

Vaccine Hesitancy

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Defining Vaccine Hesitancy

- WHO

- Delay in acceptance or refusal of vaccination despite availability of vaccination services

- AAP

- “hesitancy” depolarizes pro vs anti
- Expresses the spectrum of attitudes toward vaccination
- Heterogenous group varying degrees of indecision
- 3% of parents refuse all vaccines

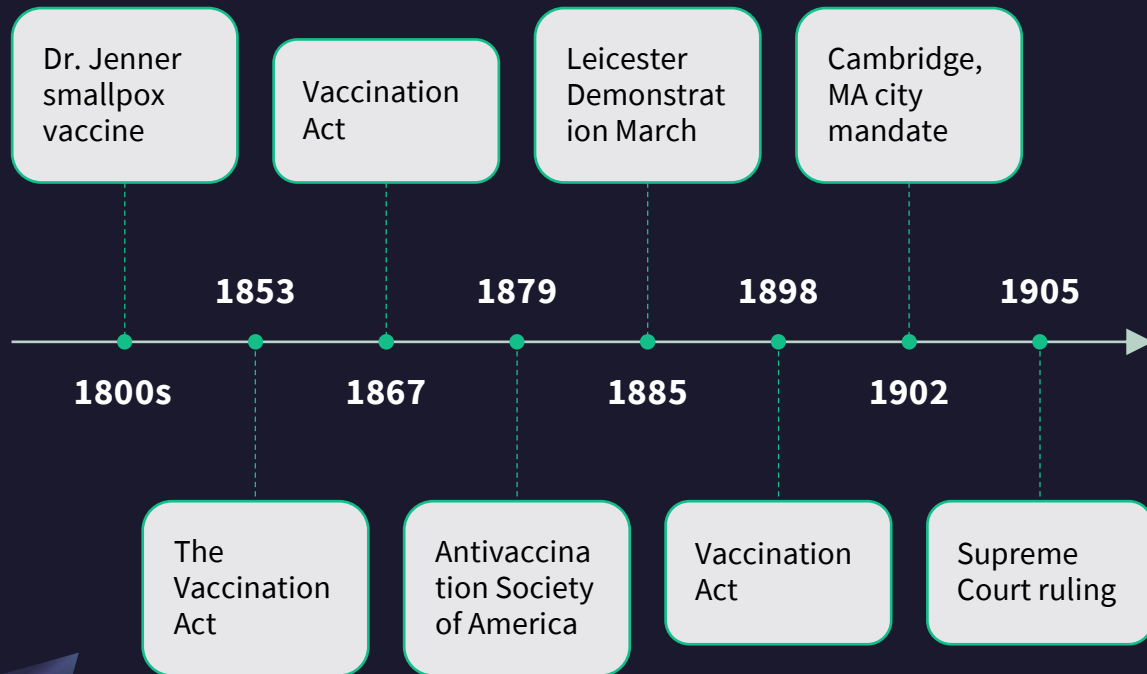
Historical Vaccine Hesitancy



"Fresh Calf Lymph" by Robert Brown, poem reprinted from *Vaccination*, a "monthly journal of health, telling the truth about vaccination." The Historical Medical Library of The College of Physicians of Philadelphia. Anti-Vaccination Society of America. Minutes, correspondence, etc. 10c98.

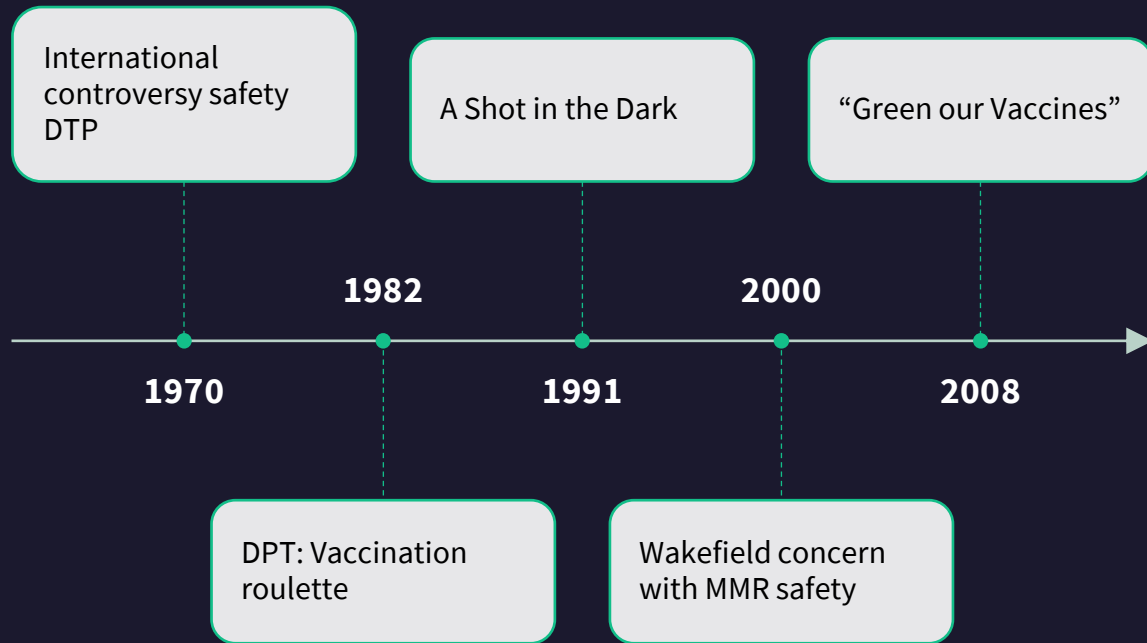
<https://www.historyofvaccines.org/content/fresh-calf-lymph-poem>

