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Improved Best Practices for Routine HPV Vaccination

Andrea Polkinghorn, BSN, RN

President, Immunize South Dakota

Objectives

- Identify evidence-based communication strategies to recommend and navigate conversations about the Human Papillomavirus.
- Examine Human Papillomavirus disease incidence and immunization rates.
- Describe the benefits of starting the Human Papillomavirus vaccine series as early as age nine and children having a complete series by age thirteen.

A Strong Recommendation from a Healthcare Provider is the **GREATEST** motivator for Vaccine Acceptance

initiation, completion, and follow-through

Prev Med (Oh et al, 2021)

BUT, some providers are not equipped to address HPV-related conversations with parents, caregivers, or patients.

- Lack of general HPV and vaccine knowledge
- Low self-confidence in counselling and addressing parental concerns
- Discomfort in discussing sexual issues related to vaccination

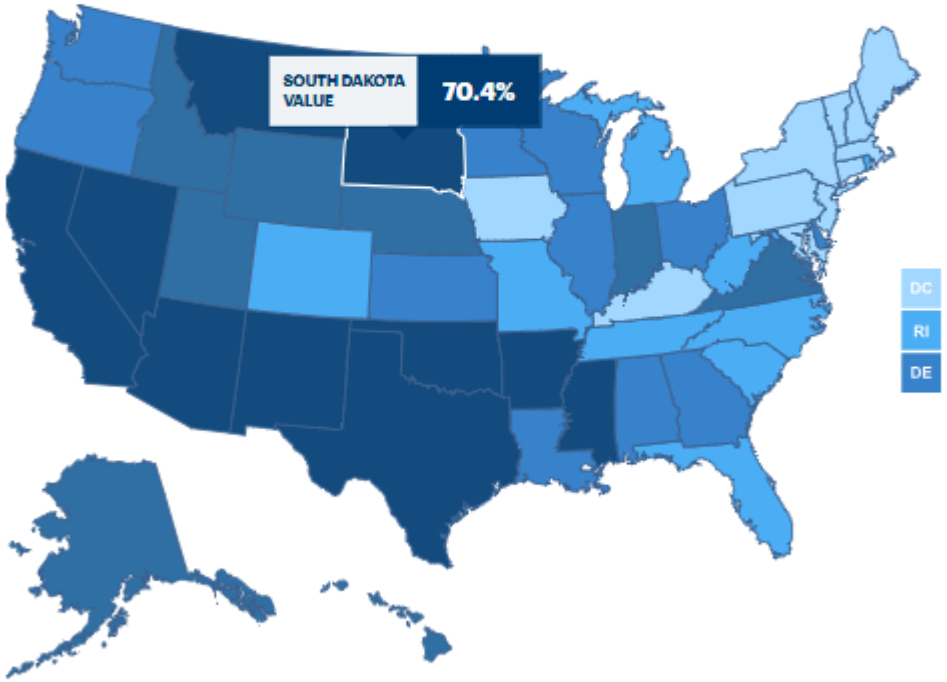
Vaccine (Shuk et al, 2019)

Well-Child Visit by State: Ages 3-17

Percentage of children ages 3-17 who received one or more preventive visits in the (2-year estimate)

Well-Child Visit - Ages 3-17

Percentage of children ages 3-17 who received one or more preventive visits in the past 12 months (2-year estimate)

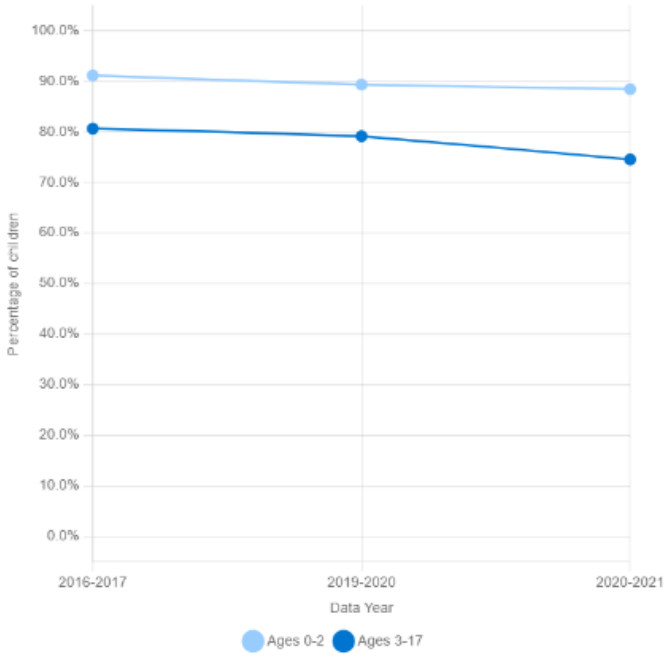


Data from National Survey of Children's Health, U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), 2020-2021

>= 79.6%	77.2% - 79.5%	74.1% - 77.1%	70.9% - 74.0%	<= 70.8%

Well-Child Visit Trends by Subcomponents

Percentage of children ages 0-17 who received one or more preventive visits in the past 12 months (2-year estimate)



Show Confidence Intervals

Well-Child Visit - Ages 0-2

88.4%

Percentage of children

Well-Child Visit - Ages 3-17

74.5%

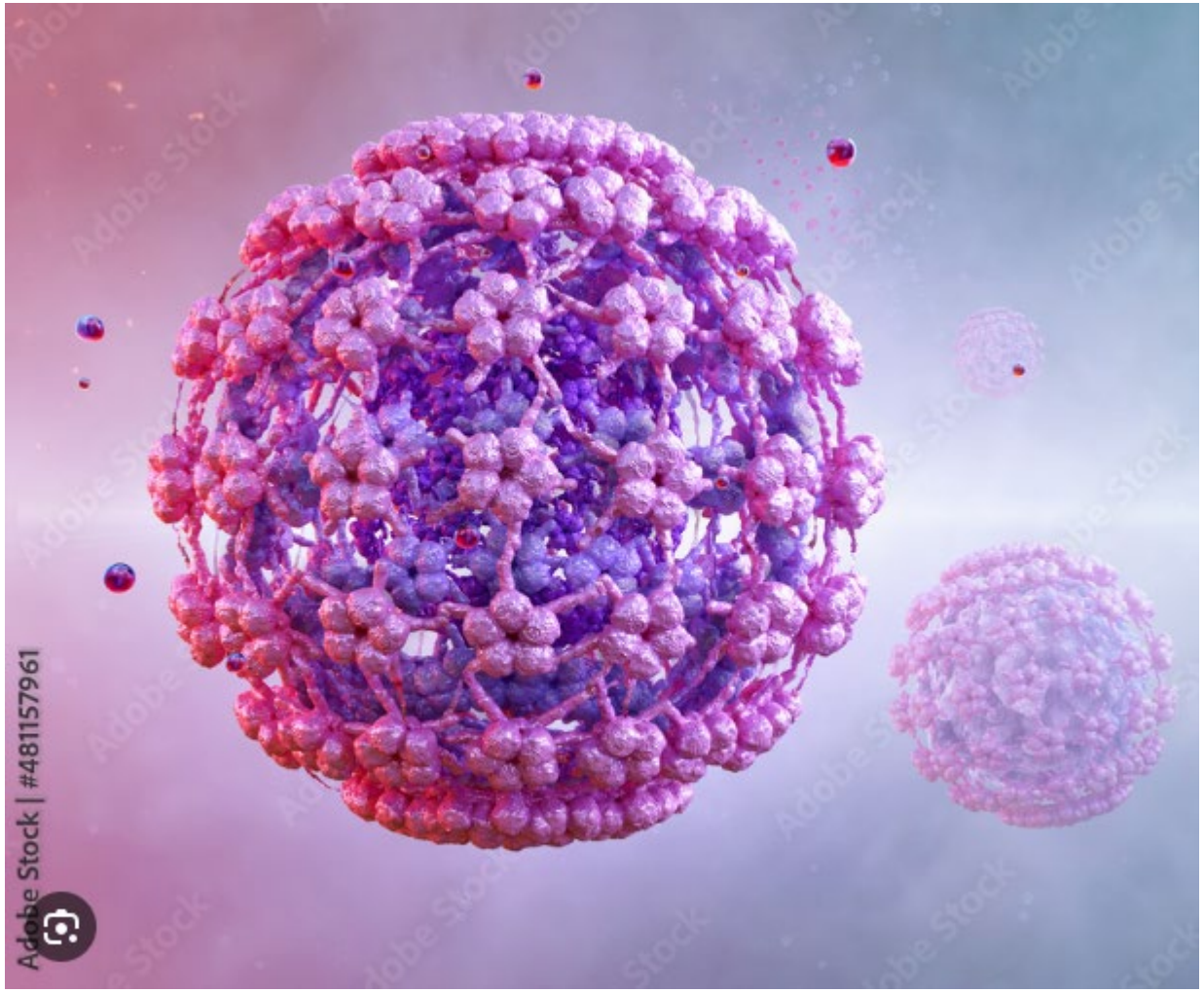
Percentage of children

Data suppression rules are as defined by the original source.
Race and ethnicity populations are as defined by the original source.

