

Vaccines are good: how do we explain that to everyone?

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Objectives

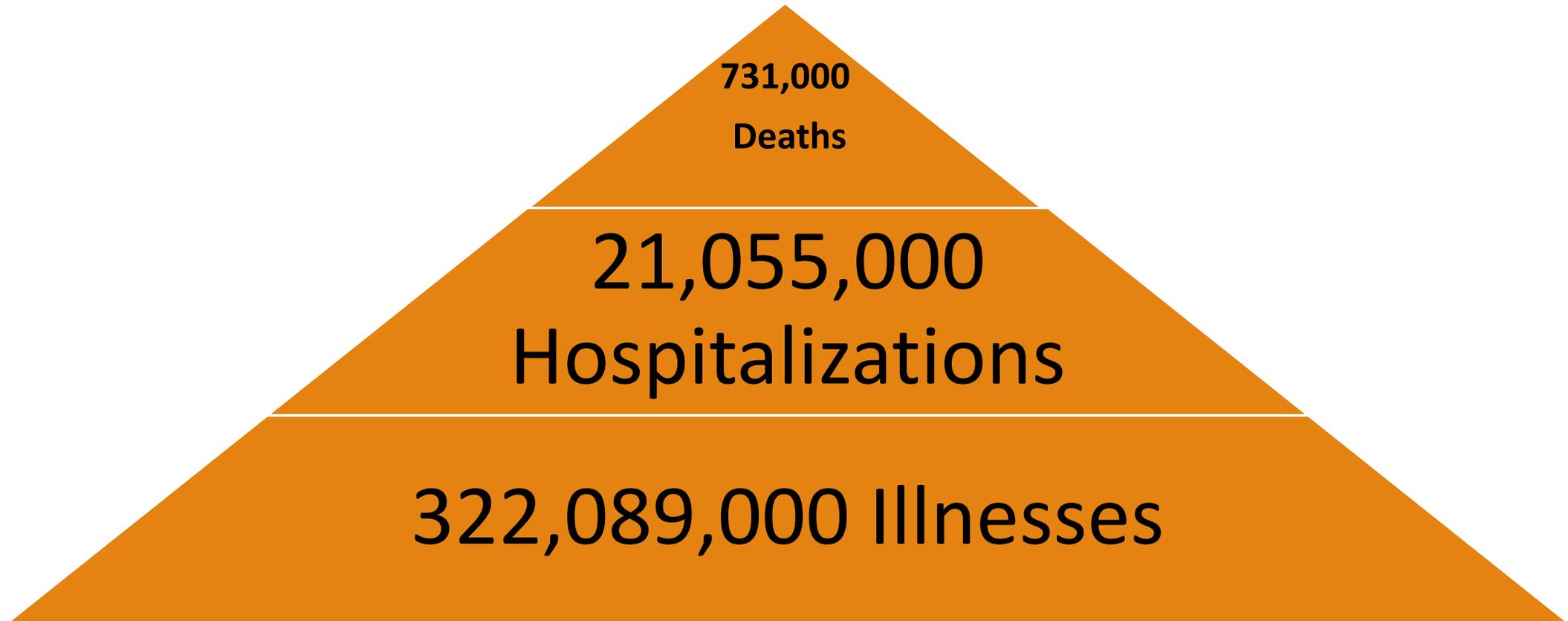
List examples of vaccine success

Explain the factors that lead to concerns about vaccines

Choose some talking points to support your recommendations to get vaccinated

Address the unique questions that come up related to COVID vaccines

Impact of childhood vaccines-1994-2013



Things we almost never see anymore

Polio

Tetanus

Diphtheria

Measles

Rabies