Historical Vaccine Hesitancy

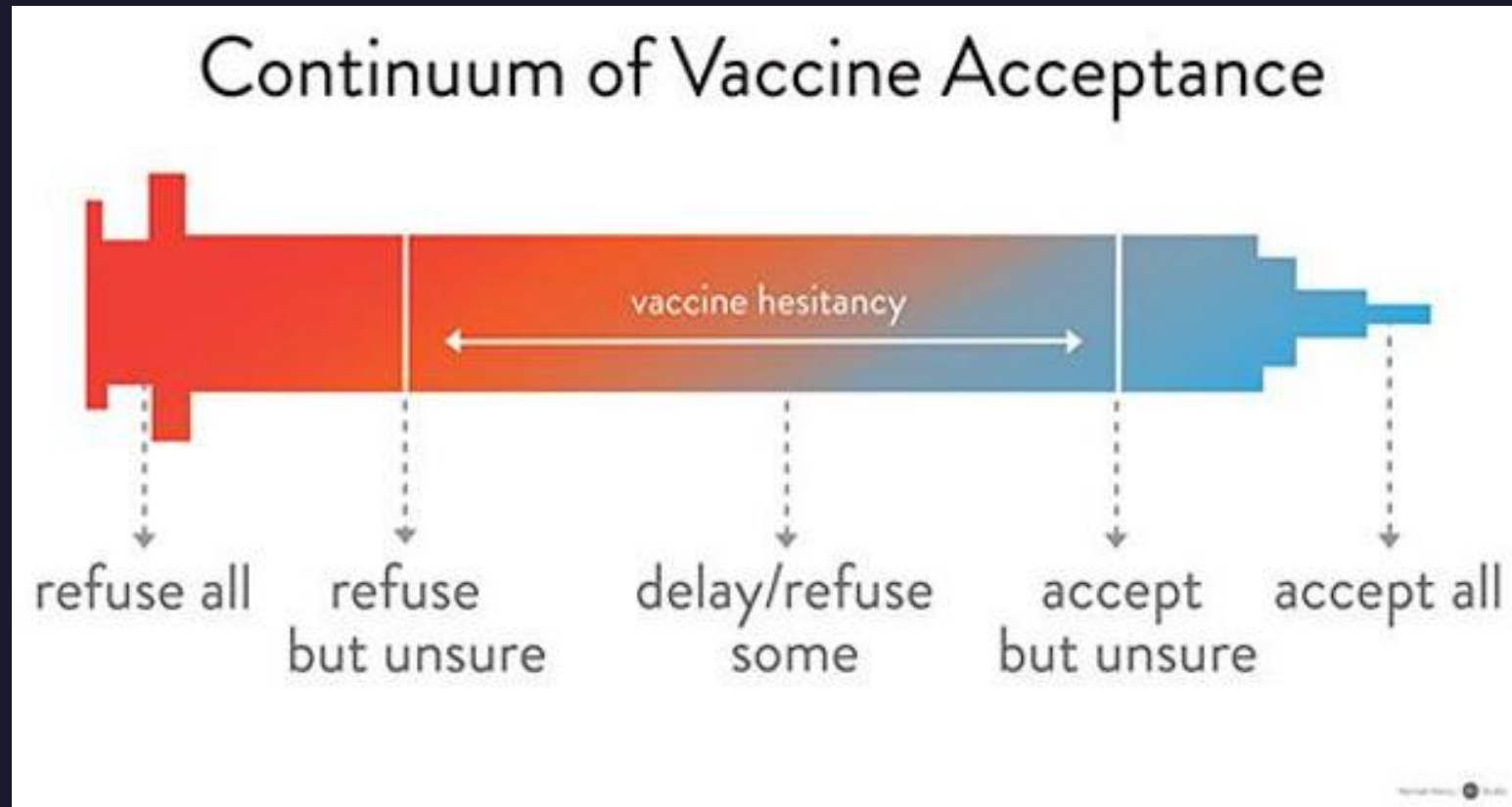


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Historical Vaccine Hesitancy



Vaccine Hesitancy A Spectrum



Spectrum of Vaccine Hesitancy

AAP

Immunization advocate	Parents agree that vaccines are necessary and safe. Parents have a strong relationship with their health care provider.
Go along to get along	Parents do not question vaccines, would like to vaccinate their children, but may lack a detailed knowledge of vaccines.
Cautious acceptor	Parents may have minor concerns about vaccines but ultimately vaccinate their children.
Fence-sitter	Parents have significant concerns about vaccines and tend to be knowledgeable about vaccines. Parents may vaccinate their child or may refuse or delay vaccines. Parents may have significant concerns about vaccines and may have a neutral relationship with their health care provider.
Refuser	Parents refuse all vaccines for their child. Their reasons for refusal may include distrust in the medical system, safety concerns, and religious beliefs.

- UNICEF

- Active Seekers
- Passive Acceptance
- Passive Hesitance
- Refuse all vaccines

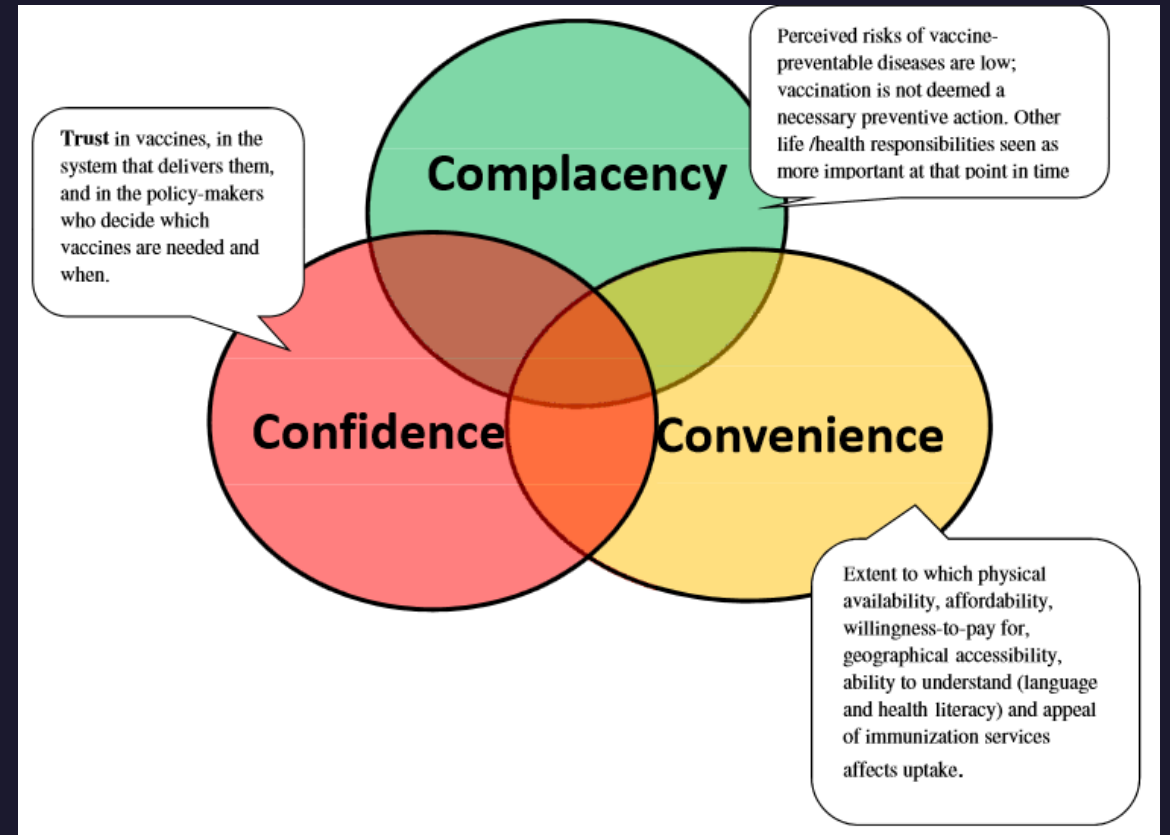
- NEJM: Stages of Change

- precontemplative-vaccine neutral or vaccine-resistant
- Ratzan, S., Schneider, E., et al. Missing the Point-How Primary Care Can Overcome Covid-19 Vaccine “Hesitancy”. N Engl J Med. 2020. 384:e100.DOI10.10561NEJMp2106137