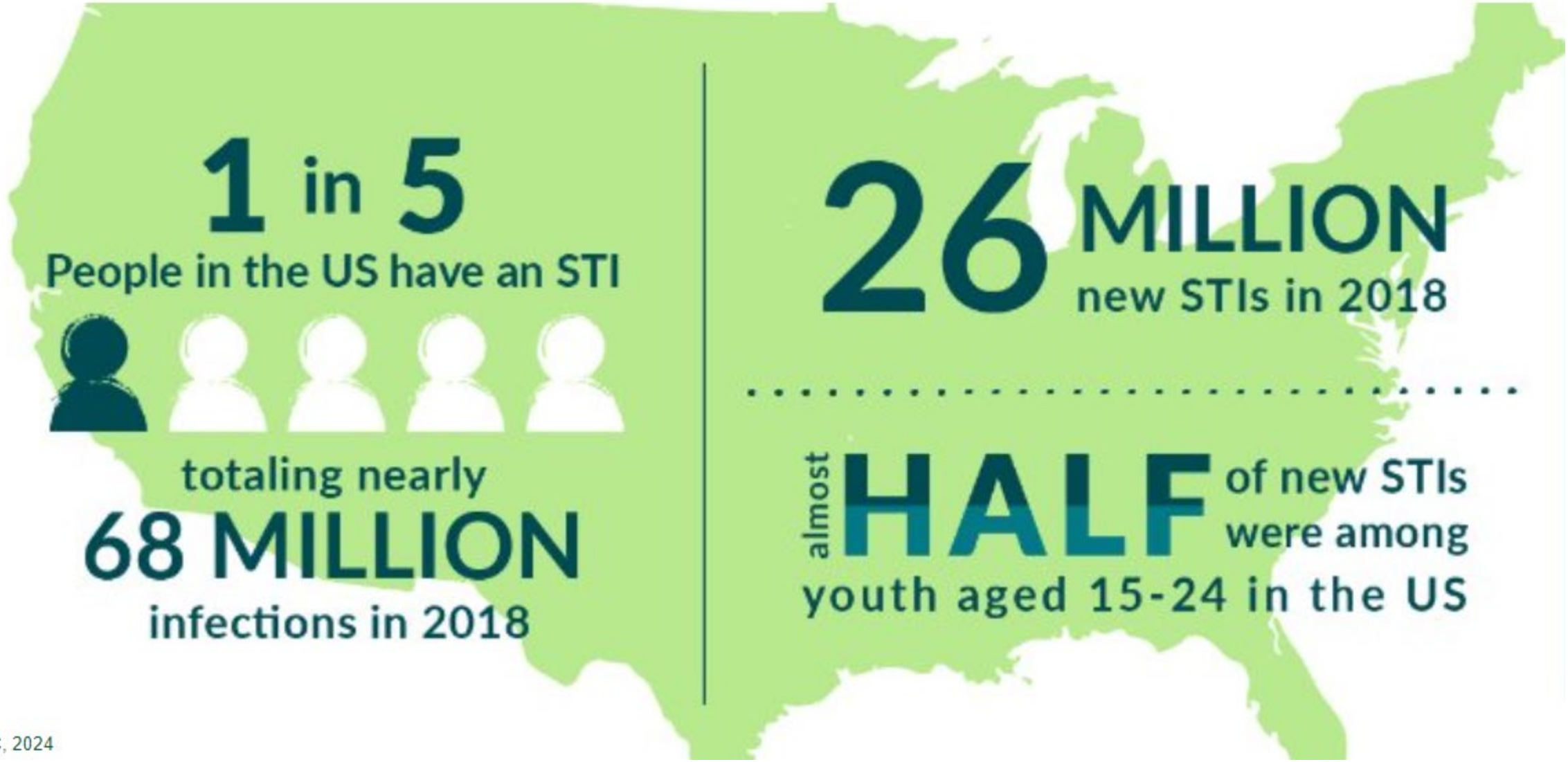
SOURCE:

National Survey of Children's Health, U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), 2020-2021

