# Vaccine Myths & Misinformation



Ashley Beale, M.P.H. Program Coordinator

Rachel Walker, M.P.H. Program Coordinator

#### THE IMMUNIZATION PARTNERSHIP

## Vision

A community protected from vaccine preventable diseases

## Mission

To eradicate vaccine-preventable diseases by educating the community, advocating for evidence-based public policy, and supporting immunization best practices



#### **ACKNOWLEDGEMENTS**

This presentation is made possible through partnerships and funding from the following:

- Cizik School of Nursing at UTHealth
- > The Ellwood Foundation
- The Harry S. and Isabel C. Cameron Foundation
- > Episcopal Health Foundation
- The Florence and William K. McGee Jr. Family Foundation
- > The Cullen Trust for Health Care
- > Houston Endowment
- Methodist Healthcare Ministries of South Texas
- John P. McGovern Foundation
- > Rockwell FundInc



#### CONTINUING EDUCATION STATEMENT

Cizik School of Nursing at UTHealth is accredited as provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.



### CONTINUING EDUCATION REQUIREMENTS

- Requirements for successful completion of learning activity
  - Listen to entire presentation
  - Submit online pre-test
  - Submit online evaluation
- Certificate of completion sent via email
- Contact Katy Gore at <u>kgore@immunizeUSA.org</u> with questions



#### DISCLOSURE AND DISCLAIMER

- The speakers and planning committee have disclosed no conflicts of interest
- This presentation is for educational use only and does not constitute legal advice
- Please consult with legal counsel if you have questions regarding a legal matter



#### **AGENDA**

Vaccine Hesitancy (narrated by Rachel Walker)

Common Vaccine Myths and Misinformation (narrated by Ashley Beale)

COVID-19 Myths (narrated by Rachel Walker)

Misinformation: What is it? (narrated by Ashley Beale)

How to Dispel Myths and Misinformation (narrated by Rachel Walker)

Helpful Resources (narrated by Ashley Beale)