Sources of Vaccine Hesitancy

- Social/Cultural
 - Mistrust of healthcare industry, government, pharmaceuticals
- Religious
 - Vaccine components
 - Beliefs about medical interventions
- Political
 - Individual rights vs public health



Social/Cultural Sources of Vaccine Hesitancy

- Do not assume vaccine hesitant =vaccine refusal or anti-vax
 - Lack of proper education
 - Believe risk of vaccine is greater than risk or likelihood of contracting disease
- Distrust in the medical community, government and pharmaceutical
 - Cultural, social or individual medical trauma... Example: Tuskegee experiment
 - Undocumented individuals may have concern that registration or documentation of vaccine is a threat
 - Those around them (employers, peers, family, religious leaders) have voiced strong opinions against
- Low socioeconomic status
 - Concern that side effects will affect their ability to return to work
 - Barriers to access such as transportation or time off work

Religious Sources of Vaccine Hesitancy

- Doctrines that believe in faith healing or healing through prayer
- Very few religious doctrines have a formal opposition to vaccines/vaccination; however
- Groups within certain religions that do not believe in vaccination for their families
- Vaccines cultured in cells that were originally derived in aborted fetus
 - https://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_20201221_nota-vaccini-anticovid_en.html
- Use of certain animal components in the manufacturing of vaccines



Political Sources of Vaccine Hesitancy

- Individual rights versus Public Health



3 C's of Vaccine Hesitancy

WHO Work Group

- Confidence

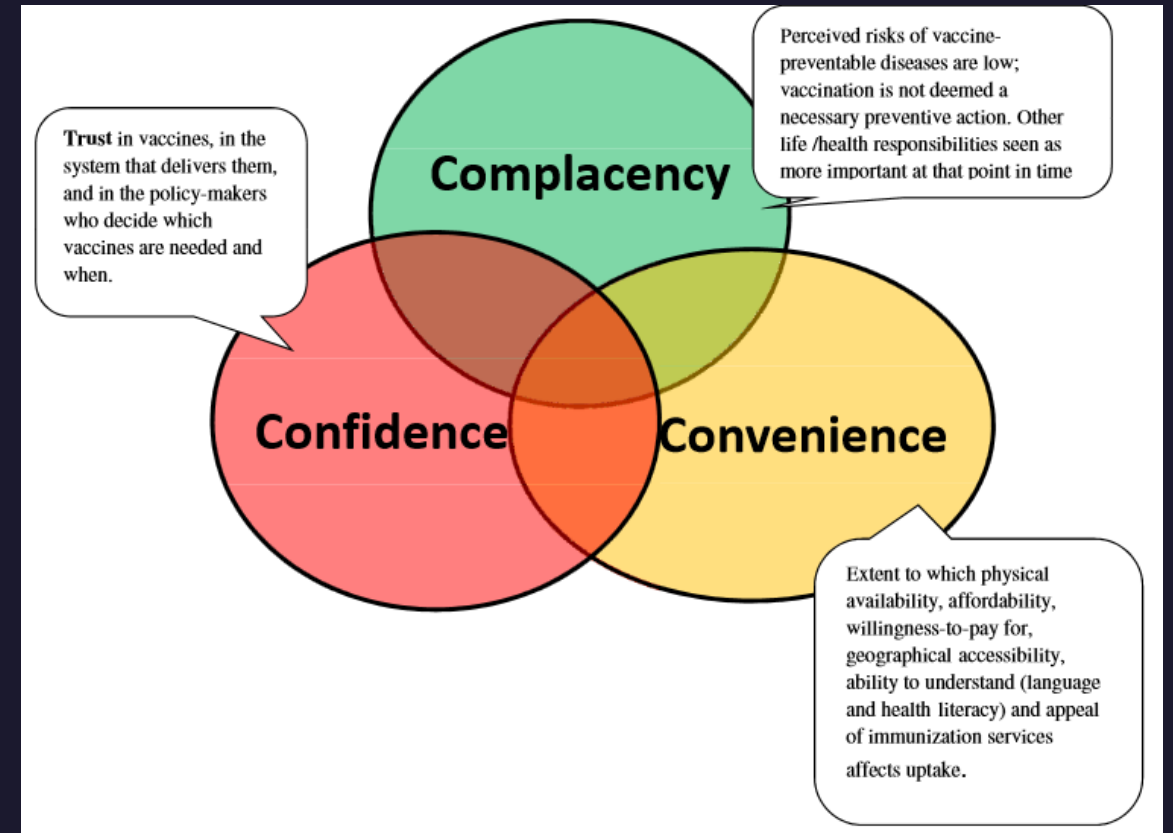
- Degree of trust in vaccines, healthcare systems and policy makers
 - 70% vaccine hesitant worried about side effects of Covid19 vaccine-Carnegie-Mellon and Univ of Maryland in collaboration with Facebook

