccines have microchips for tracking. This neighbor may very well believe this information and may not necessarily know they are sharing untrue information.



Disinformation defined:

False information, which is intended to mislead, especially propaganda issued by a government organization to a rival power or the media. Deliberately misstating facts, thereby spreading fear and suspicion among the public.

Ex: If a political leader claims that COVID-19 is no worse than the flu, despite knowing otherwise, that is disinformation. When an individual hears this, believes it, and then spreads this knowledge, that is misinformation.



Vaccine hesitancy defined:

The reluctance or refusal to have oneself or one's children vaccinated despite the availability of vaccines. Often stemming from lack of information or presence of mis- or disinformation about the vaccine.



Vaccine confidence defined:

Belief that vaccines work, are safe, effective, and are part of a trustworthy medical system. It is also the trust that patients, their families, and providers have in recommended vaccines, providers who administer vaccines, and processes and policies that lead to vaccine development, licensure or authorization, manufacturing, and recommendations for use.





MISINFORMATION, DISINFORMATION, AND VACCINE HESITANCY



HOW DO MISINFORMATION & DISINFORMATION SPREAD?

During the initial stages of the pandemic, the internet and social media platforms were rampant with unreliable and dangerous health information. Communities were seeking reliable health information and were confronted with confusing and often conflicting recommendations.

A [national survey](#) conducted by the Kaiser Family Foundation found that 96% of adults said they have heard at least one health-related misinformation claim. During the lockdown, most individuals also did not have direct access to trusted health messengers to ensure they were receiving medically accurate information.

Service disruptions paired with an overwhelming amount of virus and vaccine information created the breeding ground for mal-intended individuals to stroke fear and reach vulnerable communities. Disinformation campaigns are maliciously crafted and targeted to prey on people's fear and existing mistrust. Facebook is the online platform where the most amount of misinformation and disinformation gets spread, but Instagram and Twitter are also rampant with both.

Disinformation campaigns use specific tactics to ensure their messages go viral and spread quickly across social media, including:

- Exploiting information gaps
- Failing to provide context
- Including a small kernel of known truth
- Sowing doubts about scientific consensus
- Exaggerating partisan grievances
- Presenting fringe views as mainstream

Disinformation campaigns, particularly online, intentionally exploit fear, mistrust, and gaps in communication to fuel confusion and increase vaccine resistance.



Source: <https://yourlocalepidemiologist.substack.com/p/the-science-and-business-behind-covid>





WE'RE IN THE MAJORITY

While it may seem like there are hundreds and thousands of malicious anti-vaccine messengers spreading disinformation online, in reality it is a much smaller group. Researchers found there are 12 main culprits, titled the “disinformation dozen”, who are responsible for over 65% of online anti-vaccine content ([Center for Countering Hate](#), 2021).

DISINFORMATION DOZEN

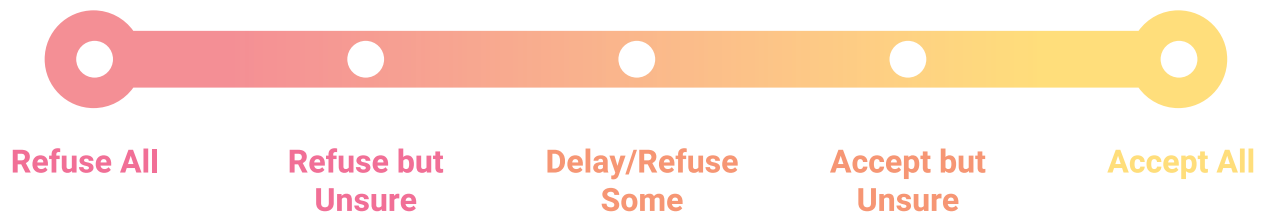
- | | |
|----------------------------|-----------------------|
| 1 Joseph Mercola | 7 Erin Elizabeth |
| 2 Robert F. Kennedy Jr. | 8 Sayer Ji |
| 3 Ty and Chalene Bollinger | 9 Kelly Brogan |
| 4 Sherri Tenpenny | 10 Christine Northrup |
| 5 Rizza Islam | 11 Ben Tapper |
| 6 Rashid Buttar | 12 Kevin Jenkins |



WHAT DRIVES VACCINE HESITANCY?

