Promoting Vaccine Confidence

Michigan Physician Peer Education Project On Immunizations

June 16, 2022

Objectives

- Discuss vaccine hesitancy
- Discuss common concerns surrounding vaccination
- Review communication strategies to promote vaccine confidence
- Identify resources to build vaccine confidence

Note: Some slides throughout the presentation are courtesy of the CDC

Vaccines = Major Public Health Success

- One of 10 most important public health initiatives in history
- Eliminating some childhood diseases from the United States and significantly reducing the incidence of many others
- Save money by preventing medical complications, loss of income

Impact of Vaccines in the 20th & 21st Centuries

Comparison of 20th Century Annual Morbidity & Current Morbidity: Vaccine-Preventable Diseases

Disease	20th Century Annual Morbidity*	2017 Reported Cases†	% Decrease
Smallpox	29,005	0	100%
Diphtheria	21,053	0	100%
Pertussis	200,752	18,975	91%
Tetanus	580	33	94%
Polio (paralytic)	16,316	0	100%
Measles	530,217	120	>99%
Mumps	162,344	6,109	96%
Rubella	47,745	7	>99%
CRS	152	5	97%
Haemophilus influenzae	20,000 (est.)	33§	>99%

* *JAMA*. 2007;298(18):2155-2163

† CDC. *National Notifiable Diseases Surveillance System, 2017 Annual Tables of Infectious Disease Data*. Atlanta, GA. CDC Division of Health Informatics and Surveillance, 2018. Available at: www.cdc.gov/nndss/infectious-tables.html. Accessed on December 3, 2018. NNDSS finalized annual data as of November 28, 2018.

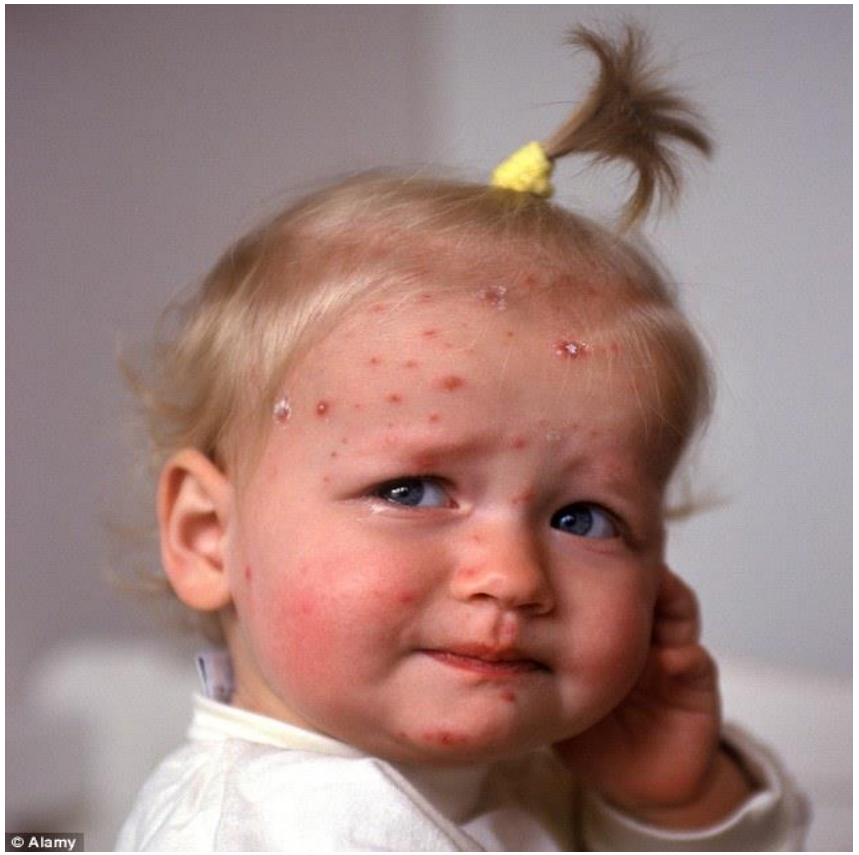
§ *Haemophilus influenzae* type b (Hib) <5 years of age. An additional 10 cases of Hib are estimated to have occurred among the 203 notifications of Hi (<5 years of age) with unknown serotype.

Impact of Vaccines (continued)

The CDC estimates that vaccinations will prevent the following among children born 1994-2018:

- 419 million illnesses
- 8 million hospitalizations
- 936,000 deaths

$406 billion in direct cost savings and $1.9 trillion in total societal costs



CDC National Infant Immunization Week Overview

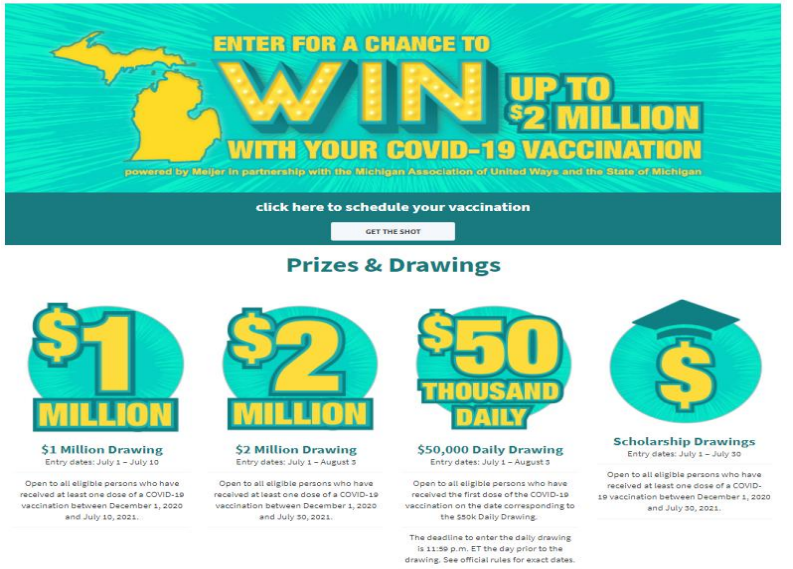
Vaccines are Victims of Their Own Success

- Many physicians have not seen cases of VPDs
- Parents are a generation removed from polio, rubella, and other serious VPDs
  - Because of this, VPDs are felt by some to be a harmless right of passage for children and less dangerous than vaccination

Smith, T. C. (2017, July). Vaccine rejection and hesitancy: a review and call to action. In *Open forum infectious diseases* (Vol. 4, No. 3). Oxford University Press.

What's the Risk?

As vaccine preventable diseases recede from memory…



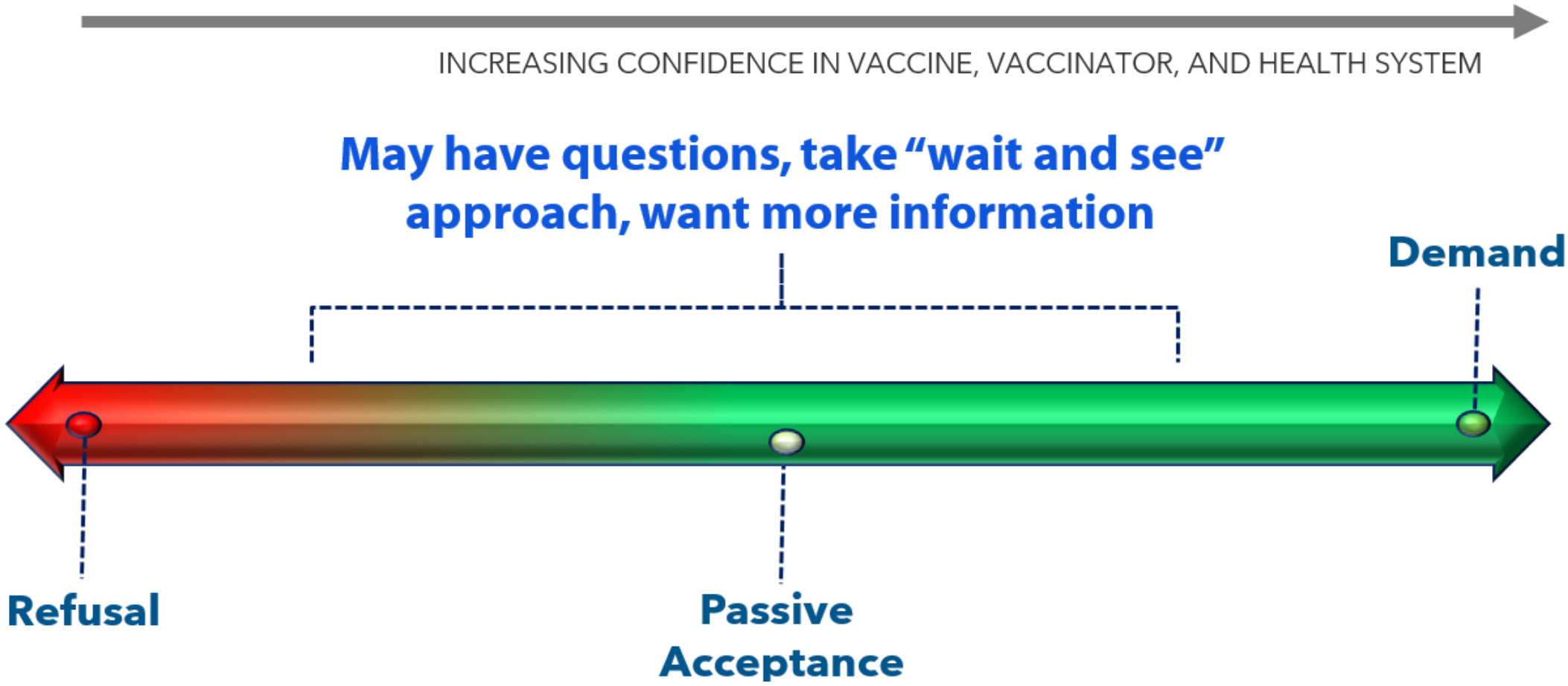
the perceived benefit of vaccines and risk of disease becomes less clear

What is Vaccine Hesitancy

- Refers to the delay in acceptance or refusal of vaccines despite availability of vaccine services
- Is complex and context specific varying across time, place, and vaccines
- Is influenced by factors such as complacency, convenience, and confidence

"Vaccine hesitancy: Definition, scope and determinants" Vaccine. Volume 33(4). 14, August 2015
https://www.sciencedirect.com/science/article/pii/S0264410X15005009?via%3Dihub

Willingness to Accept a Vaccine Falls on a Continuum



Hesitancy Versus Refusal

- Those that fall in the middle are often referred to as Fence-sitters
  - They have questions and just want to know more about vaccines
- Fence-sitters versus anti-vaccinators
  - Not likely to convince the anti-vaccinator
- We need to remember
  - Questions do not equal opposition
  - Questions present an opportunity to educate
- A focus on educating fence-sitters will be more beneficial than trying to persuade those who completely oppose vaccines

What Influences Vaccine Confidence

- Parents/patients express concerns about the safety
  - Ingredients, too many vaccines at one visit, and not properly tested
- Parents/patients are strongly influenced by other parents/individuals and what they read
  - Often through social media and news sources
- Parents/patients consider vaccines to be ineffective
- Parents/patients don’t see disease as a risk
  - Susceptibility to disease and severity of disease

Resource: Ropeik, David, How Risky Is It, Really?: Why Our Fears Don't Always Match the Facts, 2010


OPENING
Pock
Cow
The Cow-Pock — or — the Wonderful Effects of the New Inoculation! — Vide the Publications of ye Anti-Vaccine Society.

