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HPV Cancer Free: Adolescent Vaccination

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HPV Cancer Free: Adolescent Vaccination

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DISCLOSURES

Dr. Humiston's employer receives a grant from the Pediatric Infectious Disease Foundation, which is funded for the project through unrestricted educational grants from Sanofi Pasteur US, Merck & Co., Inc., Pfizer, Inc., GlaxoSmithKline, and Seqirus USA, Inc.

Dr. Humiston is a consultant to

- Sanofi Pasteur, a vaccine manufacturer that does not make an HPV vaccine
- Universities, including UCLA and University of Rochester
- Not-for-profit organizations, including AAP and its chapters, Immunization Action Coalition, and Immunize Kansas Coalition

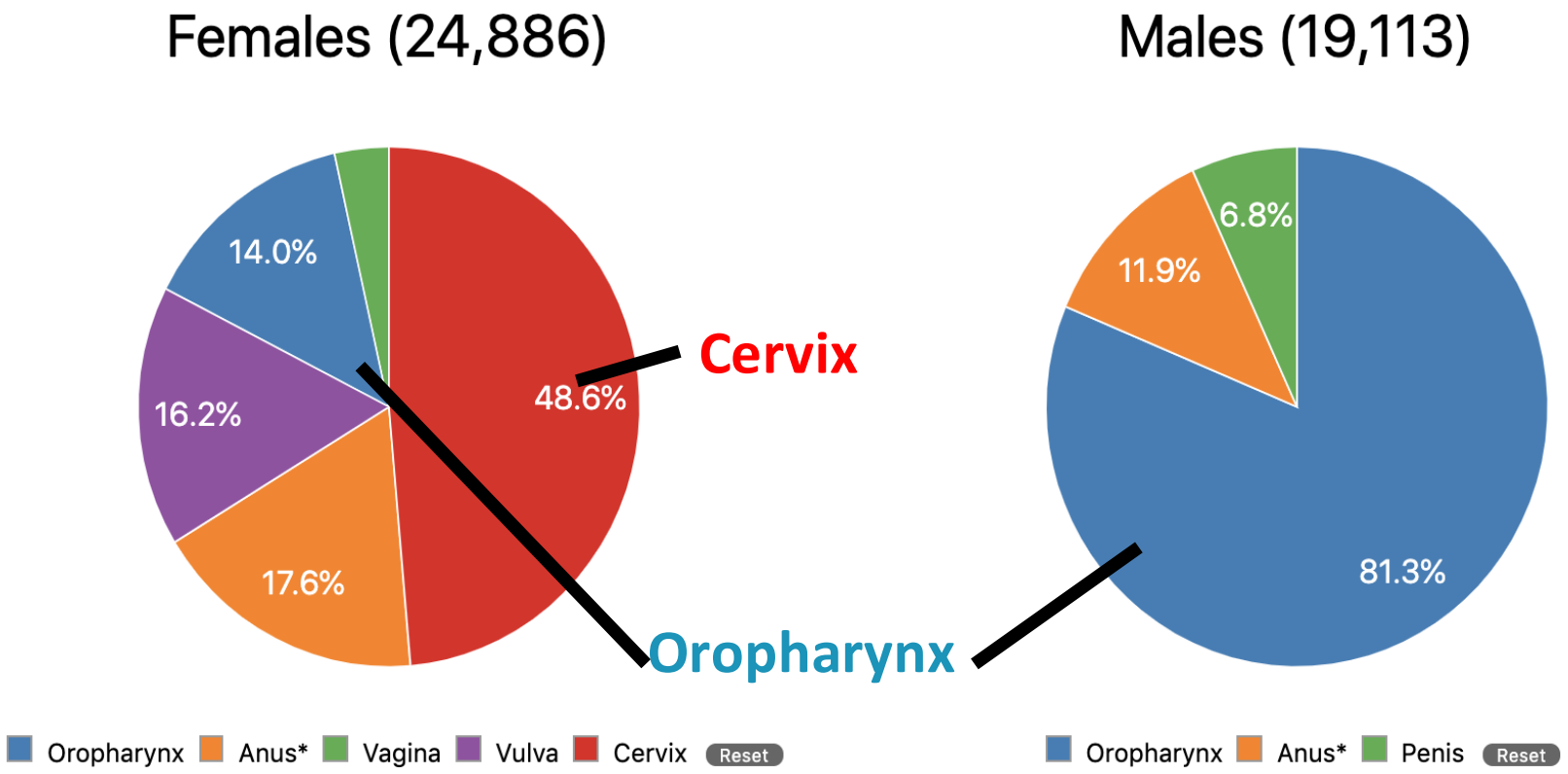
By the end of the webinar, you should be able to:

1. Explain why HPV vaccine is important enough to be routinely recommended for young people (i.e., **HPV cancer prevention**).
2. Give an HPV vaccination recommendation that is effective and succinct using the **same way, same day approach** to the introduction of HPV vaccine.
3. **Answer the most frequently asked questions** about HPV vaccine accurately and succinctly.

1: Why HPV vaccine is important enough to be routinely recommended for young people

New HPV-associated cancer cases each year

Based on data from 2012-2016



Source: https://www.cdc.gov/cancer/uscs/about/data-briefs/no10-hpv-assoc-cancers-UnitedStates-2012-2016.htm

Cancers caused by the 9 vaccine types of HPV per year, U.S., 2012–2016

Cancer site	% caused by 9 vaccine HPV types	# probably caused by 9 vaccine types-HPV		
		Female	Male	Both Sexes
Cervix	81%	9,700	0	9,700
Vagina	73%	600	0	600
Vulva	63%	2,500	0	2,500
Penis	57%	0	700	700
Anus*	88%	4,100	1,900	6,000
Oropharynx	66%	2,100	10,500	12,600
TOTAL		19,000	13,100	32,100

*Includes anal and rectal squamous cell carcinomas

Source: https://www.cdc.gov/mmwr/volumes/68/wr/mm6833a3.htm

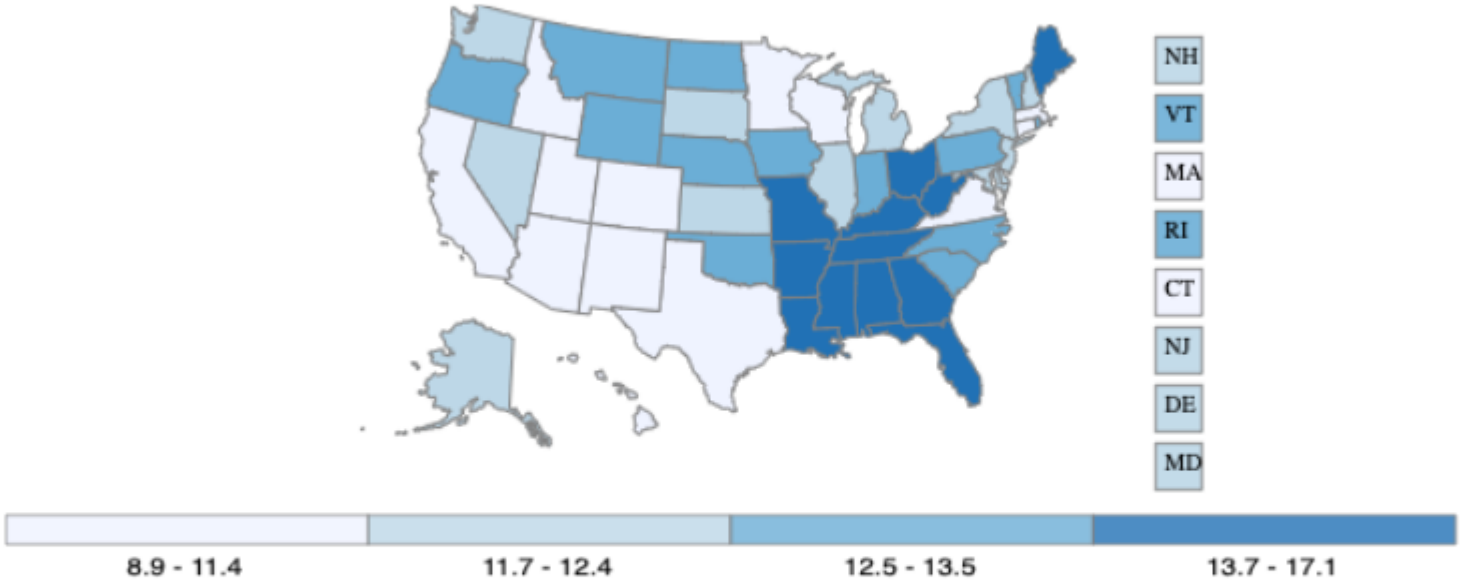
Our Understanding of HPV-Associated Cancers Is Evolving

Prostate cancer -causal role for HPVs is highly likely

Source: Lawson and Glenn
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7359253/