Not everyone who has concerns or questions about vaccines is an anti-vaxxer.

Vaccine hesitancy falls on a continuum.



> Polarization

Partisanship impacts vaccine hesitancy through its influence on Americans' concern over COVID-19, conspiracy theories, and trust in the systems and providers involved with vaccines. Research has shown strong correlations between political party and intention to get a COVID-19 vaccine.

> Misinformation

The rollout of the COVID-19 vaccines has been accompanied by a slew of misinformation and disinformation. Disinformation is intentionally shared to confuse people enough to change behaviors.

> Mistrust

Many communities have experienced historical trauma due to racism and prejudice in the healthcare system, resulting in a deep mistrust in the healthcare system. Building confidence in these communities won't happen overnight.



Source: <https://coronavirus.jhu.edu/vaccines/report/building-trust-in-vaccination>; Jones, & McDermott, M. L. (2022). Partisanship and the Politics of COVID Vaccine Hesitancy. *Polity*, 54(3), 408-434.

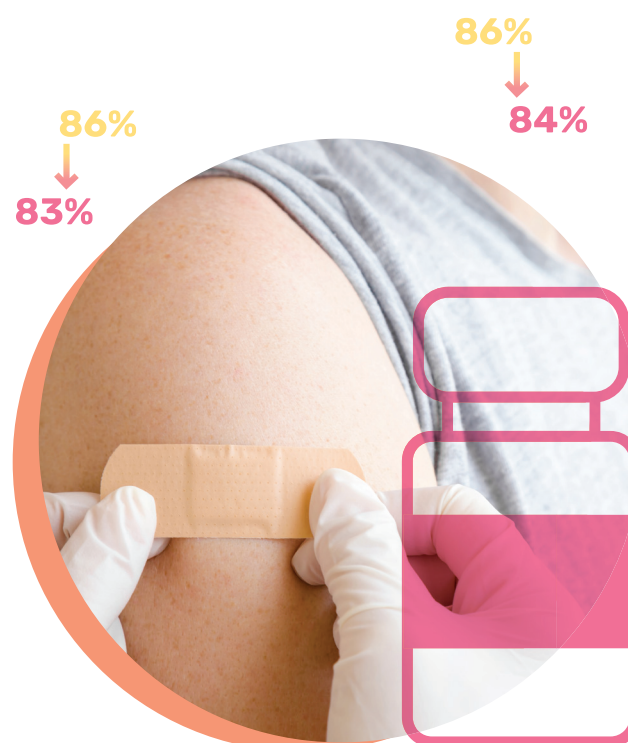




GLOBAL IMMUNIZATION RATES ARE DECLINING, BUT WE CAN PUSH BACK

Declines in vaccination coverage were noticed worldwide due both to major service disruptions and lack of timely and aligning health messaging. The official WHO and UNICEF estimates of national immunization coverage (WUENIC) provide the world's largest data-set on immunization trends for vaccinations against 13 diseases given through regular health systems - normally at clinics or community centers or health worker visits. For 2020, data was provided from 160 countries. An estimated 23 million children missed out on routine childhood vaccinations in 2020 ([WHO, UNICEF: COVID-19 pandemic leads to major backsliding on childhood vaccinations](#)).

Globally, the vaccination rate for three doses of diphtheria-tetanus and pertussis (DTP-3) vaccine fell from around 86% in 2019 to 83% in 2020, meaning 22.7 million children missed out. The vaccination rates did increase in 2021 to 2022 to 89%. However, they are still below prepandemic levels of 90%. For measles vaccination, the second dose went from 86% to 84%, meaning 22.3 million children missed out in 2019. In 2021-2022 59% (194) of WHO countries reported lower first dose of measles vaccination rates compared to 2019. To control measles, 95% uptake of two vaccine doses is required. A measles case was reported in Cook County on October 10, 2023 for the first time in 4 years. We know that maintaining high vaccination rates globally helps protect us all.



