NDSU | CENTER FOR IMMUNIZATION RESEARCH AND EDUCATION

DEPARTMENT OF HEALTH

“No Thanks, Doc”: Tools to Improve Difficult Vaccine Conversations in the Medical Encounter

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Acknowledgment

This presentation was originally developed by **North Dakota State University's Center for Immunization Research and Education (NDSU CIRE)** with funding from the **Minnesota Department of Health (MDH)**.

Objectives

01. Discuss the history of vaccine hesitancy and the current state of ambivalence.

02. Analyze strategies for addressing ambivalence and vaccine hesitancy with patients at the medical encounter.

03. Improve confidence and comfort addressing common vaccine concerns around the HPV vaccine.

We're here today to share helpful information about HPV vaccination because we know your clinic is working to improve vaccination rates. Our goal is to provide education and support to help address any challenges and ensure patients receive the best protection possible.

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

Disease	20th Century Annual Morbidity†	2023 Reported Cases ††	Percent Decrease
Smallpox	29,005	0	100%
Diphtheria	21,053	2	> 99%
Measles	530,217	47	> 99%
Mumps	162,344	429	> 99%
Pertussis	200,752	5,611	97%
Polio (paralytic)	16,316	0	100%
Rubella	47,745	3	> 99%
Congenital Rubella Syndrome	152	0	100%
Tetanus	580	15	97%
Haemophilus influenzae	20,000	27*	> 99%

† JAMA. 2007;298(18):2155-2163

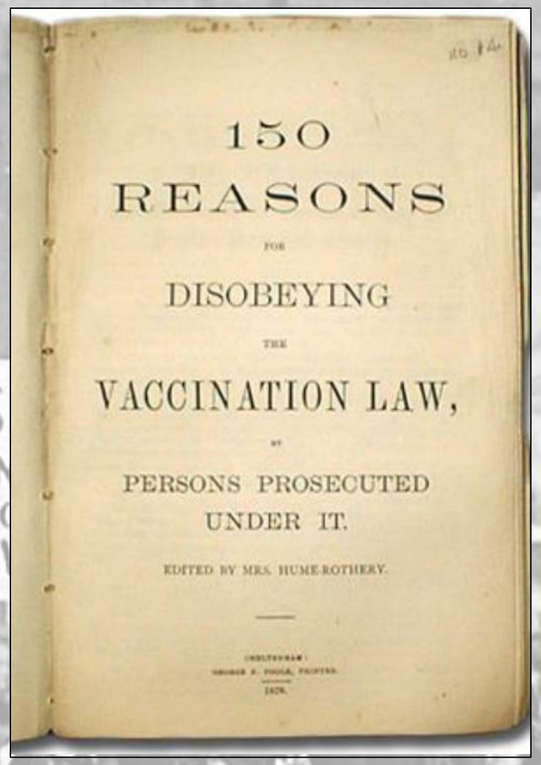
†† CDC. National Notifiable Diseases Surveillance System, Weekly Tables of Infectious Disease Data. Atlanta, GA. CDC Division of Health Informatics and Surveillance. Available at: Weekly statistics from the National Notifiable Diseases Surveillance System (NNDSS). (cdc.gov). Data submitted through Dec 31, 2023; accessed on Jan 24, 2024; diphtheria and polio case counts reported by CDC Program.

* *Haemophilus influenzae* type b (Hib) < 5 years of age. An additional 12 cases of Hib are estimated to have occurred among the 257 notifications of *Haemophilus influenzae* (< 5 years of age) with unknown serotype.

World Health Organization

Vaccine Hesitancy

Top ten threats to global health in 2019


150
REASONS
FOR
DISOBEYING
THE
VACCINATION LAW,
BY
PERSONS PROSECUTED
UNDER IT.
EDITED BY MRS. HUME-ROTHERY.
CHELTENHAM:
1876.

Vaccine Hesitancy is Not New

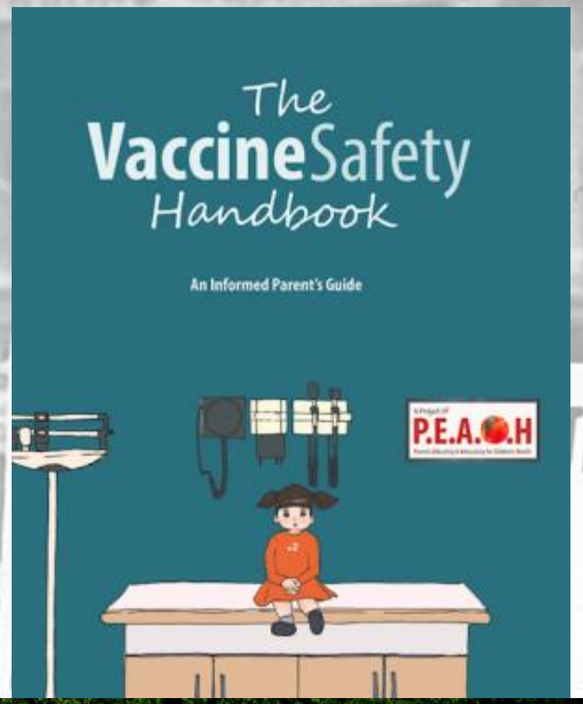
Children's Health Defense

Top 10 Reasons Not to Let Your Child Get a COVID Shot

On May 10, 2021, the U.S. Food and Drug Administration (FDA) extended its emergency use authorization (EUA) for the Pfizer/BioNTech COVID-19 vaccine to adolescents 12 through 15 years of age, amending the EUA (issued December 11, 2020) that authorized the injection for individuals age 16 and up. Moderna has indicated that it plans to request similar EUA expansion to 12-17 year-olds for its COVID vaccine, and Johnson & Johnson/Janssen is conducting clinical trials in that age group. In giving its green light to Pfizer, the FDA chose to ignore the following facts, all of which make it abundantly clear that vaccinating children and adolescents against COVID-19 is both medically indefensible and unethical.

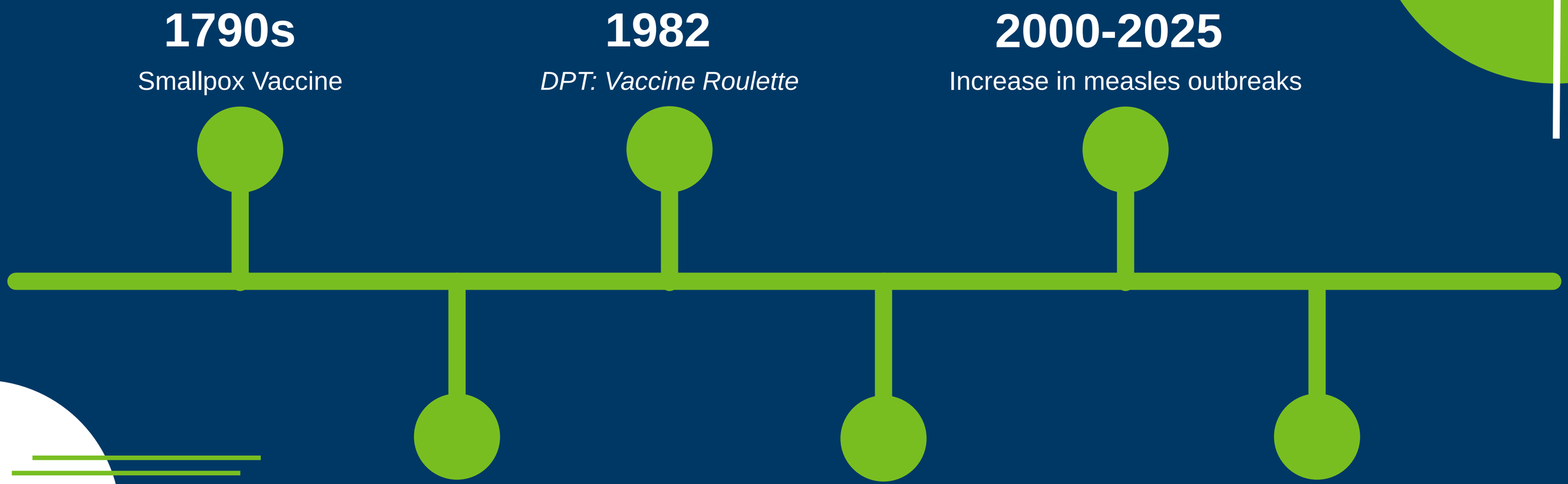
1. **American children are at negligible risk[1] for COVID-19.** As of May 29, 2021, the Centers for Disease Control and Prevention (CDC) attributed 366 deaths in children aged 0-18 to COVID,[2] out of a child population

at the time. With about 1,000 adolescents 12-15 years old in Pfizer's clinical trial vaccine group—and about the same number in Moderna's trial—the death rate following either vaccination in this age group may be approximately 0.1%



Vaccine Hesitancy is Not New

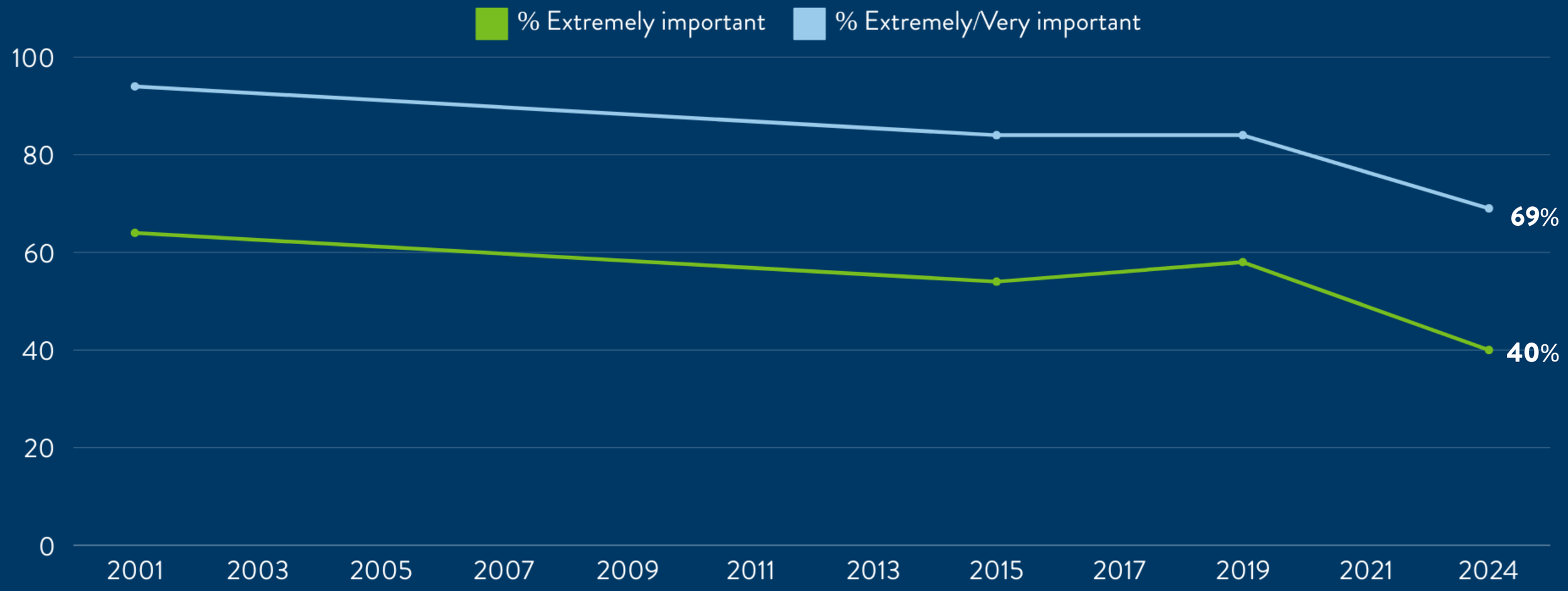
History of Vaccine Hesitancy



Adapted from Boston University School of Public Health, 2022

Americans Are Less Likely to Say It Is Important for Parents to Have Their Children Vaccinated