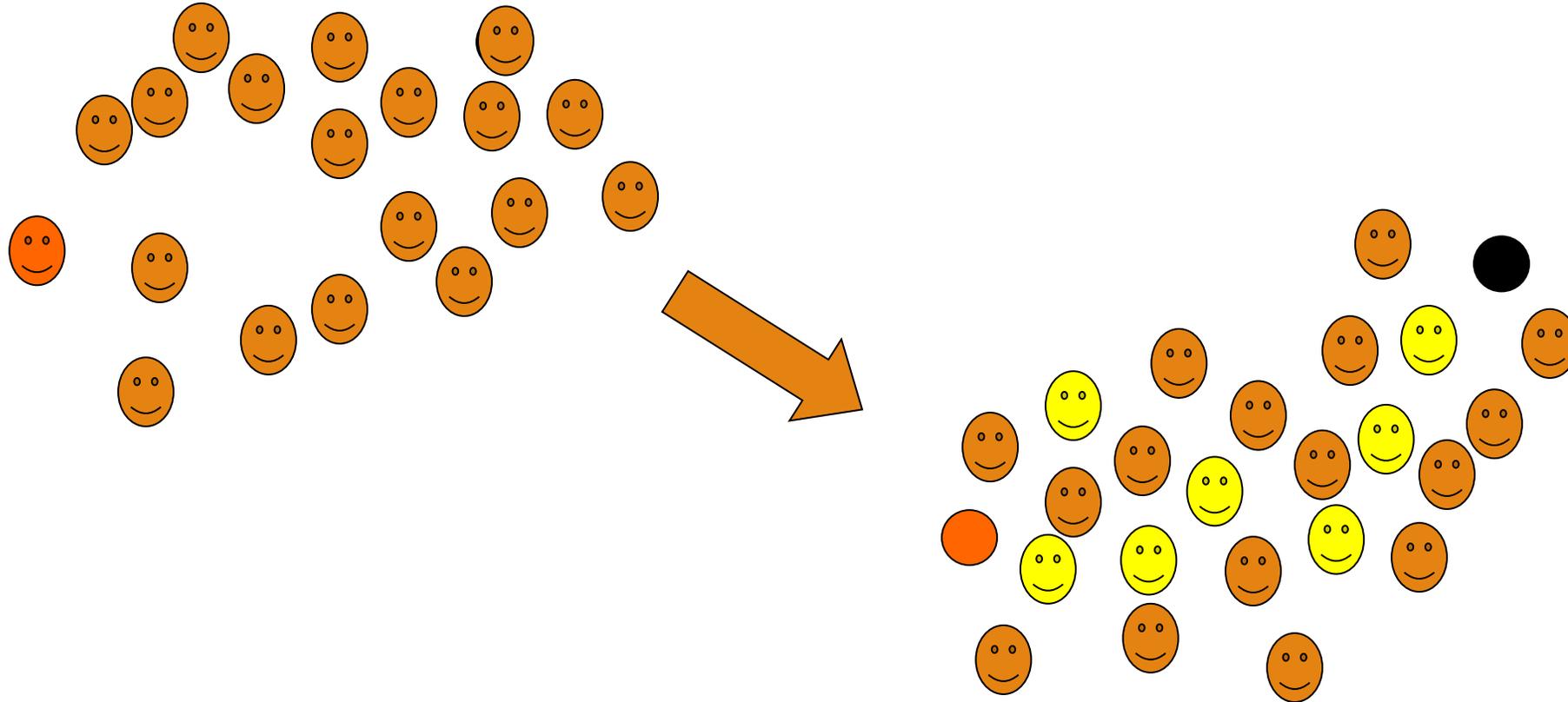
Haemophilus influenza, type B



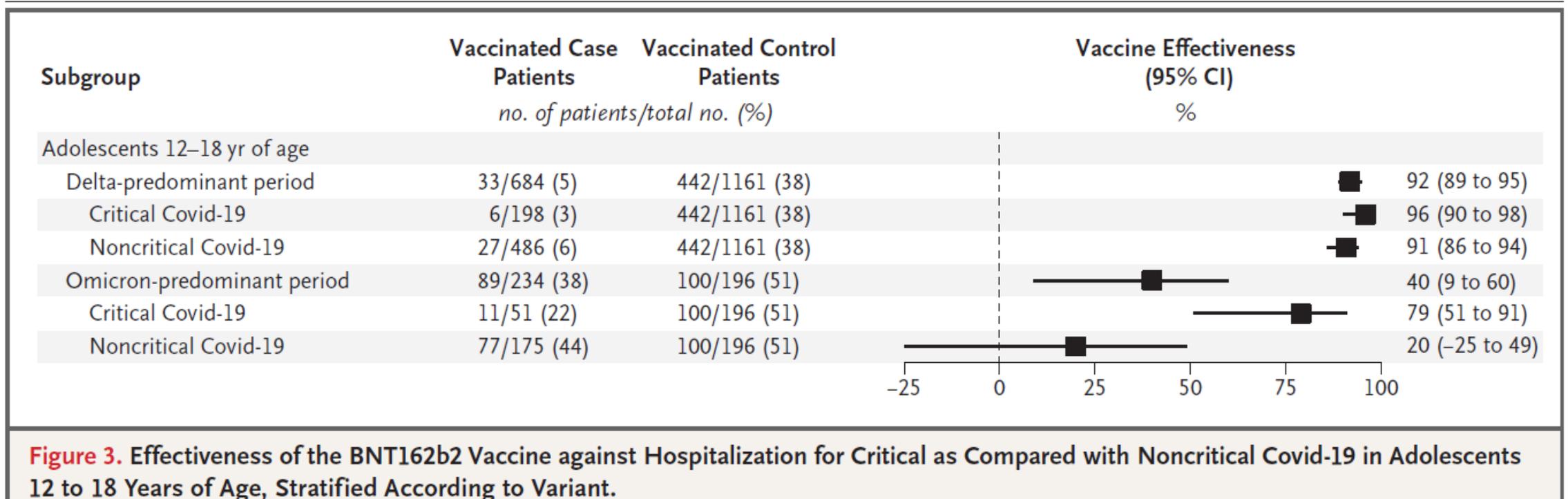
**Vaccination is the top
Public Health
achievement of the 20th
Century**

MMWR 1999; 48:241

Community Protection



COVID Vaccine effectiveness-Critical illness



Vaccination Protection Against MIS-C in 12-18 year olds

TABLE 2. Clinical outcomes and severity among multisystem inflammatory syndrome in children case-patients aged 12–18 years, by vaccination status* — 24 pediatric hospitals, 20 U.S. states,† July–December 2021