- Complacency

- Perception of low risks from disease

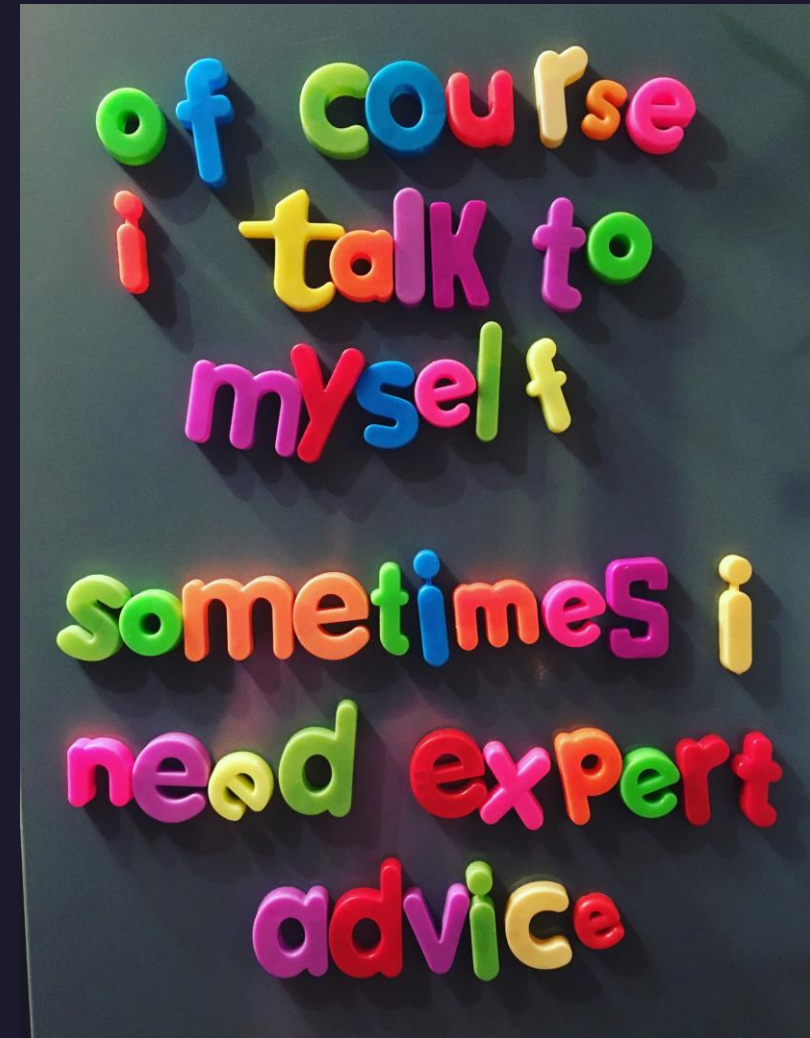
- Convenience

- Access challenges



Strategies

- Know you are the expert for your patient
- Educate the expert
- Open Communication
- Identify the source of our patient's hesitancy
- Address concerns and misconceptions
- Be honest about what we know and don't know
- Respect patient's perspective and autonomy
- Built in vaccine orders based on CDC immunization schedule
- Presumptive delivery strategy



We are our patients' trusted expert

- Educate ourselves
 - Vaccine Types and MOA
 - Vaccine components
 - Vaccine pathway to licensure
 - Safety monitoring
 - VICP
 - Be familiar with common myths and misconceptions



Educate ourselves

Vaccine MOA; testing/licensure; safety and monitoring

TYPES OF VACCINES

- Live, attenuated
 - Ex: MMR, Varivax
- Inactivated
 - Ex: inactivated Polio
- Toxoid
 - Ex: DTaP (diphtheria and tetanus component)
- Subunit
 - Ex: Pertussis component of DTaP
- Conjugate
 - Ex: Hib
- mRNA
 - Ex: COVID19





Pediatrics. 2016;138(3). doi:10.1542/peds.2016-2146

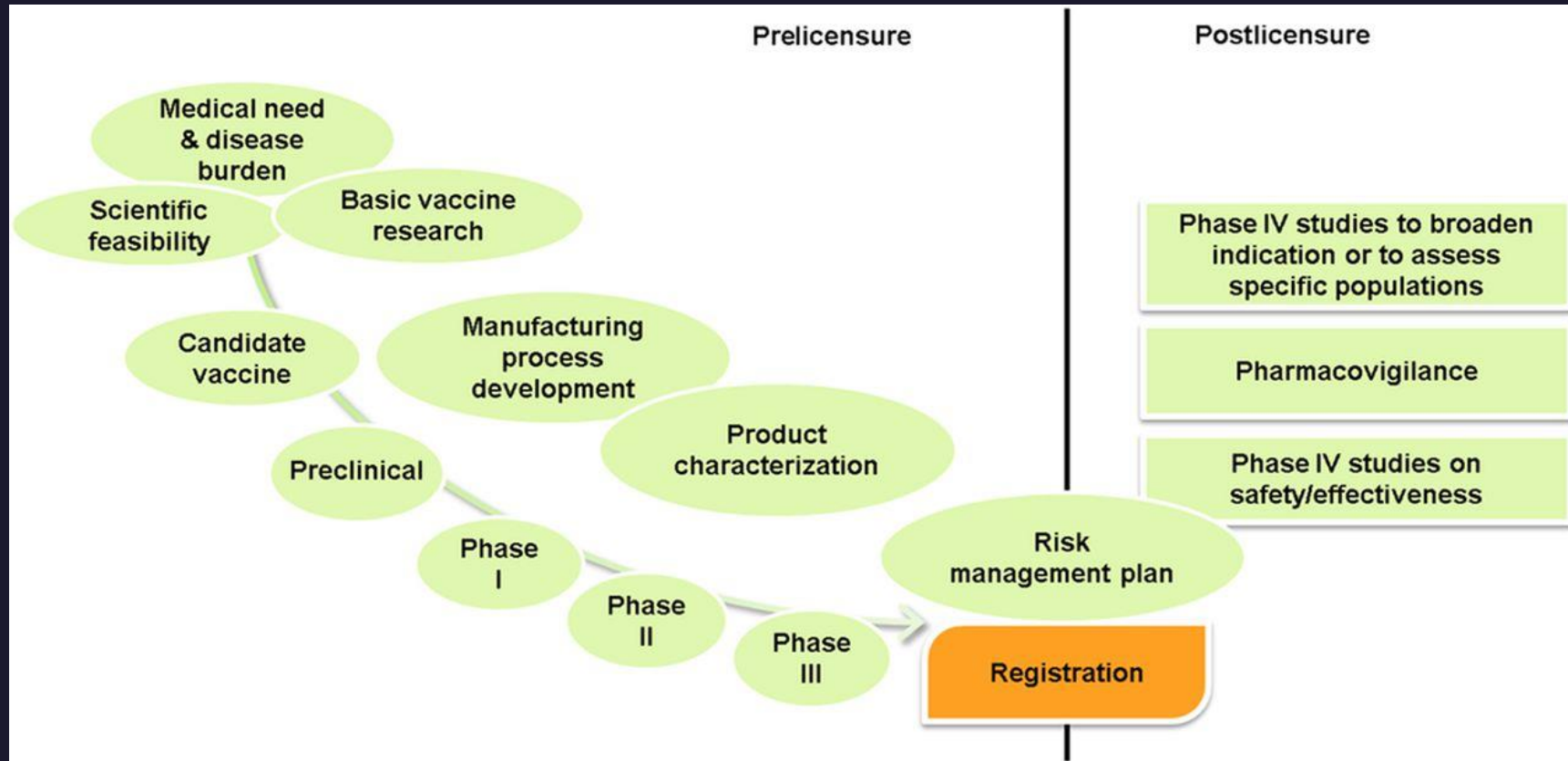


Figure Legend:

Vaccine pipeline: prelicensure and postlicensure vaccine development activities. From Hardt K, Schmidt-Ott R, Glismann S, Adegbola RA, Meurice F. Sustaining vaccine confidence in the 21st century. *Vaccines*. 2013;1(3):204–224. Copyright © 2013 by the authors; licensee MDPI, Basel, Switzerland. Reproduced under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/3.0/>).