Promoting Vaccine Confidence Through Vaccine Conversations

Starting the Vaccine Conversation

Vaccine Conversations

- Answering questions can be challenging
  - Staff is not always prepared for questions
  - Inconsistent messages from staff
  - Real-life time constraints
  - Frustrating! Correcting misconceptions can successfully reduce misperceptions, but does not always result in vaccination

Image Courtesy of CDC

What you Say Matters

- Research shows a patient who receives a strong recommendation from a provider is 4-5 times more likely to be vaccinated
- Personalizing the message that vaccines are safe and effective can be powerful
  - Patients often are more likely to be persuaded by stories and anecdotes about the successes of vaccines

What You Say AND How You Say It Matters

- The best predictor of vaccination is how the provider started the conversation
  - For both vaccine hesitant and non-hesitant patients

- Good recommendation = simple, strong and personalized
  - “It’s time for John’s flu shot. I recommend he get vaccinated today. I get vaccinated and my children do too. It’s the healthy thing to do.”

VERSUS

  - “Research suggests that persons vaccinated with influenza vaccine have a decreased chance of contracting disease and complications associated with influenza. Would you like John to get vaccinated today?”

What do You Think?

Which approach is associated with higher vaccine uptake?

Participatory

Presumptive

"We have some immunizations to do today. You are due for Tdap, HPV, Meningococcal and Flu."

Resource: The Architecture of Provider-Parent Vaccine Discussions at Health Supervision Visits; Pediatrics 2013;132:1037–1046; Douglas J. Opel, et. al

Why Presumptive Style Might be Better

- Parents refused vaccine at a higher rate with participatory approach
  - When providers used a participatory rather than presumptive approach (83% vs 26%; $P < .001$)
  - However, 47% of initially resistant parents subsequently accepted recommendations when providers pursued their original recommendations
- This speaks to:
  - How starting the vaccine conversation matters, and if providers continue to pursue the recommendation after encountering resistance, many parents eventually agree
- Patients are made to feel that vaccination is what most people do when using a presumptive approach

Resources: Opel DJ, et al. The Architecture of Provider-Parent Vaccine Discussion at Health Supervision Visits. Pediatrics 2013;132:1037 and O'Leary, S. Strategies for Talking to Vaccine-Hesitant Parents. NFID Clinical Vaccinology Course Mar 2017

Use a Whole Team Approach to Vaccination

- ALL staff play a role in vaccine communication
  - From the front to the back of the office
- Healthcare providers who feel confident in vaccines are more likely to recommend them to patients
- Ensure staff has access to:
  - Up-to-date information on vaccine recommendations
  - Access to clinical resources and trainings on vaccination
  - Answers to their own questions about vaccines

Preparing for the Conversation……..

The AIMS Method for Healthy Conversations

Announce

Announce vaccination will happen, assume people are ready to vaccinate

Inquire

Seek to understand the person by asking them their concerns

Mirror

Make sure they know you understand them by repeating (but not parroting) what they said and asking if that is what they mean

Secure

Consolidate every conversation by securing trust

ANNOUNCE: Assume that Vaccination Will Occur

- Begin by announcing that the person is due for a vaccine and that you will vaccinate today
- A presumptive 'announcement', which assumes that someone is ready to vaccinate may increase acceptance[1]
- Avoid being paternalistic, but maintain a firm approach
- Start with a statement, not a question
- Repeat your recommendation with hesitant people
- This may cover most people and the conversation is quick and simple. If they hesitate or refuse, then…INQUIRE

"The influenza season is just beginning. We will give your child a flu shot at the end of today's visit."

In one study, starting the conversation with an announcement led to **74%** of patients accepting the recommendation vs **26%** with a participatory discussion approach[1]

Reference 1: Opel DJ et al. Pediatrics 2013; 132:1037–46

INQUIRE: Understanding a Concern, Gauging the Level of Hesitancy[1]

- Your goals are to understand:
  - What drives their concern
  - The strength of their concern (level of hesitancy)
- **Active listening**:
  - Take the time to listen to their concern
  - Don't interrupt – let the person finish
- Use **open-ended questions**, which:
  - Facilitate dialogue
  - Elicit information in a neutral way
  - Cannot be answered with a single word
  - Help you understand their point of view and feelings
- Use **questions of how or what** (better than questions of why)
- Watch your body language – make them feel heard

"Tell me what concerns you about this vaccine."

"You seem undecided. What are your thoughts about this vaccine?"

"How can I be most helpful to you in making a decision about vaccination?"

Reference 1: Marvel MK et al. JAMA 1999;281:283–7.

In one study, doctors interrupted patients within 23 seconds![1]

MIRROR: Make the Person Feel Heard

- Reflect to the person what you have understood
- But first ask their permission to do so
  - This increases their receptivity
- The aim is to show them that you understand their concerns and how they feel about them
- Repeat this process until the person is convinced that they were heard and understood
- Then you may respond to their concern

"Let me see if I have this right, you're saying that your friend read an article that said that children get too many vaccines too soon. Is this it?"

"If I understand correctly you have some friends who tell you that you should know more and make sure you know the dangers when you vaccinate. Have I caught your concern?"

You do not have to acknowledge the validity of their concern, but you should acknowledge the person's right to have a question[1]

Reference 1: Thomson A, et al. Vaccine 2016;34:1989–92.

SECURE: Consolidate Each Conversation by Securing Trust

- If there is hesitancy the conversation may go in one of three directions:
  1. You have acknowledged their concerns and gained more trust, so you move back to ANNOUNCE. This may result in vaccination at that point
  2. If the person continues to be hesitant, demonstrate respect and understanding, provide access to information and suggest revisiting the topic in the future (securing trust and opportunity to succeed later)
  3. If the person declines vaccination, move to secure a trusting relationship even though you disagree by demonstrating respect for their opinion and emphasizing your mutual concern for their own or their child's health
- If possible, repeat that you think they should vaccinate

"I understand this may seem like a lot of shots for such a little person. This schedule is recommended based on the best science and clinical experience. I always have both yours and their best interests at heart, and in my professional judgement, I say we go ahead and get these shots out of the way in this visit."

"I see you still have some concerns, here is some more information that you might find of interest, let's talk more about this on your next visit"

Reference 1: Opel DJ et al. Pediatrics 2013; 132:1037–46

Repeating an ANNOUNCEMENT with hesitant parents led to acceptance of 47% in one study[1]

Common Questions Asked by Parents/Patients

Won’t giving my baby so many vaccines overwhelm his/her immune system?

- Babies begin being exposed to immunological challenges immediately at the time of birth
  - As babies pass through the birth canal and breathe, they are immediately colonized with trillions of bacteria, which means that they carry the bacteria in their bodies but aren’t infected by them
  - Healthy babies constantly make antibodies against these bacteria and viruses
- Vaccines use only a tiny proportion of a baby’s immune system’s ability to respond
  - Though children receive more vaccines than in the past, today’s vaccines contain fewer antigens (e.g., sugars and proteins), than previous vaccines
  - The current 14 vaccines on the United States schedule contain about 150 immunologic components vs. vaccines in the late 1980s and early 1990s contained a little more than 3,000
- Children are given vaccines at a young age because it is when they are at highest risk of getting sick or dying if they get these diseases

Multiple Vaccinations at Once | Vaccine Safety | CDC
Too Many Vaccines? What You Should Know | Vaccine Education Center at Children's Hospital of Philadelphia (chop.edu)

- The form of mercury found in thimerosal is **ethylmercury** (not methylmercury, which is the form that has been shown to damage the nervous system)
- Although no evidence of harm has been proven, thimerosal was taken out of vaccines in the U.S. as a precaution and “because it can be” (due to single dose vials, other preservative options)
- Since 2001, with the exception of some influenza vaccines, thimerosal has not been used as a preservative in routinely recommended childhood vaccines in the U.S.
- Multiple studies comparing vaccinated and unvaccinated children have shown that thimerosal in vaccines does not cause autism

Autism and Vaccines | Vaccine Safety | CDC

Hasn’t the mercury in vaccines been shown to cause autism?

Doesn't VAERS data prove that vaccines are dangerous?

VAERS data cannot "prove" anything:

- Anyone can report anything…no proof of causality is required
- Only reports of special interest (e.g., hospitalizations) are verified. When checked, many reports are not accurate
- Reports include many non-serious reactions
- The number of reported adverse events is influenced by publicity
- VAERS is properly used to detect early warning signals and generate hypotheses

VAERS - Guide to Interpreting VAERS Data (hhs.gov)

Don’t infants have natural immunity?

- Babies may get some temporary immunity (protection) from mom during the last few weeks of pregnancy, but only for diseases to which mom is immune. Breastfeeding may also protect your baby temporarily from minor infections, like colds
- **These antibodies do not last long, leaving your baby vulnerable to disease**

Answers to Your Most Common Questions about Childhood Vaccines | CDC

Does the COVID-19 vaccine cause fertility issues?