# Vaccine Hesitancy

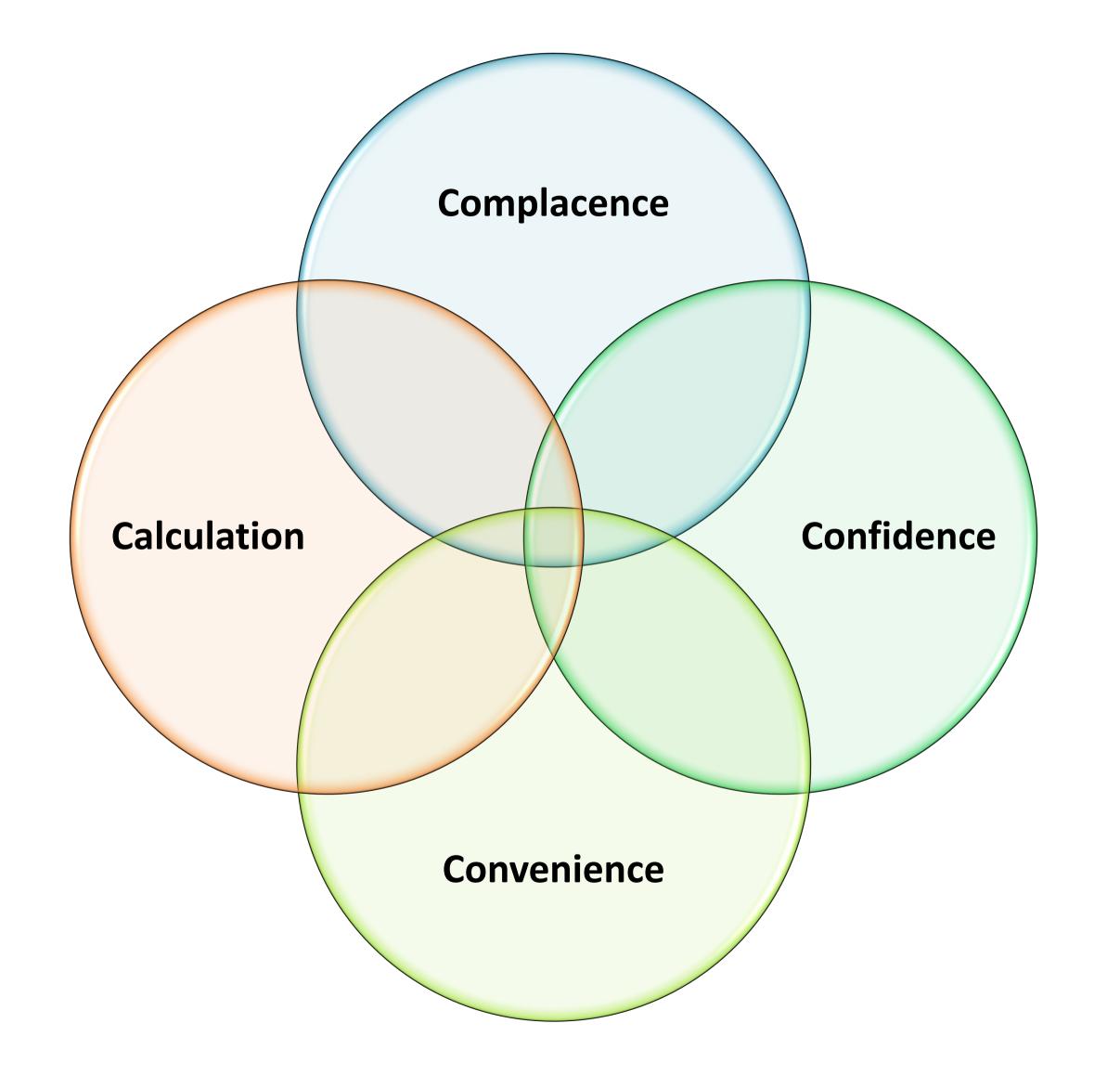




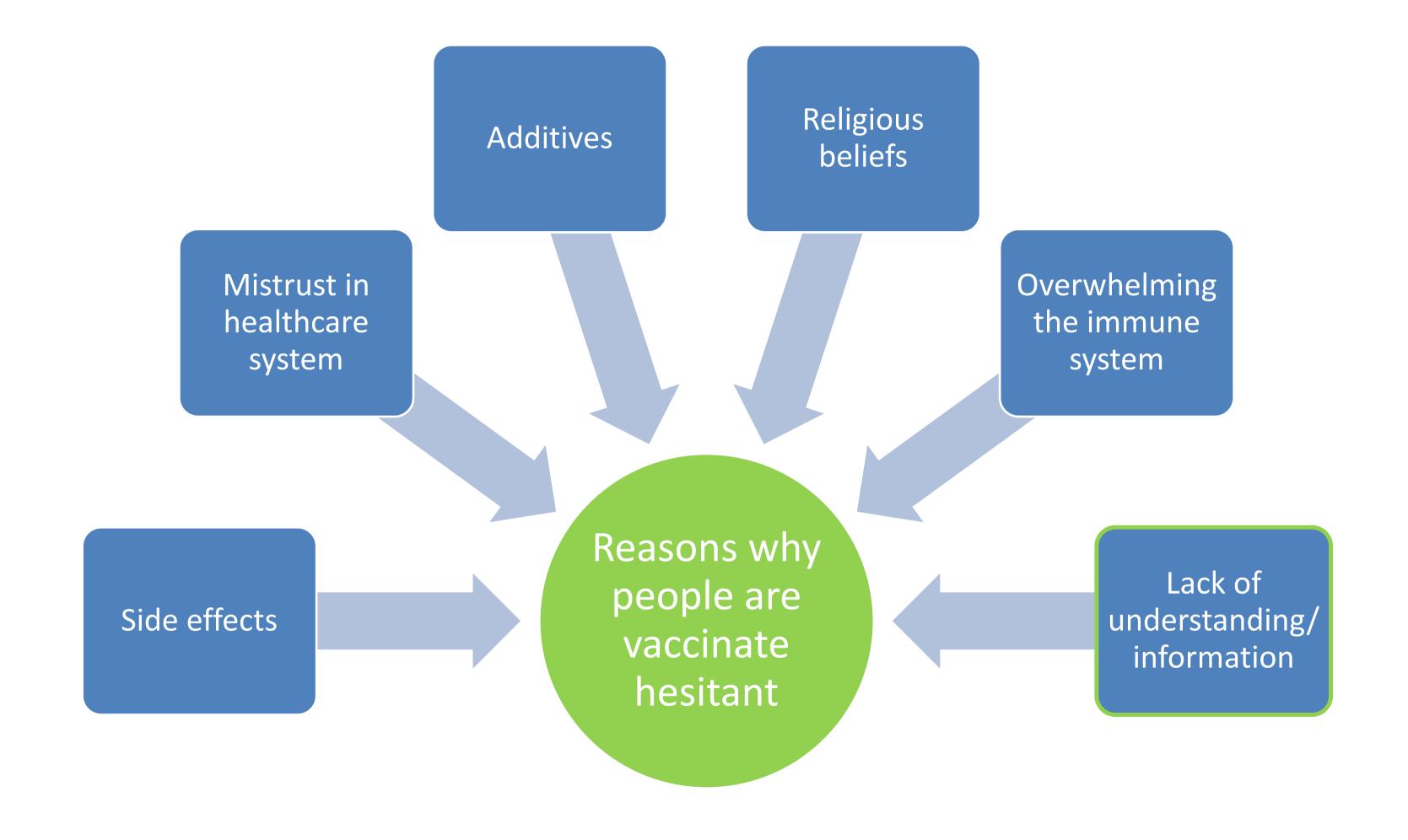
# Hesitancy is a Spectrum









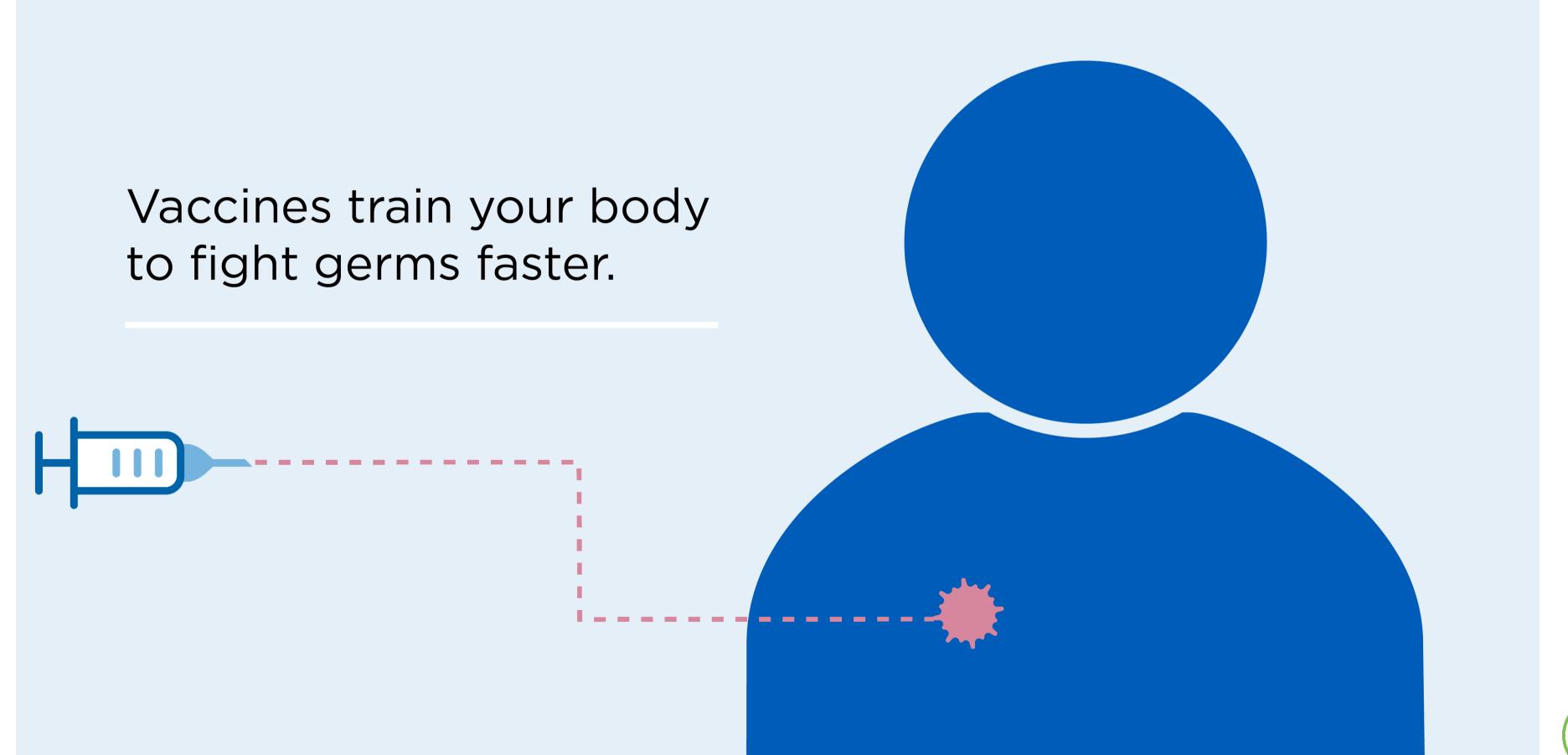




# Common Vaccine Myths & Misinformation



### Natural immunity is better than vaccine-acquired immunity.





### A vaccine can infect you with the disease it's supposed to prevent.





### Infant immune systems can't handle so many vaccines.



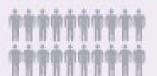


# Vaccines aren't worth the risk.

# How a new vaccine is developed, approved and manufactured

The Food and Drug Administration (FDA) sets rules for the three phases of clinical trials to ensure the safety of the volunteers. Researchers test vaccines with adults first.