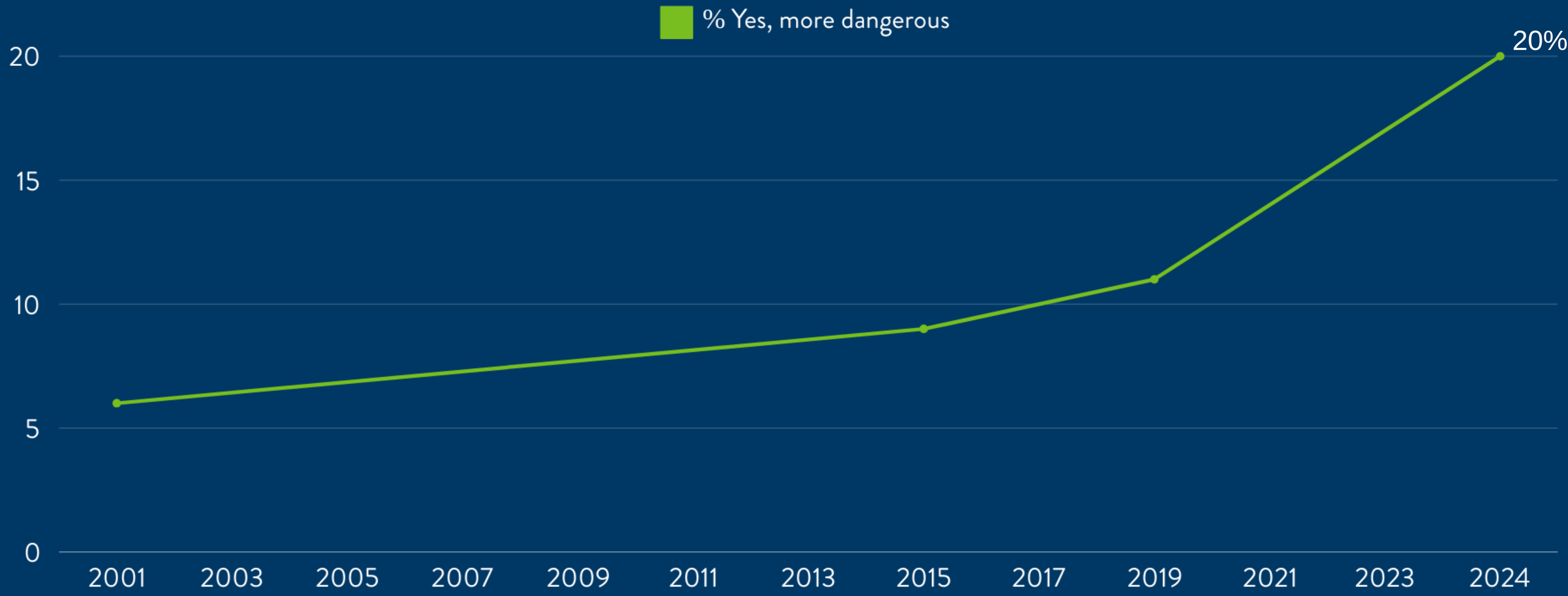
How important is it that parents get their children vaccinated -- extremely important, very important, somewhat important, not very important or not at all important?



Gallup, 2024

Growing Minority of Americans Say Vaccines Are More Dangerous Than the Diseases They Are Designed to Prevent

Do you think vaccines are more dangerous than the diseases they are designed to prevent, or not?



Gallup, 2024

CONCERNING TREND ALERT

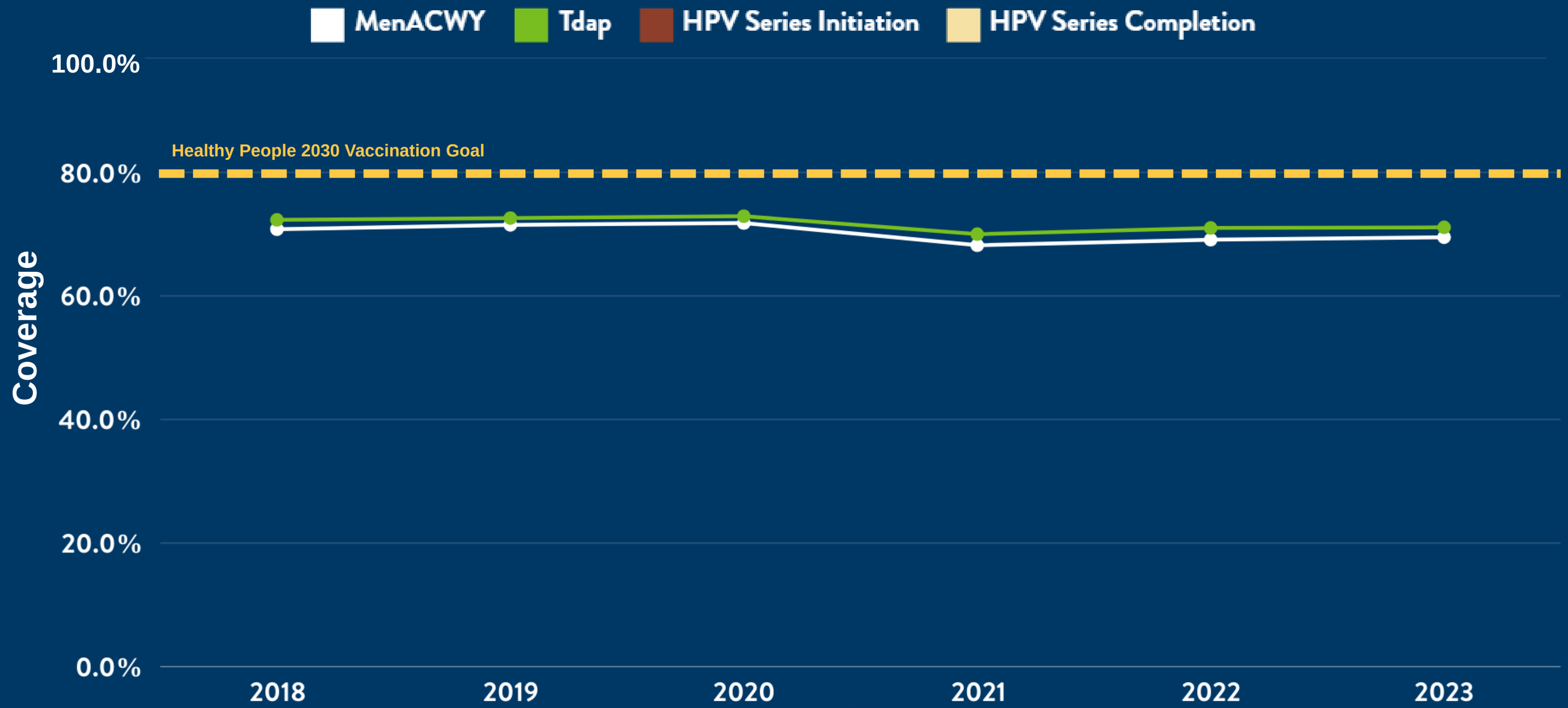
During the 23-24 school year:

Coverage *declined to <93% for all reported vaccines.*

Exemption rates *increased to 3.3% from 3.0% the year before.*

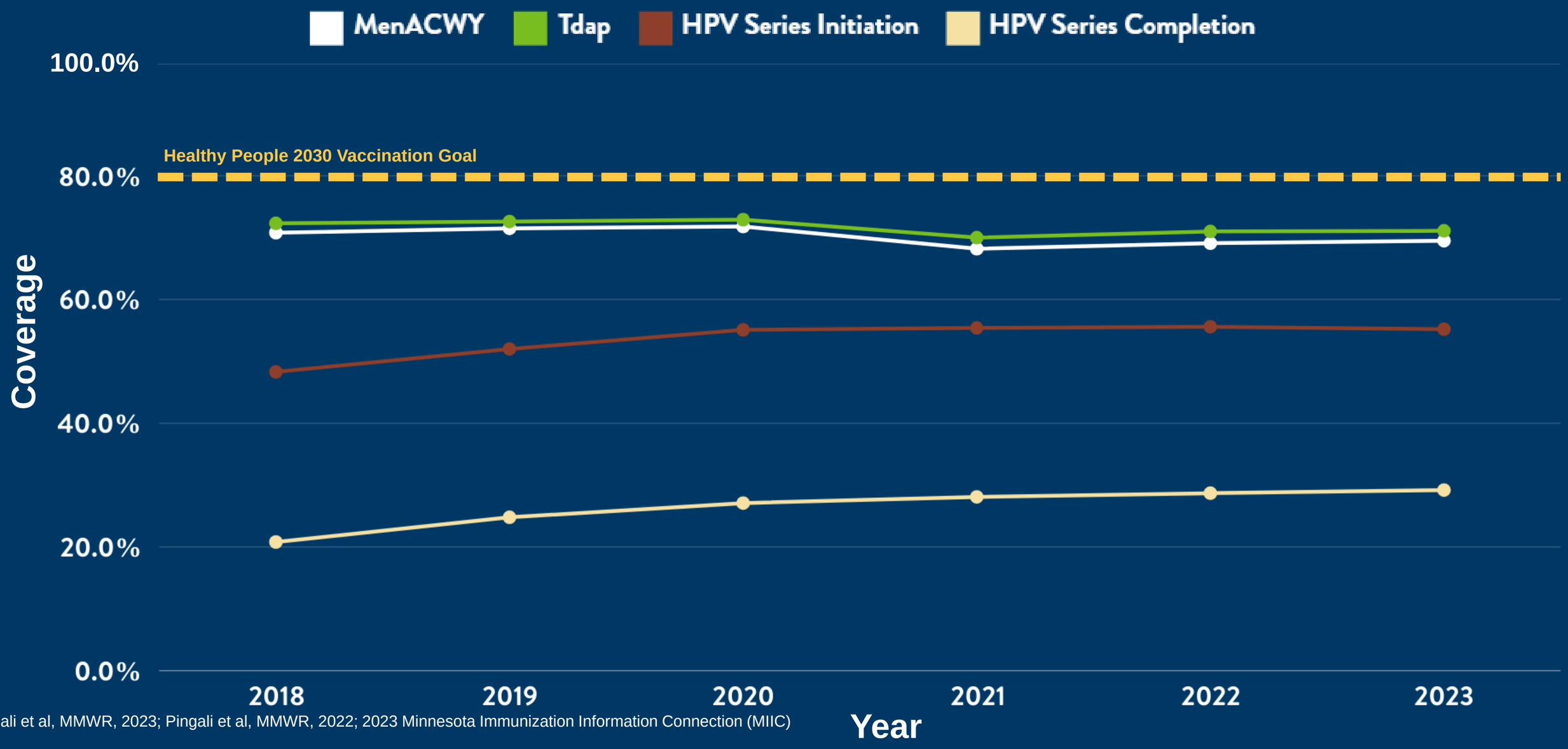
Seither et al, MMWR, 2024

Vaccination Coverage by Year among Minnesota 13-year-olds with the 11–12-year-old vaccine platform