Source: Kaur G, Danovaro-Holliday MC, Mwinnyaa G, et al. Routine Vaccination Coverage — Worldwide, 2022. MMWR Morb Mortal Wkly Rep 2023;72:1155-1161. DOI: <http://dx.doi.org/10.15585/mmwr.mm7243a1>.



A photograph of a woman with dark curly hair and a young girl with curly hair looking at a blue smartphone together. The woman is wearing a grey button-down shirt, and the girl is wearing a white and pink striped shirt. The image has a semi-transparent dark overlay with the title text in white. There are color bars and registration marks at the top and bottom of the page.

ADDRESSING MISINFORMATION & DISINFORMATION



STRATEGIES TO ADDRESS VACCINE MIS- AND DISINFORMATION

Pediatricians don't control what is shared on the internet and social media networks. However, there are steps that can be taken at the individual, clinic room, and clinic system levels to address vaccine mis- and disinformation. Whether accidental or intentional, false information erodes vaccine confidence. The strategies in this section address both forms.

INDIVIDUAL STRATEGIES



Advocate

Call legislators in support of AAP-backed bills to hold tech companies responsible for keeping kids protected online.



Report

Report accounts and content spreading mis- and disinformation and ask followers and friends to do the same. Meta will investigate accounts who have 5 reports within 90 days.



Disengage

If you engage accounts sharing mis- and disinformation by commenting or sharing it can trigger an algorithm that will show the post to more users.



Collect data

Contribute to or start your own database of groups sharing mis- and disinformation so more people report and these groups get flagged.



Engage youth

It is important to involve youth and make sure their concerns are prioritized.



Source: Adapted from Ameenuddin, N. 2022. How pediatricians can fight misinformation online. AAP Publications.





YOUR PATIENT CONVERSATIONS MATTER

Although pediatric providers have limited control over what is shared on social media you do have control of the conversations that occur in your clinic.

Healthcare providers remain the most trusted source for health information.

A strong vaccine recommendation is one of the most powerful tools that pediatricians have.



CLINIC ROOM STRATEGIES

The presumptive approach assumes parents will choose to vaccinate and starts off vaccine conversations by showing your confidence in vaccines. This approach has been shown to lead to greater vaccine uptake. Remember, getting vaccinated is the norm and we should present it as so!

Examples



“Your child needs DTaP, Hib, and HPV vaccines today.”



“Today your child is due for 2 vaccines. We will be giving MMR and Varicella.”



“It’s time for an annual influenza vaccine. Your child is old enough to receive either the inactivated shot or the live nasal spray.”

Three-Tier Strategy

1

Assume parents will vaccinate

➤ Parents consent with no further questions?

✗ Parents not ready to vaccinate?

2

Give your strong recommendation

➤ Parents accept your recommendation?

✗ Parents have specific questions or concerns?

3

Listen to and respond to parents’ questions and concerns

➤ Parents respond positively to your answers?



Administer recommended vaccine doses





However, this strategy will not work with all parents or guardians and that's okay. Some will need more information and reassurance to make the decision to vaccinate. It is important to take time to answer concerns and questions from patients. Don't make assumptions about their concerns. You should not introduce any mis- and disinformation they may not be aware of. Ask them directly where their source of hesitancy is coming from. Be honest about what we know and what we do not know.

RECOMMENDATIONS FOR COMMUNICATING ABOUT VACCINATIONS

American Academy of Pediatrics (AAP) and FrameWorks Institute released Reframing the Conversation about Child and Adolescent Vaccinations in January 2023. This strategic brief includes five evidence-based recommendations for communicating about vaccinations:

1. Talk about the benefits of vaccination for the common good

Ex. "Our responsibility to children and to each other translates to a responsibility to ensure that immunization services are accessible and affordable for everyone."