#### PHASE 1

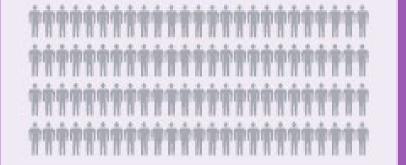


#### 20-100 healthy volunteers

\*

- Is this vaccine safe?
- Does this vaccine seem to work?
- Are there any serious side effects?
- How is the size of the dose related to side effects?

#### PHASE 2



#### several hundred volunteers

- What are the most common short-term side effects?
- How are the volunteers' immune systems responding to the vaccine?

#### PHASE 3



#### hundreds or thousands of volunteers

- How do people who get the vaccine and people who do not get the vaccine compare?
- Is the vaccine safe?
- Is the vaccine effective?
- What are the most common side effects?

#### FDA licenses the vaccine only if:

- It's safe and effective
- Benefits outweigh risks

Vaccines are made in batches called lots.





Manufacturers must test all lots to make sure they are safe, pure and potent. The lots can only be released once FDA reviews their safety and quality.

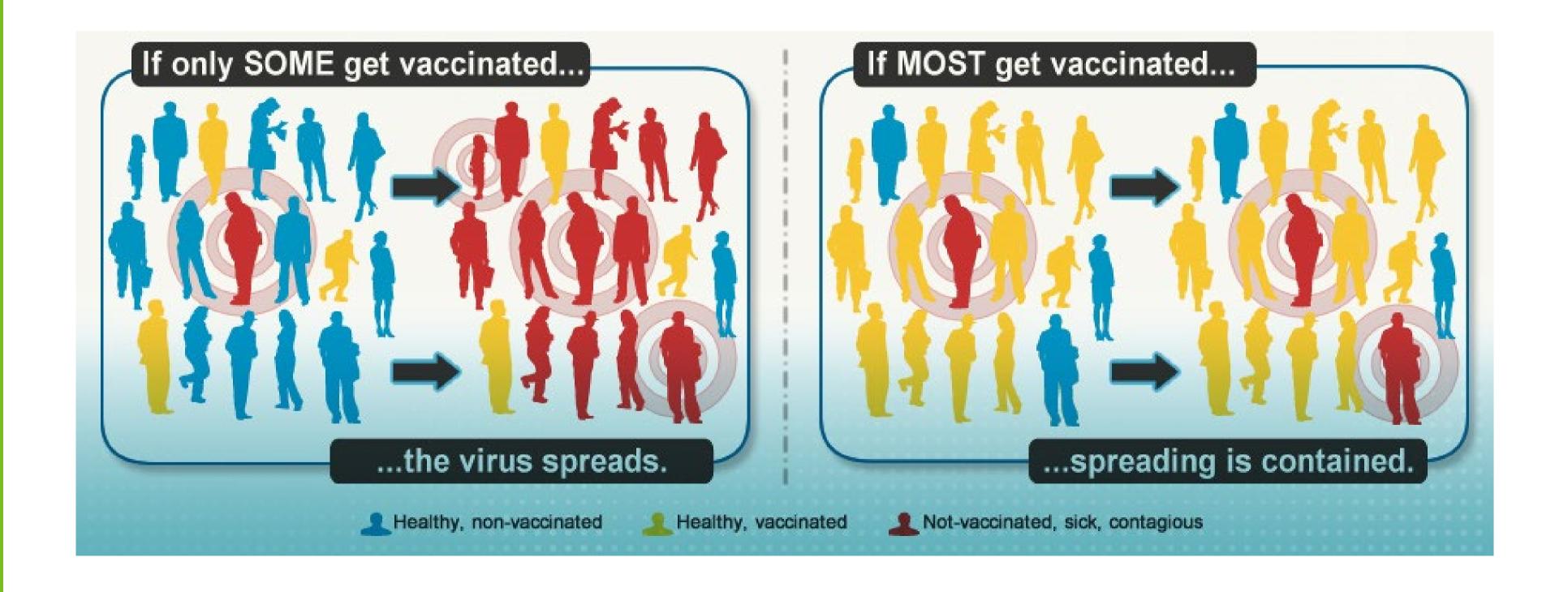
The FDA inspects manufacturing facilities regularly to ensure quality and safety.



FOR MORE INFORMATION, VISIT HTTPS://WWW.FDA.GOV/CBER



# If everyone around me is immune, then I don't need to be vaccinated.





Ingredients
in vaccines
are harmful.

Type of Ingredient	Example(s)	Purpose	Most common source found
Preservatives	Thimerosal ( <b>only</b> in multi-dose vials of flu vaccine)*	To prevent contamination	From eating foods such as certain kinds of fish, mercury (which thimerosal contains) gets into the body
Adjuvants	Aluminum salts	To help boost the body's response to the vaccine	From drinking water, infant formula, or use of health products such as antacids, buffered aspirin, and antiperspirants
Stabilizers	Sugars, gelatin	To keep the vaccine effective after manufactured.	From eating food such as <i>Jell-O</i> ® and resides in body naturally
Residual cell culture materials	Egg protein^	To grow enough of the virus or bacteria to make the vaccine	From eating foods containing eggs
Residual inactivating ingredients	Formaldehyde†	To kill viruses or inactivate toxins during the manufacturing process	Resides in body naturally (more in body than vaccines). Also found automobile exhaust, and household furnishing such as carpets and upholstery.
Residual antibiotics	Neomycin	To prevent contamination by bacteria during the vaccine manufacturing process	Antibiotics that people are most likely to be allergic to — like penicillin — aren't used in vaccines



# Vaccines cause autism.





# **COVID-19 Myths**

Information current as of May 4<sup>th</sup>, 2021



The COVID-19 vaccine is not safe because of its rapid development and testing.