| Characteristic | No. (%) | | |
|--|--------------------|--------------------------|--|
| | Total (N = 102) | Unvaccinated (n = 97) | Fully vaccinated ≥28 days before hospitalization (n = 5) |
| Organ system involvement[§] | | | |
| Cardiovascular | 91 (89.2) | 86 (88.7) | 5 (100.0) |
| Respiratory | 29 (28.4) | 28 (28.9) | 1 (20.0) |
| Hematologic | 68 (66.7) | 66 (68.0) | 2 (40.0) |
| Gastrointestinal | 84 (82.4) | 79 (81.4) | 5 (100.0) |
| Neurologic | 9 (8.8) | 8 (8.2) | 1 (20.0) |
| Dermatologic | 36 (35.3) | 34 (35.1) | 2 (40.0) |
| Renal/Urologic | 35 (34.3) | 33 (34.0) | 2 (40.0) |
| Intensive care unit admission | 62 (60.8) | 61 (62.9) | 1 (20.0) |
| Critically ill patients on life support | 38 (37.3) | 38 (39.2) | 0 (—) |
| Invasive mechanical ventilation | 9 (8.8) | 9 (9.3) | 0 (—) |
| Vasoactive infusions | 35 (34.3) | 35 (36.1) | 0 (—) |
| Extracorporeal membrane oxygenation | 1 (1.0) | 1 (1.0) | 0 (—) |
| Patients with discharge data | 101 (99.0) | 96 (99.0) | 5 (100.0) |
| Hospital length of stay, median (IQR) | 5 (4–8) | 5 (4–8) | 5 (2–6) |

TABLE 3. Effectiveness* of 2 doses of Pfizer-BioNTech vaccine against multisystem inflammatory syndrome in children among hospitalized patients aged 12–18 years — 24 pediatric hospitals, 20 U.S. states,† July–December 2021

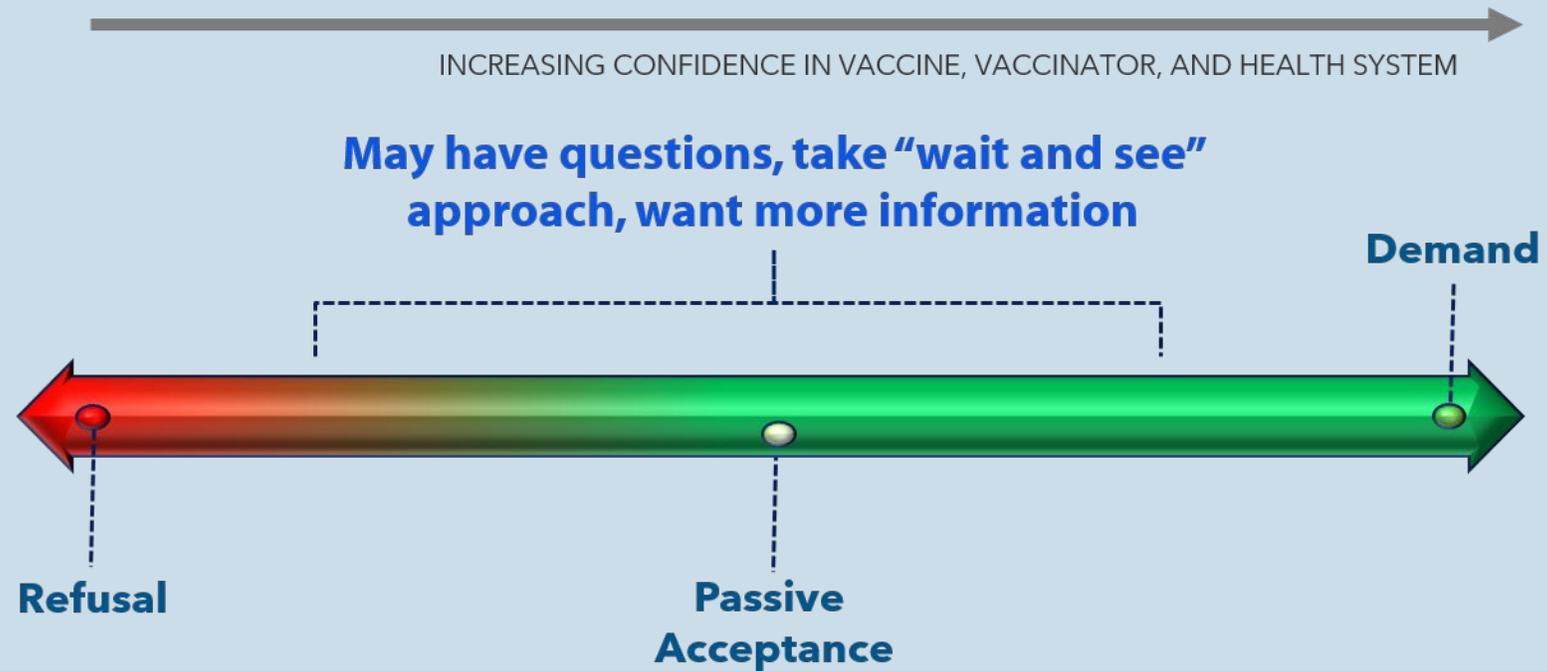
| Control groups | No. vaccinated [§] /Total (%) | | Adjusted VE, % (95% CI) |
|--|--|------------------|----------------------------|
| | MIS-C case patients | Control patients | |
| All controls | 5/102 (4.9) | 65/181 (35.9) | 91 (78–97) |
| Test-negative | 5/102 (4.9) | 34/90 (37.8) | 92 (77–97) |
| Syndrome-negative | 5/102 (4.9) | 31/91 (34.1) | 89 (70–96) |
| Sensitivity analysis | | | |
| MIS-C case patients with serologic evidence present [¶] | 5/88 (5.7) | 61/161 (37.9) | 90 (75–96) |