2. Talk about improving vaccination access as a preventive public health measure

Ex. "When everyone can access the recommended immunizations on time, it stops preventable diseases from spreading through our communities."

3. Focus on how vaccines benefit children's and adolescents' long-term health and wellbeing

Ex. "When kids stay healthy, they can focus on growing, learning, and doing the things they love to do. Child and adolescent immunization sets young people up for long-term health and wellbeing."

4. Use a computer updates metaphor to explain how the immune system improves its performance through vaccination

Ex. "Just like our digital devices perform better after we've updated the software, our immune systems work more effectively in response to vaccines. When we prepare children's immune systems to detect and resist a virus, it protects them and the entire network of people they come into contact with."

5. Use a literacy metaphor to explain how the immune system learns how to respond to viruses through vaccination

Ex. "When we immunize children, it's a lot like helping them learn to read. Vaccines are beginner texts that our immune systems use to practice comprehending a disease. With that literacy, they can read a disease more quickly when they encounter it—and respond and resist right away."

Sources: CDC Pink Book Series. [Chapter 3: Immunization strategies for healthcare practices and providers;](https://www.frameworksinstitute.org/toolkit/aapvaccine-talking-points/)
<https://www.frameworksinstitute.org/toolkit/aapvaccine-talking-points/>



MOTIVATIONAL INTERVIEWING

You can also use motivational interviewing to approach conversations about vaccines. Motivational interviewing is a culturally competent and evidence-based way to speak with unvaccinated patients about getting vaccinated. The goal of motivational interviewing is to help people manage mixed feelings and move toward healthy behavior change that is consistent with their values and needs.

STEP 1

Embrace an attitude of empathy and collaboration

- Be compassionate, show empathy, and be genuinely curious about the reasons why the patient feels the way they do.
- Be sensitive to culture, family dynamics, and circumstances that may influence how patients view vaccines.
- Remember: Arguing and debating do not work. Taking a strong initial stand may also backfire, especially with people who have genuine concerns about vaccines.



STEP 2

Ask permission to discuss vaccines

Start by asking permission to discuss vaccines. Say something like, “If it is okay with you, I would like to spend a few minutes talking about COVID-19 vaccines and your family.”

If the patient says no, respect that.

- **OPTION 1:** Move on and say, *“I respect that, and because I care about your overall health, maybe we could talk about the vaccines at a future time.”*
- **OPTION 2:** Based on the patient’s demonstrated emotions and your assessment of the patient’s worldview and values, you could spend several minutes curiously exploring why the patient doesn’t want to talk about it. The goal is to understand, not to change their mind.
- **REMEMBER:** These conversations may take time, and they may continue over multiple visits.

If the patient says yes to talking about the vaccines, move to Step 3.





If the patient asks a question about COVID-19 vaccine safety, vaccine risks, or their health or mental health, see potential responses in Step 4.

STEP 3

Motivational Interviewing

Ask the patient a scaled question. For example, “On a scale of 1 to 10, how likely are you to get a COVID-19 vaccine?” (1 = never; 10 = already have an appointment to get vaccinated). Then explore both sides of whatever number is given.

Example: Let’s assume someone says 4. This is where curiosity comes in. You can say, “Okay, why 4? And why not a lower number?” Let them answer, and ask a follow-up question like, “What would help you move to a 5 or 6?”

The goal is to help the patient become more open to moving toward higher numbers—in other words, getting vaccinated. You want them to talk about this out loud because talking actually changes how they process their choices and can develop forward momentum. People who are hesitant about vaccines usually have more practice explaining why they haven’t gotten vaccinated, so it’s good to reverse that. Ask them to express their vaccination benefits out loud.

Be compassionate and curious about the patient’s mixed feelings, both the part of them that wants to trust that getting a vaccine is important and safe and the other part that feels hesitant. It is important to show support for the patient to incorporate their personal values and the health needs of their family and community as they make their decision.