# COVID-19 vaccines will alter an individual's DNA



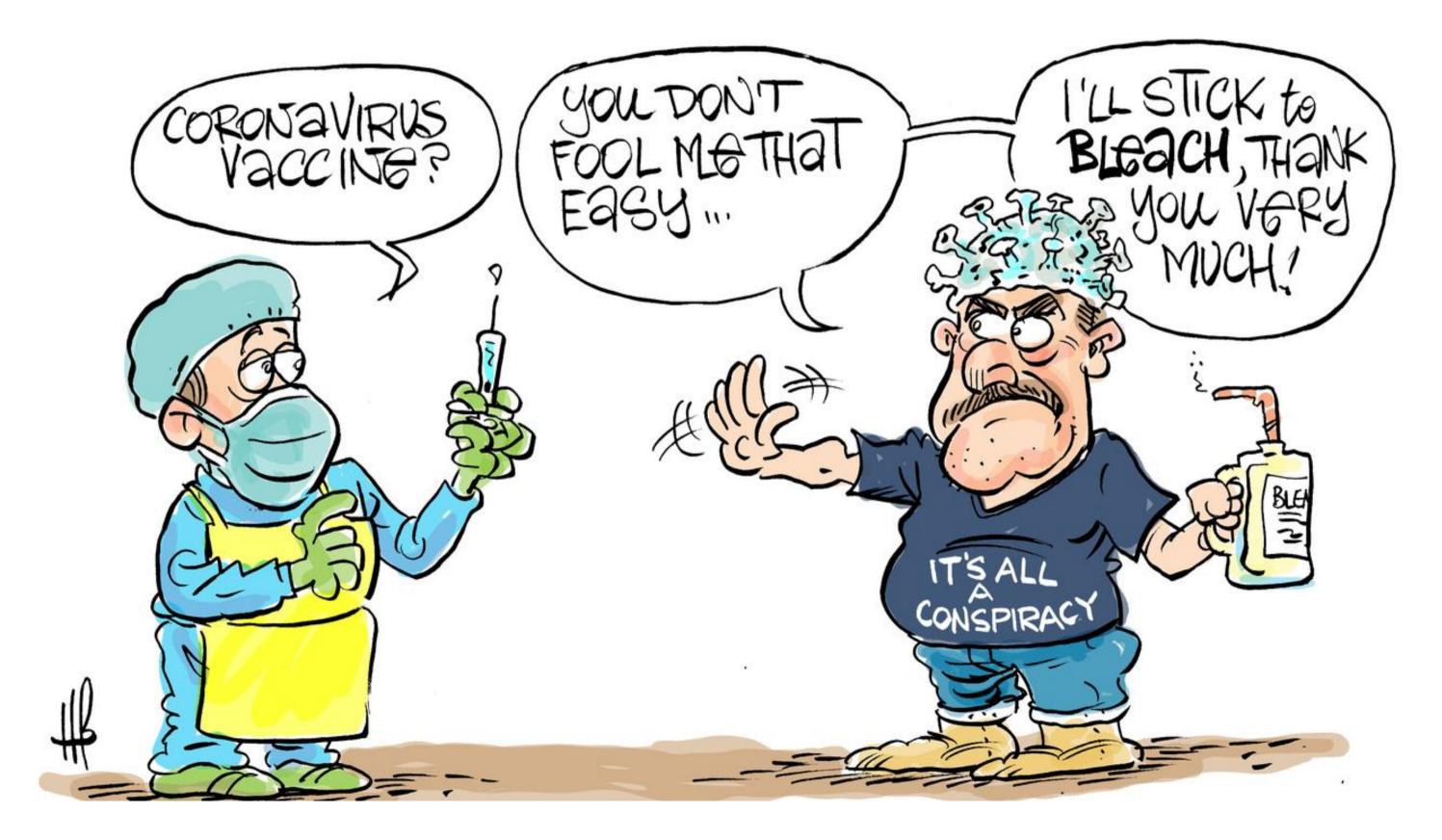


Receiving the vaccine will give you the virus.



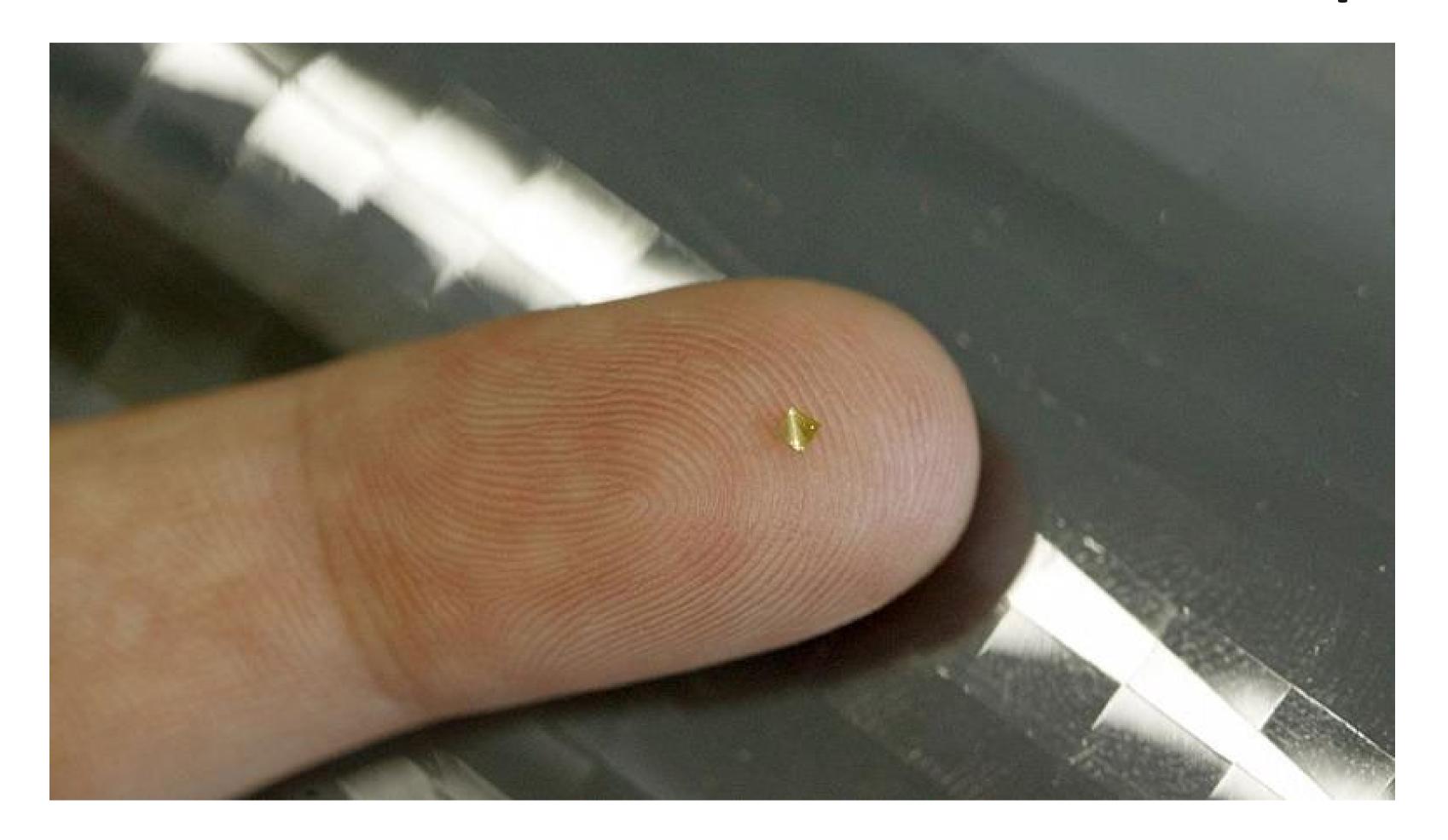


# People who have already had COVID-19 should not get the vaccine.





# The COVID-19 vaccine contains a microchip.





# Misinformation

What is it?