Vaccine Safety Monitoring

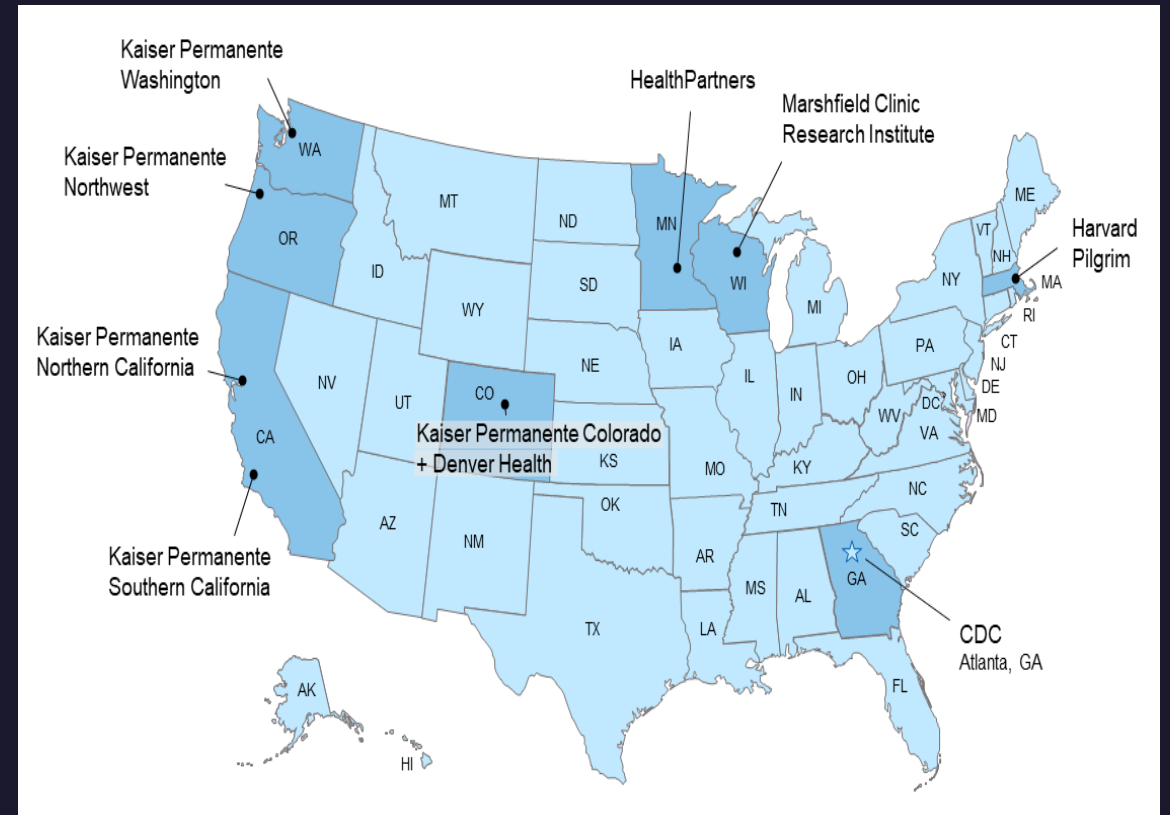
VAERS

VDS

DO YOUR PART
for Vaccine Safety —
Report to **VAERS**.
Vaccine
Adverse
Event
Reporting
System



  www.vaers.hhs.gov



V-Safe



**Get vaccinated.
Get your smartphone.
Get started with v-safe.**



Use your smartphone to tell CDC about any side effects after getting the COVID-19 vaccine. You'll also get reminders if you need a second vaccine dose.

Sign up with your smartphone's browser at vsafe.cdc.gov

OR

Aim your smartphone's camera at this code



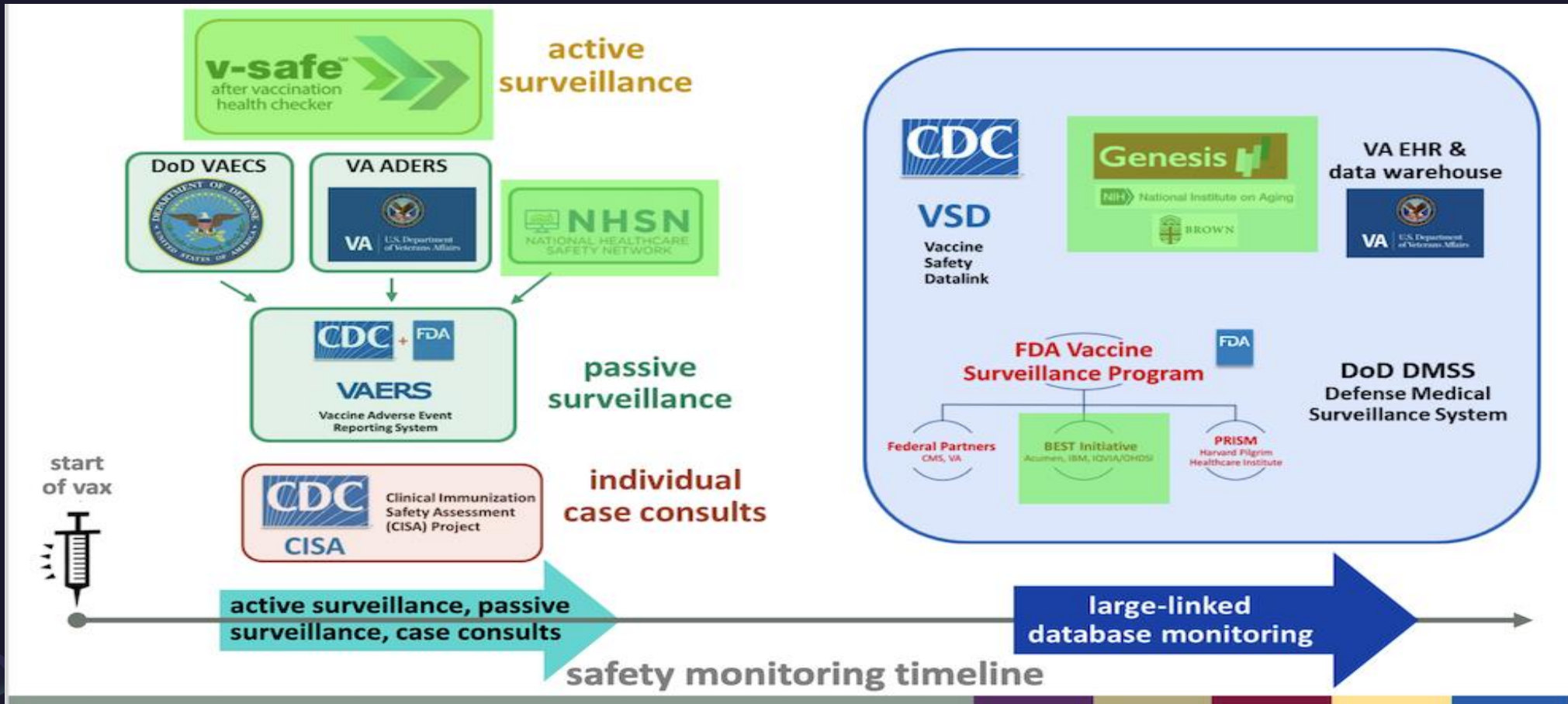
Learn more about **v-safe** www.cdc.gov/vsafe 