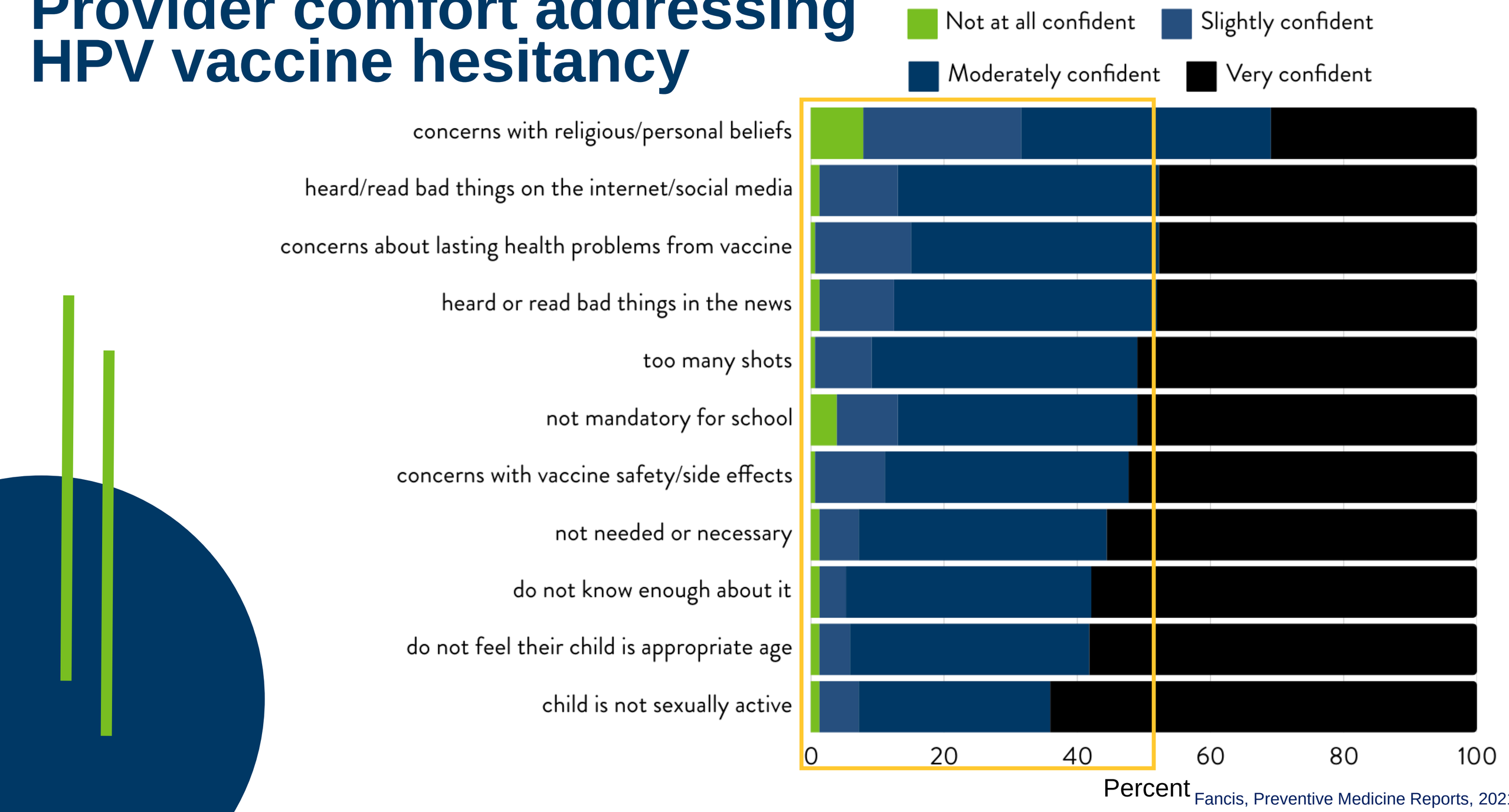
Pingali et al, MMWR, 2023; Pingali et al, MMWR, 2022; 2023 Minnesota Immunization Information Connection (MIIC)

Vaccination Coverage by Year among Minnesota 13-year-olds with the 11–12-year-old vaccine platform



Pingali et al, MMWR, 2023; Pingali et al, MMWR, 2022; 2023 Minnesota Immunization Information Connection (MIIC)

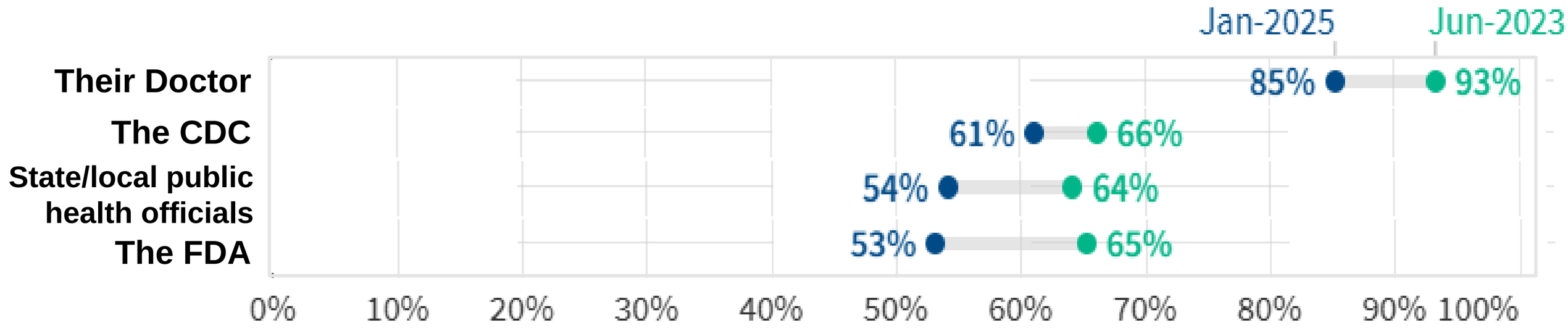
Provider comfort addressing HPV vaccine hesitancy



Fancis, Preventive Medicine Reports, 2021

Trust in Personal Doctors and Government Health Agencies *Has Declined Since 2023*

% who say they have a great deal or a fair amount of trust in the following to make the right recommendations when it comes to health issues:



KFF, 2025

Hope is NOT LOST!

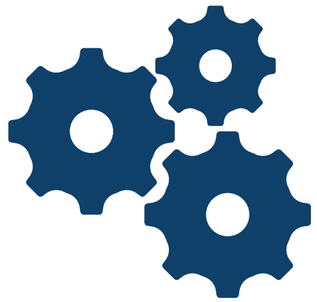
Research indicates that:

Healthcare providers are still the **#1 trusted source** for vaccine information.

The use of empathetic communication can significantly improve patients' attitudes toward vaccination.

NFID, 2024.

Be Not Afraid



Familiarize yourself with vaccine safety monitoring systems

Be comfortable responding to common vaccine concerns

Don’t underestimate your expertise!

Communication Strategies to Address Vaccine Hesitancy

Effective Messages in Vaccine Promotion: A Randomized Trial

Which message worked the best to increase vaccination rates for MMR?

A) Corrective information about lack of evidence linking autism

B) Text describing dangers of diseases prevented by MMR vaccine

C) Images of children with diseases MMR vaccine prevents

D) Narrative of near death experience of an infant with measles

NONE OF THE ABOVE!!

Nyhan et al, Pediatrics, 2014.

None of the interventions increased parental intent to vaccinate a future child.

Decreased intent to vaccinate in the most hesitant parents.

Increased belief in a vaccine/autism link.

Increased belief in serious vaccine side effects.

Which message worked the best to increase vaccination rates for MMR?

A) Corrective information about lack of evidence for MMR causing autism

B) Text describing dangers of diseases prevented by MMR vaccine

C) Images of children with diseases MMR vaccine prevents

D) Narrative of near-death experience of an infant with measles

Nyhan et al, Pediatrics, 2014.

Addressing vaccine hesitancy:

One size does not fit all

Communication Strategies by Motivation to Act and Level of Resistance

Presumption

Motivational Interviewing & Empathy

High Motivation to Act
Low Resistance

Some Motivation to Act
Some Resistance

Low Motivation to Act
High Resistance

Presumption of Vaccination

Strong provider recommendations are correlated with increased vaccine acceptance versus participatory communication.

“I see that Michael is 11. That means he is due for vaccines against meningitis, HPV cancers, and whooping cough.”

Presumptive

VS

“Are we doing shots today?”

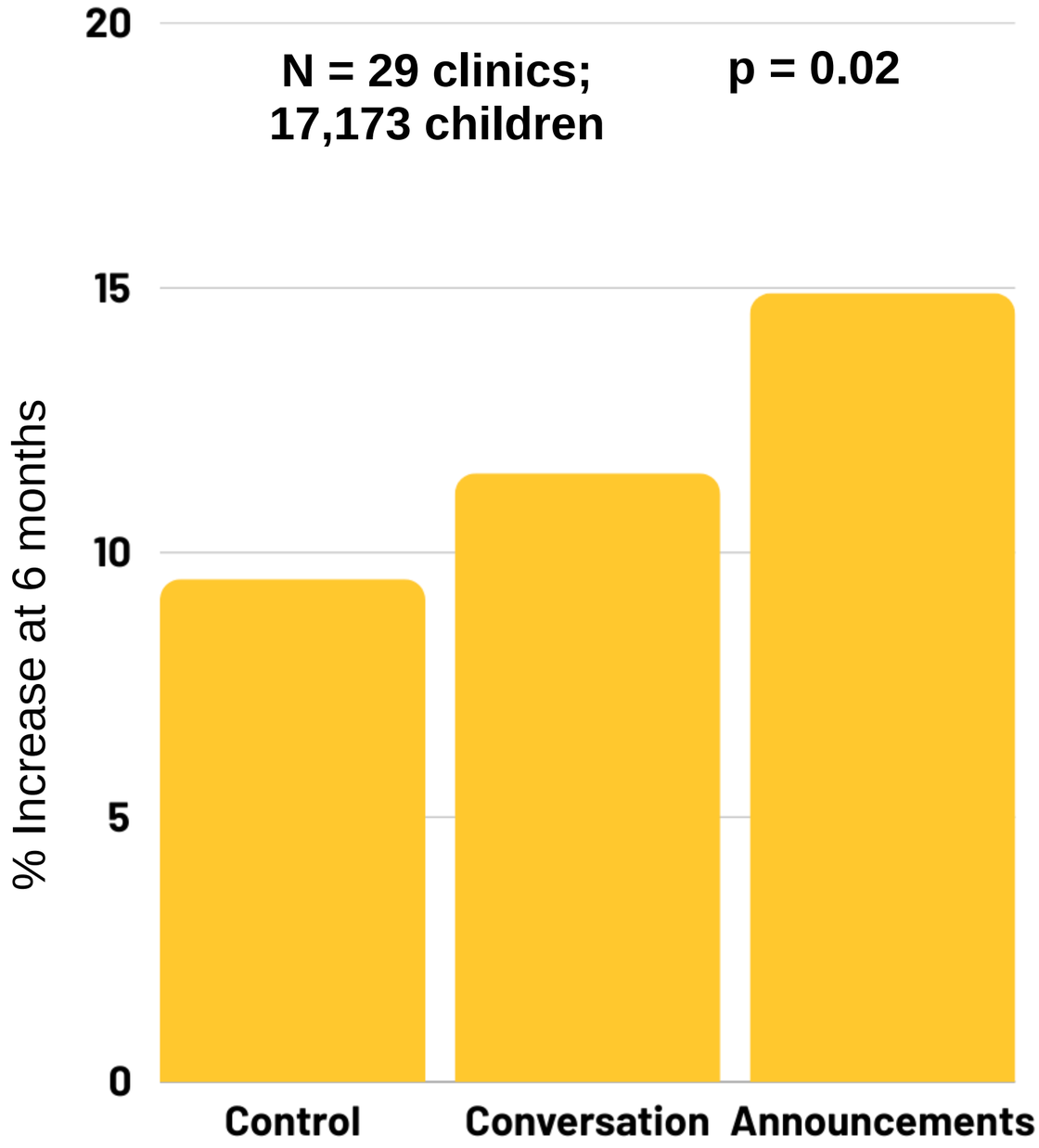
Participatory

10X Studies show that parents who receive a clear recommendation for their children to get HPV vaccine have around 10 times higher odds of getting their children vaccinated.