# Types of Misinformation

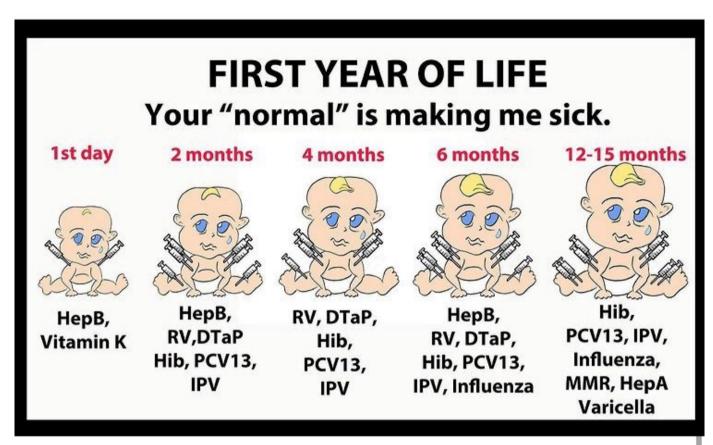
Two types of false information:

- 1. Misinformation drawing conclusions based on wrong facts
- Disinformation deliberating spreading false info to promote an agenda



#### **152K Followers**













...

#### 2,738 likes

childrenshealthdefense More than 54% of American children are suffering from one or more chronic illnesses, with the late 1980s and early 1990s viewed as the gateway period that launched the decline. The growth is coterminous with the vaccine schedule. Autism, ADHD, asthma and allergies have doubled since that time, with autism now one in 34 children in some regions. Pediatric autoimmune conditions are also on the rise, and the proportion of public school children using special education services is estimated at 13% to 25% of school populations. Here is the CDC schedule: https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html

#### 99.8K Followers













...

#### 3,612 likes

vaccinetruth A new year means a new year of #propaganda and #fearmongering all in the name of #bigpharma profits. How about we address the real issue...

#autism #measles #washington #pnw #followthemoney

View all 782 comments



#### Autism

#### Introduction to Autism Information

The debate about whether vaccines can cause regressive autism began in 1985 with the publishing of the landmark book *DPT*: A Shot in the Dark by Harris Coulter and Barbara Loe Fisher. Among the more than 100 cases of DPT vaccine induced brain inflammation and immune system dysfunction detailed in the book were children who had developed regressive autism after suffering a brain inflammation and encephalopathy following DPT vaccination.

When Congress passed the National Childhood Vaccine Injury Act of 1986, which created a federal Vaccine Injury Compensation Program (VICP), the first awards for vaccine injury and death were given to children who had suffered a brain inflammation/encephalopathy after DPT vaccination and died or were left with a variety of brain and immune system problems such as medication resistant seizures, mental retardation, learning disabilities, ADD/ADHD and other developmental delays. Since then, federal compensation has been awarded to children who developed brain inflammation/encephalopathy after DPT or DTaP vaccination and whose permanent disabilities include autistic behaviors. (In 2008, the federal government conceded that a girl who had received multiple vaccines on one day and regressed into autism was entitled to compensation for her injuries.)

In 1990, NVIC was contacted by California mother, Cindy Goldenberg, who explained how her bright healthy son became autistic following his MMR vaccine. Following many visits to different doctors in her attempt to find out what had happened to her son, multiple tests were performed to evaluate his immune function and revealed a high antibody count to rubella vaccine. After conducting research into the connection between rubella infection and autism, she contacted an immunologist and they put together a biomedical protocol to address his immune dysfunction which resulted in her son recovering from autism.

Since 1990, a growing number of physicians have acknowledged that development of regressive autism has multi-factorial causes and that there are many questions yet to be answered about the biological causes for and prevention and treatment of autism. What has become clear since the autism-vaccine connection was first reported in 1985 is that many children with regressive autism are getting better from biomedical and holistic health approaches to healing brain and immune system dysfunction. There are a number of <u>autism support</u> groups which have been founded by parents since the late 1990's, which are dedicated to helping families with children with autism.

If you suspect that your child's autism or developmental delays are related to a vaccine or combination of vaccines, it is very important that you report a vaccine reaction to NVIC's Vaccine Reaction Registry which NVIC has operated since 1982. Information about vaccine reactions can help discover why some children develop health problems following vaccination and others do not

A report should also be made to the federal government's Vaccine Adverse Events Reporting System (VAERS). The law requires doctor's to report any serious problem within 30 days following vaccination. If your doctor refuses to report, NVIC can provide the forms for you to report the reaction yourself.

We hope you will become a member of the National Vaccine Information Center, sign up for our weekly NVIC Vaccine E-Newsletter and help support our efforts to prevent vaccine injuries and deaths through public education. Please keep in touch with us and let us know if you have questions or need more information.



Use of individual story to grab attention and humanize – emotional tool.

In 1990, NVIC was contacted by California mother, Cindy Goldenberg, who explained how her bright healthy son became autistic following his MMR vaccine. Following many visits to different doctors in her attempt to find out what had happened to her son, multiple tests were performed to evaluate his immune function and revealed a high antibody count to rubella vaccine. After conducting research into the connection between rubella infection and autism, she contacted an immunologist and they put together a biomedical protocol to address his immune dysfunction which resulted in her son recovering from autism.

Since 1990, a growing number of physicians have acknowledged that development of regressive autism has multi-factorial causes and that there are many questions yet to be answered about the biological causes for and prevention and treatment of autism. What has become clear since the autism-vaccine connection was first reported in 1985 is that many children with regressive autism are getting better from biomedical and holistic

health approaches to healing brain and immune system dysfunction. There are a number of autism support

groups which have been founded by parents since the late 1990's, which are dedicated to helping families

If you suspect that your child's autism or developmental delays are related to a vaccine or combination of vaccines, it is very important that you report a vaccine reaction to NVIC's Vaccine Reaction Registry which NVIC has operated since 1982. Information about vaccine reactions can help discover why some children develop health problems following vaccination and others do not.