All HPV-associated Cancers, Male and Female, United States, 2017

Rate of New HPV-associated Cancers by State

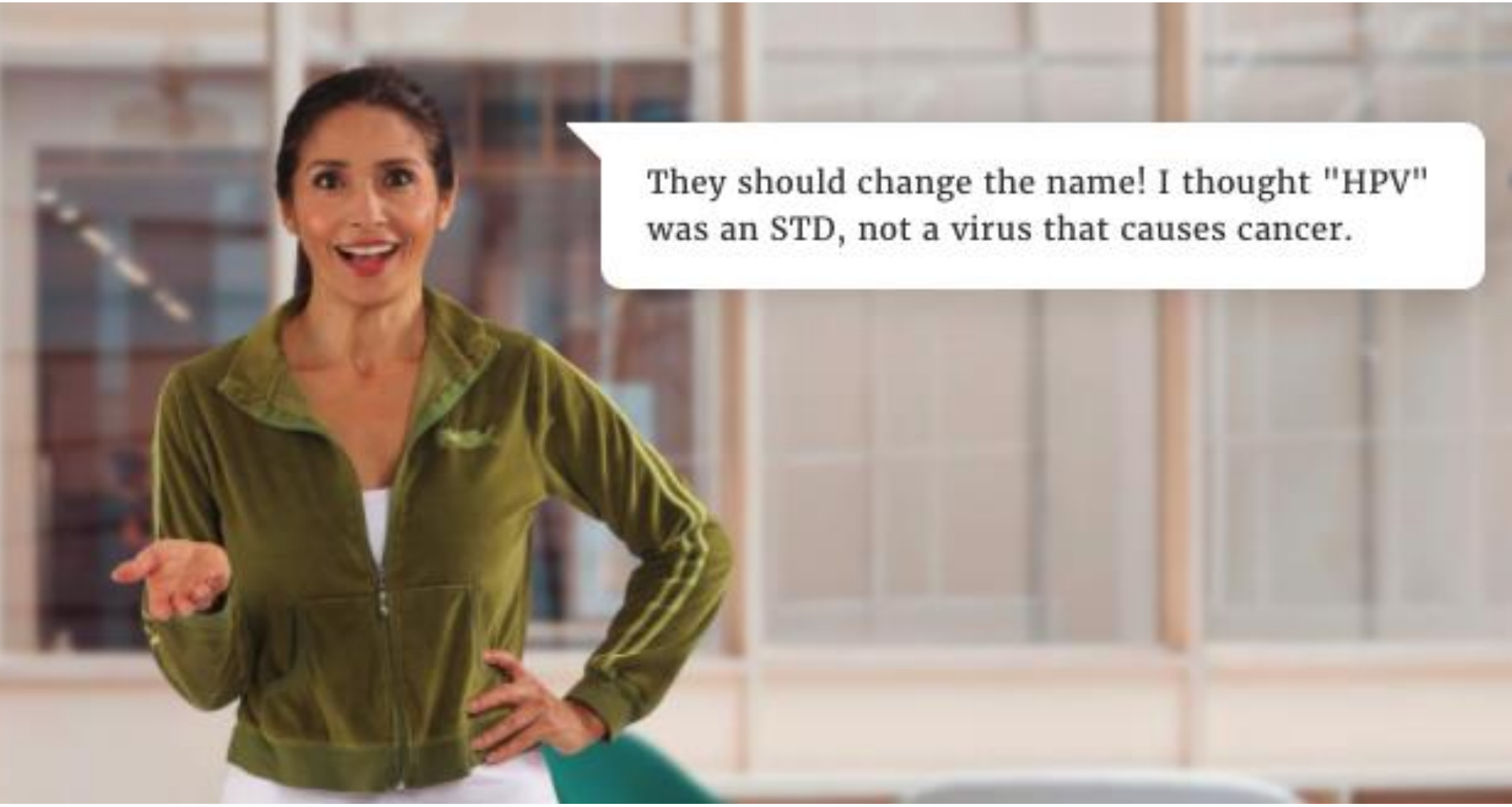


Rate per 100,000 people

Data source – U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on November 2019 submission data (1999-2017): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; https://www.cdc.gov/cancer/dataviz, June 2020.

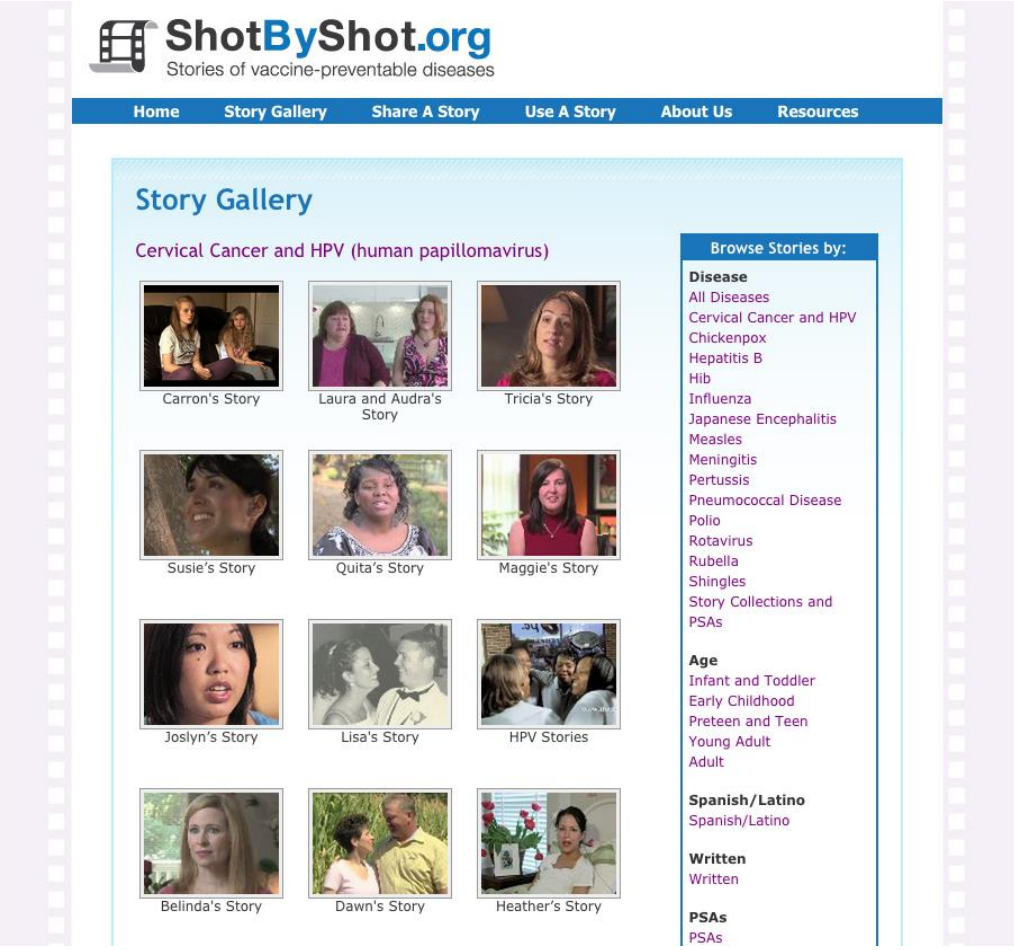
- **HPV-associated cancers** were defined as cancers at specific anatomic sites with specific cellular types in which HPV DNA frequently is found.
- All cancers were **confirmed histologically.**
- Rates are **per 100,000** and age-adjusted to the 2000 U.S. Standard Population

Source: https://gis.cdc.gov/Cancer/USCS/DataViz.html


They should change the name! I thought "HPV" was an STD, not a virus that causes cancer.