Zambrano LD et al, Effectiveness of BNT162b2 (Pfizer-BioNTech) mRNA Vaccination Against Multisystem Inflammatory Syndrome in Children Among Persons Aged 12–18 Years — United States, July–December 2021, MMWR Jan 2022

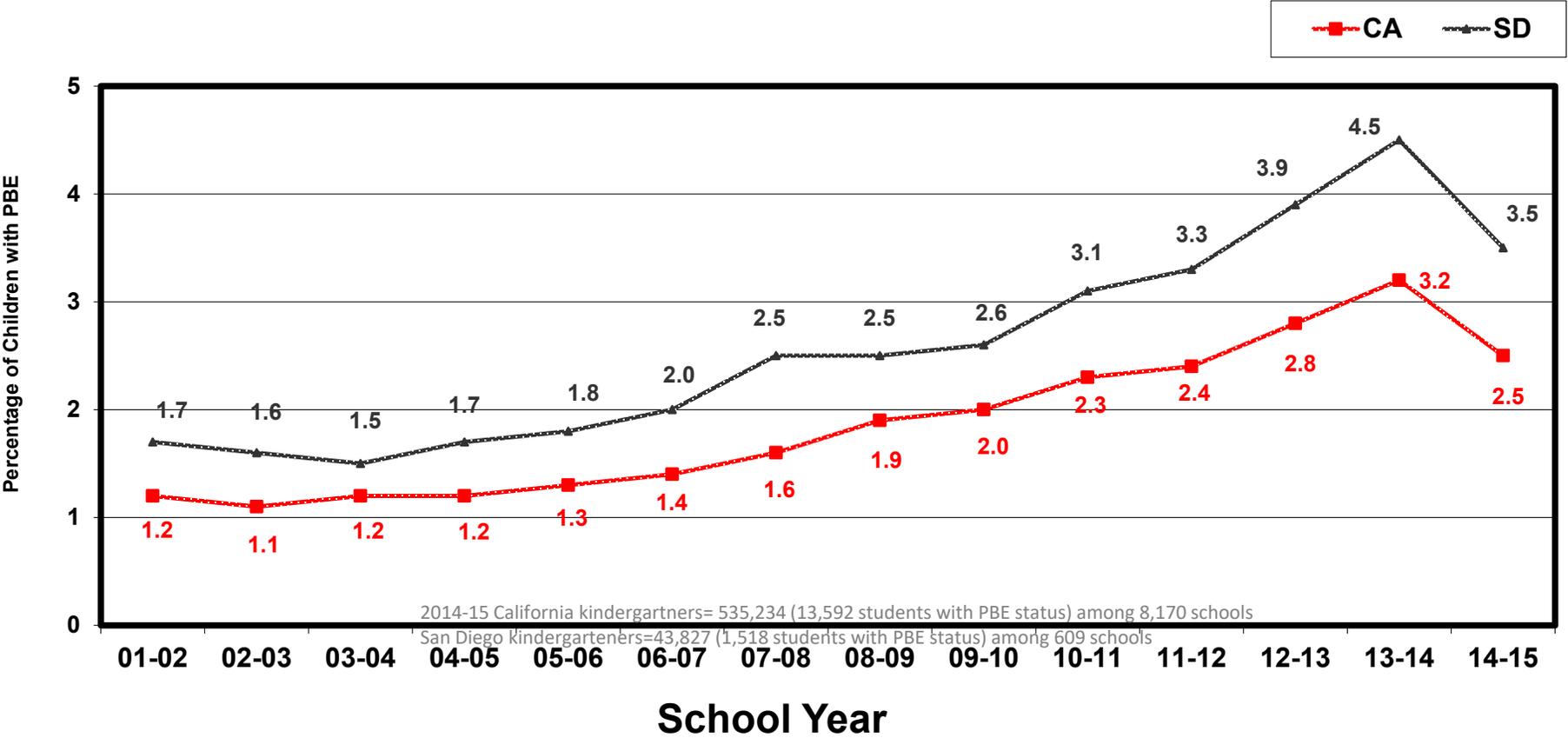


*Long
COVID
in Children*

Willingness to accept a vaccine falls on a continuum



Personal Belief Exemptions (PBE) Kindergarten Entrance Assessment 2001-2014



2014-15 California kindergartners= 535,234 (13,592 students with PBE status) among 8,170 schools
 San Diego kindergartners=43,827 (1,518 students with PBE status) among 609 schools

San Diego County HHS, Immunization Branch

Why do we have vaccine hesitancy?

Significant increase in the number of vaccines given

Lack of disease in the community to remind people why we vaccinate

Illness in young children without clearly defined etiology (e.g. autism)

Distrust of government

Distrust of businesses/manufacturers

Scientific illiteracy

Empowerment of parents/patients in the doctor-patient relationship

And.....