This statement may seem harmless – however it is purposefully vague and incites doubt by using terms like "unanswered" when referring to causes of autism. By leaving out any reference to vaccines it leaves the reader to make inferences. No mention is made of the accepted science that vaccines do not cause autism.

with children with autism.

The autism-vaccine connection has been debunked by numerous studies since it was initially introduced − referring to it in this way leads the reader to believe it is valid.



# How is misinformation/disinformation spread?

- Social media platforms, opinion pieces, non-scientific mediums
- Emotional element often present
- May misinterpret data and confuse correlation with causation

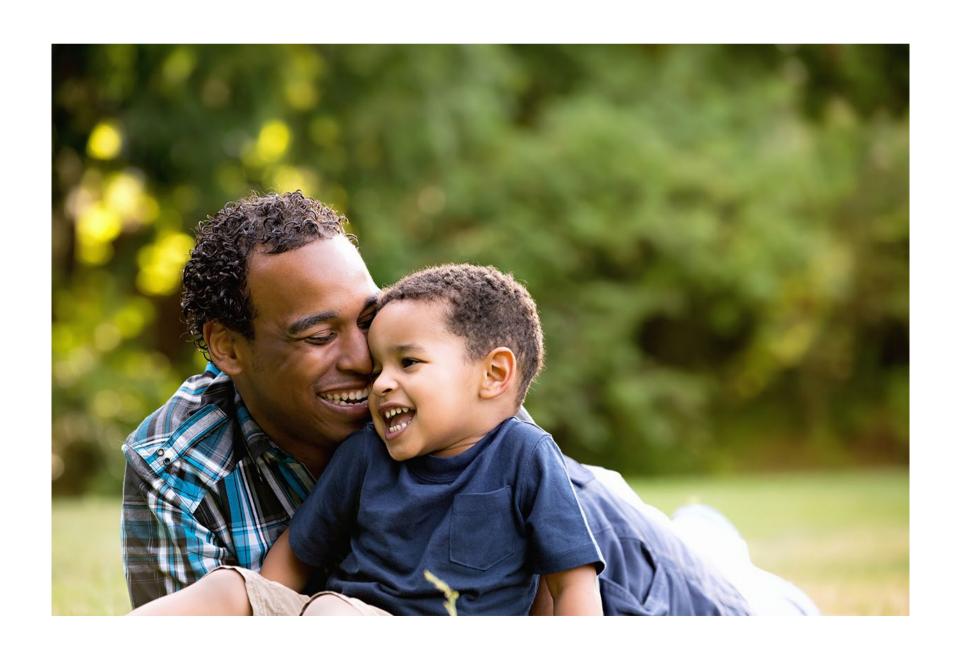


All of these can contribute to vaccine hesitancy



#### **Effects of Misinformation**

According to Geoghegan et al., (2020), "misinformation surrounding vaccine safety poses a threat to children's lives Worldwide." [29]





# How to Spot Misinformation

#### **CHECK THE SOURCE**

Look at what is being said. Is the website or person known for conflating facts and opinions? Is it mostly "us vs. them" rhetoric?

#### **CHECK THE DATA AND MOTIVE**

Where did the information originally come from? Is there an abundance of claims with no real evidence? Understand why it's being said. Are they just trying to get views/clicks? Are they just looking for anything that supports their own worldview?

#### **CHECK THE DATE**

Is the article or social post positioned as recent news, but was actually published months or years ago? Is there updated information available elsewhere on the internet?

#### STILL UNSURE?

Use a reputable fact-checking website.

Websites like <u>FactCheck.org</u> or <u>Snopes.com</u> are great resources if you're still unsure.



# How to Dispel Myths & Misinformation



# How to dispel myths & misinformation

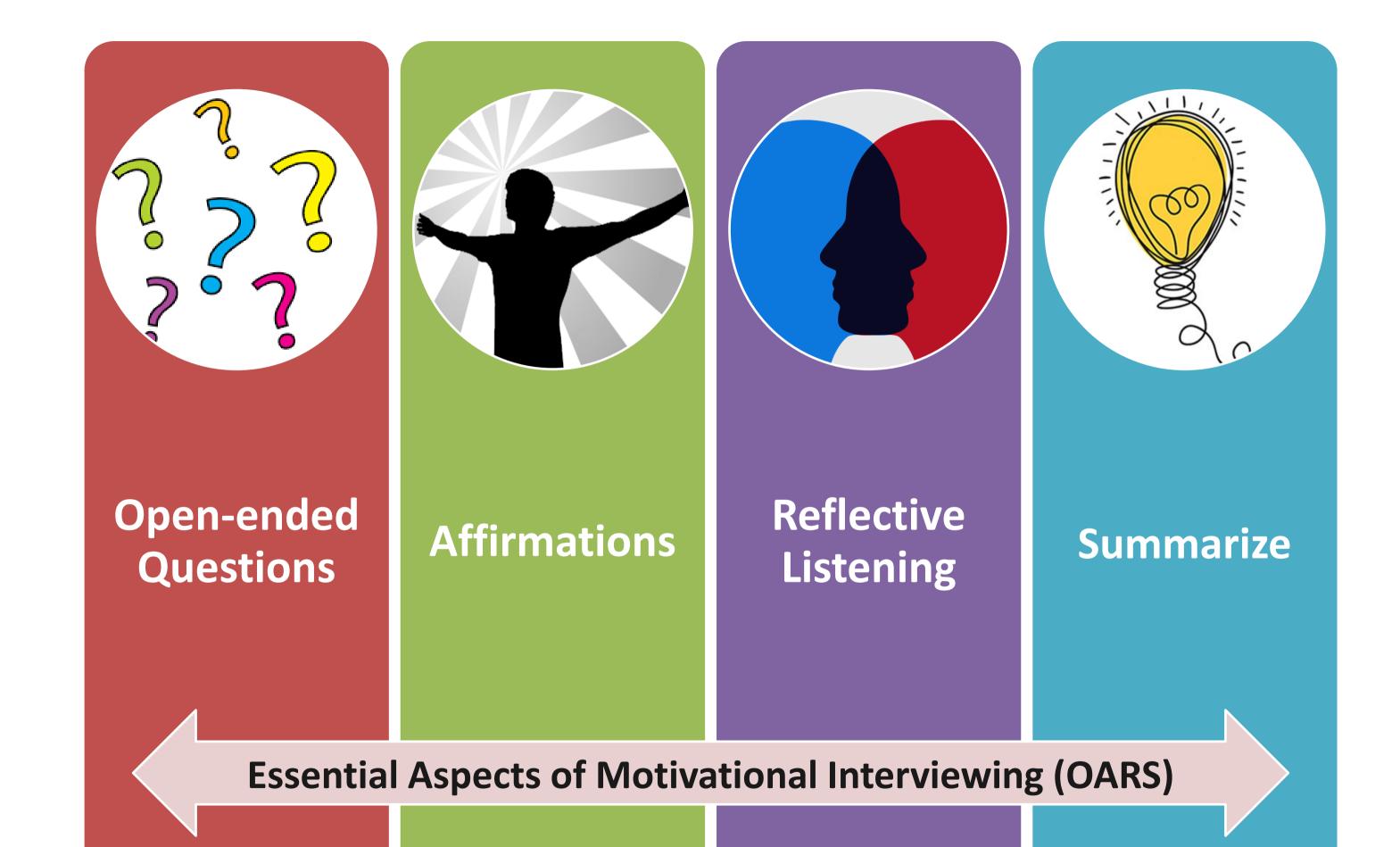
- Be knowledgeable about scientific evidence
   avoid repeating the myth (starve it of oxygen) and double down
   on evidence-based science in <u>simple and straightforward</u>
   <u>formats</u>.
- Be empathetic to a parent's desire to protect their child as well as diverse cultural perspectives.
- Clearly communicate evidence in a tailored message to be most effective the targeted community.