Create Immunization Champions

Be sure everyone in the office understands the mission



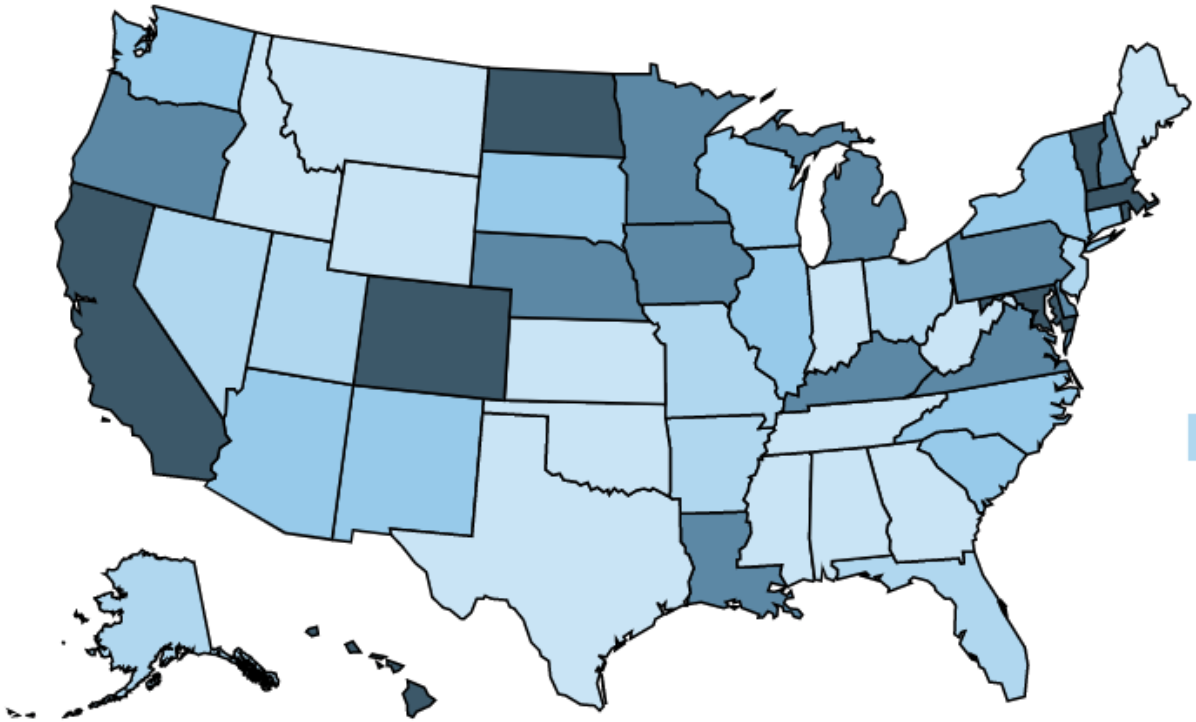
- Human stories usually influence people more than statistics
- To understand the human stories behind HPV, listen to survivors
  - Shot By Shot.org
  - ACS HPV survivor stories

Oropharyngeal Cancer Survivor

American Cancer Society
HPV Survivor – Frank Summers
https://www.youtube.com/watch?v=D2Ki-gC7OhM

A virus that causes cancer… Effective, safe, long-lasting vaccine… So everyone's knocking down the door to get their child protected, right?

≥1 Dose HPV Vaccination Coverage among Adolescents Age 13-17 Years, 2019, National Immunization Survey-Teen



Minnesota	73.8%
Wisconsin	72.2%
North Dakota	88.8%

https://app.powerbigov.us/view?r=eyJrIjoiMDY2OWM2ZmEtYjE2Yy00MTM5LWI5ZGUtODU5MGE1NWMxM2M4IiwidCI6IjljZTcwODY5LTYwZGItNDRmZC1hYmU4LWQyNzY3MDc3ZmM4ZiJ9&pageName=ReportSection561f78b2709c4087d370

Age 13-17	
Minnesota	73.8%
Wisconsin	72.2%
N Dakota	88.8%

Allina Health measures both vaccines by age 13

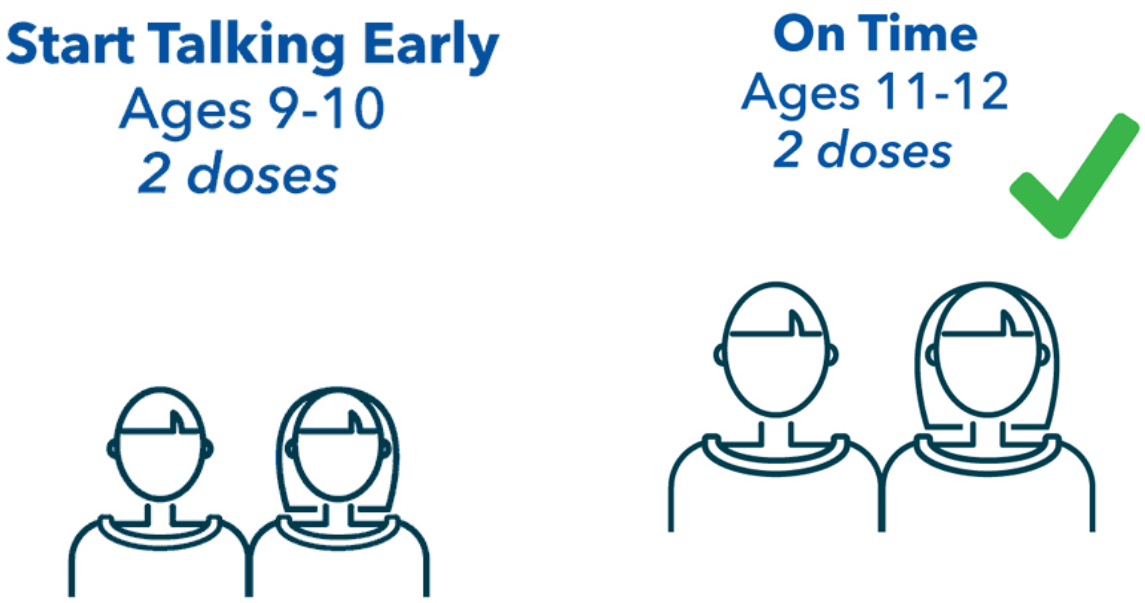
Overall	40.6% (986/2430)
Male	40.2% 479/1193
Female	41% 507/1237

Regions

West Metro	55.9%
North Metro	53%
East Metro	50%
East	35.4%
Northwest	35.1%
Southwest	34.8%
North	34.6%

Ann Long can get specific data for you by clinic and/or by provider

2: Identify patients for whom HPV vaccine is recommended



ROUTINE ON-TIME VACCINATION

- Ages 9 through 14
- 2 doses (unless immunocompromised relative to HPV)
- Separated by 6-12 months (minimum 5 months)

Source: https://www.cdc.gov/hpv/hcp/schedules-recommendations.html

Healthcare Effectiveness Data Information Set

Immunizations for Adolescents

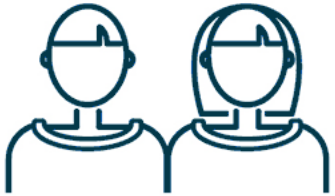
Proportion of adolescents who received recommended vaccines by their 13th birthday

Meningococcal vaccine	Tdap vaccine	HPV vaccine

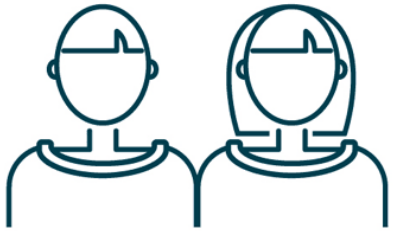
Combination Rate

Meningococcal, Tdap, and HPV vaccines

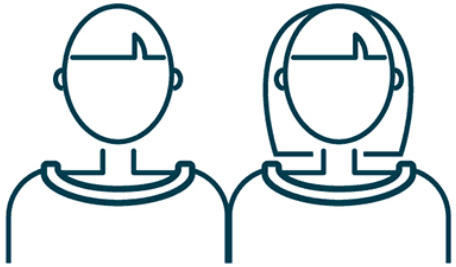
Start Talking Early
Ages 9-10
2 doses



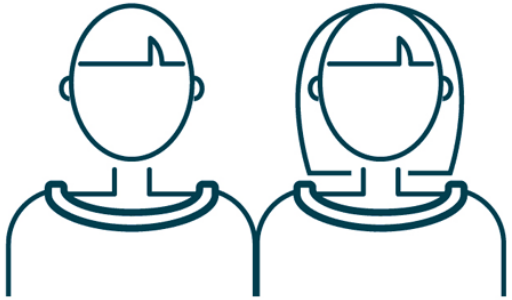
On Time
Ages 11-12
2 doses



Late
Ages 13-14
2 doses



Late
Ages 15-26
3 doses



Source: https://www.cdc.gov/hpv/hcp/schedules-recommendations.html

HPV Vaccine Recommendations- *Routine*

- **Routine On-time Vaccination**
  - Ages 9 through 14
  - 2 doses (unless immunocompromised relative to HPV)
  - Separated by 6-12 months (minimum 5 months)
- **Routine Delayed Vaccination**
  - Ages 15 through 26
  - 3 doses
  - Doses 1 & 2 separated by 1-2 months (min 4 wks)
    Doses 1 & 3 separated by 6 months (min 5 mos)
    Doses 2 & 3 separated by at least 12 weeks
  - If started at age 26, complete series when 27