- **NO!** The COVID-19 vaccine will not affect fertility. Confusion arose when a false report stated that the spike protein on the coronavirus was similar to the spike protein found on the placenta. Fortunately, the fact is that these two proteins share only a small stretch of amino acids, which means they aren't similar enough to be confused for one another. Our body's antibodies know what to look for.
- Additionally, the COVID-19 vaccine is processed near the injection site, so it cannot cause hormonal or other biological changes that would be expected to affect either male or female fertility.
- After a year and millions of doses we know that the vaccine is safe and effective in pregnant women, who are at increased risk of severe disease, and does not pose any fertility risk.

https://www.chop.edu/centers-programs/vaccine-education-center/making-vaccines/prevent-covid

- Myocarditis is rare and it is also real; it is important when making these decisions to realize that the choice not to vaccinate is also a choice to risk COVID-19 and its potential complications. There is no “no risk” option as covid infection is inevitable
- Cases of myocarditis reported to VAERS have occurred:
  - After mRNA COVID-19 vaccination (Pfizer-BioNTech or Moderna), especially in male adolescents and young adults
  - More often after the second dose
  - Usually within a week of vaccination
  - Generally mild with full recovery
- Data from 40 health care systems participating in a large network found that the risk for cardiac complications was significantly higher after SARS-CoV-2 infection than after mRNA COVID-19 vaccination for both males and females in all age groups

Cardiac Complications After SARS-CoV-2 Infection and mRNA COVID-19 Vaccination

Is it safe for my child/adolescent to get the COVID-19 vaccine given the stories about myocarditis?

Why do kids need the COVID-19 vaccine since they don't get that sick if they are infected?

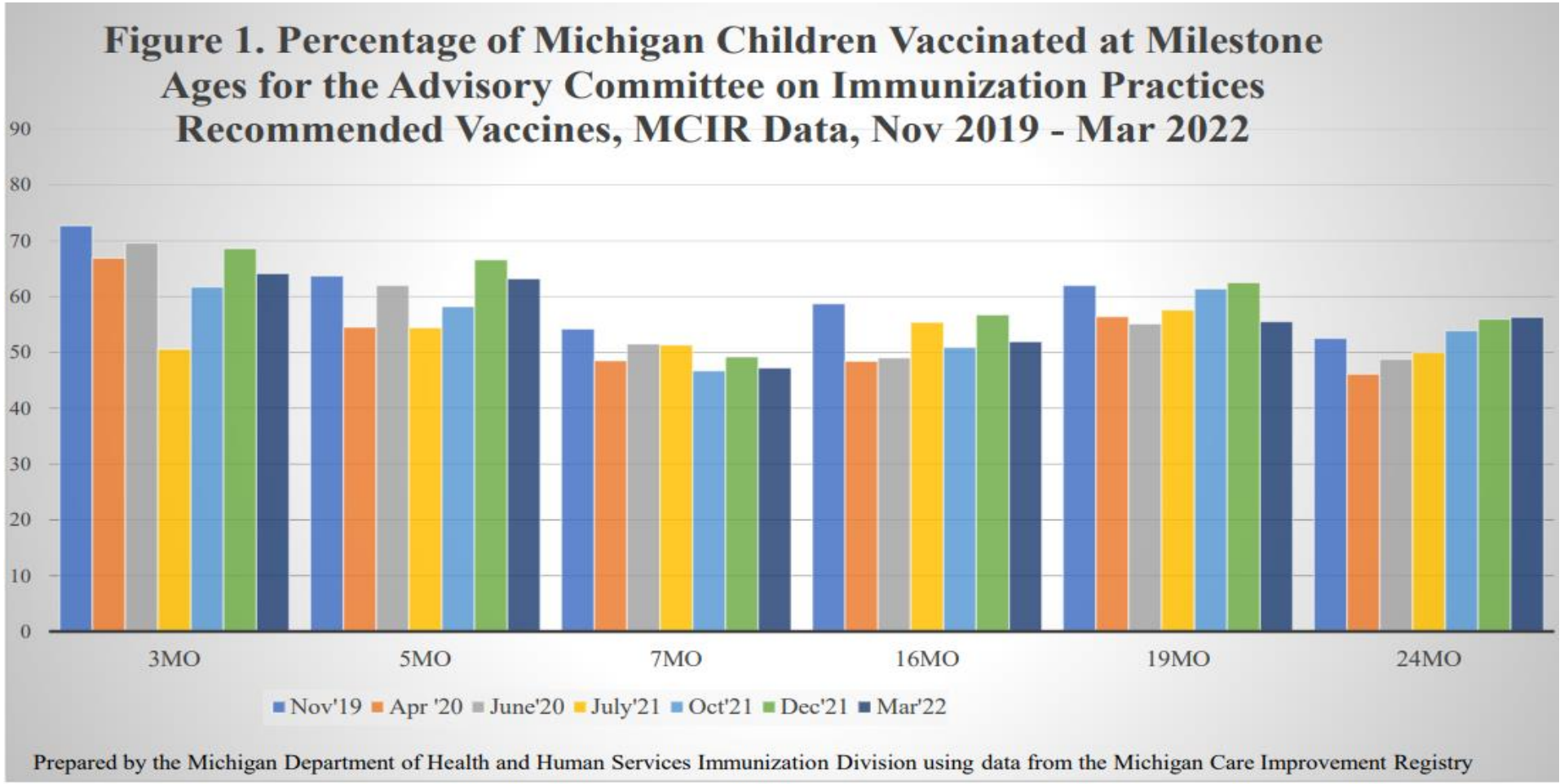
- While children and teens may not be as likely to get severely ill from COVID-19, it can still happen and, in fact, many children have been hospitalized with COVID-19. Most often, they have not been vaccinated
- Conditions such as obesity, asthma, and developmental delay, as well as other pre-existing conditions, increase the chance for hospitalization
- As of mid-January 2022, more than 700 children and teens up to 17 years of age have died from COVID-19
- As of early January 2022, more than 6,400 cases of multisystem inflammatory syndrome in children (MIS-C) have been diagnosed and 55 deaths occurred. MIS-C typically occurs 2 to 6 weeks after having COVID-19, can occur following a mild infection, tends to be more severe in adolescents and teens, and causes about 6 or 7 of every 10 individuals to be placed in intensive care. MIS-C can also affect heart function.
- Finally, this age group can also transmit the infection to more vulnerable family and community members, such as those who are unable to get the vaccine

Questions and Answers about COVID-19 Vaccines | Children's Hospital of Philadelphia (chop.edu)

COVID-19 Shouldn’t be Our Only Focus

Image Courtesy of CDC

- After the COVID emergency declaration, routine pediatric vaccine ordering, and doses administered have declined
- To reduce the risk of Vaccine Preventable Disease (VPD) outbreaks, it is important to catch-up these children
- Remind parents of the vital need to protect their children against other serious VPD’s



*3 months — 2nd dose HepB, 1 rotavirus (Rota), 1 diphtheria, tetanus, and acellular pertussis (DTaP), 1 *Haemophilus influenzae* type b (Hib), 1 pneumococcal conjugate (PCV), 1 inactivated poliovirus (IPV); 5 months — 2 HepB, 2 Rota, 2 DTaP, 2 Hib, 2 PCV, 2 IPV; 7 months — 2 HepB, up-to-date (UTD) Rota, 3 DTaP, UTD Hib, 3 PCV, 2 IPV; 16 months — 2 HepB, 3 DTaP, UTD Hib, 4 PCV, 2 IPV, 1 measles, mumps, rubella (MMR), 1 varicella (Var); 19 months — 3 HepB, 4 DTaP, UTD Hib, 4 PCV, 3 IPV, 1 MMR, 1 Var; 24 months — 3 HepB, 4 DTaP, UTD Hib, 4 PCV, 3 IPV, 1 MMR, 1 Var, 2 hepatitis A.

MCIR COVID Impact Report_20220520.pdf (govdelivery.com)

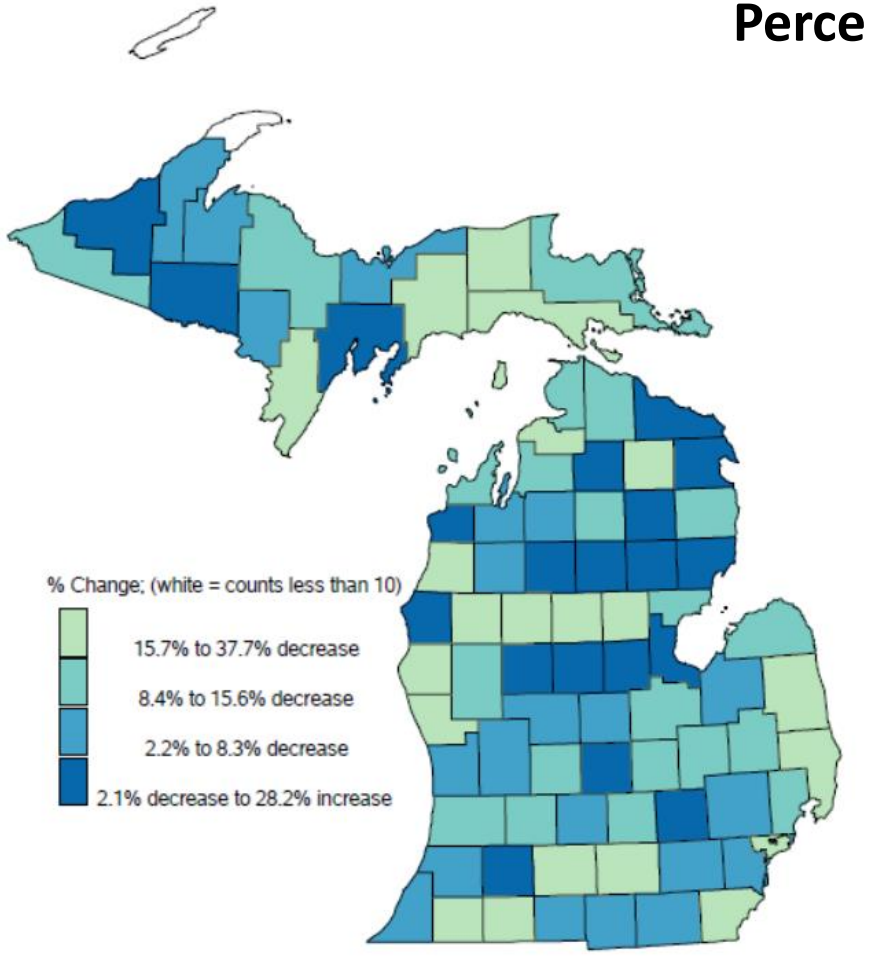
Table 2. Percentage of children vaccinated for the ACIP recommended vaccines at milestone ages* by Medicaid status, March 31, 2022