# Motivational Interviewing

"Motivational interviewing is a counseling method that helps people resolve ambivalent feelings and insecurities to find the internal motivation they need to change their behavior." [32]









Open-ended Questions

### Open-ended question examples:

- "What brings you in the clinic today?"
- "Tell me more about why you are hesitant to vaccinate your child..."
- "Who have you talked to about vaccines?"
- "What questions do you have for me?"
- "Where do you feel comfortable getting information about vaccines?"





**Affirmations** 

### **Affirmation** examples:

- "You're obviously really good at..."
- "You handled yourself really well in that situation."
- "It sounds like you've been very thoughtful about your decision."
- "I appreciate that you are willing to talk to me about vaccines."



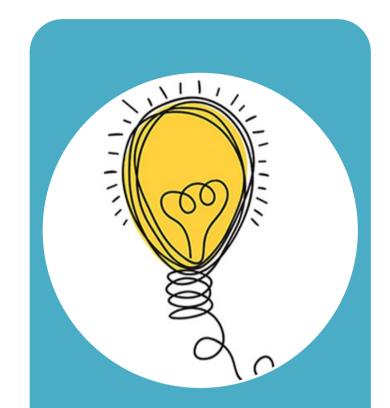


Reflective Listening

#### Reflective listening examples:

- "You seem frustrated when you talk about vaccines..."
- "I noticed you smiled when you said that..."
- "You mentioned that you won't vaccinate your child because you aren't sure of the ingredients.
   That seems to make these check-up appointments very stressful for you."





Summarize

#### Summarizing examples:

- A collective summary "So what I'm hearing is..."
- A linking summary "When you first came in you said you wanted to talk to your wife about allowing your child to get vaccinated...would you like to talk more about how to do that?"
- A transitional summary "We've just gone over the next time you and your child are scheduled for a booster. Remember, we're always here to help if you have concerns. Do you have any other questions before you leave today?"

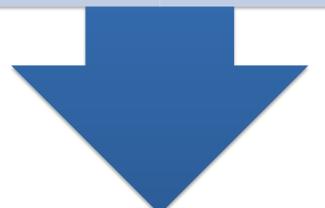


## **Motivational Interviewing Scenario**

## Open-ended Question

Nurse: How can I help you today?

Patient: I'm scheduled to get my COVID-19 vaccine today, but I really don't know if it's safe. I saw on Facebook that it could change my DNA.



### Affirmations

Nurse: It's clear that you care about what you put in your body and that is very important. However, I can assure you that the vaccine is safe and does not change your genetic make-up. According to the CDC, (gives details explaining why vaccines are safe)...

Patient: Okay, thanks for explaining why its safe. It's just really scary. \*discusses fear of how the vaccine works\*



## Reflective Listening

Nurse: I noticed that your voice sounded shaky when you talked about your fear of how the vaccine actually works – and that's okay. Let me explain the process...

Patient: Thanks for explaining the process. That makes me feel much better.



## Summarize

Nurse: We've just gone over why vaccines are safe and how the COVID-19 vaccine works in your body.

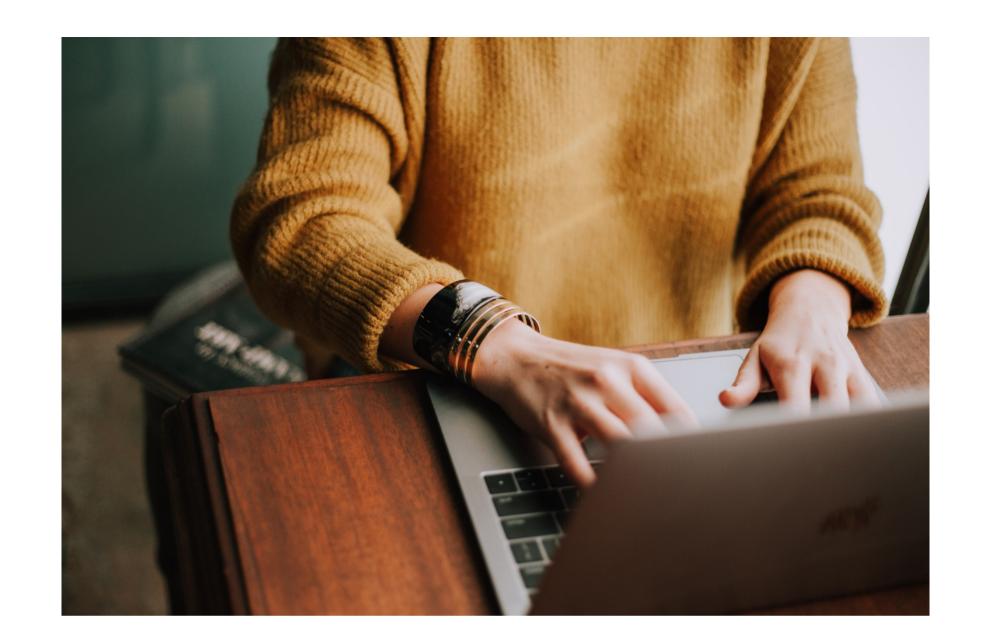
Remember, we're always here to help if you have additional concerns. Do you have any other questions before we administer the vaccine?

Patient: No, I appreciate you breaking it down for me. I think I'm ready to take it. Thank you!