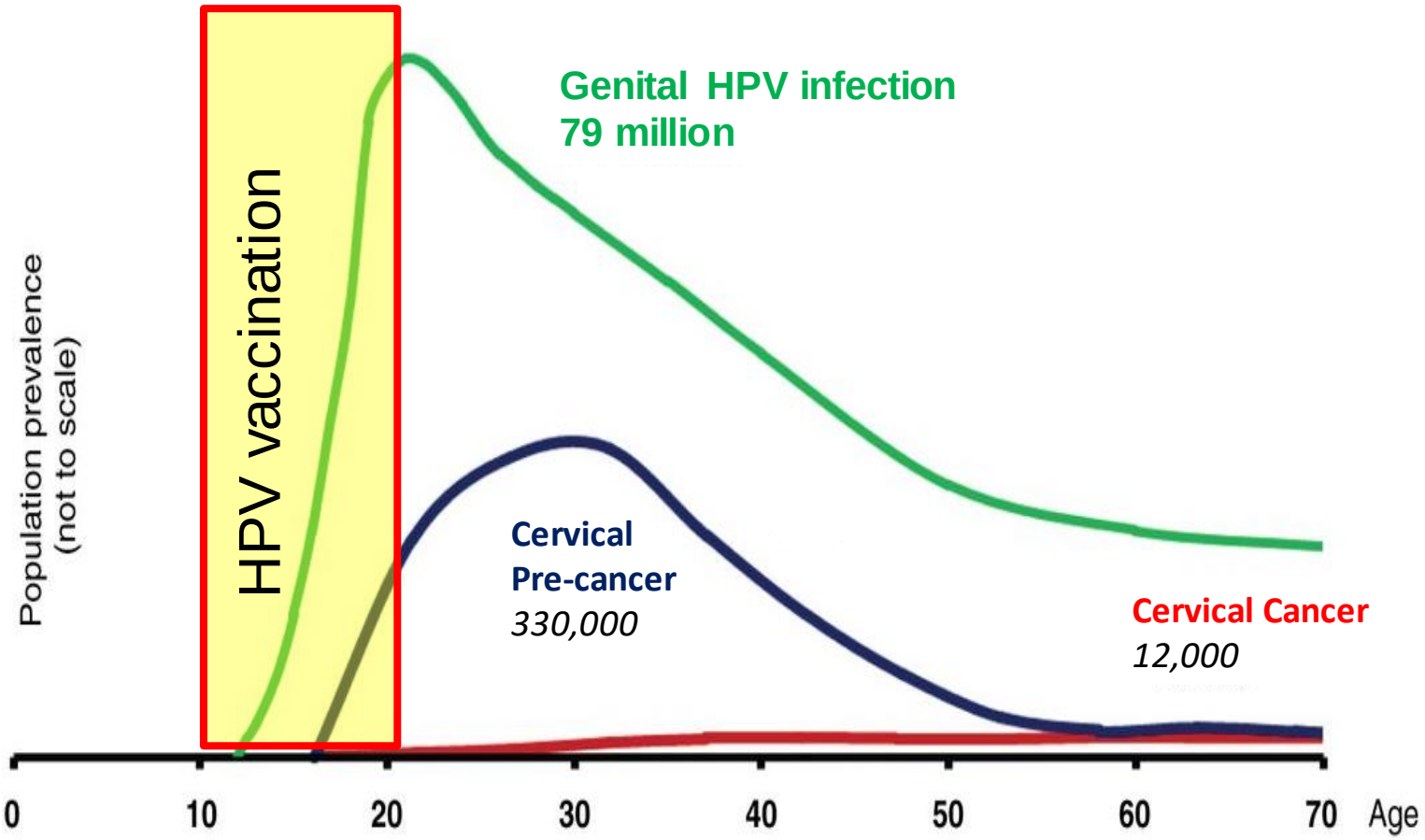
If the series is interrupted, it does not need to be restarted.

HPV Vaccine Recommendations- *SCDM*

- **For adult ages 27-45 years** ACIP has voted to recommend "shared clinical decision making"
- **3 doses, same schedule as young adults**
- **Benefit?** 80% of HPV infections that go on to cause cancer are acquired before age 26. Estimated # of HPV-related cases of cancer that can be prevented every year by vaccination:
  - Vaccinated from 9 to 26 years of age: 25,000
  - Vaccinated from 27 to 45 year of age: 193
- **Risks?** Very low

3: Explain why HPV vaccine is more likely to *protect* women from fertility issues than to cause them

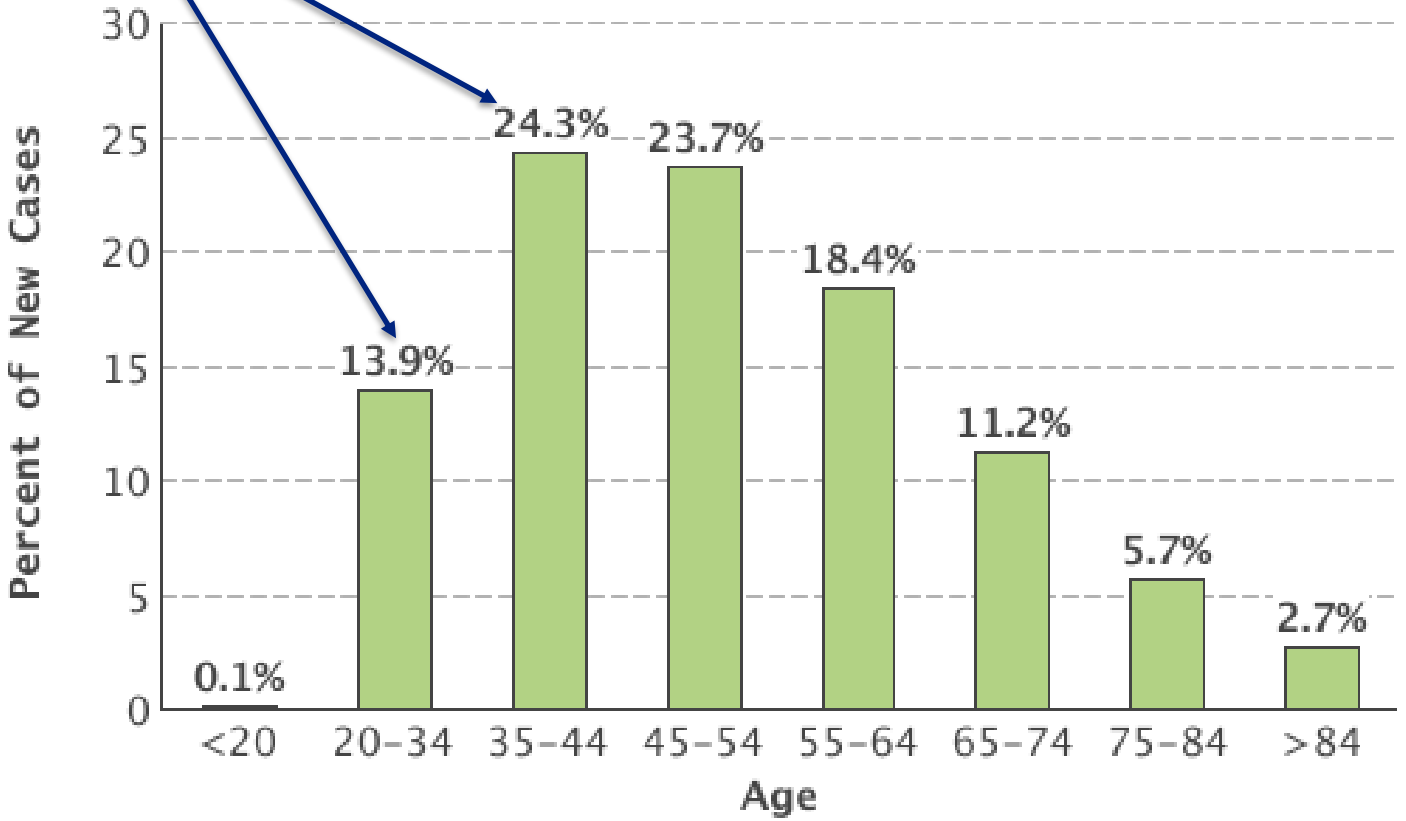
HPV VACCINATION ELIMINATES HPV INFECTION AND THE DOWNSTREAM CONSEQUENCES



Source: Schiffman M et al., 2013

CERVICAL CANCER DURING CHILD-BEARING YEARS

38% of cervical cancers occur in women between the ages of 20 & 44 years.