William et al, The Journal of Pediatrics , 2020; Nowak, Int J Environ Res Public Health, 2018; Gilkey et al, Vaccine, 2016; Brewer, Pediatrics, 2017

Improving HPV Vaccine Acceptance: Announcements vs. Conversation

Announcements [presumption] resulted in greater vaccine acceptance compared to conversations [participatory].



Brewer et al., Pediatrics. 2017

Advantages of the Presumptive Method

It works!

Presumptive approach improves vaccine acceptance.

Similar approach to making other medical recommendations

The more confident you are, the more confident the patient is likely to be.

“She has strep throat. I’ll prescribe you an antibiotic called amoxicillin to treat it.”

“She has strep throat. Do you want her to have amoxicillin to treat it?”

Saves time

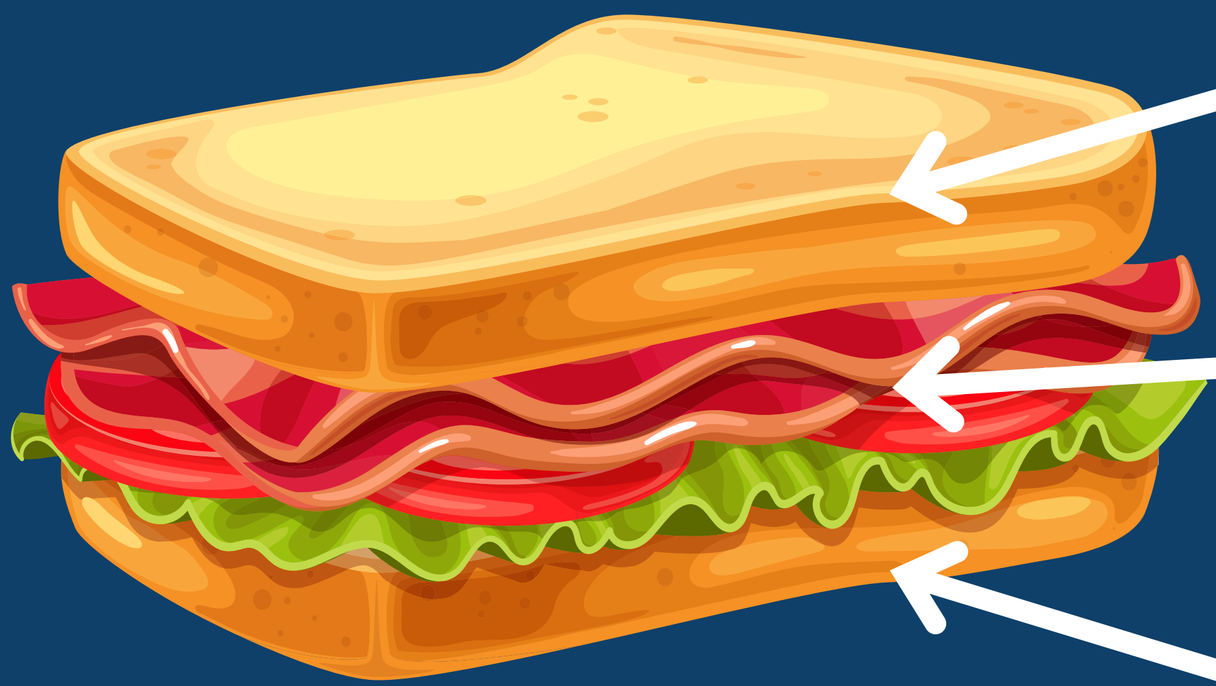
Most patients and families are highly accepting of vaccines.

Based upon the information we just covered, is this a 👎 or a 👍 ?

Since Tyree just turned 11, he needs a tetanus booster and a meningitis shot, which are required for 7th grade. He can also have the HPV vaccine if you want him to have that, too.

We will take the tetanus and meningitis vaccines, but we will skip that other one. Three shots is a lot.

Normalize HPV Vaccination: “Sandwich”



Tdap

HPV

Meningococcus

REMINDER:
YOU are the #1 trusted source of vaccine information.

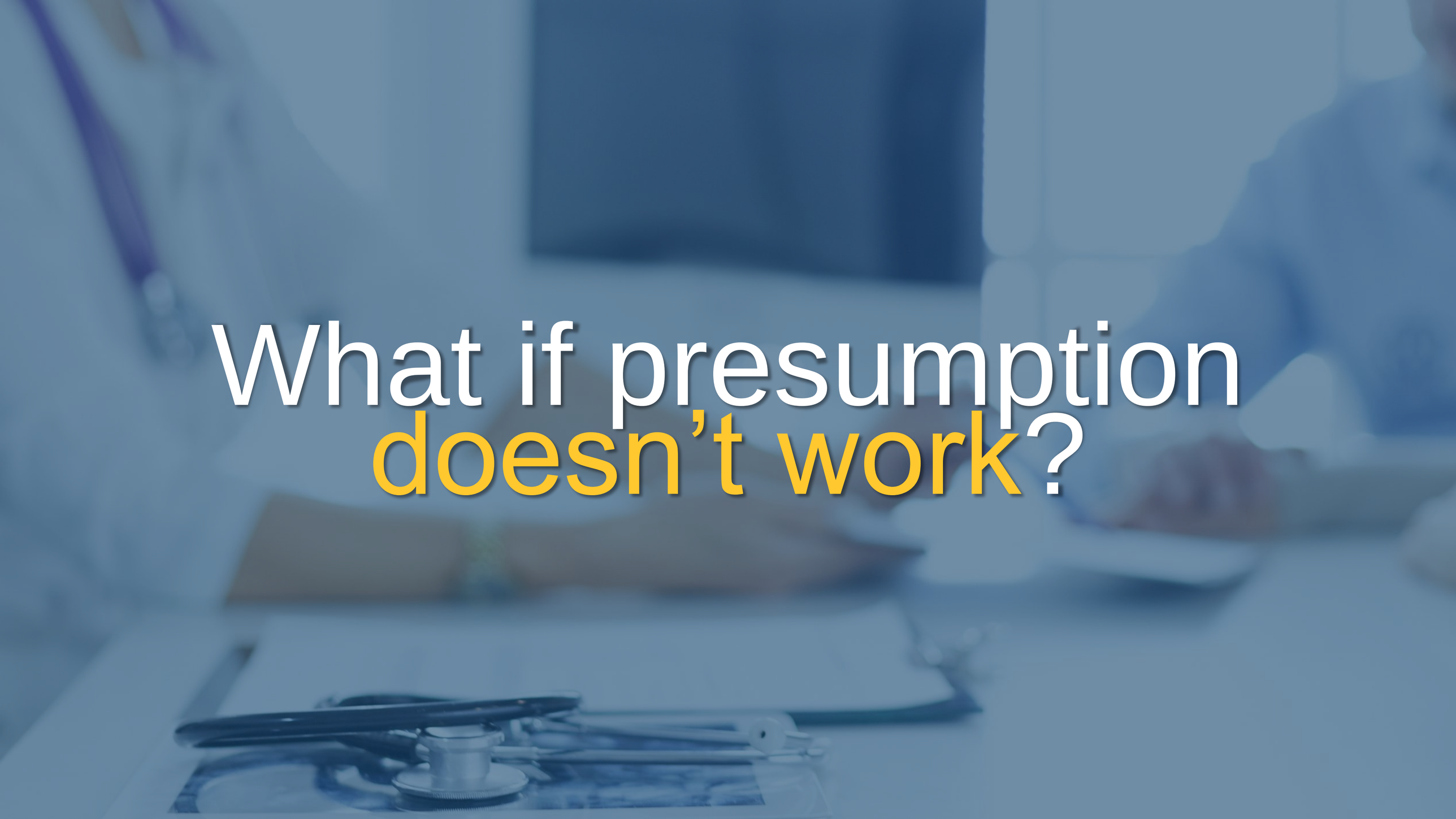
A provider recommendation is strongly correlated with vaccination ***initiation, completion, and follow-through.***

Oh et al, Prev Med , 2021

Based upon the information we just covered, is this a 👎 or a 👍?

Tyree is 11, so he is due for his tetanus booster, HPV, and meningitis vaccines today. Do you have any questions?

No, that sounds good!


What if presumption
doesn’t work?

Communication Strategies by Motivation to Act and Level of Resistance

Presumption

Motivational Interviewing & Empathy

High Motivation to Act
Low Resistance

Some Motivation to Act
Some Resistance

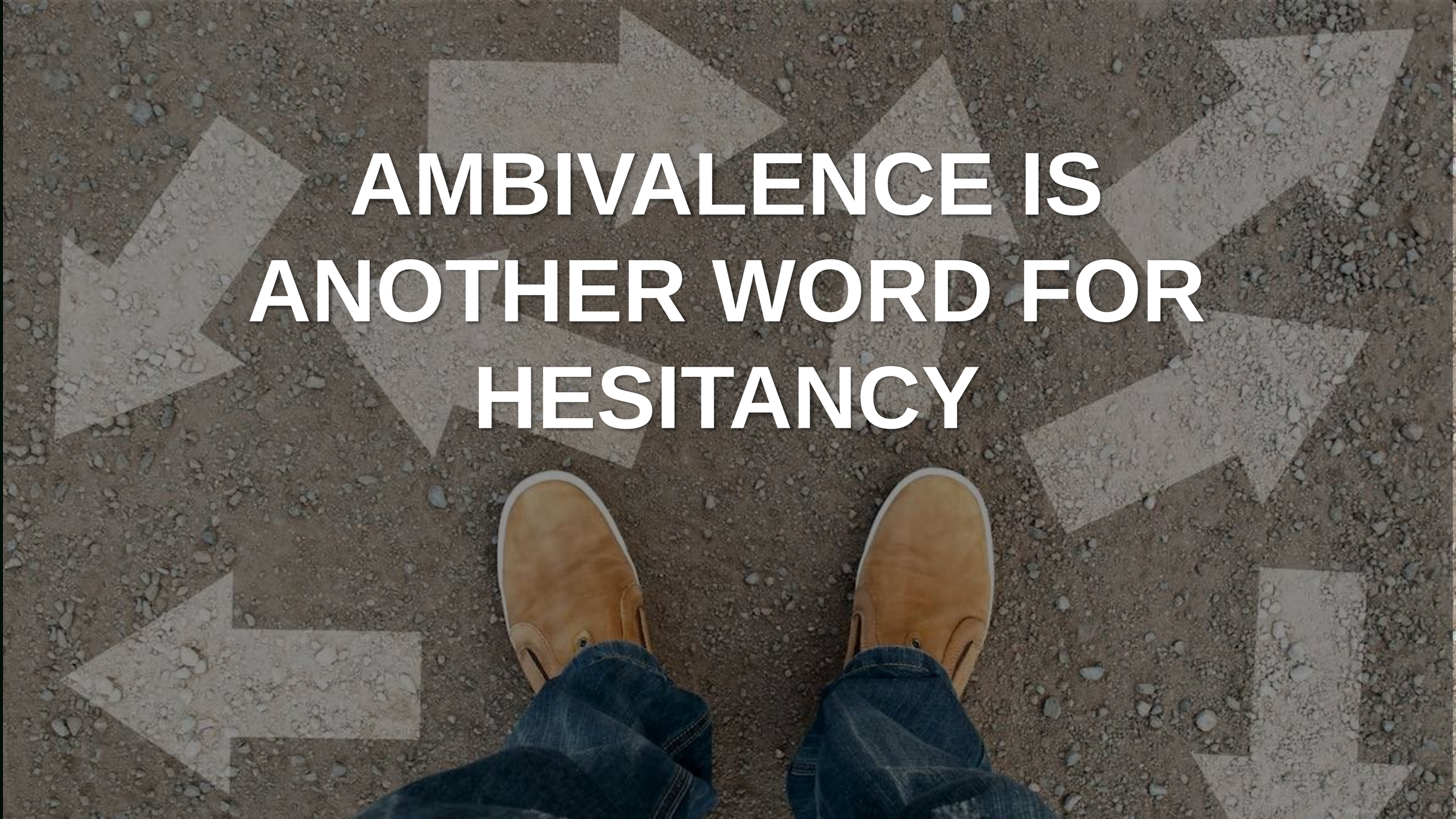
Low Motivation to Act
High Resistance

Motivational Interviewing (MI)

Patient-centered, *guiding* communication style for enhancing a person's *own motivation* for health behavior change by exploring and resolving ***ambivalence*.**

Studies have illustrated the effectiveness of using MI with patients' considering behavior, lifestyle, and addiction changes when ***ambivalence*** is present.