Some challenges in communicating about vaccines

- Vaccines don't always work
- Vaccines VERY rarely have serious adverse effects
- Vaccines make people lose sight of the reasons we give them
- It is human nature to assume a causal link between two things that are temporally associated
- Low scientific literacy
- Emotion trumps science

Real Vaccine Risks

| Vaccine | Adverse Event | Frequency |
|--|-------------------------|-------------------------------|
| 1976 influenza (swine flu) | Guillain-Barre syndrome | 9 cases per million doses |
| Oral polio | Paralytic poliomyelitis | 1 case per 2.4 million doses |
| Whole cell pertussis | Acute encephalopathy | 0-10 cases per million doses |
| 1 st Rotavirus vaccine (Rotashield) | Intussusception | 1-2 cases per 10,000 doses |
| COVID mRNA vaccines | Myocarditis | 10-15 cases per million doses |

COVID Cardiac complications

From
infection

From
MIS-C

From
vaccine

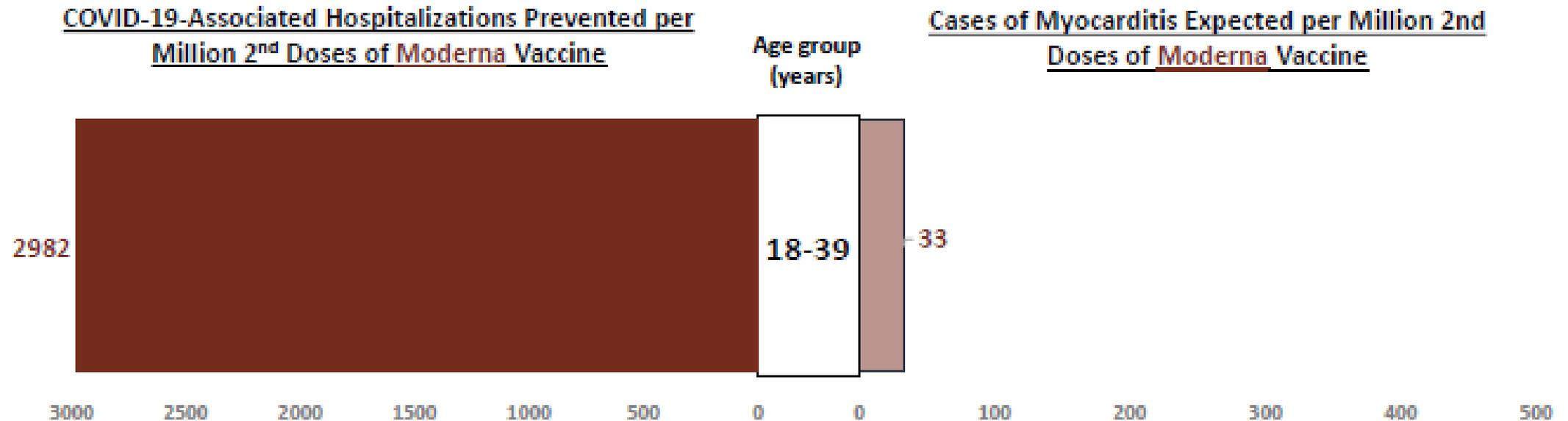
TABLE 2. Incidence of cardiac outcomes among males aged ≥ 5 years after SARS-CoV-2 infection or mRNA COVID-19 vaccination and risk ratios, by age group and risk window — National Patient-Centered Clinical Research Network, United States, January 1, 2021–January 31, 2022

| Age group, yrs/ Outcome/ Risk window | Incidence* among males | | | | | Risk ratio (95% CI) SARS-CoV-2 infection versus mRNA COVID-19 vaccination | | | |
|---|--|----------------------------------|-----------------------------|----------------------------------|---------------------------|---|-----------------------------|----------------------------------|---------------------------|
| | SARS-CoV-2 infection cohort [†] | mRNA COVID-19 vaccination cohort | | | | mRNA COVID-19 vaccination cohort | | | |
| | | First dose [§] | Second dose [§] | Unspecified dose [¶] | Any dose ^{**} | First dose [§] | Second dose [§] | Unspecified dose [¶] | Any dose ^{**} |
| 12–17^{††} | | | | | | | | | |
| Myocarditis | | | | | | | | | |
| 7-day | 50.1 | 2.2 | 22.0 | 16.7 | 12.9 | 23.0 (5.3–99.5) | 2.3 (1.2–4.4) | 3.0 (1.3–6.7) | 3.9 (2.1–7.0) |
| 21-day | 59.0 | 3.3 | 26.7 | 20.4 | 16.0 | 18.0 (5.4–60.6) | 2.2 (1.2–4.0) | 2.9 (1.4–6.0) | 3.7 (2.1–6.4) |
| Myocarditis or pericarditis | | | | | | | | | |
| 7-day | 56.0 | 2.2 | 26.7 | 22.3 | 16.0 | 25.7 (6.0–110.3) | 2.1 (1.1–3.9) | 2.5 (1.2–5.2) | 3.5 (2.0–6.1) |
| 21-day | 64.9 | 3.3 | 35.9 | 29.7 | 21.6 | 19.8 (5.9–66.2) | 1.8 (1.0–3.1) | 2.2 (1.1–4.2) | 3.0 (1.8–5.0) |
| Myocarditis, pericarditis, or MIS^{§§} | | | | | | | | | |
| 7-day | 150.5 | — | — | — | — | 69.0 (16.8–283.2) | 5.6 (3.5–9.2) | 6.8 (3.6–12.7) | 9.4 (6.2–14.4) |
| 21-day | 159.3 | — | — | — | — | 48.7 (15.2–155.7) | 4.4 (2.9–6.9) | 5.4 (3.1–9.4) | 7.4 (5.0–10.8) |
| 42-day | 180.0 | — | — | — | — | 4.9 (3.2–7.4) | 4.6 (3.0–6.9) | 5.4 (3.2–9.1) | 4.9 (3.5–6.7) |