	3mo	5mo	7mo	16mo	19mo	24mo
Medicaid	72.8	65.8	43.5	51.9	53.2	60.8
Non-Medicaid	56.8	61.0	50.3	52.0	57.5	73.3
Difference	-16.0	-4.8	6.8	0.1	4.3	12.5

*3 months — 2nd dose HepB, 1 rotavirus (Rota), 1 diphtheria, tetanus, and acellular pertussis (DTaP), 1 *Haemophilus influenzae* type b (Hib), 1 pneumococcal conjugate (PCV), 1 inactivated poliovirus (IPV); 5 months — 2 HepB, 2 Rota, 2 DTaP, 2 Hib, 2 PCV, 2 IPV; 7 months — 2 HepB, up-to-date (UTD) Rota, 3 DTaP, UTD Hib, 3 PCV, 2 IPV; 16 months — 2 HepB, 3 DTaP, UTD Hib, 4 PCV, 2 IPV, 1 measles, mumps, rubella (MMR), 1 varicella (Var); 19 months — 3 HepB, 4 DTaP, UTD Hib, 4 PCV, 3 IPV, 1 MMR, 1 Var; 24 months — 3 HepB, 4 DTaP, UTD Hib, 4 PCV, 3 IPV, 1 MMR, 1 Var, 2 hepatitis A.

7. Percent Change in Doses Administered by County

Figure 15. Percent change* in Doses Administered Across the Lifespan in January-March 2022 Compared to the Average of January-March 2018 and 2019 by County, MCIR



*Percent Change in non-influenza doses reported in January-March 2022 compared to the average of January-March 2018 and 2019.
^Based on reporting facility county.
Prepared by the Michigan Department of Health and Human Services Immunization Division using data from the Michigan Care Improvement Registry (MCIR).

Percent Change of Doses Administered Across Lifespan

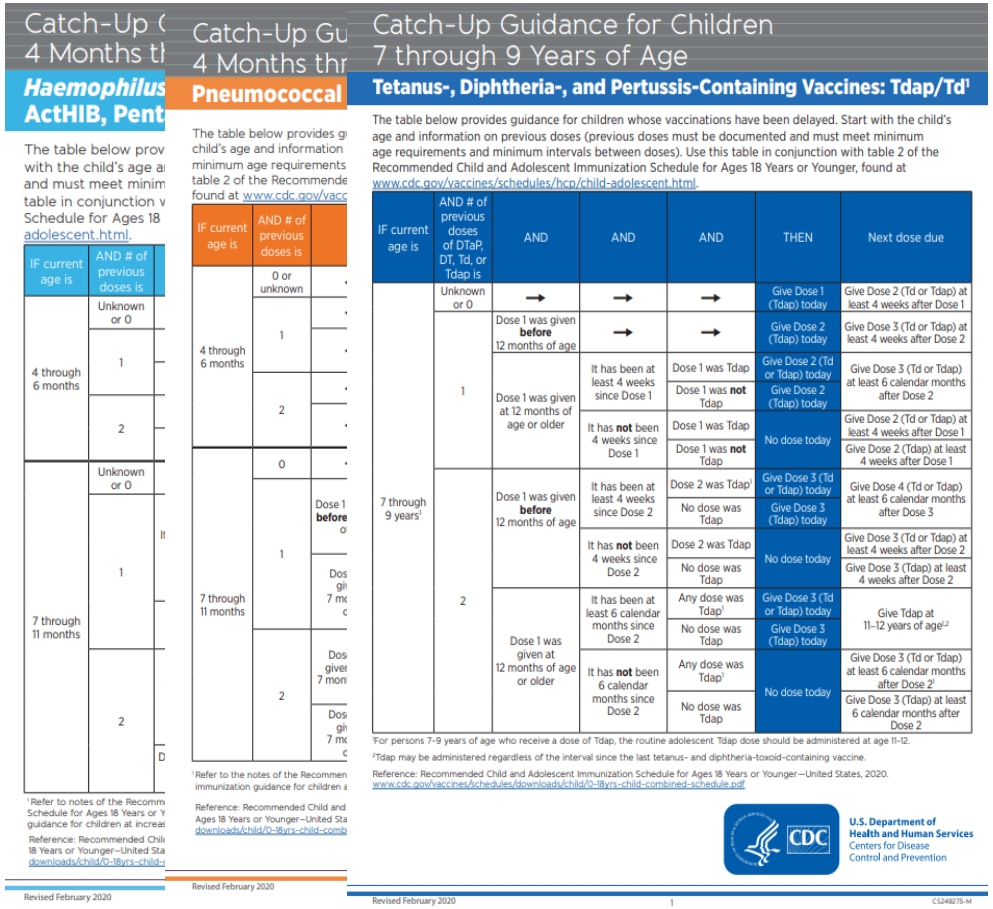
- Most counties reported a decrease in doses administered across the lifespan in the first quarter of 2022 compared to first quarter of the 2018-2019 average
- Lowest quartile of counties reporting declines of 15.7% to 37.7%
- Map includes non-influenza, non COVID vaccine administrations

Well-Child Visits and Recommended Vaccinations are Essential

- With schools returning to in-person learning, children need to get caught up on routine vaccinations so that they are protected against serious diseases
- Let families know what precautions are in place for safe delivery of in-person services
- Healthcare providers can identify families whose children have missed doses and contact them to schedule appointments
- Communicate directly to families the importance of well-child visits and getting caught up on any recommended vaccines that were missed

Image Courtesy of CDC

Unsure of How to Catch a Child Up?



Catch-Up Guidance for Children 7 through 9 Years of Age

Tetanus-, Diphtheria-, and Pertussis-Containing Vaccines: Tdap/Td[1]

The table below provides guidance for children whose vaccinations have been delayed. Start with the child's age and information on previous doses (previous doses must be documented and must meet minimum age requirements and minimum intervals between doses). Use this table in conjunction with table 2 of the Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, found at www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html.

IF current age is	AND # of previous doses of DTaP, DT, Td, or Tdap is	AND	AND	AND	THEN	Next dose due
7 through 9 years[1]	Unknown or 0	→	→	→	Give Dose 1 (Tdap) today	Give Dose 2 (Td or Tdap) at least 4 weeks after Dose 1
	1	Dose 1 was given **before** 12 months of age	→	→	Give Dose 2 (Tdap) today	Give Dose 3 (Td or Tdap) at least 4 weeks after Dose 2
		Dose 1 was given at 12 months of age or older	It has been at least 4 weeks since Dose 1	Dose 1 was Tdap	Give Dose 2 (Td or Tdap) today	Give Dose 3 (Td or Tdap) at least 6 calendar months after Dose 2
				Dose 1 was **not** Tdap	Give Dose 2 (Tdap) today	
			It has **not** been 4 weeks since Dose 1	Dose 1 was Tdap	No dose today	Give Dose 2 (Td or Tdap) at least 4 weeks after Dose 1
				Dose 1 was **not** Tdap		Give Dose 2 (Tdap) at least 4 weeks after Dose 1
	2	Dose 1 was given **before** 12 months of age	It has been at least 4 weeks since Dose 2	Dose 2 was Tdap[1]	Give Dose 3 (Td or Tdap) today	Give Dose 4 (Td or Tdap) at least 6 calendar months after Dose 3
				No dose was Tdap	Give Dose 3 (Tdap) today	
			It has **not** been 4 weeks since Dose 2	Dose 2 was Tdap	No dose today	Give Dose 3 (Td or Tdap) at least 4 weeks after Dose 2
				No dose was Tdap		Give Dose 3 (Tdap) at least 4 weeks after Dose 2
		Dose 1 was given at 12 months of age or older	It has been at least 6 calendar months since Dose 2	Any dose was Tdap[1]	Give Dose 3 (Td or Tdap) today	Give Tdap at 11–12 years of age[1,2]
				No dose was Tdap	Give Dose 3 (Tdap) today	
			It has **not** been 6 calendar months since Dose 2	Any dose was Tdap[1]	No dose today	Give Dose 3 (Td or Tdap) at least 6 calendar months after Dose 2[1]
				No dose was Tdap		Give Dose 3 (Tdap) at least 6 calendar months after Dose 2

[1]For persons 7–9 years of age who receive a dose of Tdap, the routine adolescent Tdap dose should be administered at age 11–12.

[2]Tdap may be administered regardless of the interval since the last tetanus- and diphtheria-toxoid-containing vaccine.