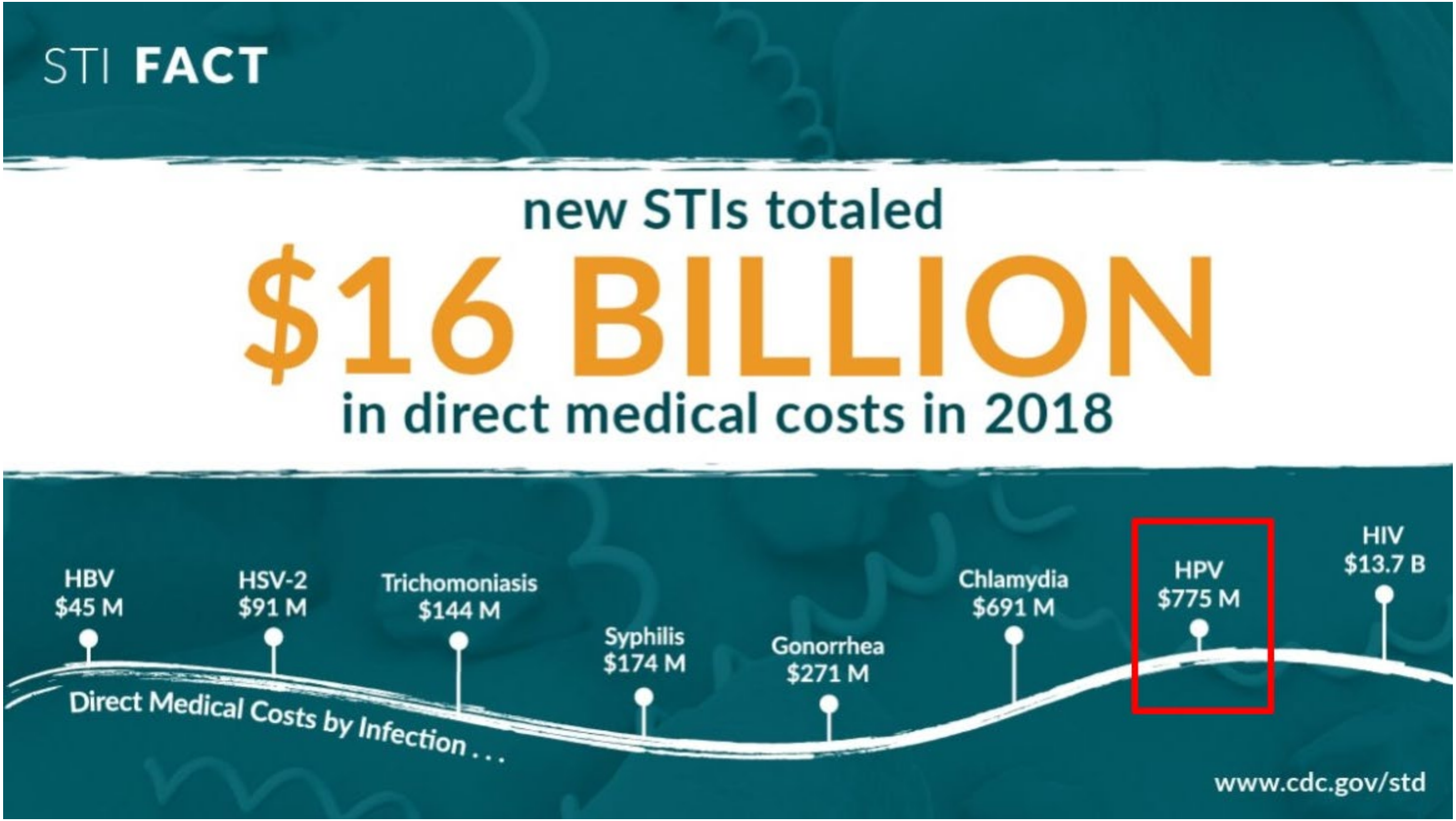
About the Human Papillomavirus



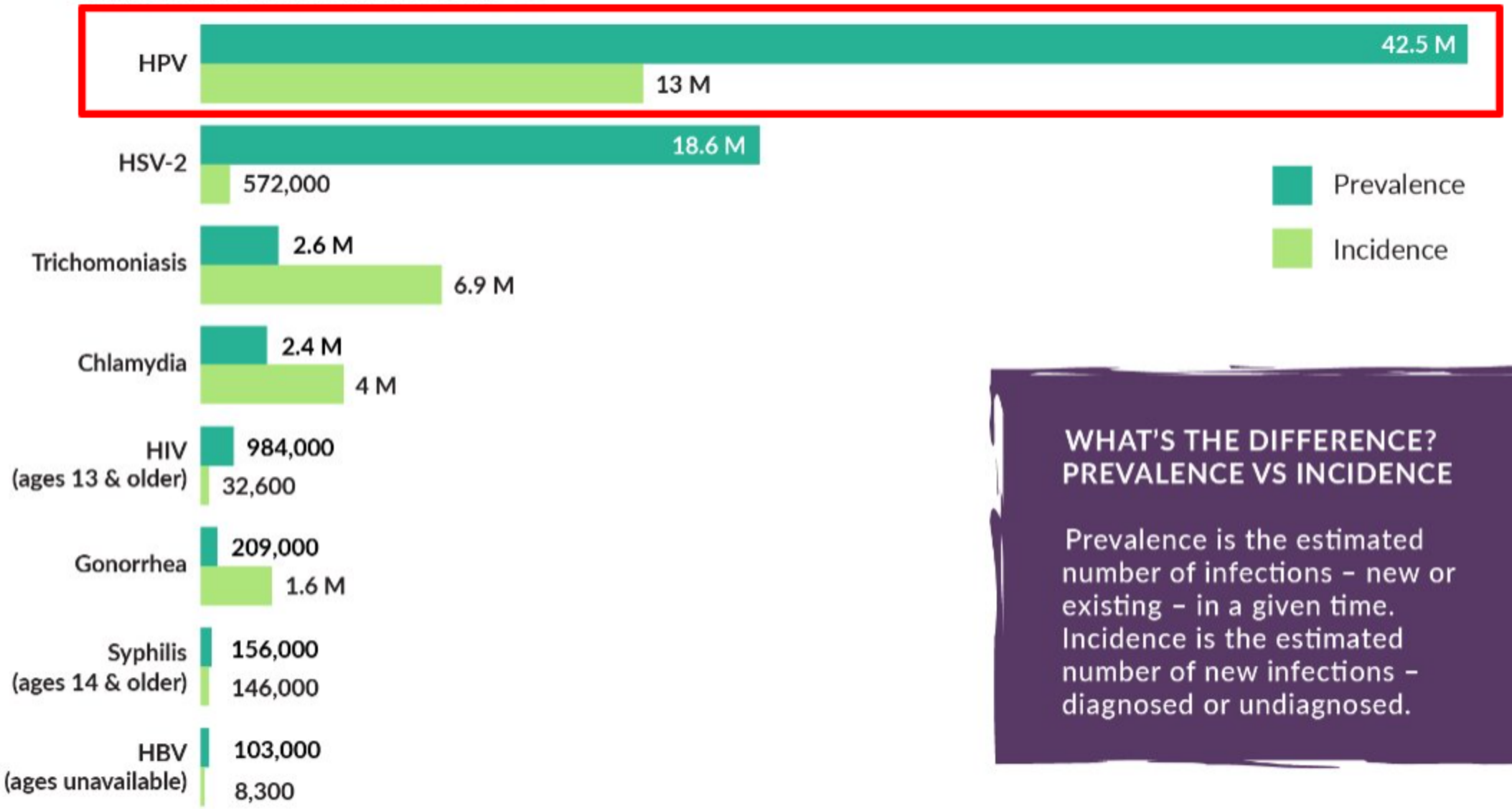
STIs Are Common



CDC, 2024


STI FACT
new STIs totaled
$16 BILLION
in direct medical costs in 2018
HBV
$45 M
HSV-2
$91 M
Trichomoniasis
$144 M
Syphilis
$174 M
Gonorrhea
$271 M
Chlamydia
$691 M
HPV
$775 M
HIV
$13.7 B
Direct Medical Costs by Infection . . .
www.cdc.gov/std

STI Prevalence and Incidence in the US



WHAT'S THE DIFFERENCE? PREVALENCE VS INCIDENCE

Prevalence is the estimated number of infections – new or existing – in a given time. Incidence is the estimated number of new infections – diagnosed or undiagnosed.

*Bars are for illustration only; not to scale, due to wide range in number of infections. Estimates for adults and adolescents ages 15+ unless otherwise stated. HIV and HBV data only represent sexually acquired infections.

CDC, 2024

HPV is the MOST common STI Worldwide.

85% of people will get an HPV infection in their lifetime.

Almost every unvaccinated person who is sexually active will get HPV at some time in their life.

90%

-Most HPV infections (9 out of 10) go away on their own within 2 years.

-But sometimes, HPV infections will last longer and **cause certain types of cancer**.

HPV is almost always the cause of **genital warts.**

HPV can cause cancers of the: **cervix, vagina, vulva, anus, penis, oropharynx**

Sex Transm Dis (Chesson, 2024); WHO, 2024

Number of HPV-Associated and HPV-Attributable Cancer Cases Per Year, U.S., 2014–2018

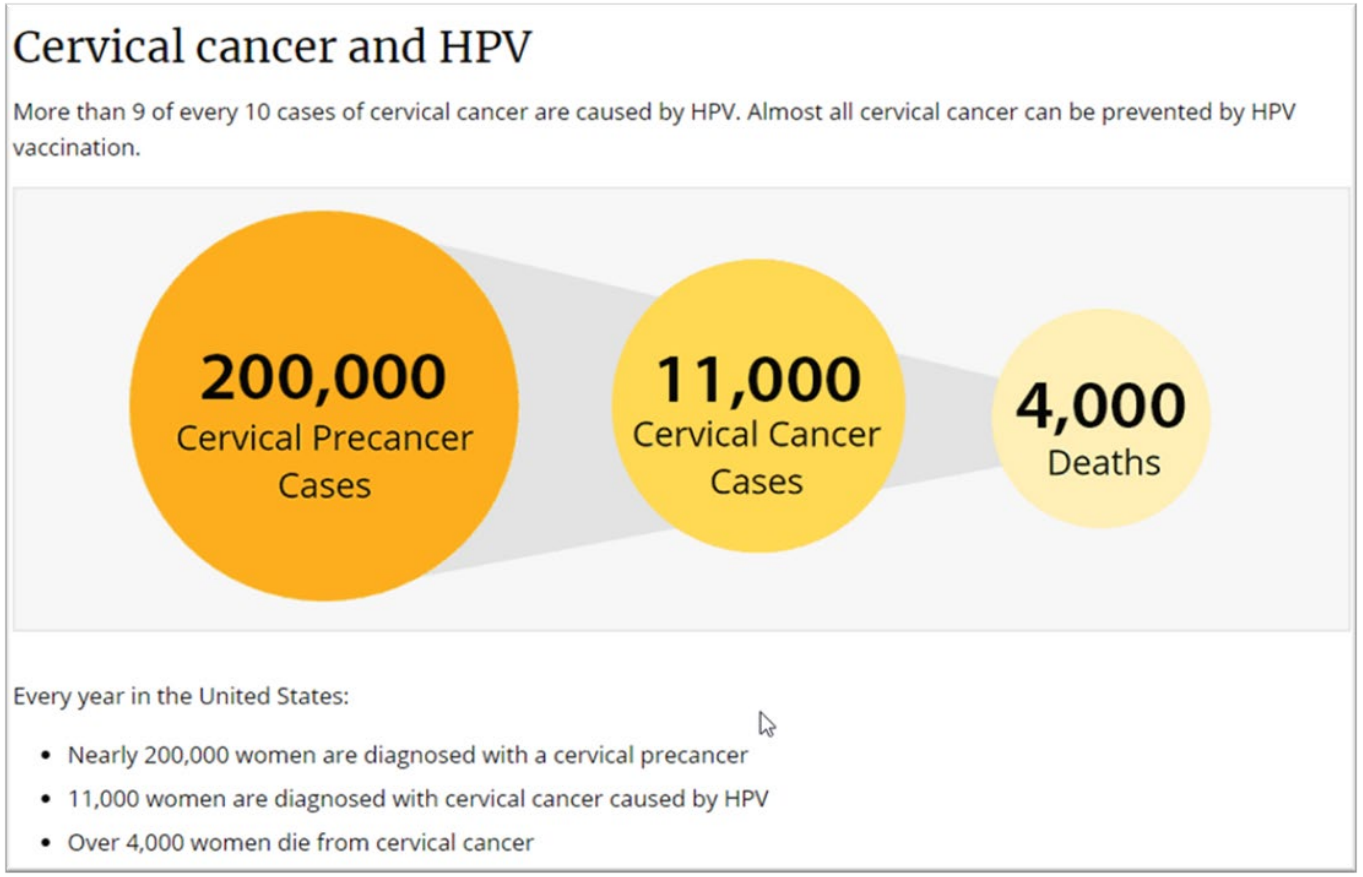
Cancer site	Number of HPV-associated cancers	Percentage probably caused by any HPV type	Estimated number probably caused by any HPV type*		
			Female	Male	Both sexes
Cervix	12,200	91%	11,100	0	11,100
Vagina	863	75%	600	0	600
Vulva	4,191	69%	2,900	0	2,900
Penis	1,365	63%	0	900	900
Anus**	7,288	91%	4,500	2,100	6,600
Oropharynx	20,236	70%	2,300	12,100	14,400
TOTAL	**46,143**	**79%**	**21,400**	**15,100**	**36,500**

*Estimates were rounded to the nearest 100. Estimated counts might not sum to total because of rounding.
**Includes anal and rectal squamous cell carcinomas
Sources: https://www.cdc.gov/cancer/hpv/statistics and http://www.cdc.gov/cancer/dataviz

HPV YOU ARE THE KEY TO CANCER PREVENTION

Cervical Cancer and HPV

- Cervical cancer **was** once the leading cause of cancer deaths among women in the United States.
- HPV vaccines and cervical cancer screening have made it **one of the most preventable cancers.**



HPV Immunization is Important for Boys too: Genital HPV Prevalence in Men

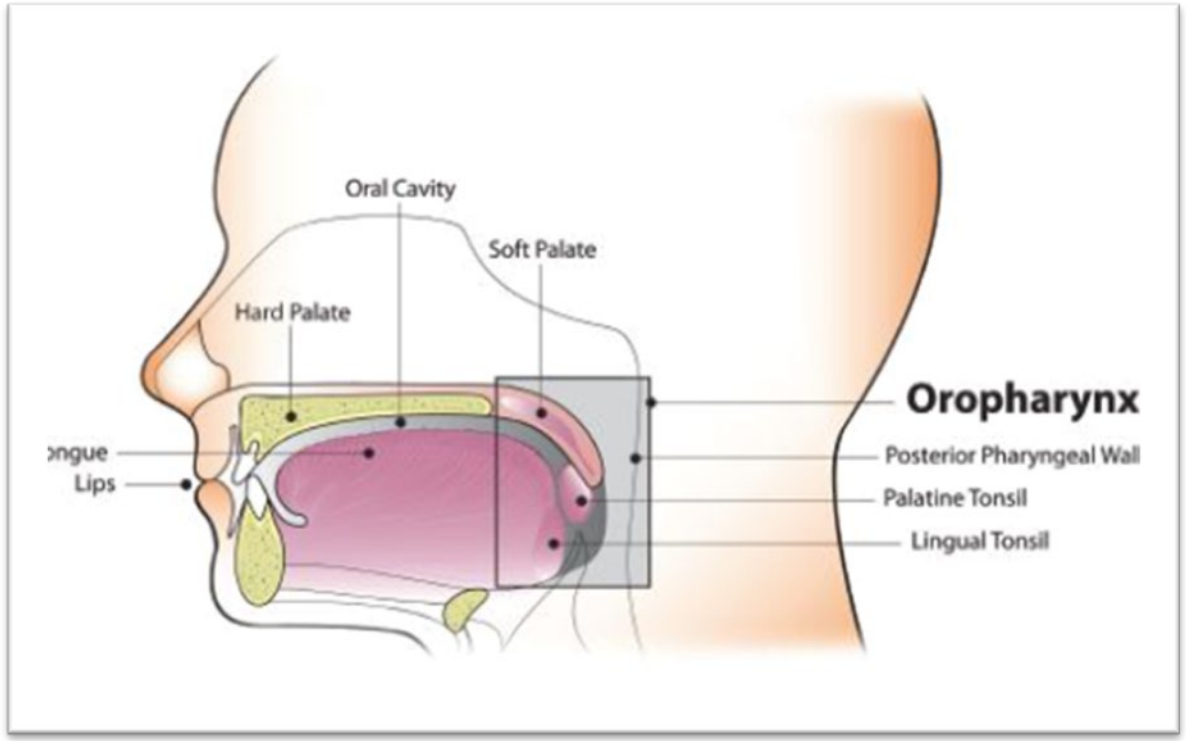
~1 in 3 men over 15 years old are infected with 1+ genital HPV type