MI is being applied to help health care providers address vaccinations when ***hesitancy*** is present.


AMBIVALENCE IS
ANOTHER WORD FOR
HESITANCY

Rather than argue against a person's ambivalence...

HONOR AMBIVALENCE

Understand that ambivalence is a **NORMAL** part of the change process.

Recognize that ambivalence is a state of mind – **coexisting but conflicting** feelings.

Communication Techniques

Open-Ended Questions

"You aren't sure about the HPV vaccine today. What worries you?"

Reflect Back

"You are really worried about the ingredients in vaccines."

Honor Ambivalence

"So you don't want her to get cervical cancer, and you are worried about the long term effects of this vaccine. Many parents feel that way."

Ask Permission to Share

"Can I share some information that I think might ease your mind?"

Personal Recommendation

"My own children have gotten the vaccine, and I recommend it to all of my patients."

Support Autonomy

"He is your child, and this is your decision."

MI-Consistent Strategies to Consider

1. **Scaling Questions: Importance, Confidence, and Readiness**

2. **Elicit-Provide-Elicit (E-P-E)**

Scaling Questions

Assess a patient’s readiness, confidence, and priorities.

SCALING QUESTIONS

"On a scale of 0 to 10, how important is it for you to get the vaccine today?"

- "Why did you say 5 and not a lower number, like 4?"
- "What would it take to get you to a higher number, like 6?"

CASE STUDY #1

Hi Diego! Great to see you, Lenny. I see we are in for a well-child visit today. [Provider looks at Lenny] As a part of today's visit – great news! We can protect you against flu and start the HPV vaccine series. Dad, any questions?

Wow, HPV? Isn't he a bit young for that vaccine? He's only 9!

That's a great question, and you aren't my first parent to say that. Can I tell you more about why we should consider starting this vaccine at 9?

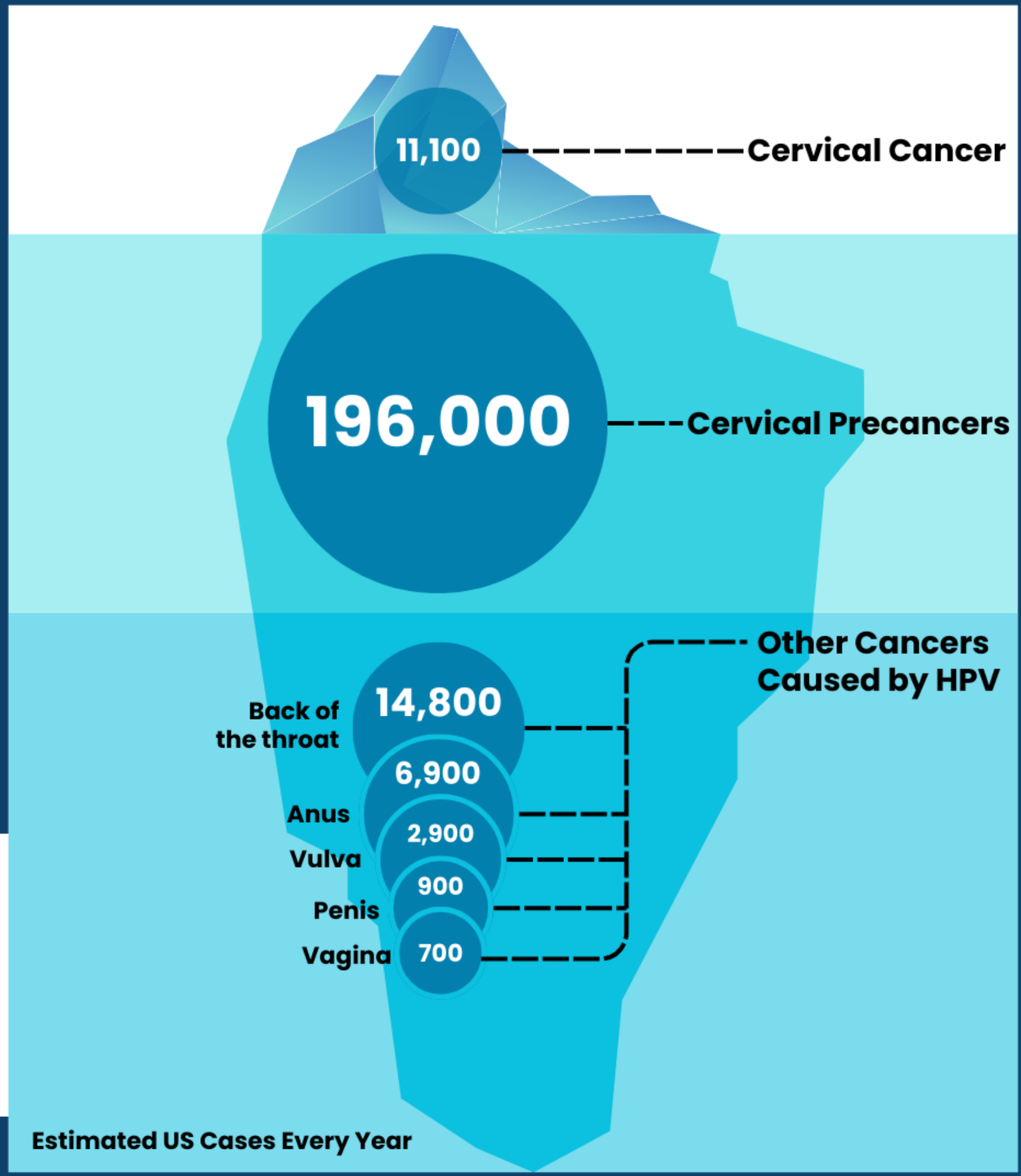
Sure.

CASE STUDY #1: The Facts!

Cervical cancer is just the tip of the iceberg.

Although cervical cancer is the most well-known of the cancers caused by HPV, there are other types of cancer caused by the virus.

90% of HPV-related cancers are preventable with **HPV vaccination**.



CDC, 2024

Early real-world evidence suggests:

54% **Lower odds of developing HPV-related cancers among boys**
(especially head and neck cancers)

30% **Lower odds of developing HPV-related cancers among girls**
(cervical cancers and any HPV-related cancer)

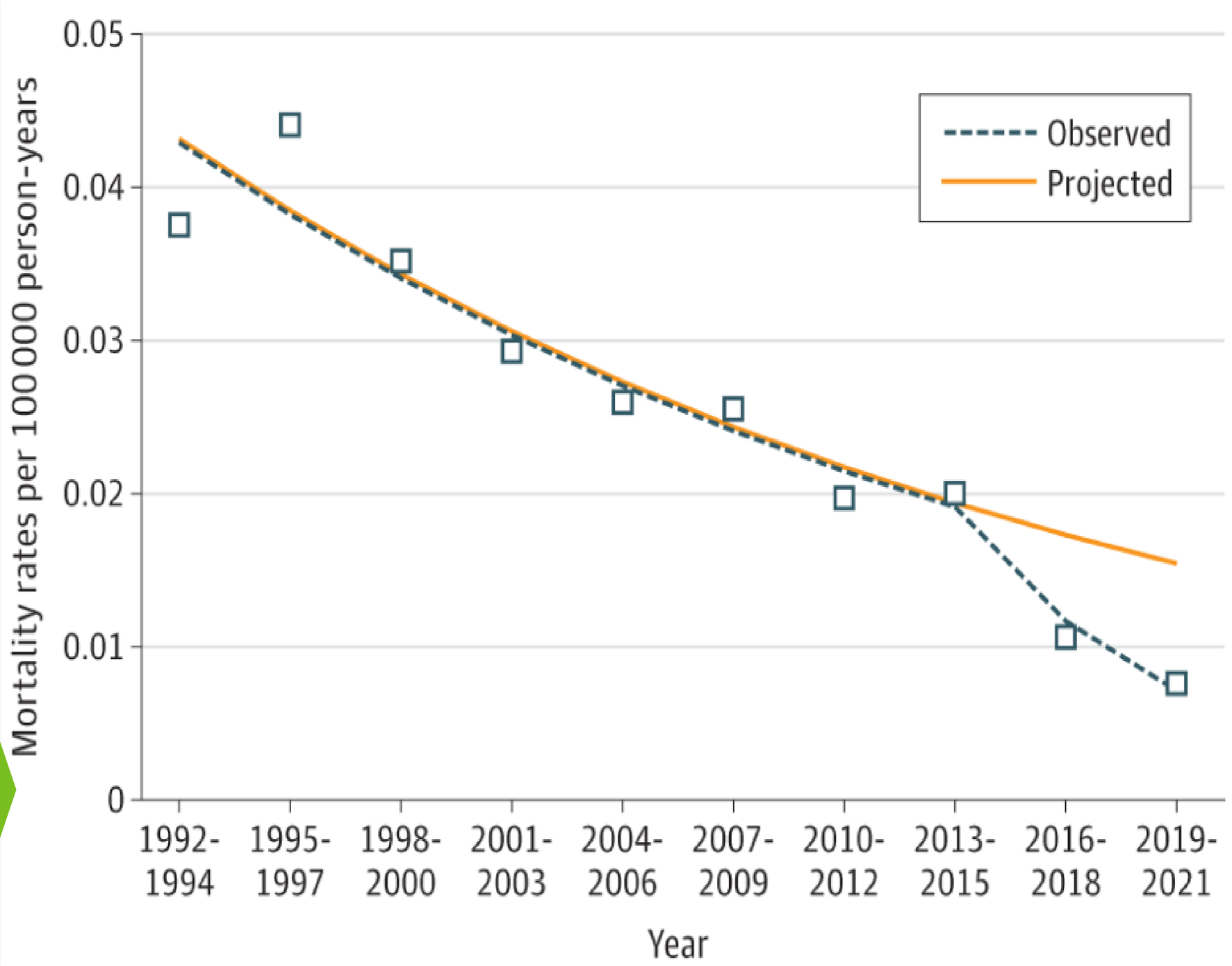
These results add to the evidence of HPV vaccine's real-world effectiveness in preventing several types of cancer and precancerous changes caused by HPV.