Reference: Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger—United States, 2020. www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Revised February 2020 1 CS249275-M

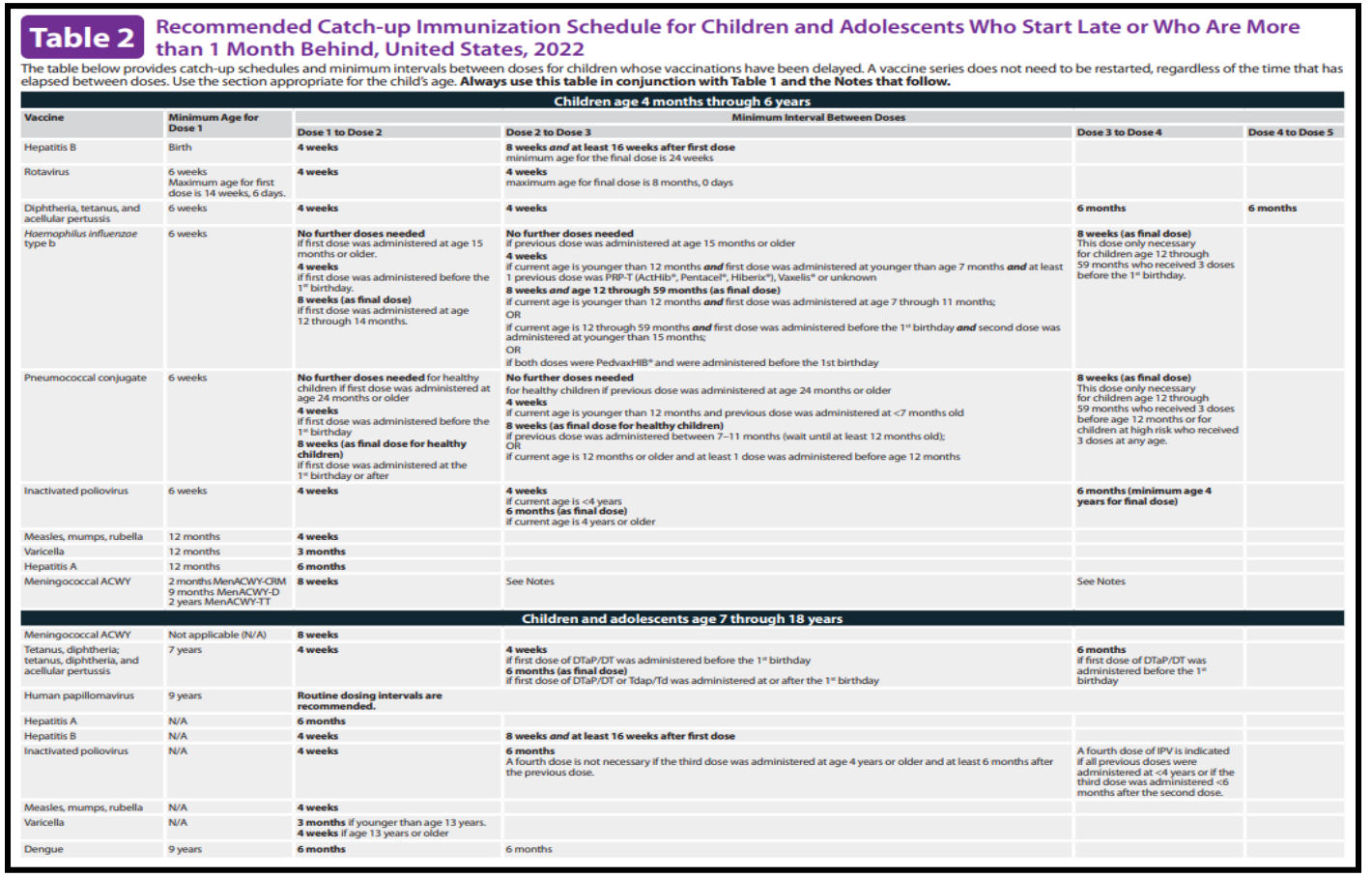


Table 2 Recommended Catch-up Immunization Schedule for Children and Adolescents Who Start Late or Who Are More than 1 Month Behind, United States, 2022

The table below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. **Always use this table in conjunction with Table 1 and the Notes that follow.**

Children age 4 months through 6 years

Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses: Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Hepatitis B	Birth	**4 weeks**	**8 weeks *and* at least 16 weeks after first dose** minimum age for the final dose is 24 weeks		
Rotavirus	6 weeks Maximum age for first dose is 14 weeks, 6 days.	**4 weeks**	**4 weeks** maximum age for final dose is 8 months, 0 days		
Diphtheria, tetanus, and acellular pertussis	6 weeks	**4 weeks**	**4 weeks**	**6 months**	**6 months**
Haemophilus influenzae type b	6 weeks	**No further doses needed** if first dose was administered at age 15 months or older. **4 weeks** if first dose was administered before the 1st birthday. **8 weeks (as final dose)** if first dose was administered at age 12 through 14 months.	**No further doses needed** if previous dose was administered at age 15 months or older **4 weeks** if current age is younger than 12 months ***and*** first dose was administered at younger than age 7 months ***and*** at least 1 previous dose was PRP-T (ActHib®, Pentacel®, Hiberix®), Vaxelis® or unknown **8 weeks *and* age 12 through 59 months (as final dose)** if current age is younger than 12 months ***and*** first dose was administered at age 7 through 11 months; OR if current age is 12 through 59 months ***and*** first dose was administered before the 1st birthday ***and*** second dose was administered at younger than 15 months; OR if both doses were PedvaxHIB® and were administered before the 1st birthday	**8 weeks (as final dose)** This dose only necessary for children age 12 through 59 months who received 3 doses before the 1st birthday.	
Pneumococcal conjugate	6 weeks	**No further doses needed** for healthy children if first dose was administered at age 24 months or older **4 weeks** if first dose was administered before the 1st birthday **8 weeks (as final dose for healthy children)** if first dose was administered at the 1st birthday or after	**No further doses needed** for healthy children if previous dose was administered at age 24 months or older **4 weeks** if current age is younger than 12 months and previous dose was administered at <7 months old **8 weeks (as final dose for healthy children)** if previous dose was administered between 7–11 months (wait until at least 12 months old); OR if current age is 12 months or older and at least 1 dose was administered before age 12 months	**8 weeks (as final dose)** This dose only necessary for children age 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age.	
Inactivated poliovirus	6 weeks	**4 weeks**	**4 weeks** if current age is <4 years **6 months (as final dose)** if current age is 4 years or older	**6 months (minimum age 4 years for final dose)**	
Measles, mumps, rubella	12 months	**4 weeks**			
Varicella	12 months	**3 months**			
Hepatitis A	12 months	**6 months**			
Meningococcal ACWY	2 months MenACWY-CRM 9 months MenACWY-D 2 years MenACWY-TT	**8 weeks**	See Notes	See Notes	

Children and adolescents age 7 through 18 years

Meningococcal ACWY	Not applicable (N/A)	**8 weeks**			
Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis	7 years	**4 weeks**	**4 weeks** if first dose of DTaP/DT was administered before the 1st birthday **6 months (as final dose)** if first dose of DTaP/DT or Tdap/Td was administered at or after the 1st birthday	**6 months** if first dose of DTaP/DT was administered before the 1st birthday	
Human papillomavirus	9 years	**Routine dosing intervals are recommended.**			
Hepatitis A	N/A	**6 months**			
Hepatitis B	N/A	**4 weeks**	**8 weeks *and* at least 16 weeks after first dose**		
Inactivated poliovirus	N/A	**4 weeks**	**6 months** A fourth dose is not necessary if the third dose was administered at age 4 years or older and at least 6 months after the previous dose.	A fourth dose of IPV is indicated if all previous doses were administered at <4 years or if the third dose was administered <6 months after the second dose.	
Measles, mumps, rubella	N/A	**4 weeks**			
Varicella	N/A	**3 months** if younger than age 13 years. **4 weeks** if age 13 years or older			
Dengue	9 years	**6 months**	6 months		

CDC Has Some Great Catch-Up Resources!

Immunization Resources: www.cdc.gov/vaccines/schedules/hcp/imz/catchup.html#guidance

Don’t Forget You Can Coadminister

- COVID-19 vaccines **may be administered without regard to timing of other vaccines**
- This includes simultaneous administration of COVID-19 vaccine and other vaccines on the same day
- If multiple vaccines are administered at a single visit, administer each injection in a different injection site
- Best practices for multiple injections include:
  - Label each syringe with the name and the dosage (amount) of the vaccine, lot number, initials of the preparer, and exact beyond-use time, if applicable
  - Separate injection sites by 1 inch or more, if possible
  - Administer the COVID-19 vaccine and vaccines that may be more likely to cause a local reaction in different limbs, if possible

Interim Clinical Considerations for Use of COVID-19 Vaccines | CDC

Utilize MCIR
Michigan **C**are **I**mprovement **R**egistry

- Use of MCIR for immunizations of everyone, especially adults, is highly recommended
  - Ensures a comprehensive record of vaccines administered
  - Allows for historical data to be entered
  - Assesses for vaccine needs today and forecasts next dose dates
  - Contains over 7.1 million individual adult records

Note: All vaccines administered to persons less than 20 years of age are required to be entered in MCIR (Public Health Act 540 of 1996)

Quick Conversation Guide on *Pediatric COVID-19 Vaccination*

Now that COVID-19 vaccination is available for everyone ages 5 years and older, parents may have questions for you. Hearing your answers to their questions can help parents feel more confident vaccinating their children and teens.

It's important to tell parents that you recommend COVID-19 vaccination for children ages 5 years and older to give them the most powerful protection we have against this disease.

Importance of Vaccination

Why does my child need to be vaccinated?

COVID-19 can be serious in children. Vaccination can help protect them from getting COVID-19 and help keep them from getting seriously sick if they do get infected. Vaccination can also help protect siblings who are not eligible for vaccination and other vulnerable family members. Vaccination can help keep kids in school and help them safely participate in sports, playdates, and other group activities.

Severity of COVID-19 Infection

COVID-19 isn't even really serious for kids, is it?

COVID-19 can make children very sick. Some children with COVID-19 need to be hospitalized and some children have died. Children can also develop serious complications like multisystem inflammatory syndrome (MIS-C) —a condition where different body parts become inflamed, including the heart, lungs, kidneys, brain, skin, eyes, or gastrointestinal organs. And some children can develop post-COVID complications (also called long-COVID).

Safety

Is it safe for my children to get vaccinated against COVID-19?

Scientists have conducted clinical trials with thousands of children, and the results show that the vaccine is safe and effective. In the clinical trials, no serious safety concerns were identified and the side effects that were reported were mild, didn't last long, and similar to those experienced after routine vaccines. The safety of COVID-19 vaccine continues to be monitored.

You can help efforts to monitor the safety of the vaccine by enrolling your children in **v-safe**, a free, smartphone-based tool that uses text messaging and web surveys to check-in after vaccination.

Is the vaccine safe for children with allergies?

CDC recommends that people get vaccinated even if they have allergies to food, pets, insects, venom, pollen, dust, latex, and oral medicines. The vaccine does not contain eggs, preservatives, latex, or metals. However, if your child has a history of an allergic reaction to PEG (polyethylene glycol), they should not get the Pfizer-BioNTech vaccine.

For more information visit https://www.cdc.gov/vaccines/covid-19/hcp/pediatrician.html.