1 in 5 are infected with high-risk HPV types

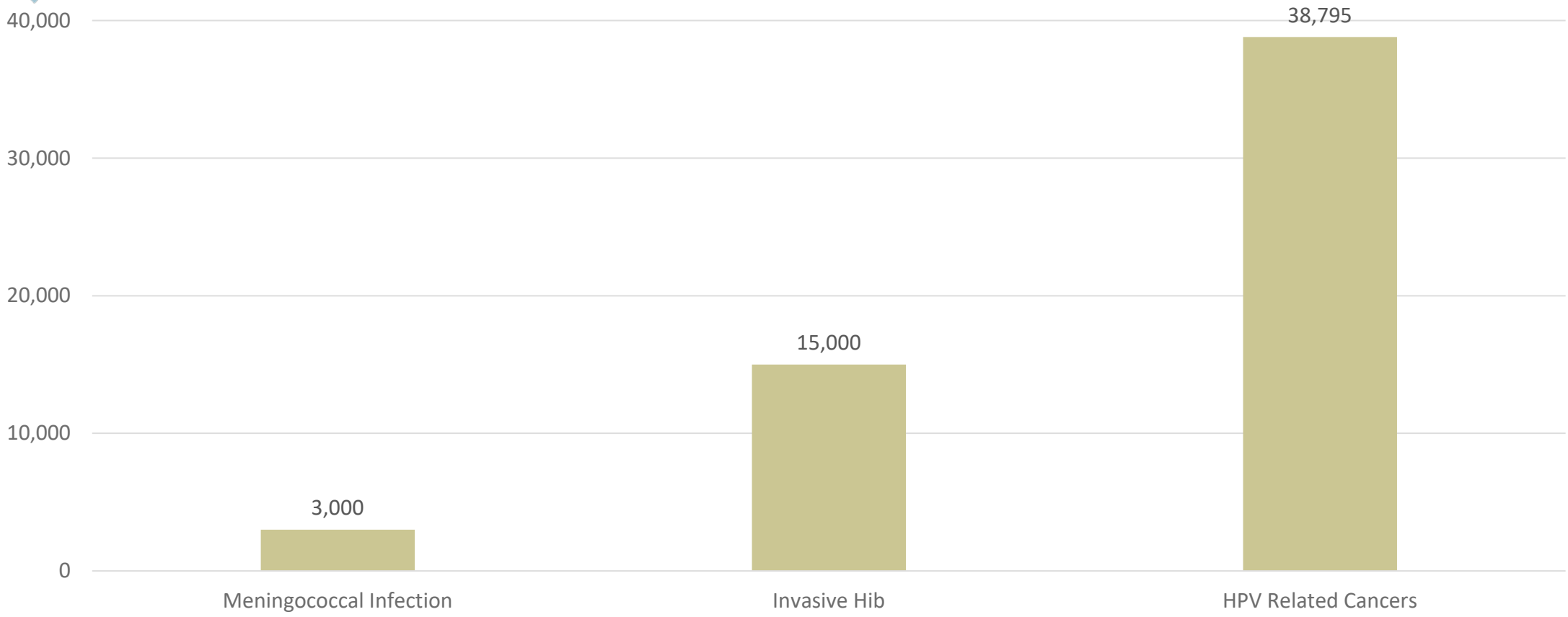
HPV prevalence is highest in young adults, peaking at 25-29 years old

HPV Associated Oropharyngeal Cancer

- HPV causes ~70% of Oropharyngeal Cancers
- Between 2014-2018, oropharyngeal cancers were the **most common** (average 20,236 cases annually) **HPV-associated cancer**
- More common in Men than Women
- More common with older age



HPV in Perspective: Incidence of Disease in Pre-Vaccine Era



Transmission

Transmitted by vaginal, anal, or oral sex with someone who has the virus.

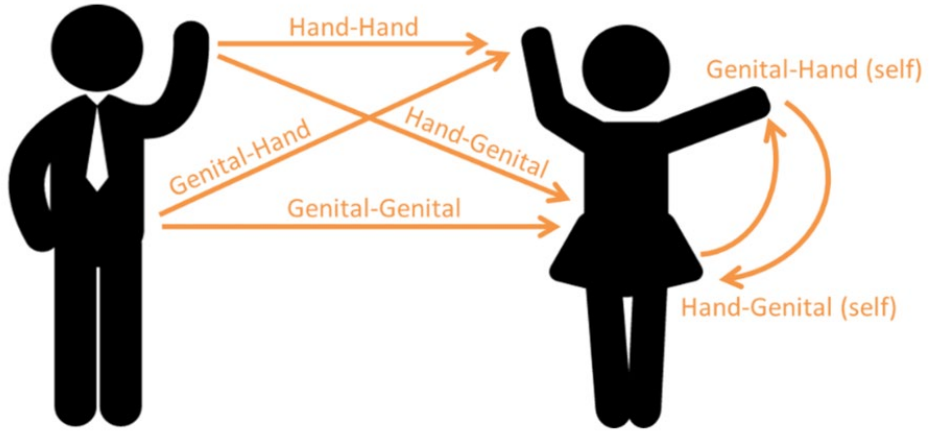
- Also spreads through close skin-to-skin touching during sexual activity.
- Hand to genital
- Genital to genital
- Mouth to genital

Infected individuals may **not** have any signs or symptoms but can still pass the infection to someone else.

Can develop symptoms years after having sex with someone who was infected (i.e., it makes it hard to know when the person contracted the virus).

Affects **both** Men and Women

- More than 4 out of every 10 cases of cancer caused by HPV occur among men.
- Every year in the U.S., over 14,000 men get cancers caused by HPV.



Treatment for Infection

- We give the vaccine to **PREVENT** infection and other complications.
- There is **no treatment** for the virus itself but, there are treatments for the health problems (e.g., genital warts, cervical pre-cancer, etc.)

The HPV Vaccine

HPV Vaccine Recommendations

9 – 26 years: routinely recommended at 11-12 years, catch-up 13-26 years

- ACIP – may give as early as age 9
- AAP recommends starting the series at age 9
- Vaccination at ≥ age 13 is LATE/Catch-up

26 - 45 years: shared clinical decision-making

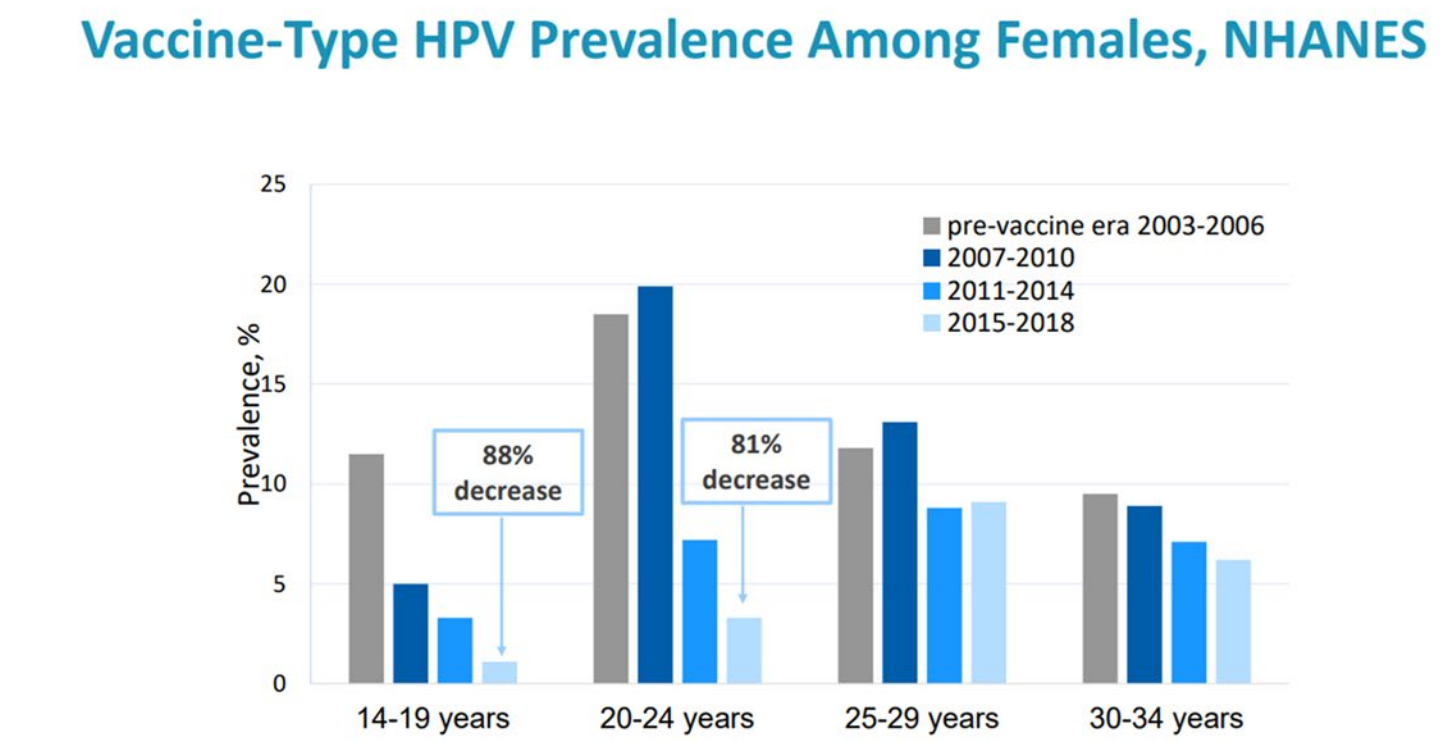
- Unlike routine, catch-up, and risk-based recommendations, shared clinical decision-making vaccinations are not recommended for everyone in a particular age group or everyone in an identifiable risk group. Rather, shared clinical decision-making recommendations are individually based and informed by a decision process between the health care provider and the patient/parent/guardian.