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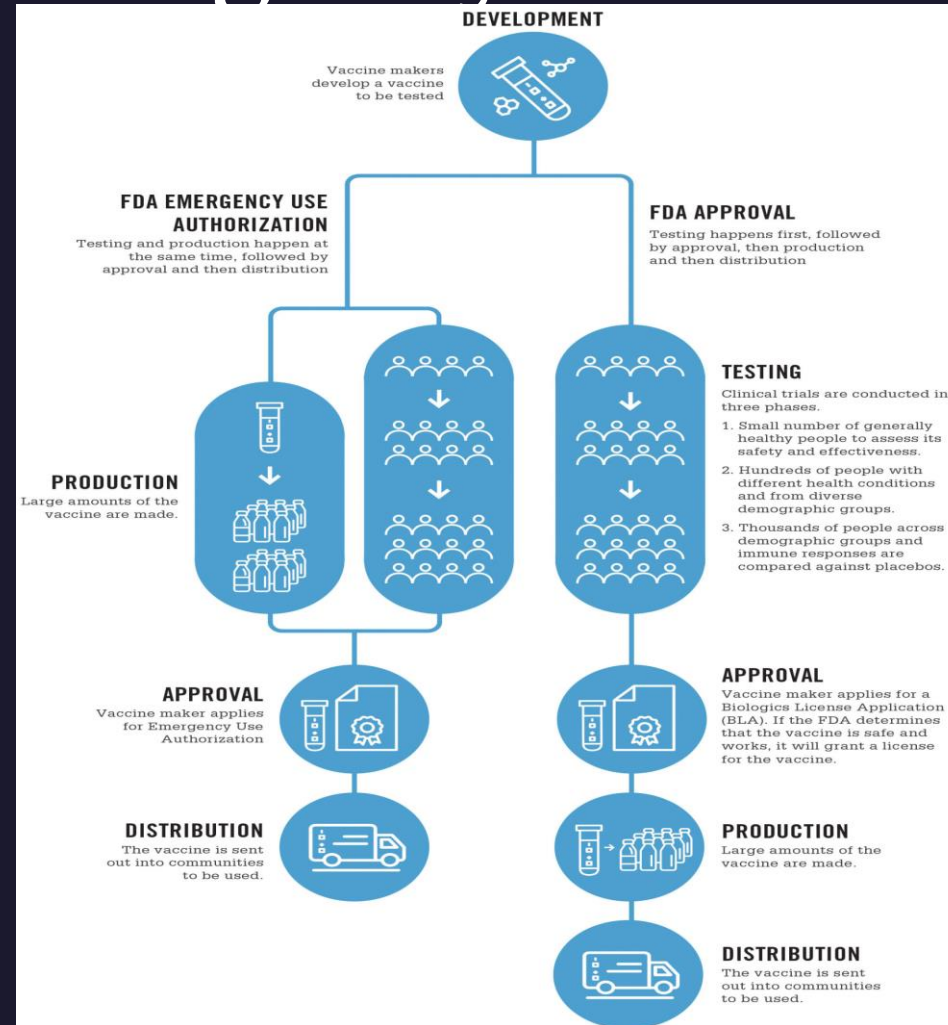
Vaccine Injury Compensation Program

- No fault alternative to traditional legal system
- 1980s vaccine lawsuits lead to shortages in vaccine supplies and reduce vaccination rates
- Balances liability petitions for manufacturers with a clearer pathway for petitioners
- Funded by excise tax on each specified dose of vaccine when purchased
- administered jointly by the U.S. Department of Health & Human Services, the Department of Justice, and the U.S. Court of Federal Claims
- Adverse events listed in a Vaccine Injury Table are presumed to have been caused by the vaccine cited in the list. Such claims are processed in a streamlined, no-fault fashion.
- paid out more than \$4 billion to petitioners over 30+ years
- Between 2006 to 2017, over 3.4 billion doses of vaccines covered by VICP were distributed in the U.S., with 4,493 petitions or claims receiving compensation under VICP

COVID 19 Vaccine Safety Monitoring



FDA Emergency Use Authorization



Parental Concerns about Vaccines

- Vaccine Safety

- Too Many
- Autism
- Additives
- Adverse reactions, including long-term
- Not adequately researched before licensed
- May cause child pain or illness

- Vaccine Necessity

- Disease is more “natural”
- Disease isn’t serious threat
- Not all vaccines are needed
- Vaccines do not work

- Freedom of Choice

- Parents know what is best
- Parents have the right to choose
- Risks outweigh the benefits of vaccine
- Distrust medical community, policy makers, pharmaceutical
- Ethical, Moral, Religious

Communication Strategies to Counter Vaccine Hesitancy

- Don't assume vaccine hesitant = anti-vax
- You (their HCP) are their expert
- Build Rapport
- Be Humble, Be Honest, Be calm
- Motivational Interviewing
- Active Listening
- Try to understand patient's perspective
- Address Concerns; Address misconceptions
- Personalize Communication
- Be culturally aware and competent
- Communicate respect and honor for patient's autonomy
- Accentuate that you and the patient are a team with a common goal of protecting and promoting their health

AAFP Improving Vaccine Confidence Series

Dr. Jerry P Abraham MD, MPH

TO TACKLE MISINFORMATION

- Start conversation
- Hear the concern
- Understand perspective
- Find common Goal
 - Create an alignment of safety
 - What motivates them, for ex., to get back to pre-pandemic activities?
- Guide them to decision
- Respect autonomy

• 5 KEYS MESSAGES

- Vaccine will keep you safe
- Side effects are normal and manageable
- Vaccines are very effective
- Vaccines are built on years of reliable and publicly available scientific research
- Do not be afraid to ask questions



Practice strategies to Counter Vaccine Hesitancy

- Presumptive Delivery Strategy
- Provider and staff anticipate that each patient will receive vaccines according to the CDC immunization schedule
- VIS at or before beginning of visit
- Vaccines presented as recommended and due. Communication continues in anticipation that vaccines will be given as such. The CDC schedule is the only proven safe and effective schedule.
- Parents provided opportunity to voice any questions or concerns.
- Opel et al found that majority of patients accepted providers vaccine recommendations when presented as required immunizations to maintain optimal health.
 - Opel DJ, Heritage J, Taylor JA, et al. The Architecture of provider-parent vaccine discussion at health supervision visits. *Pediatrics*. 2013;132(6):1037-1046
- Delayed or alternative immunization schedule option only if negotiation necessary
- AAP vaccine refusal form
- Continue to see vaccine hesitant patients to maximize your opportunity to educate and provide vaccines.