DeKloe et al, Journal of Clinical Oncology, 2024

HPV vaccinations are associated with reduced cervical cancer mortality in young women

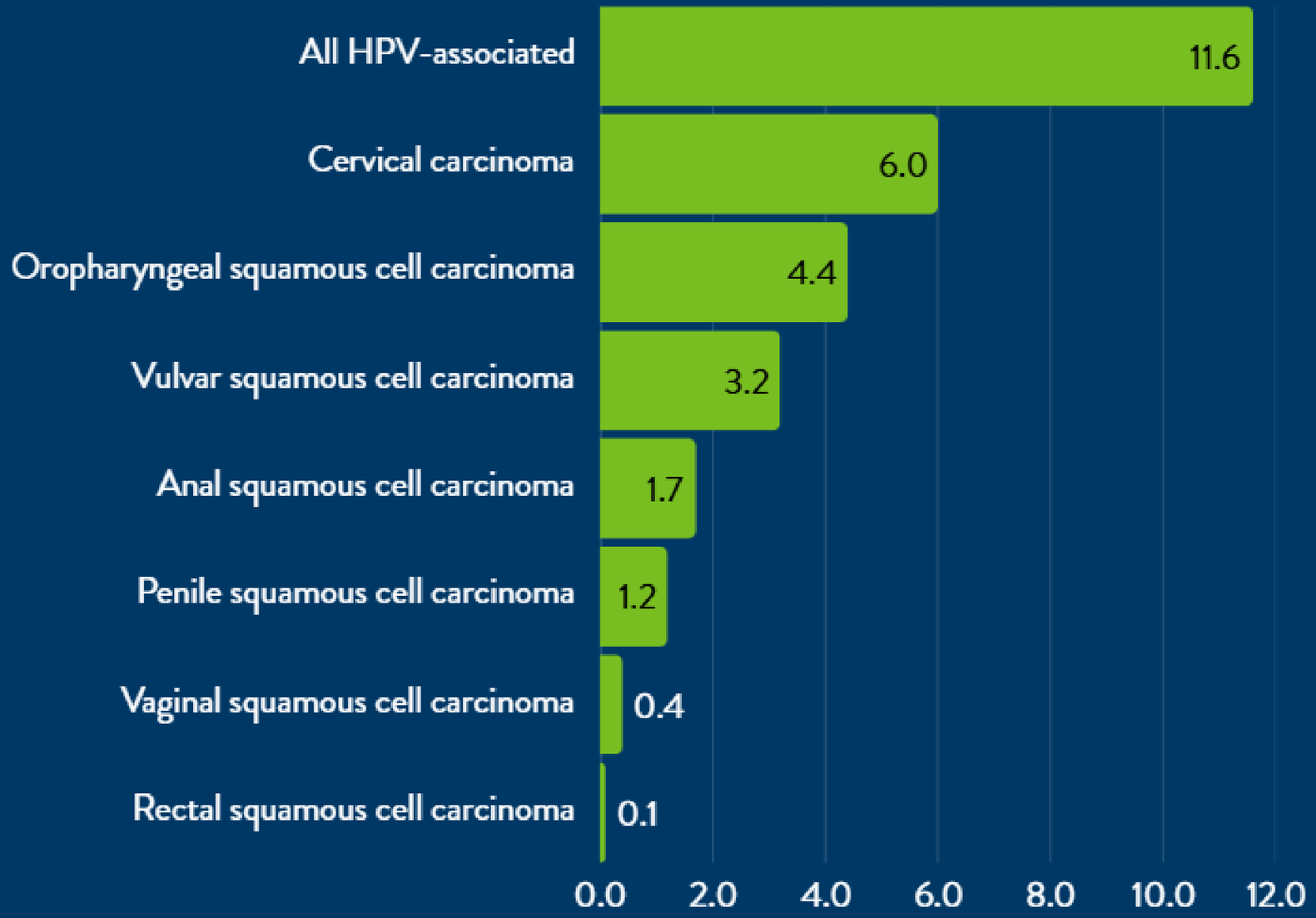
62%

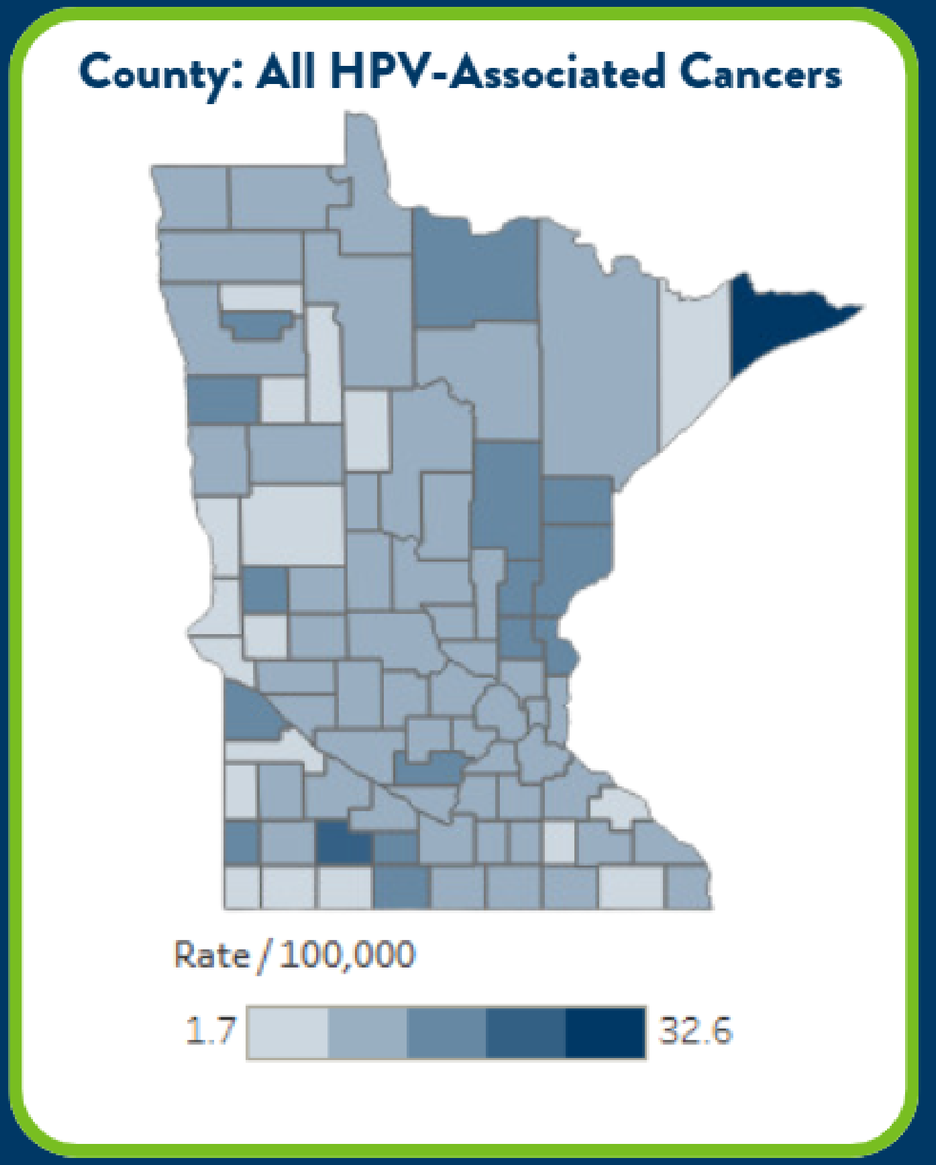
Reduction in cervical cancer deaths in young women due to HPV vaccination



Dorali et al, JAMA, 2024

Cancer Type: HPV Associated (Rates/100,000 Minnesotans)

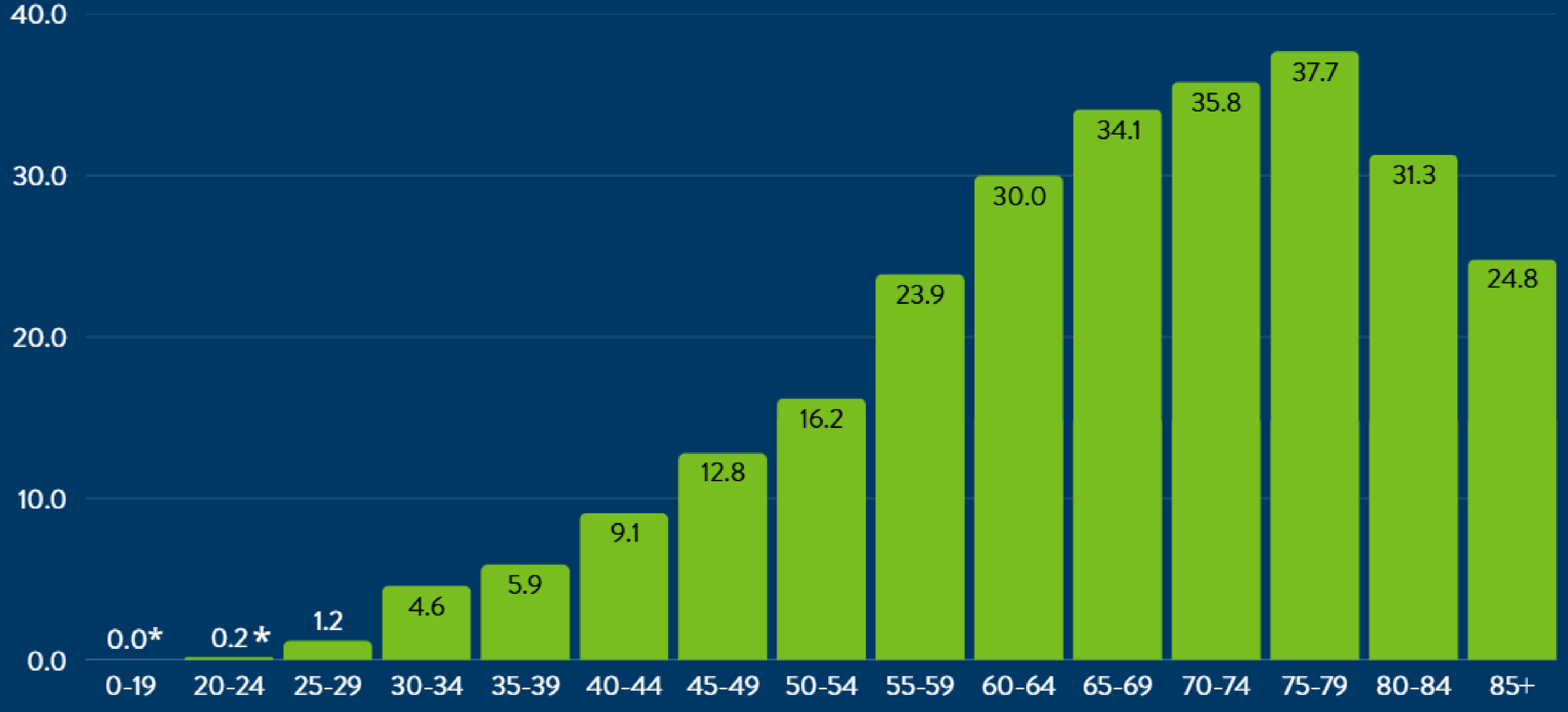




Minnesota Cancer Reporting System. Data accessed 2/18/25

Age Group: HPV Associated (Rates/100,000 Minnesotans)

All HPV-associated cancers



*Rates based on counts <20 or Relative Standard Error >30% are considered unstable. They should be interpreted with caution. Counts <6 are supressed to protect privacy and are displayed as <6.
Rates are the number of cases per 100,000 people and are age-adjusted to the 2000 U.S. standard population (19 age groups – Census P25–1130).

Minnesota Cancer Reporting System. Data accessed 2/18/25

CASE STUDY #1: The Facts!