## Helpful Resources





ACIP, "General Best Practice Guidelines for Immunization": <a href="https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html">https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html</a>

CDC, "Pink Book":

https://www.cdc.gov/vaccines/pubs/pinkbook/chapters.html



Children's Hospital of Philadelphia, "Vaccine Education Center": <a href="https://www.chop.edu/centers-programs/vaccine-education-center">https://www.chop.edu/centers-programs/vaccine-education-center</a>

PublicHealth.org, "Understanding Vaccines": <a href="https://www.publichealth.org/public-awareness/understanding-vaccines/">https://www.publichealth.org/public-awareness/understanding-vaccines/</a>

Stronger. A national campaign stopping the spread of harmful misinformation about science, medicine, and vaccines: https://stronger.org/



## Follow Us!

- @
  - @immunize\_USA
- **a** 
  - @immunize USA
- 0
- @immunize\_USA
- in

The Immunization Partnership

Sign up for alerts: www.immunizeUSA.org





## Protected Together

**#VACCINESWORK** 



#### **References:**

- 1. <a href="https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019">https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019</a>
- 2. Betsch C, Bohm R, Chapman G B. (2015). "Using Behavioral Insights to Increase Vaccination Policy Effectiveness." Accessed: <a href="http://bbs.sagepub.com/content/2/1/61.full">http://bbs.sagepub.com/content/2/1/61.full</a>
- 3. <a href="https://www.health.harvard.edu/blog/why-do-parents-worry-about-vaccines-2019080217406">https://www.health.harvard.edu/blog/why-do-parents-worry-about-vaccines-2019080217406</a>
- 4. <a href="https://www.cdc.gov/tuskegee/timeline.htm">https://www.cdc.gov/tuskegee/timeline.htm</a>
- 5. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4869767/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4869767/</a>
- 6. <a href="https://www.publichealth.org/public-awareness/understanding-vaccines/vaccine-myths-debunked/">https://www.publichealth.org/public-awareness/understanding-vaccines/vaccine-myths-debunked/</a>
- 7. <a href="https://www.chop.edu/centers-programs/vaccine-education-center/vaccine-safety/immune-system-and-health">https://www.chop.edu/centers-programs/vaccine-education-center/vaccine-safety/immune-system-and-health</a>
- 8. <a href="https://www.cdc.gov/coronavirus/2019-ncov/vaccines/faq.html#hadcovid">https://www.cdc.gov/coronavirus/2019-ncov/vaccines/faq.html#hadcovid</a>
- 9. <a href="https://kidshealth.org/en/parents/fact-myth-immunizations.html">https://kidshealth.org/en/parents/fact-myth-immunizations.html</a>
- 10. <a href="https://www.cdc.gov/vaccinesafety/concerns/multiple-vaccines-immunity.html">https://www.cdc.gov/vaccinesafety/concerns/multiple-vaccines-immunity.html</a>
- 11. <a href="https://www.cdc.gov/vaccines/parents/infographics/journey-of-child-vaccine-h.pdf">https://www.cdc.gov/vaccines/parents/infographics/journey-of-child-vaccine-h.pdf</a>
- 12. <a href="https://www.jhsph.edu/covid-19/articles/achieving-herd-immunity-with-covid19.html">https://www.jhsph.edu/covid-19/articles/achieving-herd-immunity-with-covid19.html</a>
- 13. <a href="https://www.cdc.gov/vaccines/vac-gen/additives.htm">https://www.cdc.gov/vaccines/vac-gen/additives.htm</a>
- 14. <a href="https://www.chop.edu/centers-programs/vaccine-education-center/vaccine-ingredients/aluminum">https://www.chop.edu/centers-programs/vaccine-education-center/vaccine-ingredients/aluminum</a>
- 15. <a href="https://www.chop.edu/centers-programs/vaccine-education-center/vaccine-ingredients/formaldehyde">https://www.chop.edu/centers-programs/vaccine-education-center/vaccine-ingredients/formaldehyde</a>
- 16. <a href="https://www.chop.edu/centers-programs/vaccine-education-center/vaccines-and-other-conditions/vaccines-autism">https://www.chop.edu/centers-programs/vaccine-education-center/vaccines-and-other-conditions/vaccines-autism</a>
- 17. <a href="https://media.chop.edu/data/files/pdfs/vaccine-education-center-autism.pdf">https://media.chop.edu/data/files/pdfs/vaccine-education-center-autism.pdf</a>
- 18. <a href="https://autismsciencefoundation.org/what-is-autism/autism-and-vaccines/">https://autismsciencefoundation.org/what-is-autism/autism-and-vaccines/</a>
- 19. <a href="http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(97)11096-0/abstract">http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(97)11096-0/abstract</a>
- 20. <a href="https://autismsciencefoundation.org/what-is-autism/how-common-is-autism/">https://autismsciencefoundation.org/what-is-autism/how-common-is-autism/</a>
- 21. https://www.autismspeaks.org/what-causes-autism

- 22. <u>22. https://www.mayoclinichealthsystem.org/hometown-health/featured-topic/covid-19-vaccine-myths-debunked</u>
- 23. <a href="https://www.cdc.gov/vaccines/covid-19/hcp/mrna-vaccine-basics.html">https://www.cdc.gov/vaccines/covid-19/hcp/mrna-vaccine-basics.html</a>
- 24. https://www.cdc.gov/coronavirus/2019-ncov/vaccines/facts.html
- 25. https://www.cdc.gov/coronavirus/2019-ncov/your-health/reinfection.html
- 26. https://www.fda.gov/media/144638/download
- 27. https://www.fda.gov/media/144413/download
- 28. <a href="https://www.hsph.harvard.edu/ecpe/vaccines-social-media-spread-misinformation/">https://www.hsph.harvard.edu/ecpe/vaccines-social-media-spread-misinformation/</a>
- 29. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7090020/
- 30. <a href="https://stronger.org/spot-misinformation">https://stronger.org/spot-misinformation</a>
- 31. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5405806/
- 32. <a href="https://www.psychologytoday.com/us/therapy-types/motivational-interviewing">https://www.psychologytoday.com/us/therapy-types/motivational-interviewing</a>
- 33. <a href="https://clinmedjournals.org/articles/jfmdp/journal-of-family-medicine-and-disease-prevention-jfmdp-3-069.php?jid=jfmdp">https://clinmedjournals.org/articles/jfmdp/journal-of-family-medicine-and-disease-prevention-jfmdp-3-069.php?jid=jfmdp</a>
- 34. <a href="https://rhntc.org/sites/default/files/resources/2017-10/fpntc">https://rhntc.org/sites/default/files/resources/2017-10/fpntc</a> oars model 2016.pdf
- 35. Safren, S. A., Naar, S. (2017). Motivational Interviewing and CBT: Combining Strategies for Maximum Effectiveness. United States: Guilford Publications.



# THANK YOU!



If you have any questions about this presentation please email Katy Gore at kgore@immunizeUSA.org