Source: http://seer.cancer.gov/statfacts/html/cervix.html

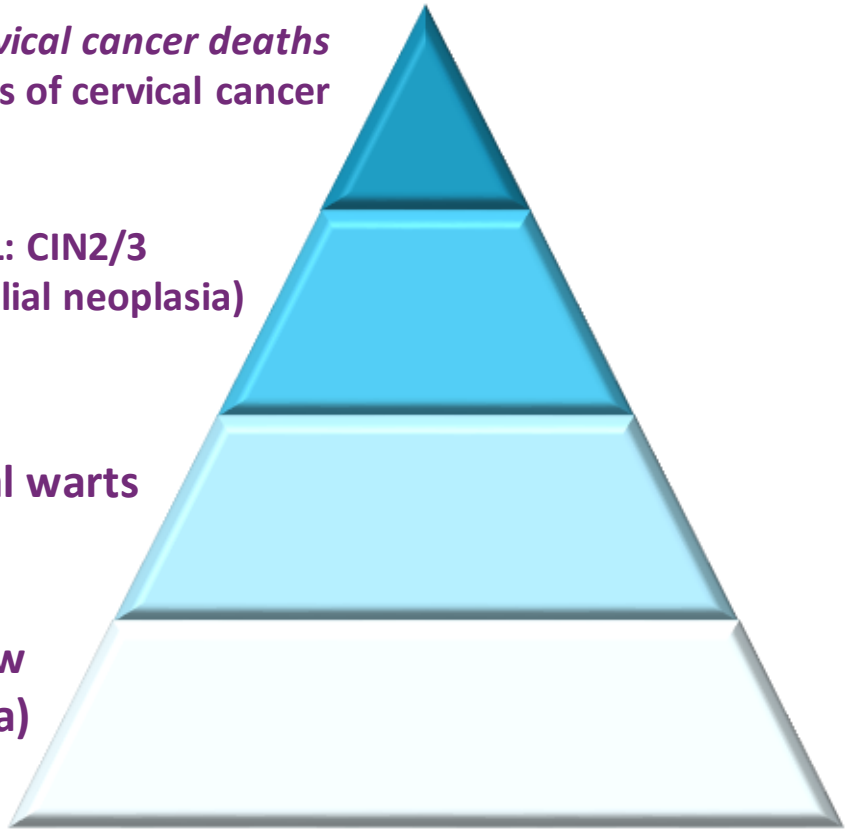
WITHOUT VACCINATION, ANNUAL BURDEN OF GENITAL HPV-ASSOCIATED DISEASE IN U.S. FEMALES

4,000 cervical cancer deaths
10,846 new cases of cervical cancer

330,000 new cases of HSIL: CIN2/3
(high grade cervical intraepithelial neoplasia)

350,000 new cases of genital warts

1.4 million new cases of LSIL: CIN1(low grade cervical intraepithelial neoplasia)

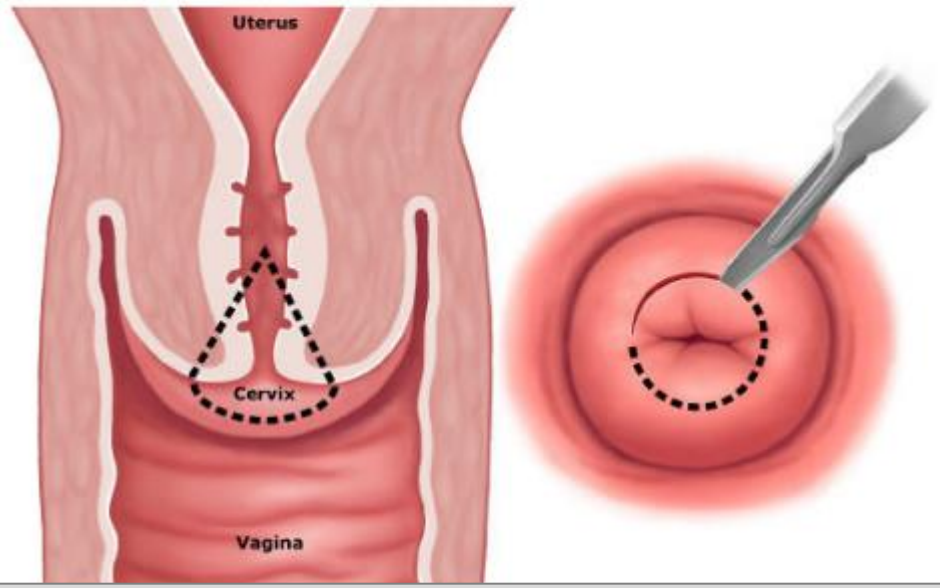


Source: American Cancer Society. 2008; Schiffman, Mark, and Philip E. Castle.; Koshiol *Sex Transm Dis*. 2004; Insinga, Ralph P., Erik J. Dasbach, and Elamin H. Elbasha, 2005

Even pre-cancerous lesions have implications for a woman and her offspring

New cases of cervical dysplasia each year in the US:

- 1.4 million low grade
- 330,000 high grade



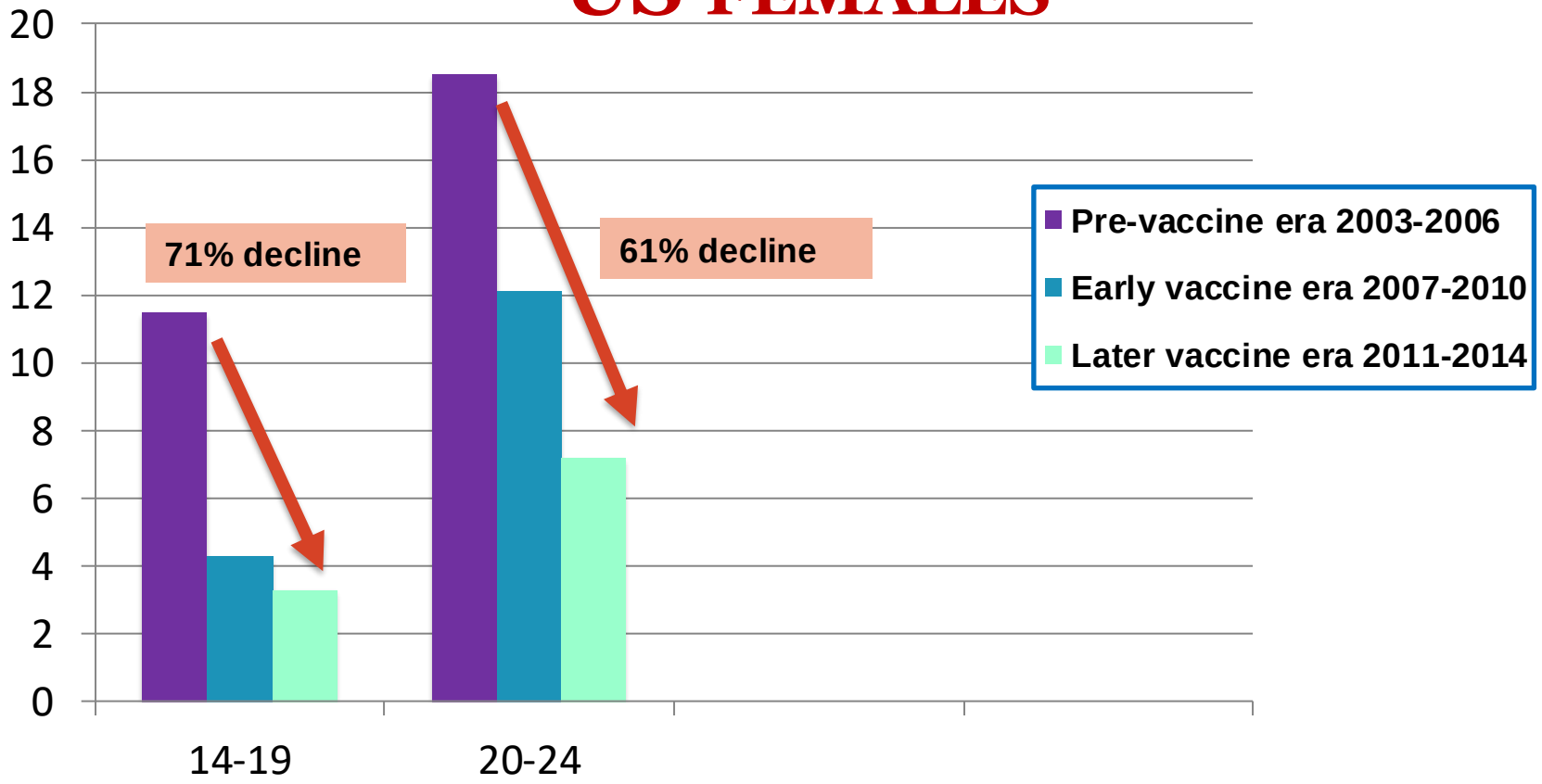
Loop electrosurgical excision procedure (LEEP) or a cold-knife cone biopsy

LEEP AND CONE BIOPSY

- May be used to treat moderate to severe types of abnormal cell changes (CIN II or CIN III) or even very early stage cervical cancer

- Subsequent pregnancies are at risk of
  - Perinatal mortality
  - Preterm delivery
  - Low birth weight

VACCINE TYPE-HPV INFECTIONS, US FEMALES



Study also found vaccine type-HPV decreased 89% for vaccinated girls and 34% for unvaccinated girls: herd immunity

Source: Oliver, et al. JID 2017
https://academic.oup.com/jid/article/216/5/594/3892427

Cochrane Review: HPV Vaccine Effectiveness against Cervical Precancer

- Among previously un-infected women -
  # of women who developed cervical precancer
  - Placebo: 164 per 10,000 women
  - HPV vaccine: 2 per 10,000 women who got the vaccine

- Regardless of infection status at outset -
  HPV vaccines reduced the risk of cervical precancer
  - Associated with HPV16/18:from 341 to 157/10 K
  - Any precancer lesions: from 559 to 391/10 K

Source: https://www.cochrane.org/news/does-hpv-vaccination-prevent-development-cervical-cancer-are-there-harms-associated-being

October 2020

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

HPV Vaccination and the Risk of Invasive Cervical Cancer

Jiayao Lei, Ph.D., Alexander Ploner, Ph.D., K. Miriam Elfström, Ph.D., Jiangrong Wang, Ph.D., Adam Roth, M.D., Ph.D., Fang Fang, M.D., Ph.D., Karin Sundström, M.D., Ph.D., Joakim Dillner, M.D., Ph.D., and Pär Sparén, Ph.D.