Community Strategies to Counter Vaccine Hesitancy

- Know your community, any collective concerns or themes of conversation
- Who does your community trust?
 - Religious leaders
 - Community leaders
- Get involved and advocate
- Build partnerships and Expand Access
 - Ideally with those who provide and serve the community
 - And with those who have the community's trust
- May need to meet more basic needs of community as you educate about importance of vaccination



Addressing a few common myths

THIMEROSAL

- Ethyl mercury-containing compound
- In multi-dose vials to prevent contamination
- After complete manufacturing, only a trace of thimerosal left
- Pre-filled, singled dose syringes (most of the pediatric vaccines) do not contain thimerosal
- No evidence of toxicity or that it causes autism
<https://www.chop.edu/centers-programs/vaccine-education-center/vaccine-ingredients/thimerosal>

AUTISM

- Wakefield published a study in the Lancet that raised concerns for correlation between autism and the MMR vaccine-based on 8 children
- Since that time hundreds of thousands of children have been studied and receiving the MMR does not increase the risk of developing autism.
- Furthermore, it was found that Wakefield had conflicts of interest and incorrectly represented data. The lancet publicly withdrew his article from publication.
- <https://media.chop.edu/data/files/pdfs/vaccine-education-center-autism.pdf>



Addressing a few common myths

TOO MANY VACCINES

- It is true that we have vaccines available for many diseases now. Many of those vaccines require booster doses because they are provided at a young age and use a mechanism of action that is safe to stimulate an immune response
- Compared to the vaccine schedule in the 1980s, which presented 1000s of proteins and immunological components, our current vaccine schedule cumulatively contains approximately 125 proteins and polysaccharides. This is fewer than children used to receive in just the one smallpox vaccine.
- The current vaccine schedule is extremely safe and effective.

VACCINES WILL CAUSE A HARMFUL PAIN RESPONSE

- Vaccines can cause a temporary pain response with injection, followed by some discomfort at the site of injection for 24-48 hours. Many infants cry for seconds or do not cry at all with their vaccinations.
- Clinically, the children who are old enough to anticipate injections demonstrate a more elevated pain response than infants who are unable to anticipate.
- Providers typically use equipment and techniques to minimize discomfort.
- In addition to rapid administration, providers can use tactile stimulation, distraction techniques to minimize pain.
- Acetaminophen can be used if discomfort persists. It is not recommended to use in anticipation of discomfort.



Addressing a few common myths

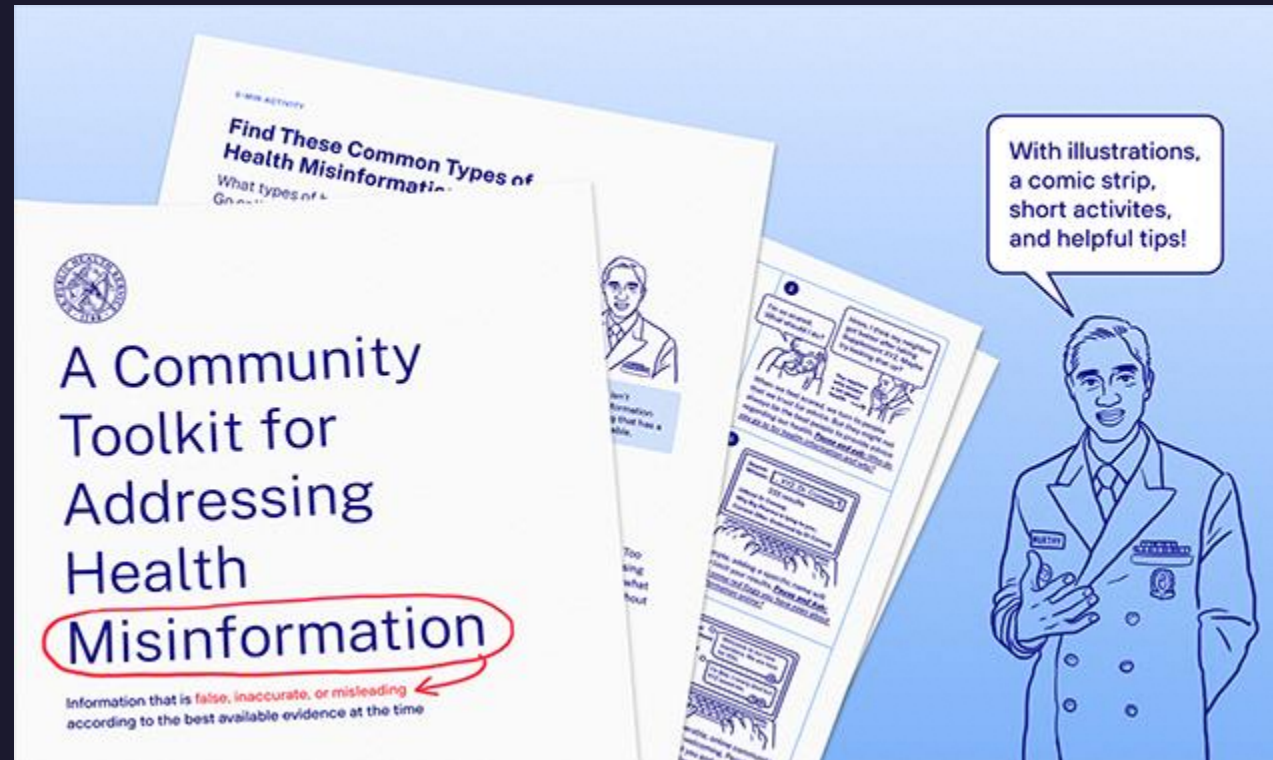
MRNA FROM A VACCINE CAN AFFECT A HUMAN'S GENETIC MAKE-UP

- The mRNA from the vaccine does not enter the nucleus of the cell where DNA resides. It is unable to have an affect on the DNA or genetic make-up of an individual

- MRNA FROM A VACCINE WILL CHANGE THE CELLS AND CAUSE CHANGES TO THE IMMUNE SYSTEM FOREVER
- mRNA from the COVID19 vaccine causes a spike protein to present on cells in order to mimic the coronavirus and stimulate the nervous system
- The spike protein can not cause illness but can stimulate the immune system to build immunity so that when presented with actual coronavirus, the immune system is able to fight the infection quickly
- The spike protein induced by the mRNA is only present in the body for a few weeks.