Initiation of HPV vaccination at ages 9-10 is recommended by:

(with some nuanced differences)

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®

CDC

CENTERS FOR DISEASE CONTROL AND PREVENTION

ACIP

American Cancer Society®

CASE STUDY #1: The Facts!

Starting early may improve on-time series completion.

- Increasing the number of adolescents who begin the HPV vaccine series at age 9 may lead to improved cancer prevention by maximizing the number of people protected through on-time vaccination.

Increase cancer prevention among next generation.

- The most recent NIS-Teen showed uptake of Tdap vaccine was 89% and the first dose of MenACWY was 87%. HPV rates remain significantly behind these vaccines, with initiation at 68% and completion at 51%.

No known downside to earlier initiation.

- Begin the conversation now, as attendance at well visits decreases in older adolescents.
- Opportunity to complete the series before other adolescent vaccines are due.
- Implementing HPV vaccination at the earliest opportunity produces a strong immune response.

O’Leary & Nyquist, AAP New, 2019; HPV Round Table Evidence Summary, 2024; Perkins et al, Hum Vaccin Immunother, 2023; Saxena, Hum Vaccin Immunother, 2023

TAKE HOME MESSAGE

Just like putting on a bike helmet BEFORE going on a bike ride to protect against head injury...

...HPV vaccination is INCREDIBLY effective if given BEFORE exposure to the virus.

NEW: ACIP HPV Vaccines Work Group

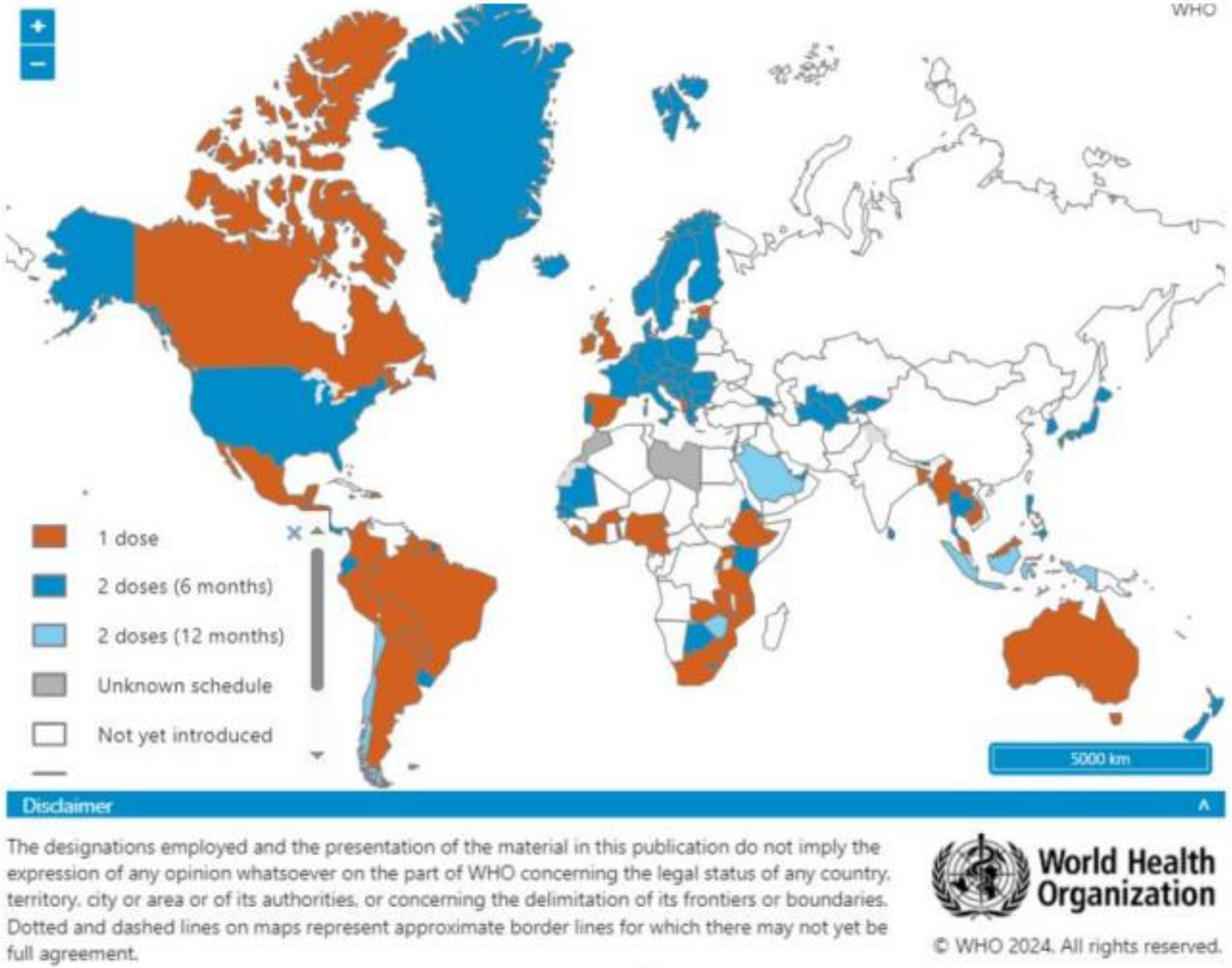
- Work group purpose: The Human Papillomavirus (HPV) Vaccines Work Group reviews and evaluates data on HPV disease, epidemiology, and vaccine and develops possible modifications to policy for ACIP's consideration.
- Topics under discussion by the work group:
  - Reducing the number of vaccine doses in the recommended HPV vaccination series
  - Wording of the age for routine vaccination
  - Guidance regarding persons in the "shared clinical decision-making" age range

CDC, 2024; Brooks, ACIP Meeting, Oct 23, 2024

Recommended HPV vaccine schedules in 9–14-year-olds, by country

Doses-interval	No. of countries
1 dose	58
2 doses (12 months)	5
2 doses (6 months	76
Not yet introduced	50
Unknown schedule	5

WHO 2022 recommendations:
2 doses for persons aged 9 years and older, with option for single-dose HPV vaccination through age 20 years, except those immunocompromised



Date: October 2024

Markowitz, ACIP Presentation Oct 23, 2024

CASE STUDY #1

We start the HPV vaccination around 9 because this vaccine is really all about cancer *prevention*, protecting Lenny long before he will have contact with the virus that can cause cancer. Starting Lenny now also means we are more likely to finish the series and provide that protection Lenny needs. What stands out to you about what I shared?

I appreciate the information - I guess my biggest concern is that my wife and I didn't think about starting HPV this early. We haven't really prepped Lenny for it for today.

CASE STUDY #1

I can appreciate your concerns. On a scale of 0 to 10, how confident are you in vaccinating Lenny against HPV today?

Hmm, maybe a 5?

Great, you said 5. Why not a 2 or 3?

I guess because I DO want Lenny protected from things like cancer, but like I said, we haven’t really prepped him for it today.

I hear what you are saying. Would anything get you to a 6 or 7 today?

I guess more details on why Lenny really needs it now versus at 11 or 12…

CASE STUDY #1

Absolutely. Mind if I provide you with some additional details? [Diego nods] We know that giving this vaccine at 9 or 10 also produces stronger protection than giving it later in adolescence. Also – if we start this series before 15, Lenny only needs two doses to be up-to-date! This also means less shots at his next well child visit at age 11. What would you like to do? I highly recommend HPV vaccination to all my patients and recommend we get Lenny started today!

Ok, let’s do it.

Great! I will have the nurse come in and get that taken care of for you and get him scheduled for his second dose.

Elicit Provide Elicit (EPE)

Share information and advice with patients.

Sharing Information Using EPE

ELICIT	PROVIDE	ELICIT
Elicit knowledge and/or needs from the patient • Question with empathy • Learn what the patient has tried/already knows	**Provide information after asking permission** • Stay neutral • Validate feelings • Debunk myths without reinforcing them	**Elicit patient's response** • Reflect on discussion • Emphasize autonomy
• What are your specific concerns? • What have you heard? • What would you most like to know?	• May I make a suggestion? • This may not fit for you, but some people find … • Would you be interested in some resources?	• What are your thoughts on that? • How do you think that would work for you?

Eliciting the Main Concern: Varicella Vaccine

Could translate to:

- “My child has already had chickenpox.”
- “I don’t think chickenpox is that bad.”
- “I’m pregnant and I’m not sure about my child getting a live vaccine.”

“I don’t want my child to get this vaccine.”

Eliciting the Main Concern: COVID Vaccine

"I don't think this vaccine is safe."

Could translate to:

- "I think this vaccine causes female infertility."
- "I am concerned about myocarditis."
- "I heard this vaccine didn't complete the usual clinical trials."
- "I am concerned about what is in the vaccine."

CASE STUDY #2

Great to see you, Julie and Carly! I see we have Carly in for a sports physical today. As a part of today's visit, Carly is due for her Tdap, HPV, and meningococcal vaccines. Any questions?

You know, I am just not sure about Carly getting the HPV vaccine.

Thanks for taking such an active interest in Carly's care. Can you tell me more about your concern?

CASE STUDY #2

Thanks for asking! I have done some research online and I’m worried about how safe it is. I read it may cause something called POI which could impact Carly’s ability to have kids!

You aren’t the first parent that has come to me with this concern. Can I share some information with you?

Sure.

CASE STUDY #2: The Facts!

HPV vaccine has been around for 15+ years.

- Extensive safety testing occurs before any vaccine is licensed by the FDA in the U.S., including HPV vaccination! Gardasil 9 was approved for use and licensed in 2014. Clinical trials looked at 15,000+ men and women and indicated that the vaccine was safe and the benefits outweigh any risk.
- 130+ million doses of HPV vaccine have been distributed since they were licensed.
- 160+ studies have shown that HPV vaccines have a favorable safety profile.

HPV vaccine safety will *continue to be monitored.*

- Systems like VAERS, VSD, and CISA work together to provide timely data on vaccine safety in our country on vaccines that are licensed and recommended for use.

Acknowledge common side effects of HPV vaccination.

- Pain, redness, or swelling in the arm where the shot was given are common.
- Side effects are generally self-limiting. Put it into perspective: HPV vaccination is *cancer prevention.*

CDC, 2024

CASE STUDY #2: The Facts!