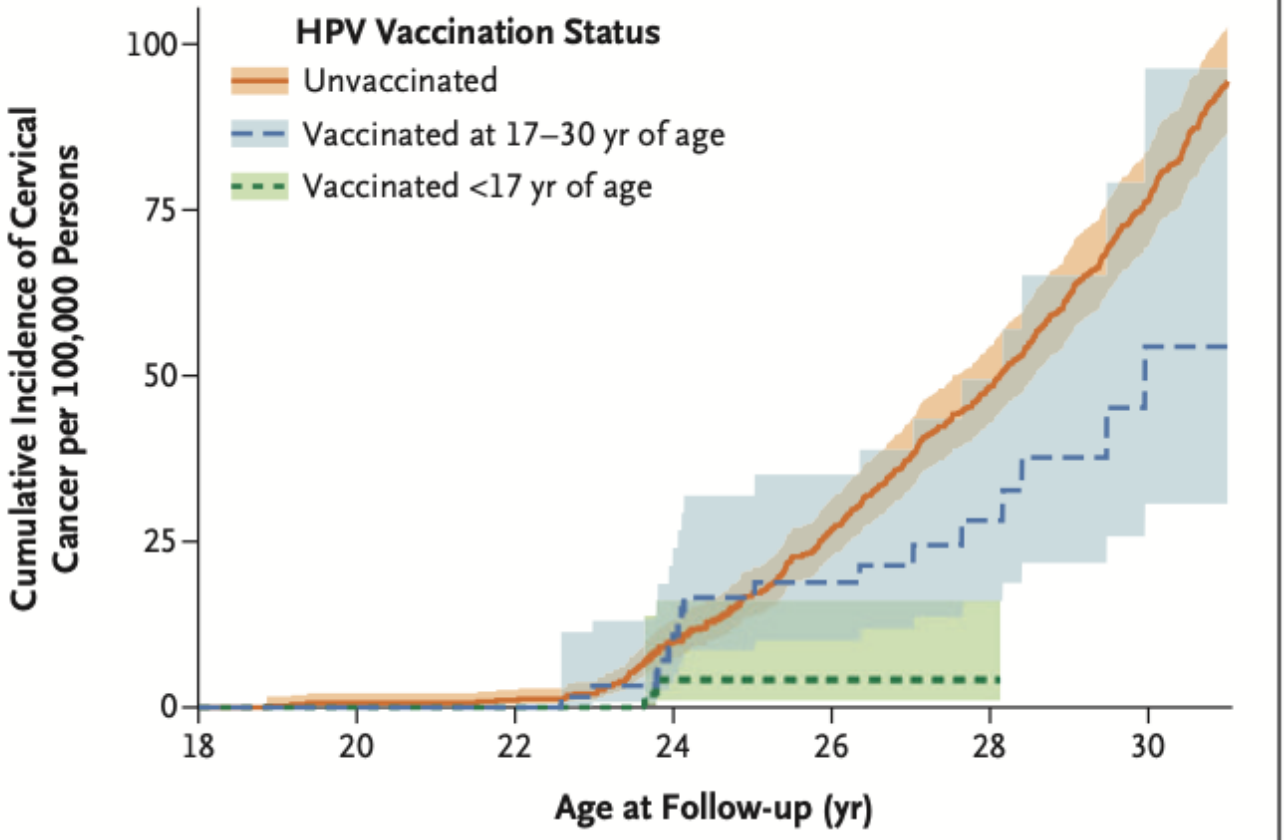


Figure 2. Cumulative Incidence of Invasive Cervical Cancer According to HPV Vaccination Status.

Age at follow-up is truncated in the graph because no cases of cervical cancer were observed in girls younger than 18 years of age.

"We found that the risk of cervical cancer among participants who had initiated vaccination before the age of 17 years was 88% lower than among those who had never been vaccinated."

4: Recommend this vaccine the same way you recommend other vaccines

Source: https://www.health.state.mn.us/people/immunize/hcp/hpvvideos.html

OPTIONAL VERSUS HIGH QUALITY

- **Optional approach:** ***"Have you thought about what shots you'd like to get today?"***
  - *Unintentionally implies shot is not important or few get it*
  - *20-30% vaccination rate in studies of child & teen vaccines*

- **High quality:** ***"Today we have some shots for you."***
  - *Implies shot is important and most people get it*
  - *70-90% vaccination rate in studies of child & teen vaccines*

Make an Effective Recommendation

- **Same day:** Group all the adolescent vaccines, recommend HPV vaccination the same way you recommend Tdap & meningococcal vaccines
- **Same day:** Recommend HPV vaccine *today,* i.e., the **same day** you recommend Tdap & meningococcal vaccines
- Put **HPV in the middle** between Tdap & meningococcal vaccines

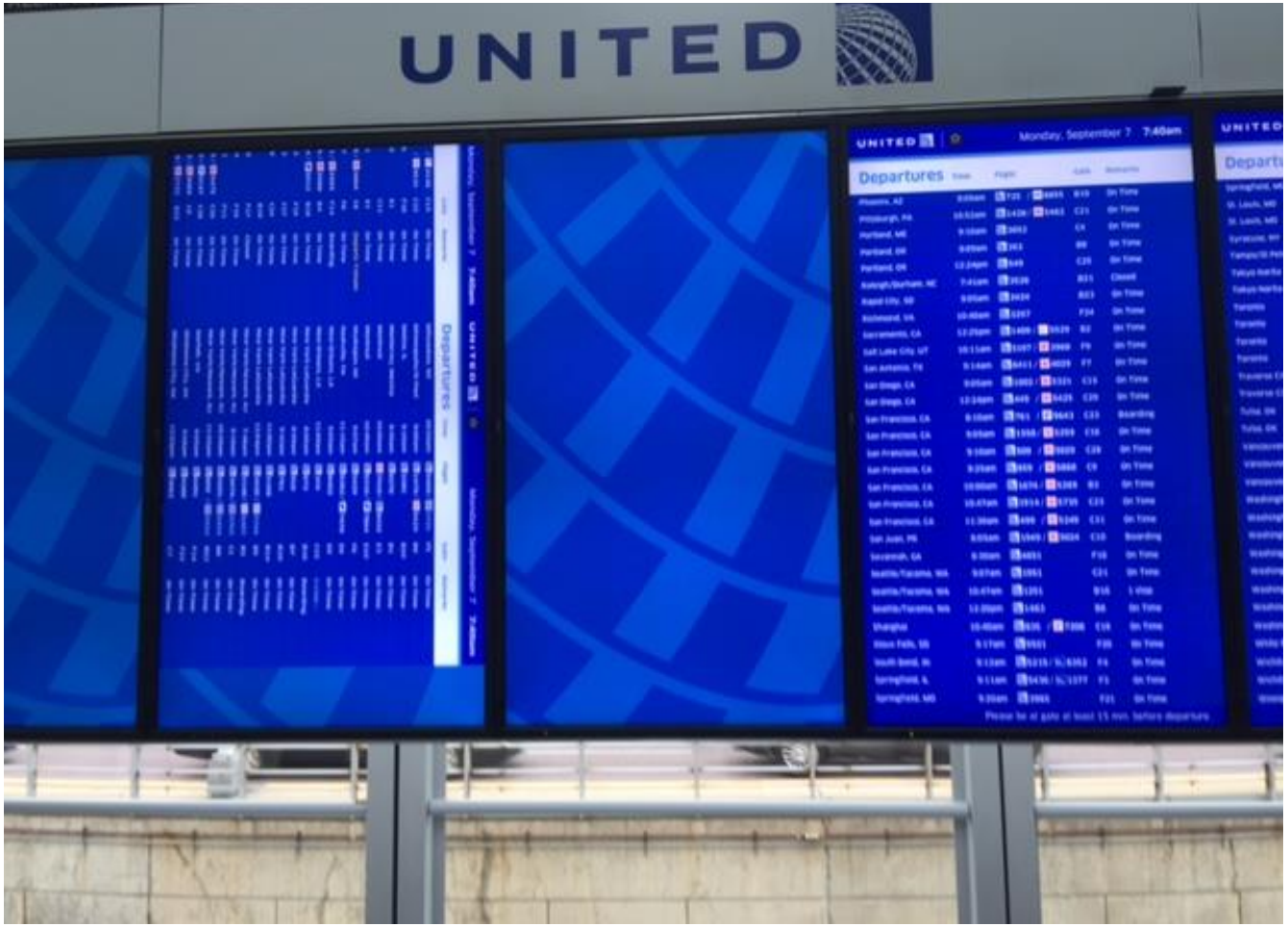
PUTTING HIGH QUALITY RECOMMENDATIONS INTO PRACTICE: SAME WAY, SAME DAY

"Your child needs 3 vaccines today- Tdap, HPV and meningococcal"

If starting before age 11, you can say:

"Today, your child needs the HPV vaccine to protect him against cancers and other diseases caused by HPV."