Last updated November 2021

Potential Side Effects

What are the vaccine side effects?

Side effects in children may include a sore arm, tiredness, headache, muscle pain, nausea, and fever. These are normal signs that their body is building protection and should go away in a few days. Some children don't have any side effects.

What should I do if my child has side effects after vaccination?

If your child has a fever or achiness after vaccination, you can give them a non-aspirin pain reliever like acetaminophen or ibuprofen to help them feel better. If they have pain at the injection site, placing a clean, cool washcloth on the area can help. It is not recommended that you give pain relievers before vaccination to prevent side effects. In general, aspirin is **not recommended** for use in children and adolescents less than 18 years of age.

What is the risk of myocarditis or pericarditis?

Reports of heart inflammation in adolescents and young adults are rare. We don't yet know what the risk will be in younger children, but scientists are continuing to monitor this. Most adolescents who have developed this condition after vaccination have responded well to medicine and rest and felt better quickly.

Vaccine Development Process

How were the vaccines developed so quickly?

Scientists have been working for many years to develop vaccines against viruses like the one that causes COVID-19. Any COVID-19 vaccine that is available for children has gone through the same approval process that is required for other vaccines – including routine childhood vaccines. None of the clinical trial steps were skipped and no corners were cut when it comes to safety.

Vaccine Product

Which COVID-19 vaccine will my child get?

The Pfizer-BioNTech COVID-19 vaccine is currently the only vaccine that children ages 5 through 17 years can get. The Pfizer-BioNTech vaccine for children ages 5 through 11 years has the same active ingredients as the vaccine given to adults and adolescents. However, the Pfizer-BioNTech vaccine that is given to adults and adolescents **cannot** be used for children ages 5 through 11 years. The vaccine for children comes in a different vial with a different color cap to make it clear which vaccine is for children ages 5 through 11 years and which is for people 12 years and older.

What is the difference between the dose for my child and the dose for adults?

Unlike many medications, COVID-19 vaccine dosage does not vary by patient weight but by age on the day of vaccination. Children ages 5 through 11 years get an age-appropriate dose. Just like for adolescents and adults, children ages 5 through 11 years will receive 2 doses of the vaccine three weeks apart.

Can my child get the COVID-19 vaccine at the same time as other vaccines?

Yes, COVID-19 vaccines can safely be given at the same time as other vaccines, including flu vaccine.

For more information visit https://www.cdc.gov/vaccines/covid-19/hcp/pediatrician.html.

Last updated November 2021

Quick Conversation Guide on Pediatric COVID-19 Vaccination (cdc.gov)

Primary Series & Booster Dose Recommendations for the **General Population**

Vaccine	0 month	1 month	2 month	3 month	4 month	5 month	6 month	7 month	8 month	9 month	10 month	11 month
Pfizer-BioNTech (ages 5-11 years)	**1st Dose**	**2nd Dose** (3 weeks after 1st dose)					**Booster Dose[2]** (at least 5 months after 2nd dose)					
Pfizer-BioNTech (ages 12 years and older)	**1st Dose**	**2nd Dose[1]** (3–8 weeks after 1st dose)					**Booster Dose[2]** (at least 5 months after 2nd dose)				**2nd Booster Dose[3]** (See footnote)	
Moderna (ages 18 years and older)	**1st Dose**	**2nd Dose[1]** (4–8 weeks after 1st dose)						**Booster Dose[2]** (at least 5 months after 2nd dose)			**2nd Booster Dose[3]** (See footnote)	
Janssen (ages 18 years and older)	**1st Dose**		**Booster Dose[2]** (at least 2 months after 1st dose)					**2nd Booster Dose[3]** (See footnote)				

Note: Timeline is approximate. Intervals of 3 months or fewer are converted into weeks per the formula "1 month = 4 weeks." Intervals of 4 months or more are converted into calendar months.

* See Guidance for COVID-19 Vaccination Schedule for People Who are Moderately or Severely Immunocompromised.

[1] An 8-week interval may be optimal for some people ages 12 years and older, especially for males ages 12 to 39 years. A shorter interval (3 weeks for Pfizer-BioNTech; 4 weeks for Moderna) between the first and second doses remains the recommended interval for: people who are moderately or severely immunocompromised; adults ages 65 years and older; and others who need rapid protection due to increased concern about community transmission or risk of severe disease. For more information, view the CDC Interim Clinical Considerations (bit.ly/COVIDClinicalConsiderations).

[2] An mRNA COVID-19 vaccine is preferred over the Janssen COVID-19 Vaccine for booster vaccination of people ages 18 years and older. For people ages 5 through 17 years, only Pfizer-BioNTech can be used for the first booster dose.

[3] People ages 18 through 49 years who received Janssen COVID-19 Vaccine as both their primary series dose and booster dose may receive an mRNA COVID-19 booster dose at least 4 months after the Janssen booster dose. People ages 50 years and older should receive a second booster dose if it has been at least 4 months after the first booster dose.

MDHHS
Michigan Department of Health & Human Services

Interim Clinical Considerations for Use of COVID-19 Vaccines | CDC

Primary Series & Booster Dose Recommendations for **Moderately or Severely Immunocompromised**

Vaccine	0 month	1 month	2 month	3 month	4 month	5 month	6 month	7 month	8 month	9 month
Pfizer-BioNTech (ages 5-11 years)	**1st Dose**	**2nd Dose** (3 weeks after 1st dose)	**3rd Dose** (At least 4 weeks after 2nd dose)			**Booster Dose[1]** (at least 3 months after 3rd dose)				
Pfizer-BioNTech (ages 12 years and older)	**1st Dose**	**2nd Dose** (3 weeks after 1st dose)	**3rd Dose** (At least 4 weeks after 2nd dose)			**Booster Dose[1]** (at least 3 months after 3rd dose)				**2nd Booster Dose[3]** (See footnote)
Moderna (ages 18 years and older)	**1st Dose**	**2nd Dose** (4 weeks after 1st dose)	**3rd Dose** (At least 4 weeks after 2nd dose)			**Booster Dose[1]** (at least 3 months after 3rd dose)				**2nd Booster Dose[3]** (See footnote)
Janssen (ages 18 years and older)	**1st Dose**	**2nd (Additional) Dose[2] using an mRNA COVID-19 Vaccine** (At least 4 weeks after 1st dose)		**Booster Dose[1]** (at least 2 months after additional dose)				**2nd Booster Dose[3]** (See footnote)		

Note: Timeline is approximate. Intervals of 3 months or fewer are converted into weeks per the formula "1 month = 4 weeks." Intervals of 4 months or more are converted into calendar months.

[1] An mRNA COVID-19 vaccine is preferred over the Janssen COVID-19 Vaccine for booster vaccination of people ages 18 years and older. For people ages 5 through 17 years, only Pfizer-BioNTech can be used for the first booster dose.

[2] Only Pfizer-BioNTech or Moderna COVID-19 Vaccine should be used. Visit the CDC Interim Clinical Considerations (bit.ly/COVIDClinicalConsiderations) for more information on vaccinating people who are moderately or severely immunocompromised and who received Janssen COVID-19 vaccine for the primary series.

[3] People ages 12 years and older who are moderately or severely immunocompromised should receive a second booster dose using an mRNA COVID-19 vaccine if it has been at least 4 months after the first booster dose. For people ages 12 through 17 years, only Pfizer-BioNTech can be used for the second booster dose.

MDHHS
Michigan Department of Health & Human Services

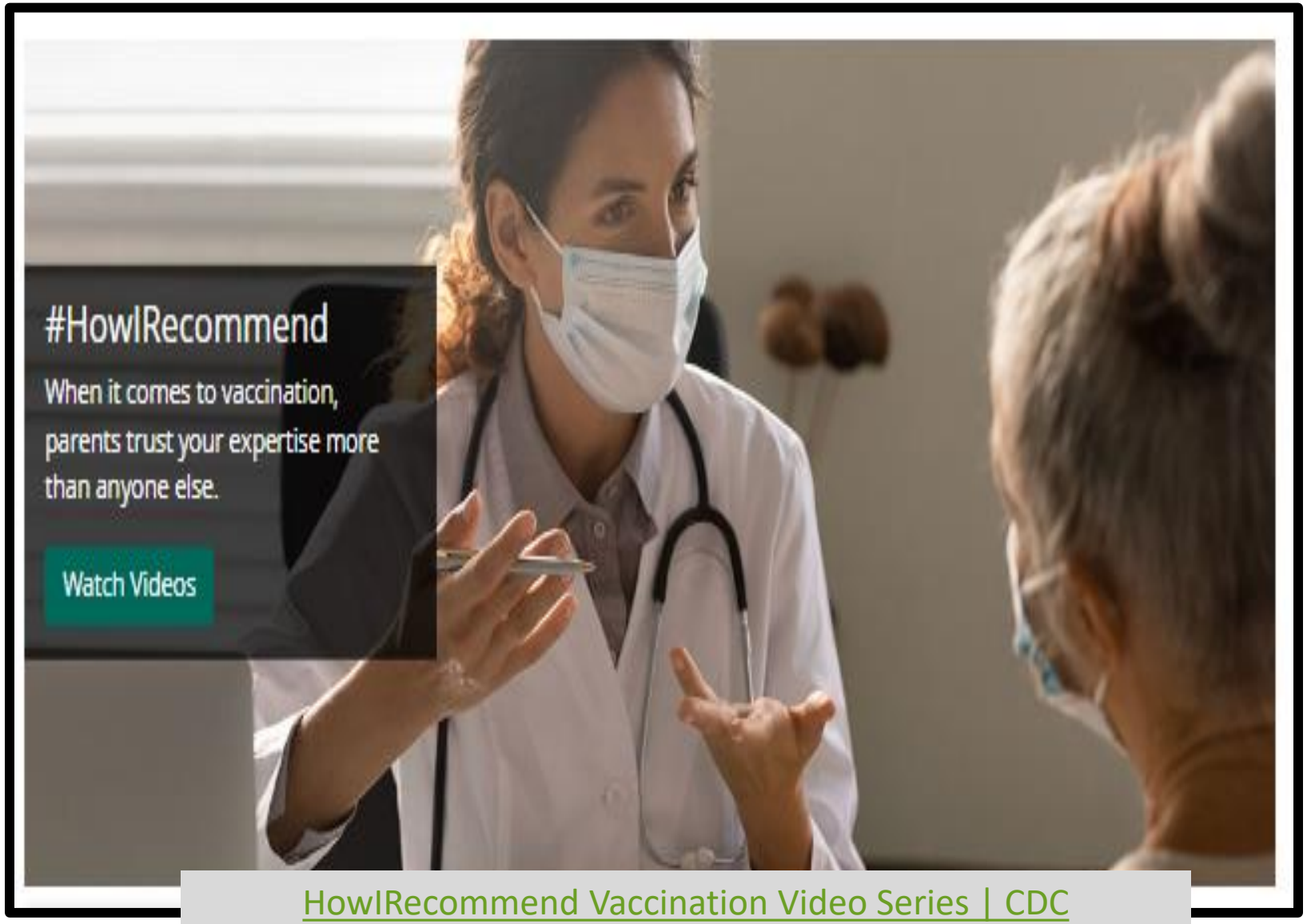
For more information on who is considered moderately to severely immunocompromised see COVID-19 Vaccines for Moderately or Severely Immunocompromised People | CDC