Administration: 2 doses if started before age 15

- 3 dose series if started ≥ age 15

The HPV Vaccine Works

HPV infections, genital warts, and cervical precancers have dropped since the vaccine became available.



Rosenblum, et al. *MMWR Morb Mortal Wkly Rep.* 2021

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The Vaccine isn't NEW, and it is SAFE!

HPV Vaccine Safety in the United States

- We have more than **15 years** of HPV vaccine safety data.
- With more than **135 million doses** of HPV vaccines distributed in the United States, there are robust data showing that HPV vaccines are safe.
- As with all vaccines, CDC and FDA continue to monitor and evaluate the safety of HPV vaccines.
- **Clinicians can reassure parents who may have concerns about HPV vaccination.**

https://www.cdc.gov/hpv/hcp/vaccine-safety-data.html

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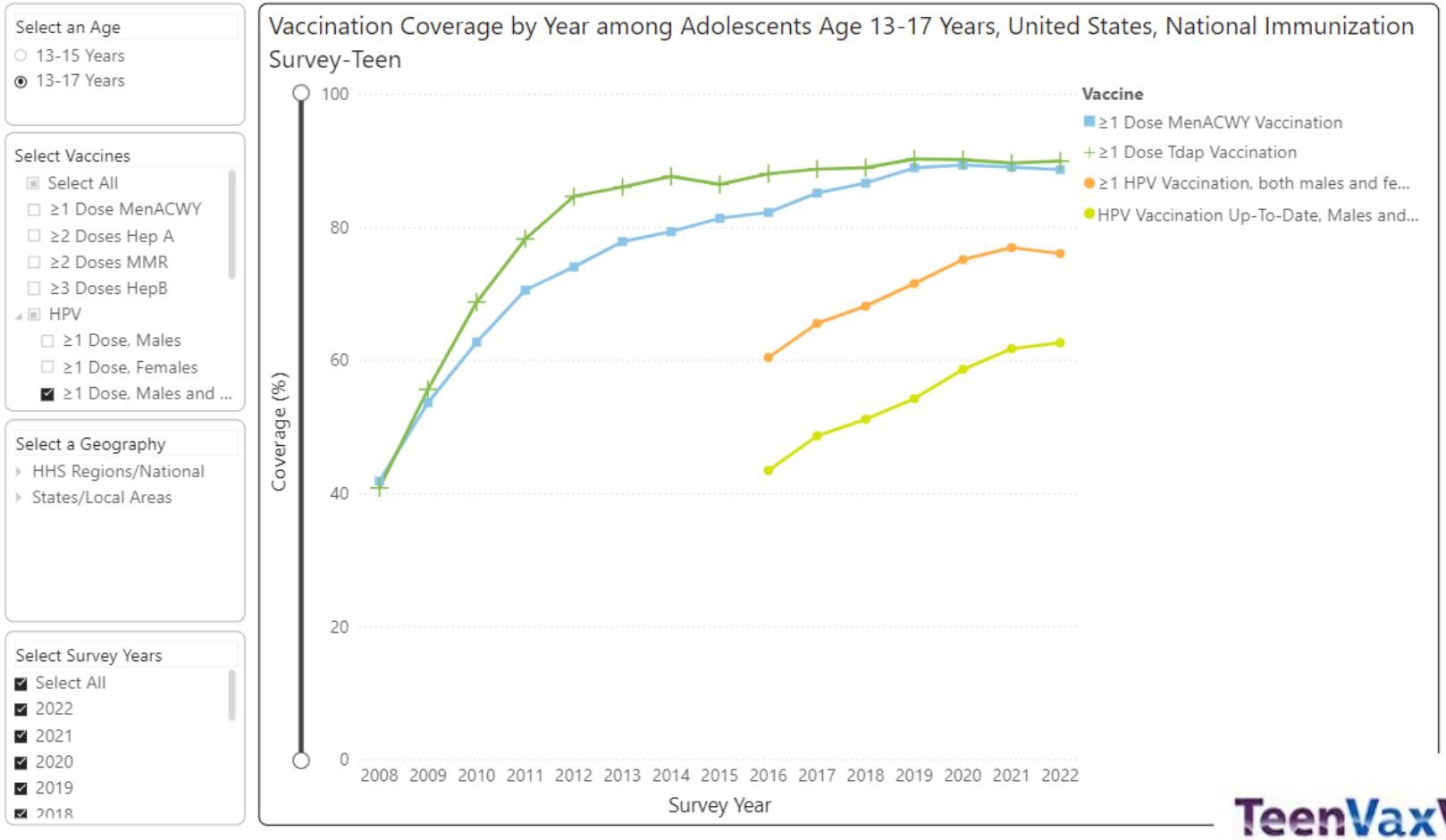
The HPV Vaccine PREVENTS CANCER!