EVERY PART OF YOUR PRACTICE INFLUENCES PARENTS' PERCEPTIONS



The Opener by the Nurse/MA

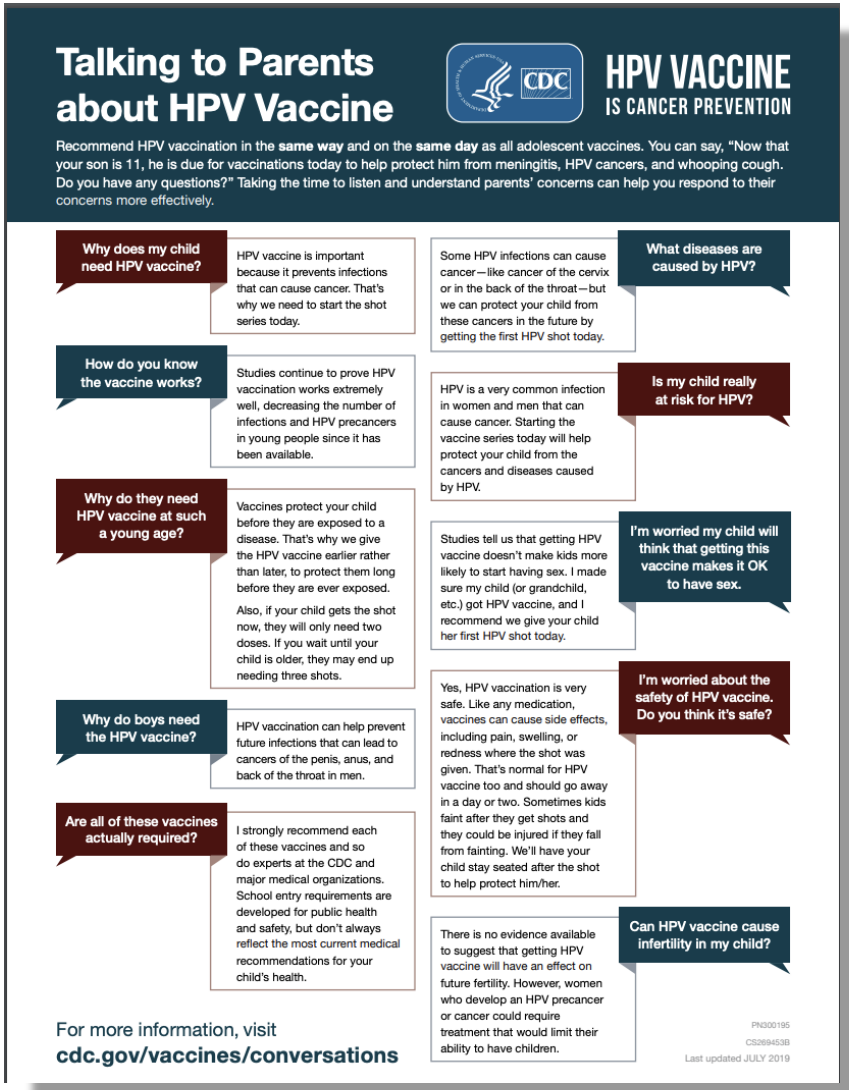
- **Encourage convenient same-day vaccination**

  "Today, Pat should have 3 vaccines to protect him from meningitis, HPV cancers, and pertussis. Do you have any questions for me?"

- **If a parents hesitates, the MA/nurse should say**

  "I'm sure the doctor will want to talk with you about your concerns."

5: Answering parents' questions



Talking to Parents about HPV Vaccine

HPV VACCINE IS CANCER PREVENTION

Recommend HPV vaccination in the **same way** and on the **same day** as all adolescent vaccines. You can say, "Now that your son is 11, he is due for vaccinations today to help protect him from meningitis, HPV cancers, and whooping cough. Do you have any questions?" Taking the time to listen and understand parents' concerns can help you respond to their concerns more effectively.

Why does my child need HPV vaccine?

HPV vaccine is important because it prevents infections that can cause cancer. That's why we need to start the shot series today.

How do you know the vaccine works?

Studies continue to prove HPV vaccination works extremely well, decreasing the number of infections and HPV precancers in young people since it has been available.

Why do they need HPV vaccine at such a young age?

Vaccines protect your child before they are exposed to a disease. That's why we give the HPV vaccine earlier rather than later, to protect them long before they are ever exposed.

Also, if your child gets the shot now, they will only need two doses. If you wait until your child is older, they may end up needing three shots.

Why do boys need the HPV vaccine?

HPV vaccination can help prevent future infections that can lead to cancers of the penis, anus, and back of the throat in men.

Are all of these vaccines actually required?

I strongly recommend each of these vaccines and so do experts at the CDC and major medical organizations. School entry requirements are developed for public health and safety, but don't always reflect the most current medical recommendations for your child's health.

What diseases are caused by HPV?

Some HPV infections can cause cancer—like cancer of the cervix or in the back of the throat—but we can protect your child from these cancers in the future by getting the first HPV shot today.

Is my child really at risk for HPV?

HPV is a very common infection in women and men that can cause cancer. Starting the vaccine series today will help protect your child from the cancers and diseases caused by HPV.

I'm worried my child will think that getting this vaccine makes it OK to have sex.

Studies tell us that getting HPV vaccine doesn't make kids more likely to start having sex. I made sure my child (or grandchild, etc.) got HPV vaccine, and I recommend we give your child her first HPV shot today.

I'm worried about the safety of HPV vaccine. Do you think it's safe?

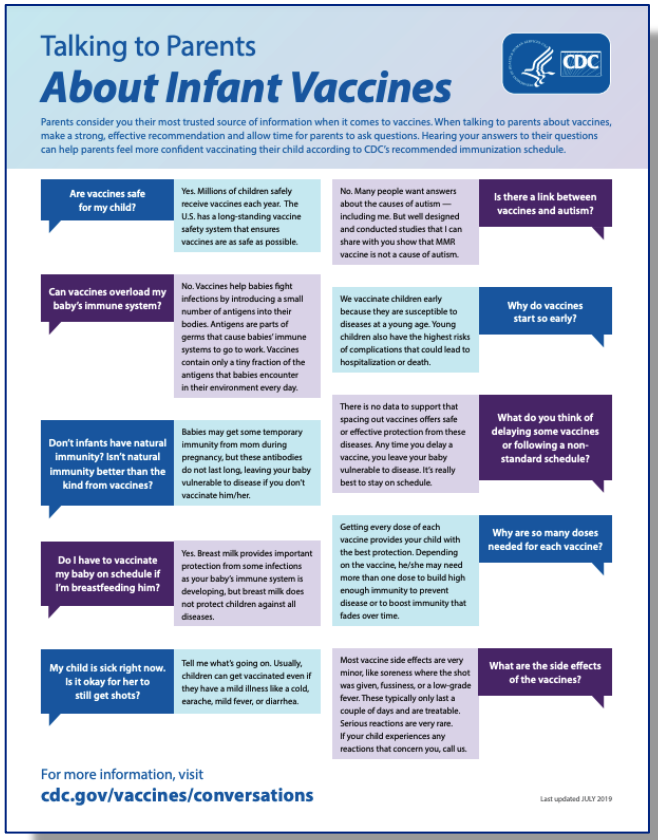
Yes, HPV vaccination is very safe. Like any medication, vaccines can cause side effects, including pain, swelling, or redness where the shot was given. That's normal for HPV vaccine too and should go away in a day or two. Sometimes kids faint after they get shots and they could be injured if they fall from fainting. We'll have your child stay seated after the shot to help protect him/her.

Can HPV vaccine cause infertility in my child?

There is no evidence available to suggest that getting HPV vaccine will have an effect on future fertility. However, women who develop an HPV precancer or cancer could require treatment that would limit their ability to have children.

For more information, visit
cdc.gov/vaccines/conversations

PN300195
CS269453B
Last updated JULY 2019



Talking to Parents *About Infant Vaccines*

Parents consider you their most trusted source of information when it comes to vaccines. When talking to parents about vaccines, make a strong, effective recommendation and allow time for parents to ask questions. Hearing your answers to their questions can help parents feel more confident vaccinating their child according to CDC's recommended immunization schedule.

Are vaccines safe for my child?

Yes. Millions of children safely receive vaccines each year. The U.S. has a long-standing vaccine safety system that ensures vaccines are as safe as possible.

Is there a link between vaccines and autism?