Interim Clinical Considerations for Use of COVID-19 Vaccines | CDC

Persons who Received Passive Antibody Products

- People who previously received antibody products (anti-SARS-CoV-2 monoclonal antibodies or convalescent plasma) as part of COVID-19 treatment, post-exposure prophylaxis, or pre-exposure prophylaxis can be vaccinated at any time
- COVID-19 vaccination does not need to be delayed following receipt of monoclonal antibodies or convalescent plasma
- People who previously received a COVID-19 vaccine, administration of tixagevimab/cilgavimab (EVUSHELD™) for pre-exposure prophylaxis should be deferred for at least two weeks after vaccination, per the product EUA

Clinical Guidance for COVID-19 Vaccination | CDC



HowIRecommend Vaccination Video Series | CDC

- The #HowIRecommend video series features short, informative videos from clinicians like you
- These videos explain the importance of vaccination, how to effectively address questions from parents about vaccine safety and effectiveness, and how clinicians routinely recommend same day vaccination to their patients

In Summary

- Vaccines have been proven to be a major public health success
- Despite the success of vaccines, vaccine hesitancy is a common barrier to vaccination
- Factors that affect vaccine confidence include concerns about safety, vaccine effectiveness, social media and news influences, and the perception of disease risk
- Majority of patients/parents choose to vaccinate
- Focus on educating the Fence-sitters as opposed to focusing on those who completely oppose vaccinations
- **Catch-up children who are behind and strongly recommend vaccines**

Remember These Strategies…

- Have a consistent immunization message across all staff
- Know and provide credible resources
- Be respectful and listen
- Practice using the AIMS method
  - Announce, Inquire, Mirror, and Secure
- Take a Strong Position
  - Providers are a trusted source
  - Patients/parents more likely to accept vaccines when using a presumptive approach

Remember…

They are counting on you!

Ensure that **ALL** your patients are protected against Vaccine Preventable Diseases

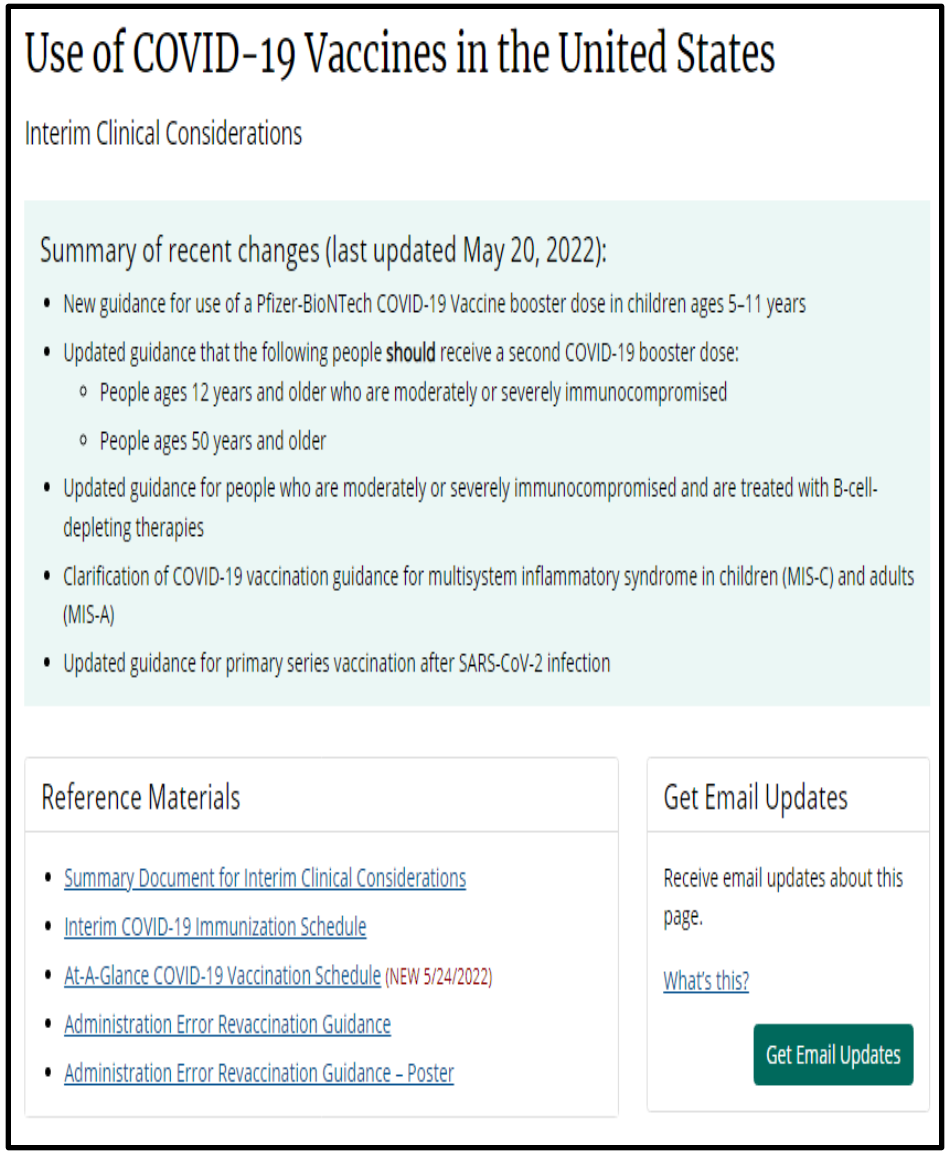
Optional Slides

Key Clinical Considerations Regarding Booster Doses

- Recommendations differ depending on a person's age, immune status, vaccine received for the primary series (mRNA or Janssen), and time since last dose
- First booster product can be the same or different than the primary series product
  - mRNA (Pfizer or Moderna) COVID-19 vaccines are preferred
  - Janssen should only be used in limited situations and cannot be used as a second booster dose
- Moderna booster dose:
  - Red Cap 50mcg (0.25mL)
  - Blue Cap 50mcg (0.5mL)
- Special considerations for moderately and severely immunocompromised people
- It's complex - remember to utilize your resources especially the Clinical Guidance for COVID-19 Vaccination | CDC

COVID-19 Vaccine Clinical Considerations

- We have 3 vaccines to help in the fight against COVID-19
- These considerations apply only to the vaccine products currently approved or authorized in the United States (i.e., Pfizer-BioNTech, Moderna, and Janssen COVID-19 vaccines)
- There are differences with age indication, dosing, schedule, and storage and handling



Use of COVID-19 Vaccines in the United States

Interim Clinical Considerations

Summary of recent changes (last updated May 20, 2022):

- New guidance for use of a Pfizer-BioNTech COVID-19 Vaccine booster dose in children ages 5–11 years
- Updated guidance that the following people **should** receive a second COVID-19 booster dose:
  - People ages 12 years and older who are moderately or severely immunocompromised
  - People ages 50 years and older
- Updated guidance for people who are moderately or severely immunocompromised and are treated with B-cell-depleting therapies
- Clarification of COVID-19 vaccination guidance for multisystem inflammatory syndrome in children (MIS-C) and adults (MIS-A)
- Updated guidance for primary series vaccination after SARS-CoV-2 infection

Reference Materials

- Summary Document for Interim Clinical Considerations
- Interim COVID-19 Immunization Schedule
- At-A-Glance COVID-19 Vaccination Schedule (NEW 5/24/2022)
- Administration Error Revaccination Guidance
- Administration Error Revaccination Guidance – Poster

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What's this?