Case Report

Journal of Investigative Medicine High Impact Case Reports
October-December 2014: 1–12
© 2014 American Federation for Medical Research
DOI: 10.1177/2324709614556129
sagepub.com
SAGE

Adolescent Premature Ovarian Insufficiency Following Human Papillomavirus Vaccination: A Case Series Seen in General Practice

Deirdre Therese Little, MBBS, DRANZCOG
Harvey Rodrick Grenville Ward, Bsc(M
FCOG(SA), MMed (O&G), FRANZ

ANECDOTAL CASE STUDY

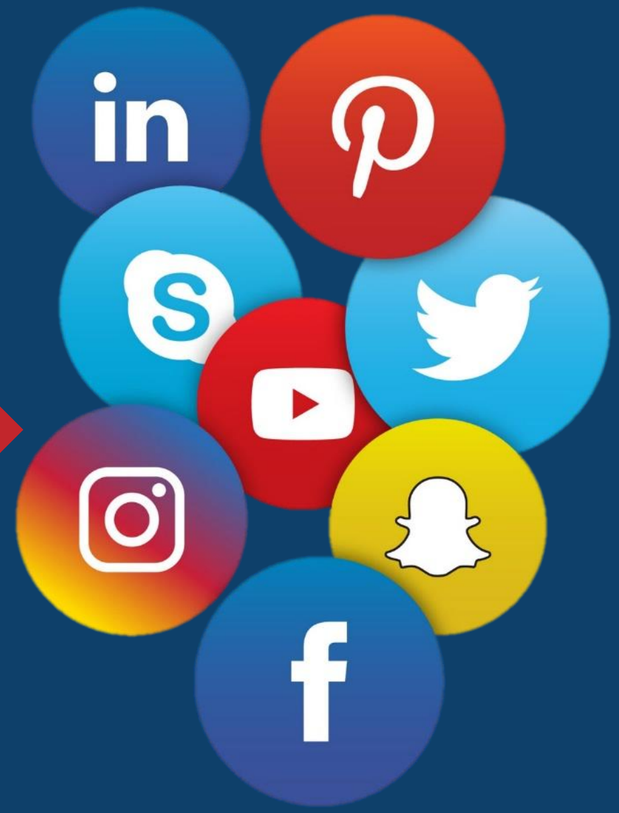
Abstract

Three young women ollowing quadriva
vaccination pre n Wales, Australia. The
and 18 ye s prior to the onset of ovarian decline. Vaccinations had been
administe outh Wales and the 3 girls lived in different towns in that state. Each
had been p treat menstrual cycle abnormalities prior to investigation and diagnosis.
Vaccine rese nistology report of tested rats but does present a testicular histology report.
Enduring ovari of function following vaccination is unresearched in preclinical studies, clinical and
postlicensure st ng surveillance does not accurately represent diagnoses in adverse event notifications
and can neither r notified cases nor compare incident statistics with vaccine course administration rates. The
potential significanc a case series of adolescents with idiopathic premature ovarian insufficiency following HPV vaccination
presenting to a general practice warrants further research. Preservation of reproductive health is a primary concern in the
recipient target group. Since this group includes all prepubertal and pubertal young women, demonstration of ongoing,
uncompromised safety for the ovary is urgently required. This matter needs to be resolved for the purposes of population
health and public vaccine confidence.

Keywords

premature ovarian failure, amenorrhea, human papillomavirus vaccination, ovarian insufficiency, menopause

Gains attention that does not correspond to the articles scientific significance



Misinformation shared on social media

Hviid, JAMA, 2021; Little, Journal of Investigative Medicine High Impact Case Reports, 2014

What is primary ovarian insufficiency (POI)?

Also known as “premature menopause,” this is a condition in which a woman’s ovaries stop functioning before age 40. Causes of primary ovarian insufficiency include:

- **Genetics**
- **Chemicals in the environment**
- **Cancer treatments**
- **Cigarette smoking**
- **Autoimmune disorders**
- **Some viral infections**

However, in many cases, it’s not possible to determine the cause. CDC and FDA have not found any proof that HPV vaccines cause POI.

CDC, 2024; UpToDate, 2024

How have the CDC & FDA addressed the concerns of HPV vaccines causing POI?

- As part of ongoing safety monitoring of HPV vaccines, CDC has reviewed reports of POI to VAERS following both Gardasil 9 and Gardasil vaccination.
- CDC has also conducted additional safety research on HPV vaccine in the Vaccine Safety Datalink.

Let’s take a look at the research…

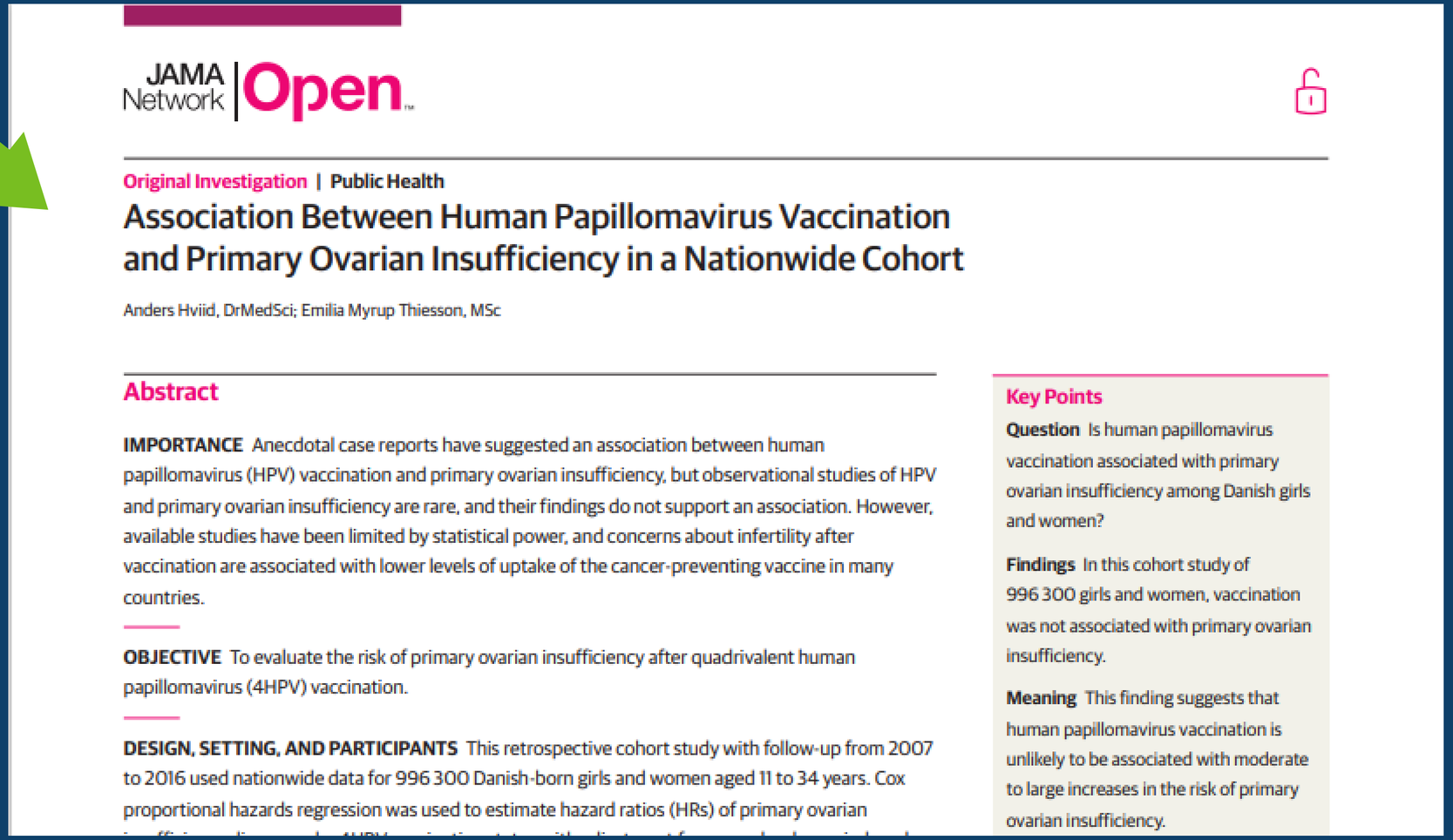
CDC, 2024

“With more than 12 years of HPV vaccine safety monitoring and research from the United States and other countries, we have robust data showing the HPV vaccines are safe. With regard to concerns about HPV vaccination and fertility in women, CDC and FDA have not found any convincing evidence that HPV vaccines cause primary ovarian insufficiency (POI). Also known as “premature menopause,” POI is a condition in which a woman’s ovaries stop functioning before age 40. Causes of POI include genetics, chemicals in the environment, cancer treatments, smoking cigarettes, autoimmune disorders, and some viral infections.
A 2018 study from CDC’s Vaccine Safety Datalink that included nearly 200,000 women did not find an increased risk of POI following HPV vaccination.”

-Frank Destefano, Director, Immunization Safety Office, CDC
(quote from 2019)

Research in other countries

In 2021, a retrospective cohort study was published in JAMA looking at a nationwide dataset of ~1M Danish-born girls/women aged 11-34. ***No association was found between HPV vaccination and primary ovarian insufficiency.***



JAMA Network | Open

Original Investigation | Public Health

Association Between Human Papillomavirus Vaccination and Primary Ovarian Insufficiency in a Nationwide Cohort

Anders Hviid, DrMedSci; Emilia Myrup Thiesson, MSc

Abstract

IMPORTANCE Anecdotal case reports have suggested an association between human papillomavirus (HPV) vaccination and primary ovarian insufficiency, but observational studies of HPV and primary ovarian insufficiency are rare, and their findings do not support an association. However, available studies have been limited by statistical power, and concerns about infertility after vaccination are associated with lower levels of uptake of the cancer-preventing vaccine in many countries.

OBJECTIVE To evaluate the risk of primary ovarian insufficiency after quadrivalent human papillomavirus (4HPV) vaccination.

DESIGN, SETTING, AND PARTICIPANTS This retrospective cohort study with follow-up from 2007 to 2016 used nationwide data for 996 300 Danish-born girls and women aged 11 to 34 years. Cox proportional hazards regression was used to estimate hazard ratios (HRs) of primary ovarian

Key Points

Question Is human papillomavirus vaccination associated with primary ovarian insufficiency among Danish girls and women?

Findings In this cohort study of 996 300 girls and women, vaccination was not associated with primary ovarian insufficiency.

Meaning This finding suggests that human papillomavirus vaccination is unlikely to be associated with moderate to large increases in the risk of primary ovarian insufficiency.

World Health Organization

The Global Advisory Committee on Vaccine Safety (GACVS) concluded that the available data do not support an association between HPV vaccination and infertility or POI. The current safety profile continues to be extremely favorable, as discussed at 7 previous GACVS meetings, and consistent with the pre-licensure safety profile.

Extract from GACVS meeting of 4-5 December 2019, published in the WHO Weekly Epidemiological Record of January 24, 2020

CASE STUDY #2

HPV vaccines have been around a long time now, over 15 years! And during this time, over a hundred million doses of HPV vaccine have been distributed in the U.S. We have very promising and reassuring data that these vaccines provide long-lasting protection and that they are very safe. The rumor that this vaccine causes infertility still makes the rounds on social media.

As part of ongoing safety monitoring of HPV vaccines, researchers have taken a look at the risk of POI following both Gardasil 9 and Gardasil vaccination – many studies looking at hundreds of thousands of girls ***have found no link between HPV vaccination and infertility or POI.***

CASE STUDY #2

Some of my patients do experience some soreness, swelling, and redness at where the shot was given. But, this is common and should get better in a day or two. AND do you want to know what is absolutely linked to infertility? ***HPV cancers***. The fact that they can cause issues with having children is unquestioned in the medical world. I vaccinated my own daughter against HPV, and I highly recommend Carly get vaccinated, too. What stands out to you about what I shared?

CASE STUDY #2

No, that makes sense, and I guess I hadn’t really realized that HPV vaccination had been around that long. I really appreciate you taking the time to talk to us about it. Your recommendations are important to us. But, I think we are going to take some time to think about it.

Of course. Can I send some resources home with you to take a look at? I think HPV vaccination is an important part of keeping Carly healthy. Can we re-address this at our next appointment?

Absolutely.

Improving Comfort with Vaccinations

Improving patient experience may improve compliance!

- Improve the experience by encouraging:
  - Deep breathing or relaxation techniques
  - Use of music, videos, or conversation to reduce anxiety and discomfort
- Simultaneous versus sequential administration
- Topical numbing creams (available OTC), apply about 30 minutes prior to administration
- Acetaminophen (AFTER vaccines only)
  - May decrease immune response if given before
- Easy Scheduling & Follow-Ups
- Positive Reinforcement

Key Takeaways

01. Start with the presumptive approach and move to motivational interviewing techniques when ambivalence is present.

02. Familiarize yourself with common vaccine concerns so you can debunk myths and answer questions.

03. Showing empathy and supporting autonomy will break down barriers and build trust between you and your patient.

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What questions do you have?