No. Many people want answers about the causes of autism — including me. But well designed and conducted studies that I can share with you show that MMR vaccine is not a cause of autism.

Can vaccines overload my baby's immune system?

No. Vaccines help babies fight infections by introducing a small number of antigens into their bodies. Antigens are parts of germs that cause babies' immune systems to go to work. Vaccines contain only a tiny fraction of the antigens that babies encounter in their environment every day.

Why do vaccines start so early?

We vaccinate children early because they are susceptible to diseases at a young age. Young children also have the highest risks of complications that could lead to hospitalization or death.

Don't infants have natural immunity? Isn't natural immunity better than the kind from vaccines?

Babies may get some temporary immunity from mom during pregnancy, but these antibodies do not last long, leaving your baby vulnerable to disease if you don't vaccinate him/her.

What do you think of delaying some vaccines or following a non-standard schedule?

There is no data to support that spacing out vaccines offers safe or effective protection from these diseases. Any time you delay a vaccine, you leave your baby vulnerable to disease. It's really best to stay on schedule.

Do I have to vaccinate my baby on schedule if I'm breastfeeding him?

Yes. Breast milk provides important protection from some infections as your baby's immune system is developing, but breast milk does not protect children against all diseases.

Why are so many doses needed for each vaccine?

Getting every dose of each vaccine provides your child with the best protection. Depending on the vaccine, he/she may need more than one dose to build high enough immunity to prevent disease or to boost immunity that fades over time.

My child is sick right now. Is it okay for her to still get shots?

Tell me what's going on. Usually, children can get vaccinated even if they have a mild illness like a cold, earache, mild fever, or diarrhea.

What are the side effects of the vaccines?

Most vaccine side effects are very minor, like soreness where the shot was given, fussiness, or a low-grade fever. These typically only last a couple of days and are treatable. Serious reactions are very rare. If your child experiences any reactions that concern you, call us.

For more information, visit
cdc.gov/vaccines/conversations

Last updated JULY 2019

Source: https://www.cdc.gov/hpv/hcp/for-hcp-tipsheet-hpv.pdf

Tip #1: Reflect, ask permission

Reflect back what the parent said to be sure he/she understands (empathy) and asks permission to share their own perspective.

"You feel that she's too young for the HPV vaccine because HPV is transmitted by sexual activity.
I can see what you're saying.
I've thought a lot about this.
***Is it okay if I tell you how I've come to think about this**?"*

Tip #2: Provide info to change parent's perspective

"I used to think of this vaccine as something to prevent a sexually transmitted disease, but realized it's really about preventing cancer."

"We recommend it at this age because younger kids have a better immune response. That's why they need only 2 doses instead of 3."

This avoids arguing. You haven't contradicted the parent's point.

Tip #3: Avoid countering emotion with data

What NOT to say: *"Well data shows that many adolescents will be having sex by middle school, and if you're worried about her having sex, studies have shown that it won't increase the likelihood of her having sex."*

Statistics do not work in an emotional argument.

Tip #4:
If a parent declines the HPV vaccine

- **Declination is not final**
  - Many parents who decline, will vaccinate later
  - The conversation should be revisited
- Offer reading material
- Don't over-remember this
- Relax. You've done your best for this child.
- Waiting to vaccinate is the risky choice, so some pediatricians ask parent to sign a *Declination Form*

How do you handle objections based on religion?

Example of effective provider communication

Minnesota Department of Health's
"HPV vaccine: It's effective"

https://www.youtube.com/watch?time_continue=2&v=huyn7M8VmqI&feature=emb_title

Or https://www.health.state.mn.us/people/immunize/hcp/hpvvideos.html

GREAT JOB!

- He seized the moment
- He did not "profile"
- He bundled the recommendation
- He asked for mom's question
- He answered mom's question accurately and calmly
- When mom asked the 2nd question:
  "some people…", he stayed positive
- He cared ("I'd feel better")

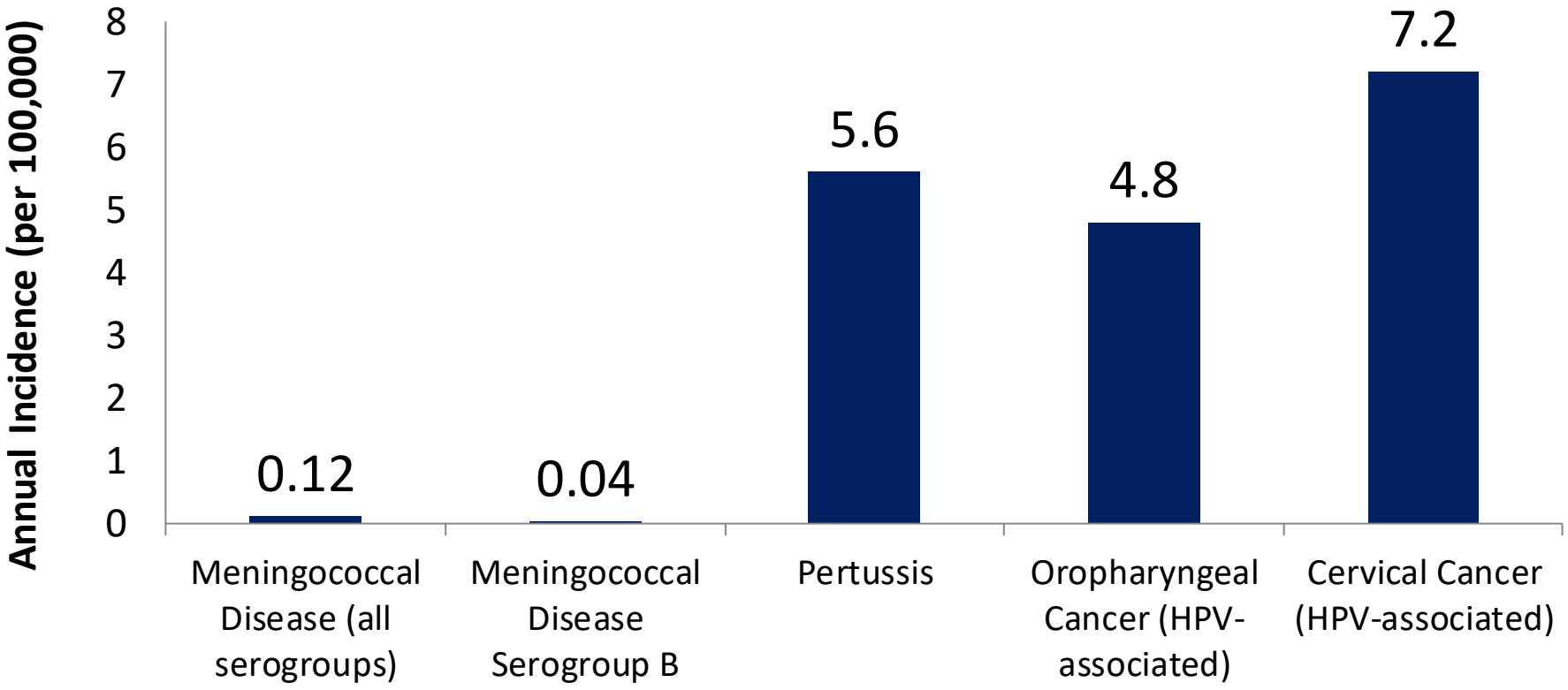
6: Bring adolescents back to your office

Allina's strategies to bring patients in

- Schedule 2nd vaccine prior to patient leaving clinic
- Health Maintenance system reminder 1 month before 2nd vaccine is due
- Reporting workbench for clinical staff to contact patients overdue for vaccine
- Coming soon – System email reminder when patient is 1 month overdue for 2nd vaccine

Wrap up

INCIDENCE OF DISEASES PREVENTABLE BY 3 ADOLESCENT VACCINES, US



Sources: Meningococcal Disease, CDC, 2016, https://www.cdc.gov/meningococcal/downloads/NCIRD-EMS-Report.pdf; Pertussis, CDC, 2016, https://www.cdc.gov/pertussis/downloads/pertuss-surv-report-2016.pdf; HPV, CDC, 2011-2015, https://www.cdc.gov/cancer/hpv/pdf/USCS-DataBrief-No4-August2018-508.pdf; www.cdc.gov/mmwr/volumes/67/wr/mm6733a2.htm#T1_down

AAP's EQIPP: Immunizations - Strategies for Success

https://shop.aap.org/eqipp-immunizations-strategies-for-success/

- Free to members
- Identify immunization rates in your practice, uncover barriers to immunization delivery systems, and provide techniques to overcome those barriers through clear aims that reflect expert principles and proven quality improvement methods and tools
- Choice of tracks
  - 19-23 months old
  - adolescent

Credit Information

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Wrap up

Patients for whom HPV vaccination is recommended

HPV vaccination supports healthy pregnancy

Presumptive recommendations for vaccination work

Plan to bring adolescents to your office for vaccination

Evaluate how results of HPV vaccination QI projects could be applied in your office

Questions?