STEP 4

Respond to questions about vaccines, health, or mental health

If a patient asks a question about vaccine safety, vaccine risks, or their health or mental health, respond within the boundaries of your competence, ethics, and scope of practice.

- If you feel competent and aware of how to answer the patient’s question, respond with empathy and provide scientific information as needed. Refer the patient to resources on the CDC website or [healthychildren.org](https://www.healthychildren.org).
- If the patient’s question is outside of your competence or awareness, recommend that they speak with their medical or mental health provider or a knowledgeable expert, as needed.



Did you know you can be reimbursed for vaccine counseling?

Yes! Providers should be reimbursed for providing vaccine counseling and addressing patient and parental concerns.

- [AAP Coding](#)
- [HFS Coding](#)





CLINIC SYSTEM STRATEGIES

Vaccine Education and Culture

All staff clinic, even those in non-clinical roles (ex. Admin support) should be trained on communicating with patients about vaccines. They all do not have to provide a strong vaccine recommendation but they should have talking points in case a patient does ask them a question.



Have you gotten your COVID-19 vaccine yet?

Possible response: “Not yet but you should wait to speak with your nurse or doctor if you have any questions or concerns. They can provide you with the right information.”

Vaccine Champions

Identify at least one trusted individual to be your clinic’s vaccine champion. They don’t have to be a clinical expert, but they should be respected and trusted amongst peers. They should be prepared to have conversations about vaccines and address mis- and disinformation. Sharing personal stories for why they got themselves or their families vaccinated can contribute to increased vaccine confidence. Champions can also help correct mis- and disinformation in real time by sharing accurate, accessible vaccine facts.

Reminder/Recall

Sometimes patients are not hesitant. They may just not be aware they are due for vaccines or that seasonal (ex. Flu) vaccines are available in your clinic. Implementing reminders for those who are due soon or recall those who are past due for vaccines is important to ensure patients are staying protected from vaccine-preventable diseases. Below are some suggested steps in implementing reminder/recall into your practice workflow.

- Decide which ages you would like to focus on if identifying all patients is not feasible.
- Run an I-CARE query for all patients in the selected age range who are more than 30 days behind on vaccination.
- Run the same query in your electronic health record (EHR) system. Contact your EHR vendor if you have questions about how to do this with your system.
- Compile the records from both lists.
- Reconcile the lists and update I-CARE or your EHR with any missing information.
- Remove any patients who have relocated.
- Set a schedule for how often this should be completed at your practice (monthly, quarterly).

Sources: Tuckerman J, Kaufman J, Danchin M. Effective Approaches to Combat Vaccine Hesitancy. *Pediatr Infect Dis J*. 2022 May 1;41(5):e243-e245.





Once you have your list you can start reaching out! What communication works best for your patients? You can consider surveying them if you are unsure. You can use patient portals, text messages, phone calls, or auto-dialers. Below are some sample messages you can share.

- **Needing Catch-up vaccine:**
[PRACTICE NAME] is contacting you as our records indicate that your child is overdue for a vaccine. Please call [PRACTICE PHONE NUMBER] today to schedule your child's vaccination.
- **Routine, on-time vaccinations:**
"Hi! [PRACTICE NAME] is offering a friendly reminder that your child's wellness visit and/or vaccinations are due. It is very important to stay on track with these appointments. Please call our office at [PRACTICE PHONE NUMBER] to schedule your child's appointment. See you soon!"
- **Newborn appointments:**
"Congratulations from [PRACTICE NAME] on your new baby! Newborn checkups and on-time vaccines are very important. Please keep your scheduled appointments or schedule one today by calling us at [PRACTICE PHONE NUMBER] if you haven't already."