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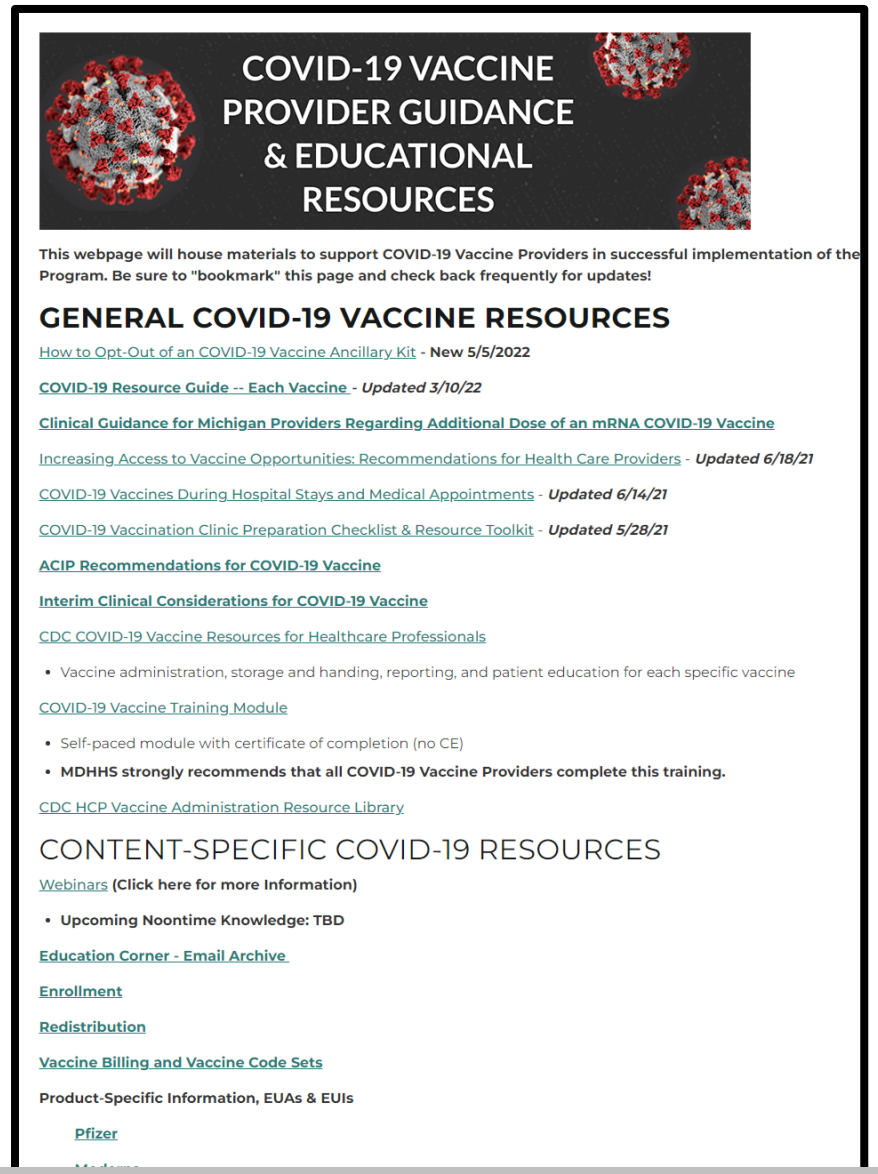
https://www.cdc.gov/vaccines/covid-19/info-by-product/clinical-considerations.html



www.michigan.gov/covidvaccineprovider

MDHHS Provider Guidance and Education

- COVID-19 Vaccination Clinic Preparation Checklist & Resource Toolkit
- COVID-19 Vaccine Resource Guide
- Webinar Information
  - Slides & Recording
- Enrollment
- Vaccine Billing
- Product-specific Information & EUA's

And more….

Education Regarding Vaccine Safety is Key

Among Americans who say they will not get the COVID vaccine, concern about side effects is one reason for avoiding vaccination

Concerns Surrounding COVID-19 Vaccination

- Safety (ingredients, anaphylaxis, TTS, myocarditis, GBS, fertility, etc.)
- Efficacy (95% vs 72%, variants, breakthrough infections)
- Natural immunity and therefore do not need vaccination
- Rushed development
- Unknown potential long-term side effects
- Important to Stress the Positives of vaccination

Safety of COVID-19 Vaccines is Top Priority

- COVID-19 vaccines are being held to the same safety standards as all vaccines
- FDA's Vaccines and Related Biological Products Advisory Committee (VRBPAC) reviews applications for EUAs
- The Advisory Committee on Immunization Practices (ACIP) considers safety and efficacy data before recommending use
- VRBPAC and ACIP are independent committees composed of scientific and clinical experts
- FDA and CDC monitor vaccine safety and side effects once vaccines are in use

Robust Vaccine Safety Monitoring Systems Exist

- Existing systems and data sources are used to monitor safety of vaccines post-authorization and post-licensure, such as:
  - Vaccine Adverse Event Reporting System (VAERS): https://vaers.hhs.gov/
  - Vaccine Safety Datalink (VSD): https://www.cdc.gov/vaccinesafety/ensuringsafety/monitoring/vsd/index.html
  - Clinical Immunization Safety Assessment (CISA): https://www.cdc.gov/vaccinesafety/ensuringsafety/monitoring/cisa/index.html
  - Biologics Effectiveness and Safety System (BEST): https://www.fda.gov/vaccines-blood-biologics/safety-availability-biologics/cber-biologics-effectiveness-and-safety-best-system
- **New** systems have been developed to monitor COVID-19 vaccine safety, such as v-safe:
  - Active surveillance that uses text messaging to initiate web-based survey monitoring
  - Will provide telephone follow up to anyone who reports medically significant adverse events
  - https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/vsafe.html

How Was the Vaccine Development Timeline Accelerated While Ensuring Safety?

- Researchers used existing clinical trial networks to begin conducting COVID-19 vaccine trials*
- Manufacturing started while the clinical trials were still underway
  - Normally, manufacturing doesn't begin until after completion of the trials
- mRNA vaccines are faster to produce than traditional vaccines
- FDA and CDC are **prioritizing** review, authorization, and recommendation of COVID-19 vaccines

*For more, visit the COVID-19 Prevention Network: www.coronaviruspreventionnetwork.org/about-covpn

CDC Vaccinate with Confidence Resources

Vaccinate with **Confidence**

Strategy to Reinforce Confidence in Covid-19 Vaccines

Vaccinate with Confidence COVID-19 Vaccines Strategy

Build Trust

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.

Action Steps:

- Communicate transparently about the process for authorizing, approving, making recommendations for, monitoring the safety of, distributing, allocating, and administering COVID-19 vaccines, including data handling.
- Provide regular updates on: benefits, safety, side effects and effectiveness; clearly communicate what is not known.
- Proactively address and mitigate the spread and harm of misinformation via social media platforms, partners, and trusted messengers.

https://www.cdc.gov/vaccines/covid-19/vaccinate-with-confidence/strategy.html

How to talk about COVID-19 vaccines with friends and family

Updated Apr. 27, 2021 Languages Print

Listen to their questions with empathy

COVID-19 vaccines are new, and it's normal to for people to have questions about them. The sheer amount of information—and misinformation—about COVID-19 vaccines can be overwhelming to anyone. You can help by listening without judgement and identifying the root of their concerns.

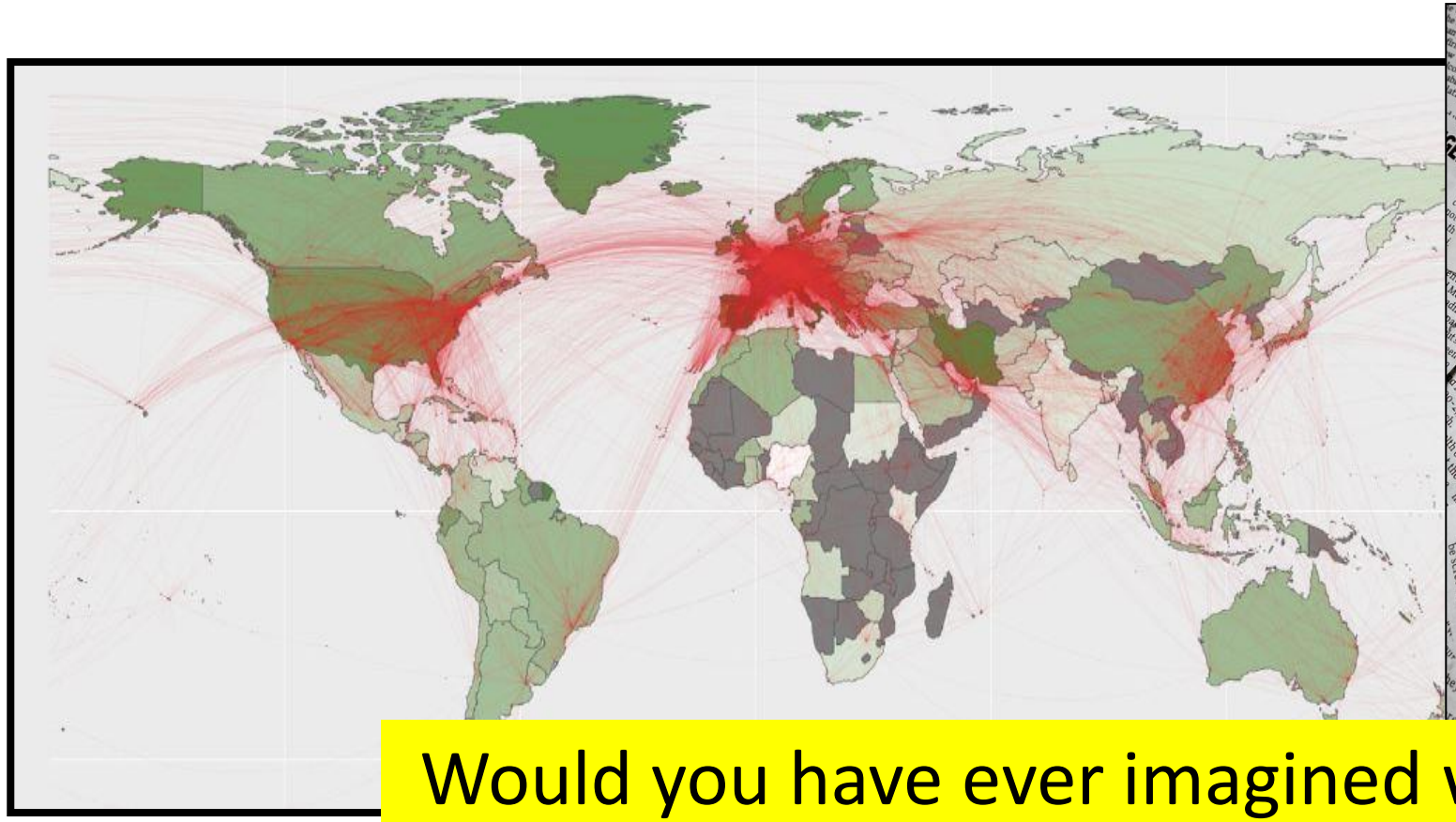
Acknowledge their emotions so they know they have been heard. For example, you can say, "It sounds like you are stressed at work and home, and concerns about the vaccine are another source of stress. That's really tough."

https://www.cdc.gov/coronavirus/2019-ncov/vaccines/talk-about-vaccines.html

Disease Outbreak Anywhere is a Risk Everywhere

- Vaccine preventable diseases still exist
- We are all connected by the air we breathe, the water we drink and the food we eat, and the next outbreak may be just a plane ride away
- Since we can't predict where or when the next outbreak will happen, we always should be vigilant
- Prevention is key

COVID-19 is a Reminder of How Quickly a Virus Can Spread Out of Control!



Would you have ever imagined we would be in the situation that we are in today?