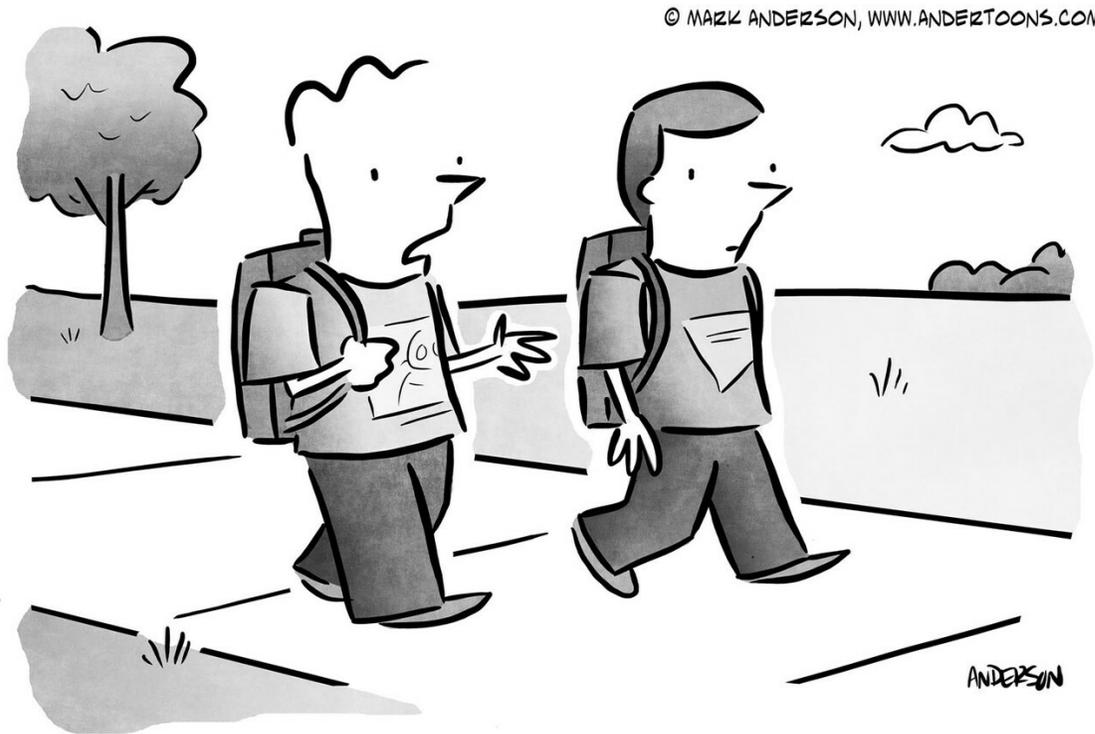
Benefits and risks after mRNA COVID-19 vaccines among persons ages 18-39 years

per million 2nd doses

- COVID-19-associated hospitalizations prevented by Moderna COVID-19 vaccine compared with myocarditis cases expected



Temporal relationships

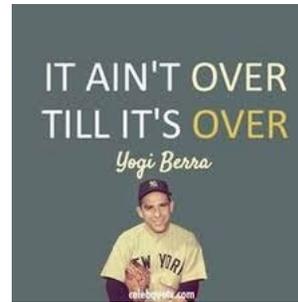


"Cause and effect is fine, but I'm more of a just because guy."



The Things You Hear...

- Vaccines and autism
 - MMR
 - Thimerosal
 - Other vaccine ingredients
 - Vaccines in general
 - Adjuvants
 - ????????????
- Too many vaccines overwhelm the immune system
- Diseases no longer exist—or aren't that dangerous
- It is all a giant money-fueled conspiracy
- Individual rights vs. public health needs



How can you respond?

CLINICAL REPORT Guidance for the Clinician in Rendering Pediatric Care

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™

Countering Vaccine Hesitancy

Kathryn M. Edwards, MD, Jesse M. Hackell, MD, THE COMMITTEE ON INFECTIOUS DISEASES, THE COMMITTEE ON PRACTICE AND AMBULATORY MEDICINE

Pediatrics 138(3), September 2016:e20162146

Main points

- 3% of parents refuse all vaccines
- 19.4% refuse at least 1 vaccine
- 87% of pediatricians have at least one family that has refused at least one vaccine
- 53% of physicians spend 10-19 minutes discussing vaccines; 8% >20 minutes
- Vaccines are safe and monitored closely (VAERS, VSD, CISA)
- Community/Herd immunity is important to prevent outbreaks and to protect those who can't be immunized or who didn't respond

Main points for Providers

- Address parental concerns
- Primary care providers are the most valued source of information for parents
- Personalize the message
- There is only one immunization schedule
- Communication is challenging-science alone doesn't work for most
- Adopt a presumptive delivery message

General Talking Points

- The diseases are here now and remain dangerous
- Vaccines are safe/Vaccines don't overwhelm the immune system
- "Natural immunity is not better"
- Adverse events do occur following immunization
- Protection through immunization is both an individual and a community endeavor
- A choice not to immunize leaves you/your child at risk and also places others at risk
- Know the source of your information

Vaccines Cause Autism

Talking Points

- Genetic factors related to autism-autism is more heritable than breast cancer
- Symptoms of autism present before many vaccines are given
- Ongoing studies specifically looking at risk of vaccines: none identified
- Autism hasn't gone away despite thimerosal being taken out of vaccines
- Vaccine court has rejected the autism claim

Know Your Source Talking Points

Majority of sites found on an Internet search of “Vaccines” are anti-vaccine sites

NNII site provides tips on how to evaluate the credibility of Web sites <http://www.immunizationinfo.org>

How to identify a credible web site

- Scientific studies cited and are current
- Lack of financial conflict of interest (selling a book)
- Experience in field
- Lack of anecdotes

Is natural immunity better?