You can set up reminder recall strategies for your patients about vaccinations, as well. Some sample options include:

- **Phone Calls:** placed by office staff tend to be more effective than auto-dialer calls, but often cost more in staff time.
- **Auto-dialers:** automatically dial phone numbers and either play a recorded message or connect the call to a live person; can also be used for appointment reminders.
- **Mail Reminder Cards or Letters:** may be printed and provided to be by I-CARE or you can pull a list from your EHR. Another approach can be to have the family fill out the reminder card for the next visit (e.g. dose 2 or 3 of vaccine) when in your office.
- **Text Messages:** can be sent to remind parents or adolescents about vaccinations; however, they will need to opt in. Obtaining this permission might be easiest during a visit.
- **Patient Portals:** a common feature in most EHR systems. Practices can use this feature to send e-mails to patients or parents prompting them to check their patient portal, which will remind them of vaccinations that are due.
- **Social media:** if your practice has social media accounts, you can let patients know when seasonal vaccines are available.

Source: <https://www.aap.org/en/patient-care/immunizations/implementing-immunization-administration-in-your-practice/reminder-and-recall-strategies/>



VACCINE REFUSAL

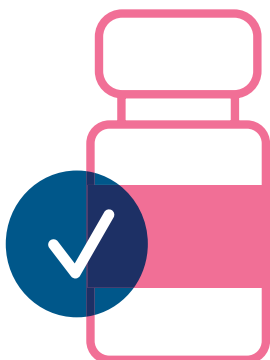
WHAT IF PARENTS REFUSE TO VACCINATE?

If parents decline immunizations after your strong recommendation and conversation, use the following strategies:

- Continue the conversation about vaccines during the next visit and restate your strong recommendation.
- Inform parents about clinical presentations of vaccine-preventable diseases, including early symptoms.
- Remind parents to call before bringing their child into the office, clinic, or emergency department when the child is ill so health care professionals can take precautions to protect others. Explain that when scheduling an office visit for an ill child who has not received vaccines, you will need take all possible precautions to prevent contact with other patients, especially those too young to be fully vaccinated and those who have weakened immune systems.
- Share [If You Choose Not to Vaccinate Your Child, Understand the Risks and Responsibilities](#) with parents. This fact sheet explains the risks involved with their decision, including risks to other members of their community, and additional precautionary responsibilities for parents.
- You may wish to have parents sign AAP's [Refusal to Vaccinate form](#) each time a vaccine is refused so that you have a record of their refusal in their child's medical file.