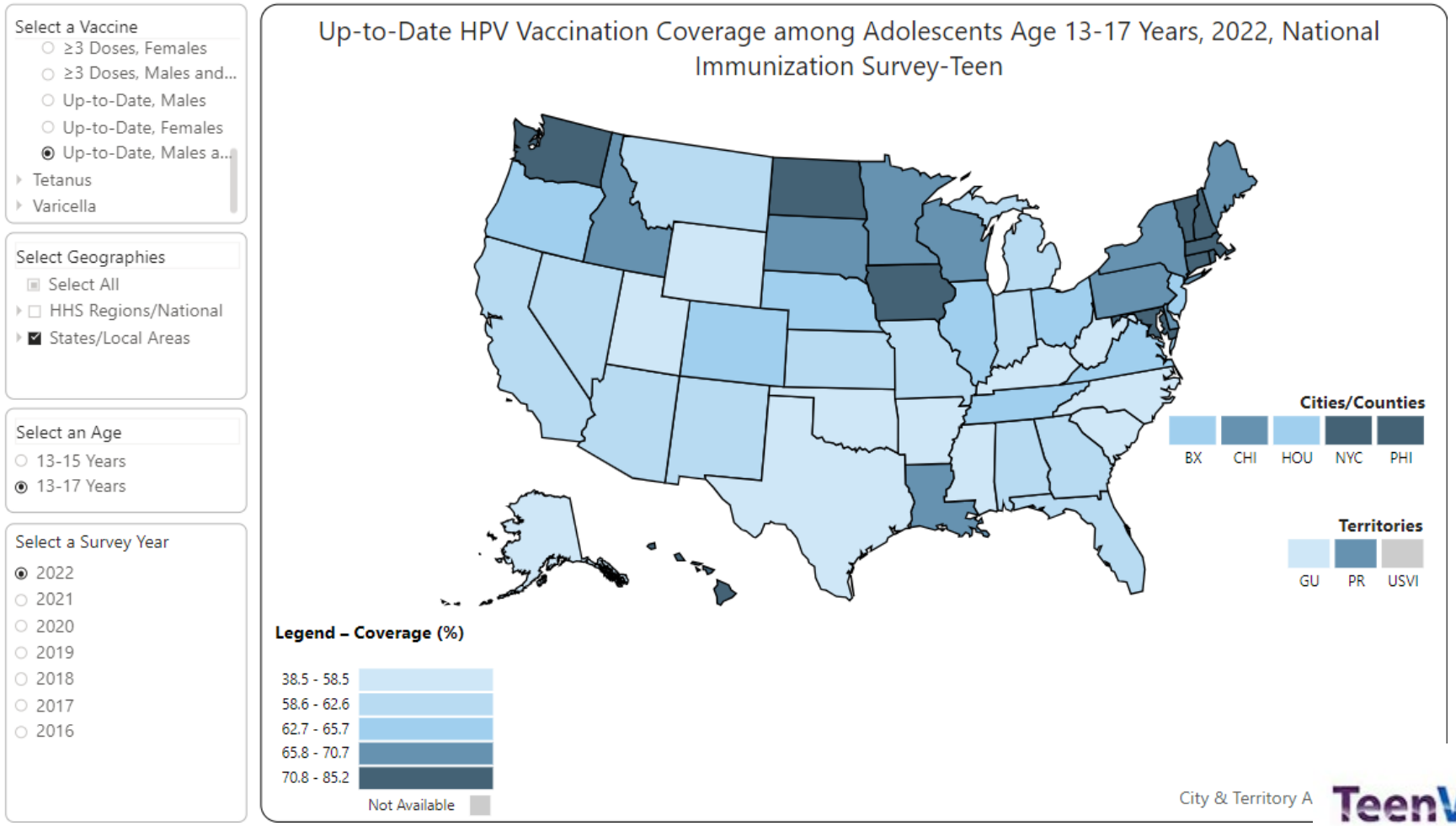
State of the State: HPV Immunization

HPV Rates Lag in Comparison to Other Vaccines Due at the Same Time

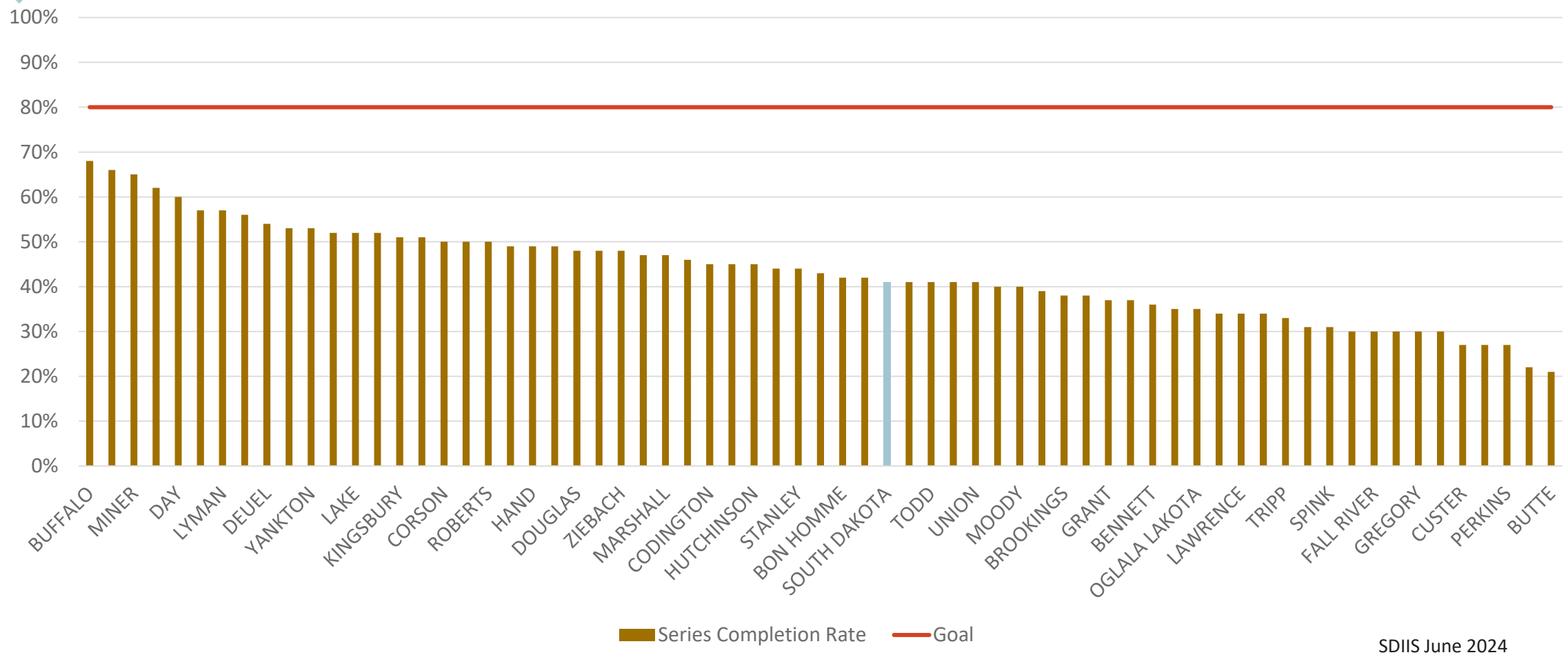


TeenVaxView

HPV Immunization Rates by State



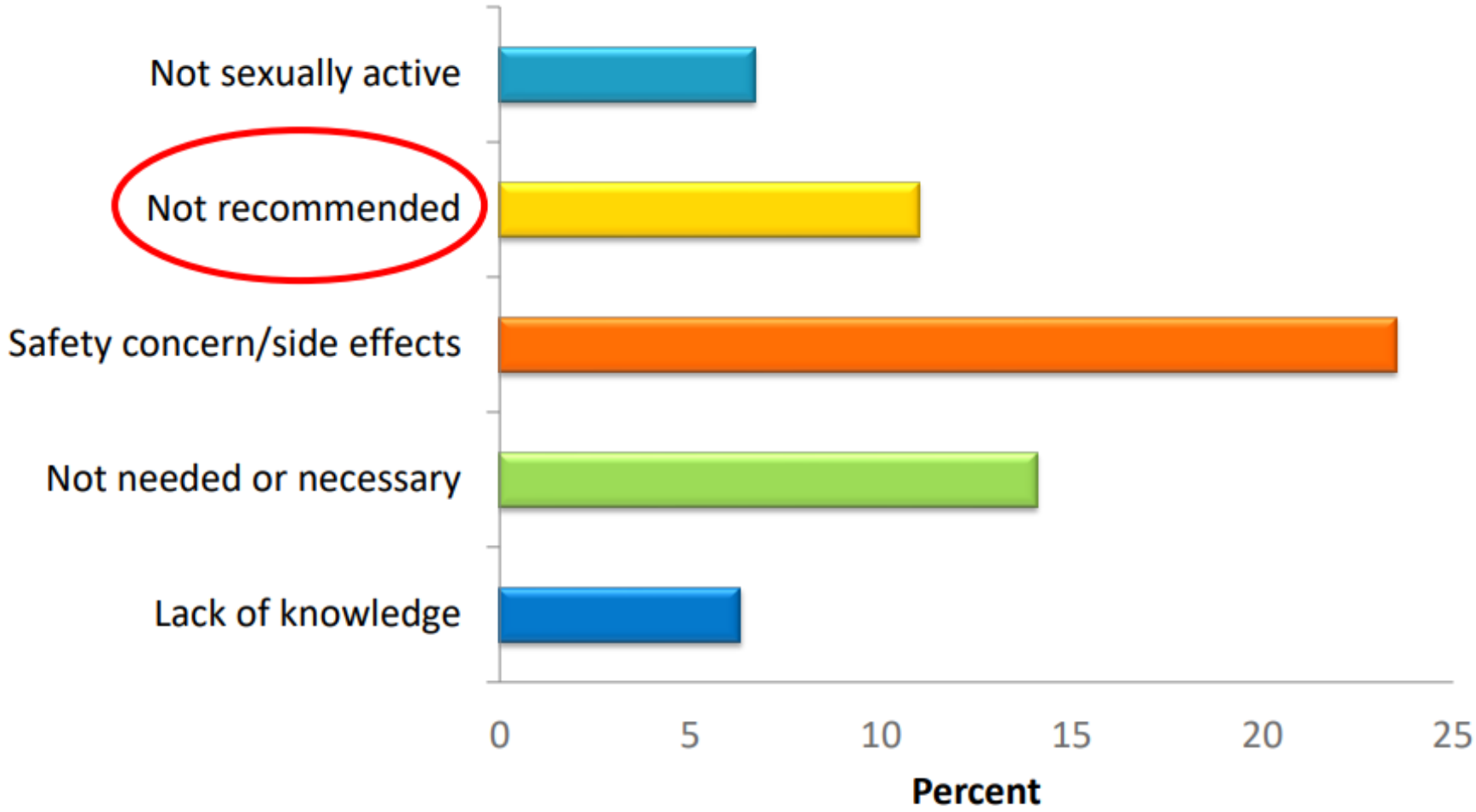
HPV Series Completion Rates for 13–14-year-olds in SD