For some infections natural immunity is “better” because it lasts longer

Natural immunity is not complete

- whooping cough, rotavirus
- Multiple types of some disease agents

Natural immunity comes at a price

- deafness, brain damage, hospitalization, pneumonia, paralysis, permanent scars

Do vaccines overwhelm the Immune System?

Your immune system responds to hundreds of things every day

No evidence that children get more infections right after they are immunized

Clinical trials test multiple vaccines

Increased vaccine purity

Parents' Choice vs. the "Greater Good"

Not vaccinating puts your child at risk

Not vaccinating your child also puts others at risk

Responses to those seeking delayed vaccine schedules

The best thing you can do to protect your family is to immunize them

To delay vaccines is to put your child at risk

Personal accounts of your patients who have suffered from vaccine-preventable disease

Great deal of research, expertise, and effort behind the ACIP/AAP/AAFP schedule

Herd immunity is only as good as the herd you travel in

Factors leading to COVID vaccine hesitancy

The vaccine was made quickly

Lots of mixed signals from government

Most people don't get very ill with COVID

Cumbersome access

Rare serious side effects

Communication on COVID vaccines for children

Primary care physicians are among the most trust source of information

Need office staff on board

Vaccination is about protecting your family

The vaccines are safe!!!!

The vaccines work!!!

Vaccines & Immunizations

CDC > COVID-19 Vaccination > Planning & Partnerships > COVID-19 Vaccination for Children



🏠 COVID-19 Vaccination

Product Info by U.S. Vaccine +

Interim Clinical Considerations +

Clinical Care +

Provider Requirements and Support +

Training and Education +

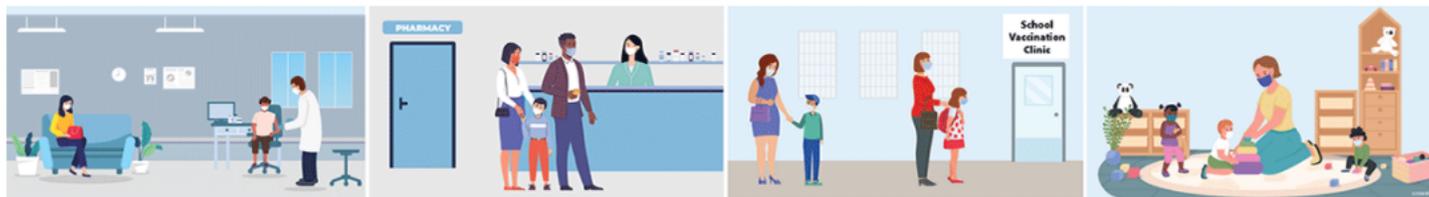
Vaccine Recipient Education +

Health Departments +

Planning & Partnerships -

COVID-19 Vaccination Program Operational Guidance +

Resources to Promote the COVID-19 Vaccine for Children & Teens



On This Page

[Social Media Graphics and Posters](#)

[Videos](#)

[Customizable COVID-19 Vaccination Letter Template](#)

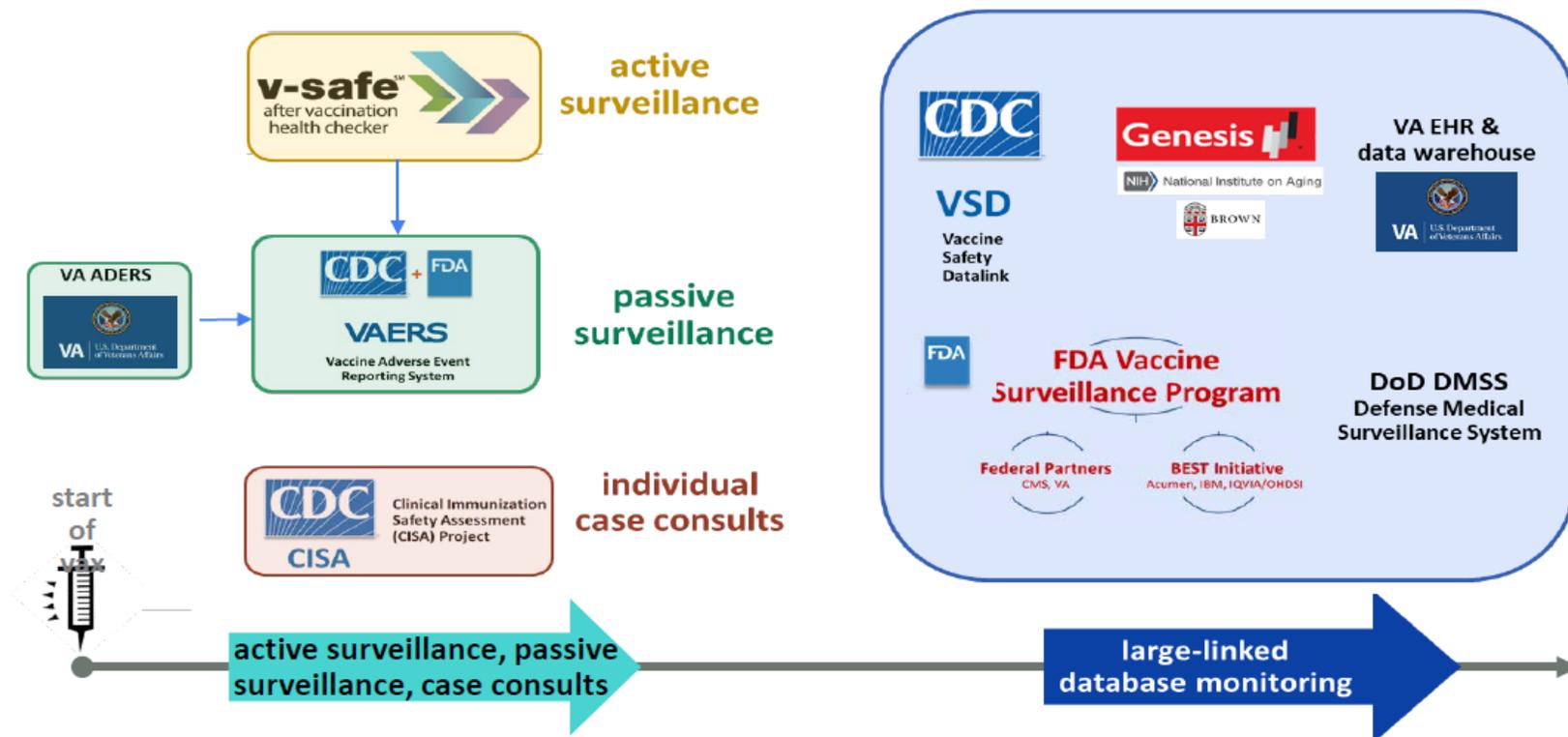
[Web Pages for Parents and Caregivers](#)