Attorney General Toolkit



Pediatrics. 2016;138(3). doi:10.1542/peds.2016-2146

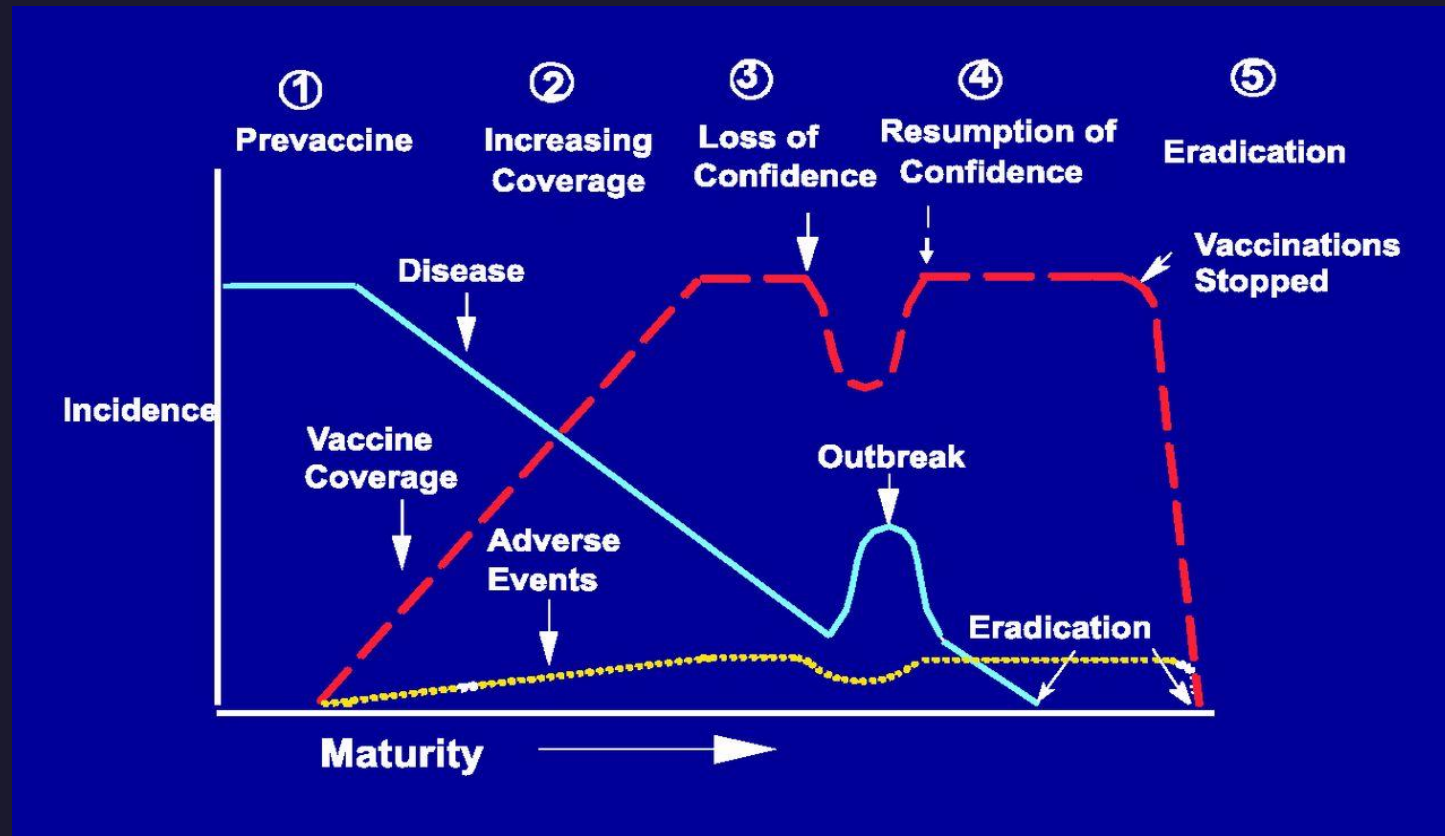
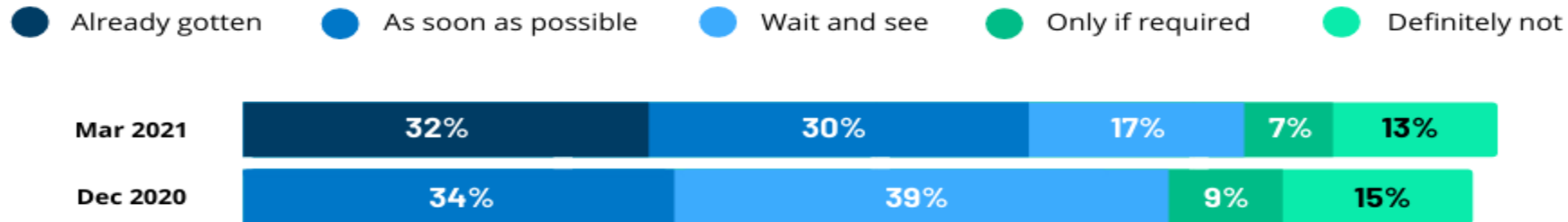


Figure Legend:

Evolution of a vaccine program. Reproduced with permission. Chen RT, Orenstein WA. Epidemiologic methods in immunization programs. Epidemiol Rev. 1996;18(2):102. Copyright © 1996 by the Oxford University Press.

What Have We Learned So Far About COVID-19 Vaccine Confidence, Messages, and Messengers?

Vaccine enthusiasm has increased as more people have seen their friends and family members get vaccinated



Messages about the vaccines' effectiveness work best with the "wait and see" group

66%

66% of people in the "wait and see" group say they are more likely to get the COVID-19 vaccine if they heard that vaccines are nearly 100% effective at preventing hospitalization and death from COVID-19.



Individual health care providers are the most trusted messengers when it comes to information about the COVID-19 vaccines

About Half Of Vaccinated Adults Who Aren't Boosted Say The Omicron Variant Makes Them More Likely To Do So, One In Eight Unvaccinated Adults Say Omicron Motivates Them To Get Vaccinated

Does news about the new omicron variant of the coronavirus make you more likely to..., or not?



NOTE: Vaccinated adults are those who have gotten at least one dose of a COVID-19 vaccine. See topline for full question wording.

SOURCE: KFF COVID-19 Vaccine Monitor: Early Omicron Update (Dec. 15-20, 2021)

KFF COVID-19
Vaccine Monitor

Resources

- Edwards, K, Hackell, J. *Countering Vaccine Hesitancy. Pediatrics* (2016) 138 (3): e20162146.
<https://doi.org/10.1542/peds.2016-2146>
- Kaiser Family Foundation Vaccine monitor
 - <https://www.kff.org/coronavirus-covid-19/report/kff-covid-19-vaccine-monitor-january-2021/>
- AAFP Improving Vaccine Confidence Series
 - <https://www.aafp.org/cme/all/online/improving-vaccine-confidence.html>
- Attorney General Misinformation Toolkit
 - <https://www.hhs.gov/sites/default/files/health-misinformation-toolkit-english.pdf>



Resources

- AAP.org
- AAFP.org
- CDC.gov
- [History of Vaccines.org](http://HistoryofVaccines.org)
- Immunize.org
- Vaxopedia.org
- Vaccines.gov