SDIIS June 2024

Why People Are Not Getting the HPV Vaccine

Top Reasons for Not Vaccinating against HPV



Source: CDC unpublished, NIS-Teen 2020

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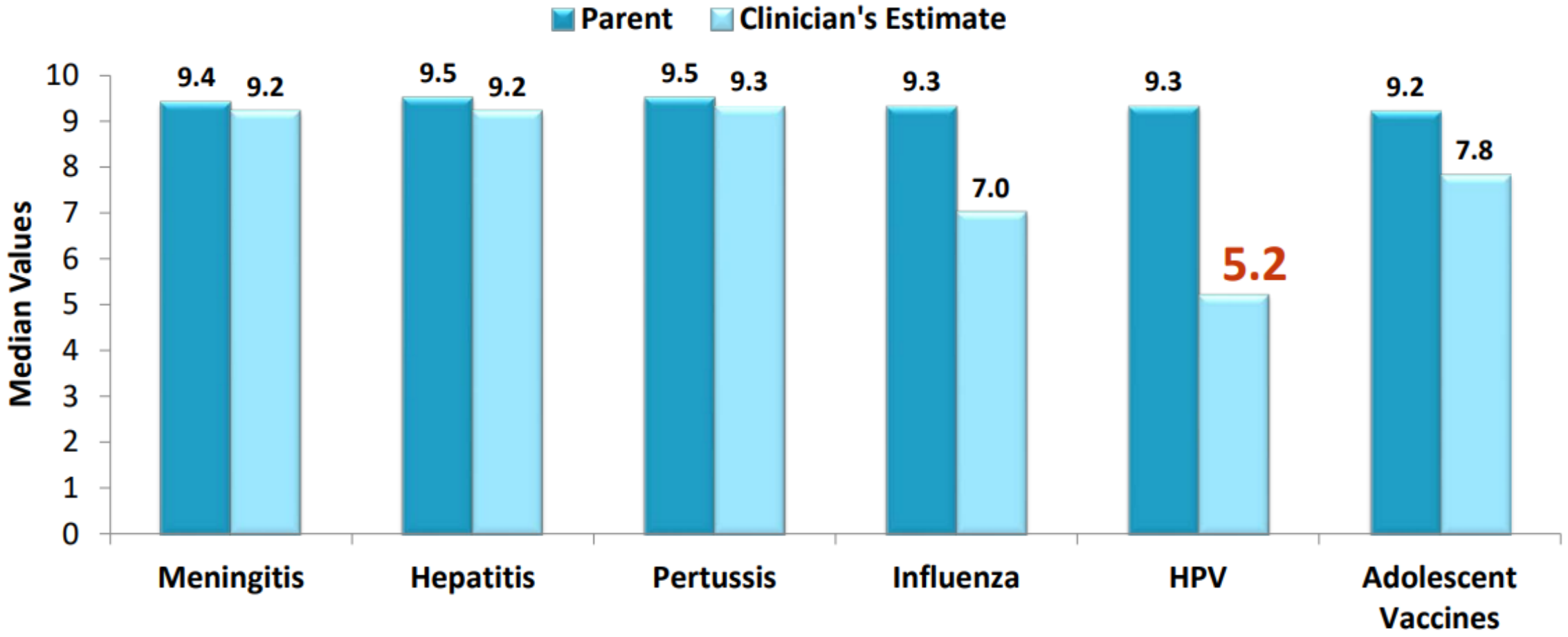
Clinicians Underestimate the Value Parents Place on HPV Vaccine

Unintentional Bias



Adapted from Healy, et al. *Vaccine*. 2014

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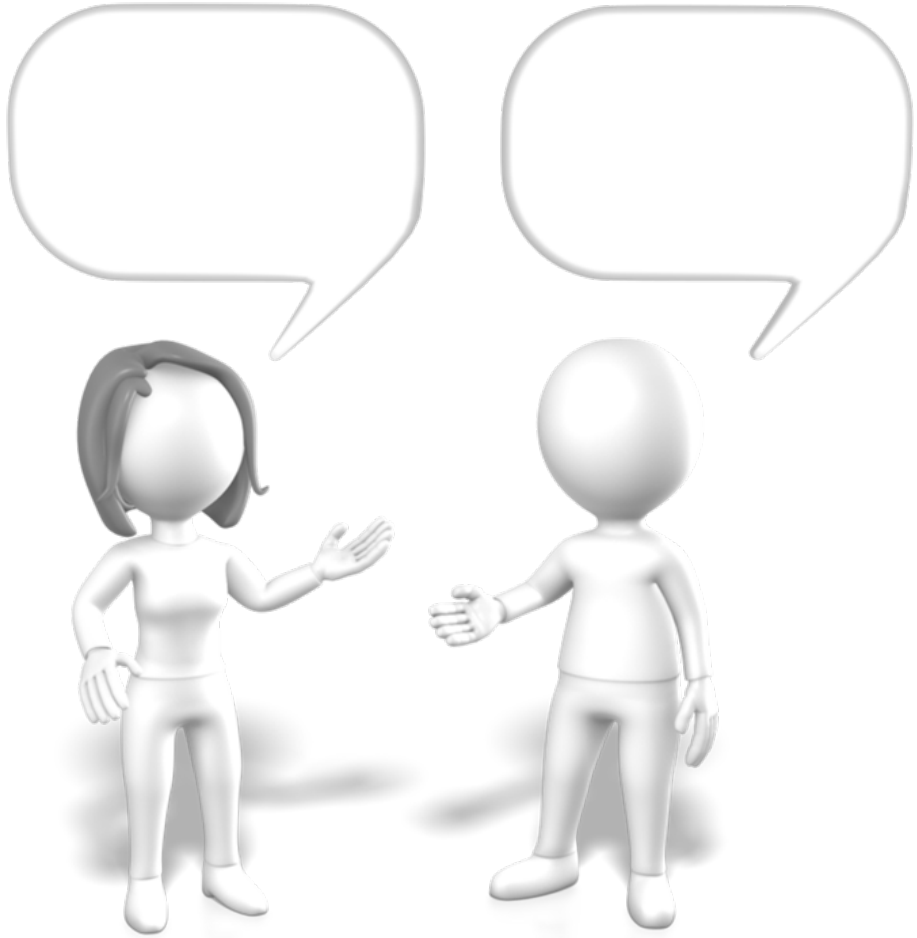
Changing the Conversation



Make an Effective Recommendation: SAME WAY, SAME DAY

Group all the adolescent vaccines

- Recommend HPV vaccination the **same way** you recommend Tdap and meningococcal vaccines

Recommend HPV vaccine *TODAY*

- Recommend HPV vaccination the **same day** you recommend Tdap and meningococcal vaccines

Brewer, et al. *Pediatrics*. 2017

HPV YOU ARE THE KEY TO CANCER PREVENTION

How to Recommend

- Presumptive
  - **Recommending the vaccine, outright** because we know it is in the best interest of the patient – just like other interventions recommended for other health needs.
    - Example: hypertension – medication
  - **Recommend as an assumption** that the patient/parent will choose what we recommend – they came to us for medical advice after all.
  - **Results in increased vaccine acceptance.**

- Participatory
  - Makes the recommended medical intervention feel **optional**
  - **Decreases the feeling of importance or value we place on the intervention as a trained medical professional**.
  - Presents the individuals with a decision to make on what appears **optional care**.
  - **Results in more refusals of vaccines**

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Recommend Vaccines Presumptively

Recommend vaccines presumptively just as done with other medical care

AAP Journal (Vol. 132, Pages 1037-1046)

- **Participatory recommendation resulted in 83% of parents refusing vaccination** in comparison to only 26% when using a presumptive recommendation.

Patient Responses

- Declining a vaccine isn't the end of the conversation - Educate
- Apprehension doesn't equate to anti-vaccine

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Participatory Recommendation

Hi Aly. Now that Grace has turned 9, she ***could*** get her HPV vaccine. This is a 2 dose vaccine series. *Would you* like to start that today?

OR

Grace could get her HPV vaccine today; would you like me to give that to her?

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Presumptive Recommendation

Hi Aly. Now that Grace is 9, she is due for her HPV vaccine. The nurse will be in shortly to administer the vaccine. Do you have any questions before I leave?

Be sure to schedule 2nd dose appointment before patient leaves.

Presumptive Recommendation

Hi Aly. Now that Grace is 10, she is due for her HPV vaccine. Let's give that today and we can give the 2nd dose when she comes in for her Tdap and Meningococcal vaccines next year. Do you have any questions before I leave?

Best Practices to Improve Immunization Rates

Newer Recommendation to Start Earlier

Best practice per the American Cancer Society (ACS) and American Academy of Pediatrics (AAP) is to lower initiation of HPV series to 9 years of age.

- Dual benefit of improved immunity and higher completion rates
- No evidence that protection wanes over time
- Earlier vaccination still protects throughout pre-exposure, adolescence, and early adulthood
- No known downside to earlier initiation
- Some providers have reported that initiating the vaccine earlier makes it easier to disentangle the HPV recommendation for the "sex talk" they have with patients at 11-12 years of age.

Consider recommending children start the HPV vaccine series at age 9

- Childhood Immunization Rates have declined since the pandemic, and we've seen an increase in exemptions (in SD and globally)
- Provides more opportunity to complete the series prior to exposure
- Despite the availability of vaccine, HPV rates remain much lower than other recommended vaccines for the adolescent