[Resources for Vaccine Providers and Healthcare Professionals](#)

[Resources for Schools and Early Care and Education Programs](#)

[Additional External Partner Resources](#)

Vaccine Safety Monitoring Timeline





Vaccinate with **Confidence**

A National Strategy to Reinforce Confidence in COVID-19 vaccines

Build Trust

Objective: Share clear, complete, and accurate messages about COVID-19 vaccines and take visible actions to build trust in the vaccine, the vaccinator, and the system in coordination with federal, state, and local agencies and partners.

Empower Healthcare Personnel

Objective: Promote confidence among healthcare personnel in their decision to get vaccinated and to recommend vaccination to their patients.

Engage Communities & Individuals

Objective: Engage communities in a sustainable, equitable, and inclusive way—using two-way communication to listen, build trust, and increase collaboration.



Vaccinate with **Confidence**

A component of the National Strategy to Reinforce Confidence in COVID-19 vaccines

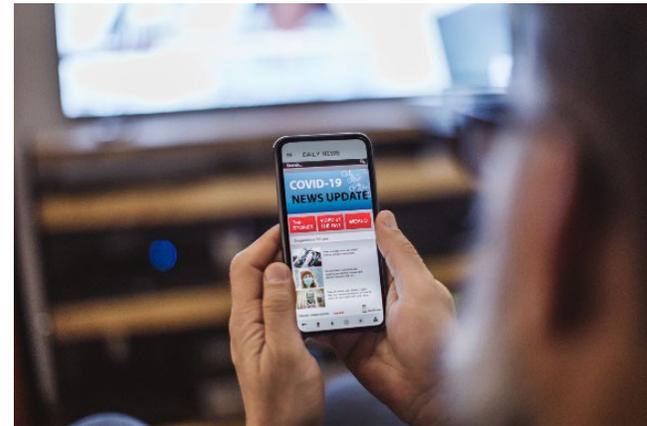
Empower Healthcare Personnel

Objective: Promote confidence among healthcare personnel in their decision to get vaccinated and to recommend vaccination to their patients.

- Tactics**
- ✓ Engage local and national professional associations, health systems, and healthcare personnel often and early to ensure a clear understanding of the vaccine development and approval process, new vaccine technologies, and the benefits of vaccination.
 - ✓ Ensure healthcare systems and medical practices are equipped to create a culture that builds confidence in COVID-19 vaccination.
 - ✓ Strengthen the capacity of healthcare professionals to have empathetic vaccine conversations, address myths and common questions, provide tailored vaccine information to patients, and use motivational interviewing techniques when needed.

Know where to go for the latest information about COVID-19 vaccines

- CDC and FDA websites:
 - www.cdc.gov/covid-19/vaccines
 - www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines
- Your professional association
- Your state or local health department
- Your facility's immunization coordinator



Summary

- Vaccines are good
- Vaccine hesitancy is a significant public health problem
- There is growing evidence and experience in dealing with vaccine hesitant parents
- Failure to address rising vaccine hesitancy will inevitably lead to more outbreaks of disease
- There is only one vaccine schedule

Information for Health-Care Professionals

NNII (www.immunizationinfo.org)

VEC (www.vaccine.chop.edu)

IAC (www.immunize.org)

CDC/NIP (www.cdc.gov/nip)

AAP (www.aap.org)

AAFP (www.aafp.org/)

IVS (www.vaccinesafety.edu)

Vaccine Page (www.vaccines.org)

Every Child by Two (www.ecbt.org)