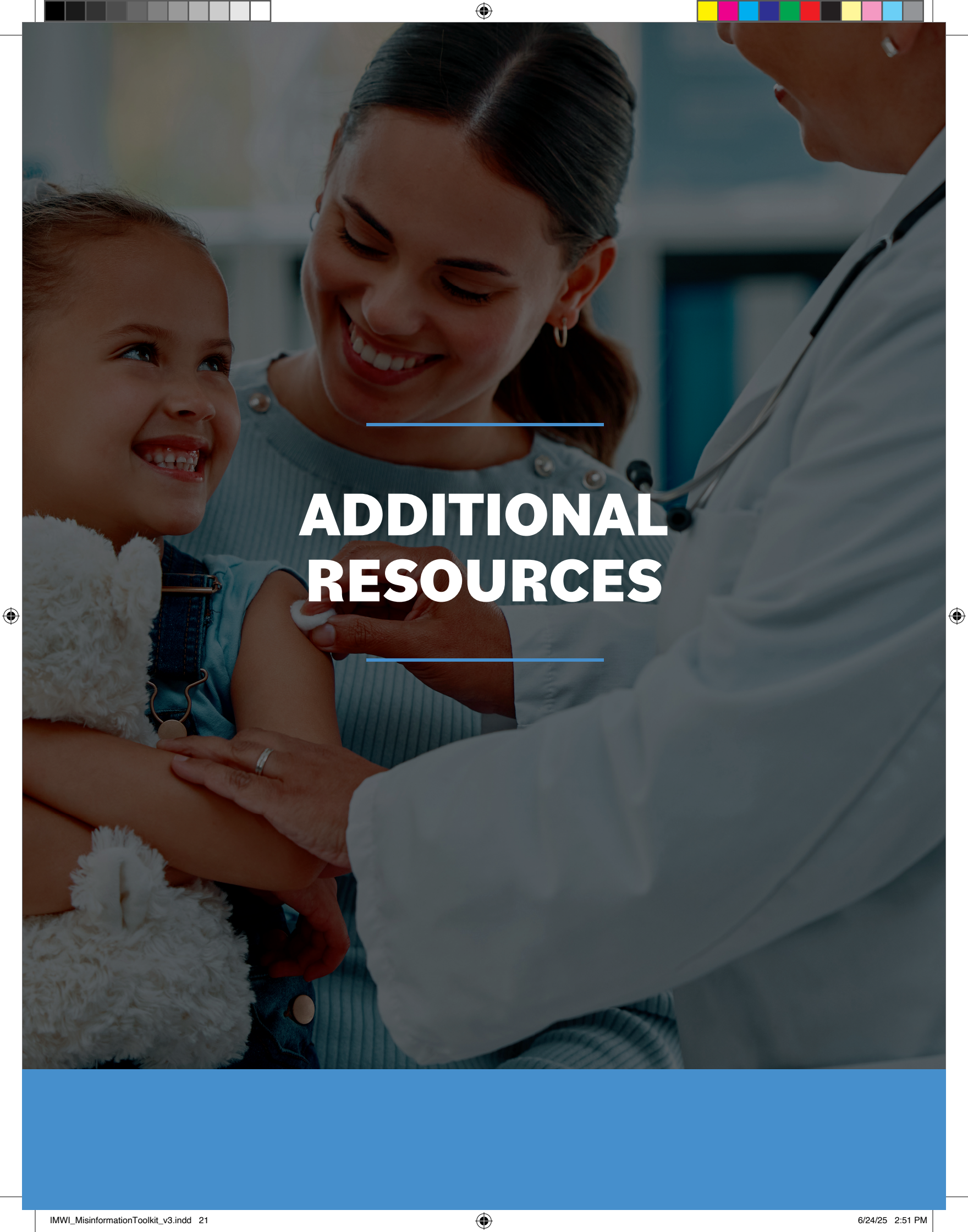


Source: <https://www.cdc.gov/vaccines/hcp/conversations/talking-with-parents.html>



WE CAN SAVE LIVES, TOGETHER

We hope that you use these tools to help combat the impact of mis- and dis-information and keep our communities protected from vaccine preventable diseases.



**ADDITIONAL
RESOURCES**

WHO Infodemic Management Course Series

- The Infodemic Management OpenWHO course series provides an overview of the strategies, good practices, methods and tools that infodemic managers and all interested health workers can use in the field to prevent, prepare for, and respond to this phenomenon.
- <https://openwho.org/channels/infodemic-management>

Your Local Epidemiologist: Lessons I learned during the pandemic

- Your Local Epidemiologist (YLE) is written by Dr. Katelyn Jetelina, MPH Ph.D. The goal is to “translate” the ever-evolving public health world so that people will be well-equipped to make evidence-based decisions. This newsletter is free.
- <https://yourlocalepidemiologist.substack.com/p/part-2-lessons-i-learned-during-the>

National Academy of Medicine’s Guide to Navigating Health Information via Social Media for the Public.

- This guide educates on deciphering credible from incredible sources.
- <https://nam.edu/identifying-credible-sources-of-health-information-in-social-media-phase-2-considerations-for-non-accredited-nonprofit-organizations-for-profit-entities-and-individual-sources/>

Public Health Communications Collaborative’s presents misinformation alerts.

- These insights are based on a combination of automated media monitoring and manual review by public health data analysts. Media data are publicly available data from many sources, such as social media, broadcast television, newspapers and magazines, news websites, online video, blogs, and more. Analysts from the Public Good Projects triangulate this data along with other data from fact checking organizations and investigative sources to provide an accurate, but not exhaustive, list of currently circulating misinformation.
- <https://publichealthcollaborative.org/misinformation-alerts/>