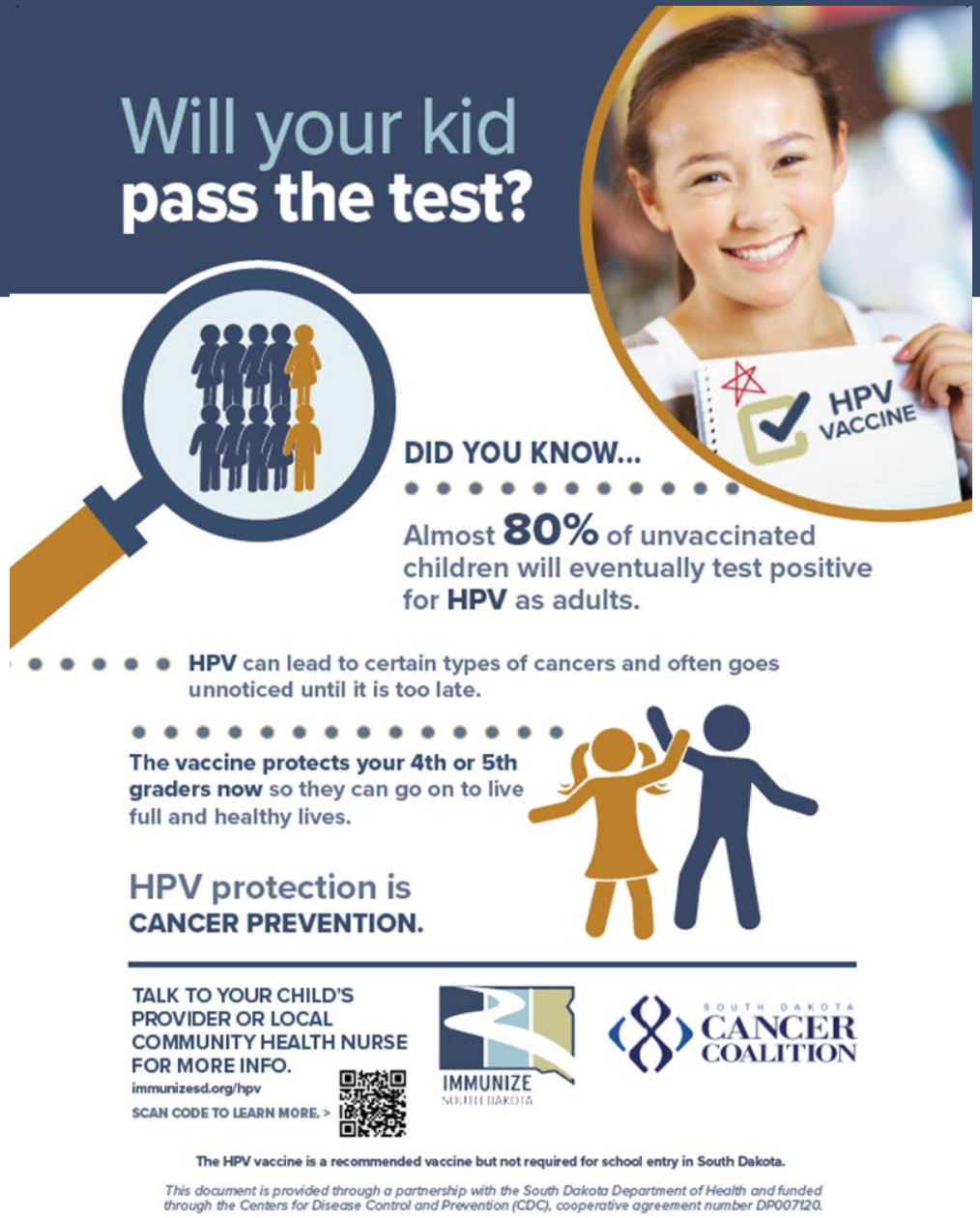
Strategies to Improve Rates

- Patient reminders
- Education (for healthcare professionals and the public)
- No missed opportunities
- Give Strong Presumptive Recommendation
- Bundled recommendation: same way, same day
- Sandwich the HPV vaccine
- Secure 2nd dose visit during 1st dose appointment
- Review immunization rates
- Create opportunities to educate parents/guardians
- Increase access to vaccination: school-based vaccine clinic, acute/urgent care access, etc.

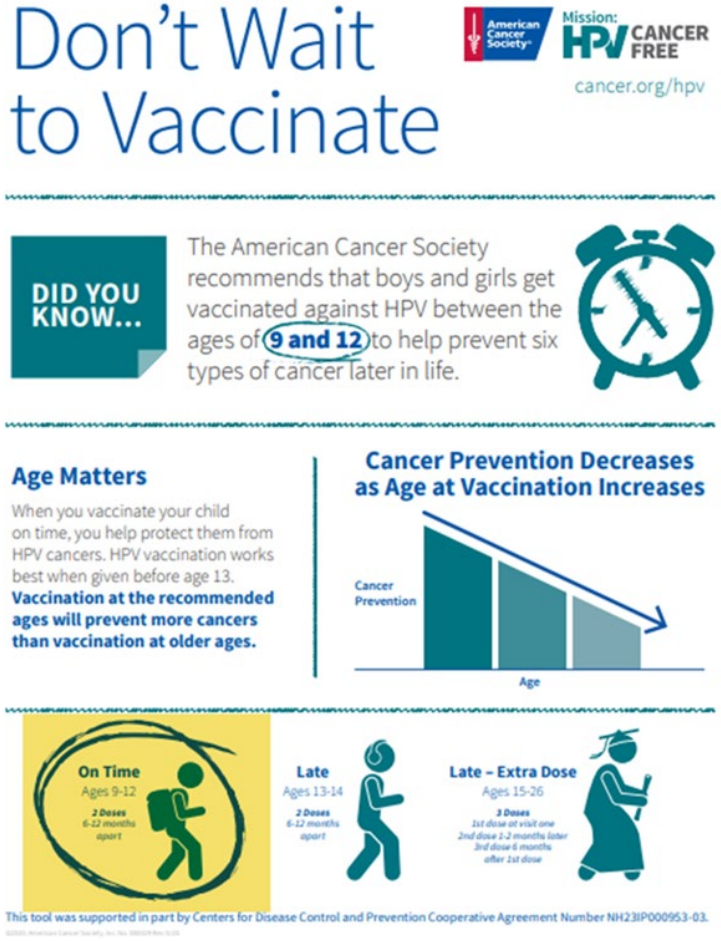
Resources

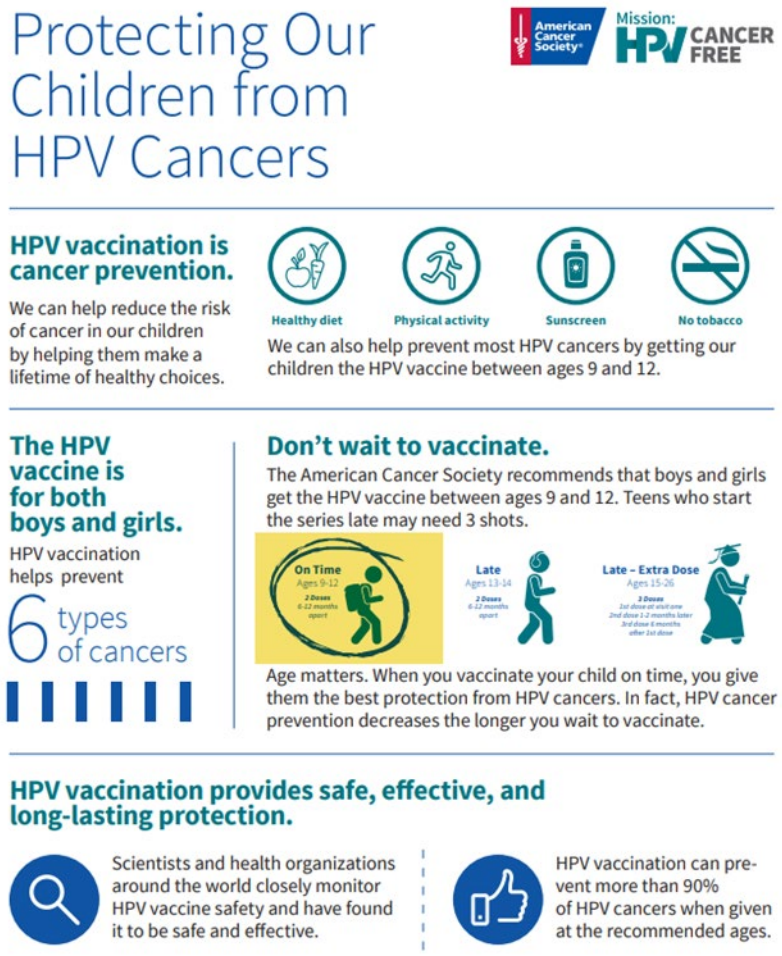
Resources for Healthcare Professionals

- Best Practice Handout from ISD (SBAR Format)
- Cancer Prevention through Vaccination Handout
- Effective Recommendation and Response Strategies
- Evidence Summary for HPV Vaccination Ages 9-12
- National HPV Roundtable Start at Age 9 Toolkit
- CDC How I Recommend Videos by Providers
- CDC HPV Flyers and Posters
- ISD HPV Provider Resources
- Provider pledge
- Recorded Session
- ISD HPV Vaccine Advocacy Videos in other languages



Additional Flyers to Promote the HPV Vaccine





References

- Oh, N. Loren, et al. “Provider Communication and HPV Vaccine Uptake: A Meta-Analysis and Systematic Review.” Preventive Medicine, vol. 148, July 2021, p. 106554, https://doi.org/10.1016/j.ypmed.2021.106554.
- Leung, Shuk On Annie, et al. “Educating Healthcare Providers to Increase Human Papillomavirus (HPV) Vaccination Rates: A Qualitative Systematic Review.” Vaccine: X, vol. 3, Dec. 2019, p. 100037, https://doi.org/10.1016/j.jvacx.2019.100037.
- America's Health Rankings. “America’s Health Rankings | AHR.” America’s Health Rankings, www.americashealthrankings.org/explore/measures/wellchild_visit_0to17.
- CDC. “HPV and Oropharyngeal Cancer.” Cancer, 22 Apr. 2024, www.cdc.gov/cancer/hpv/oropharyngeal-cancer.html. Accessed 1 Oct. 2024.
- CDC. “HPV and Cancer.” Cancer, 30 Jan. 2024, www.cdc.gov/cancer/hpv/index.html. Accessed 1 Oct. 2024.
- Rosenblum, Hannah, and A Wodi. “You Are the Key to HPV Cancer Prevention Centers for Disease Control and Prevention.” 2022.
- Douglas J. Opel, John Heritage, James A. Taylor, Rita Mangione-Smith, Halle Showalter Salas, Victoria DeVere, Chuan Zhou, Jeffrey D. Robinson; The Architecture of Provider-Parent Vaccine Discussions at Health Supervision Visits. Pediatrics December 2013; 132 (6): 1037–1046. 10.1542/peds.2013-2037
- American Academy of Pediatrics. “Human Papillomavirus (HPV).” Www.aap.org, www.aap.org/en/news-room/campaigns-and-toolkits/human-papillomavirus-hpv/.
- American Cancer Society. “How to Protect against HPV.” Www.cancer.org, www.cancer.org/cancer/risk-prevention/hpv/hpv-prevention.html.

Questions?

Andrea Polkinghorn, BSN, RN
President, Immunize South Dakota

info@immunizesd.org
www.immunizesd.org

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