### HPV VACCINATION 101



### Kylie Dupuis, RN

### Billings Clinic, Pediatric Nurse Informaticist Billings, MT



- Lives in Billings, MT with her husband and 7 kids
- Worked at Billings Clinic for 16 + years
- Started in the clinic as an internal med LPN
- Later went on to get her RN and work in labor and delivery for over 7 years
- Now works as the Pediatric Nurse Informaticist for Billings Clinic for the past 4 years
- Almost a year ago, lost a very dear friend to an aggressive form of cervical CA. She had only been diagnosed with it 11 months prior to passing.



### PRESENTATION OBJECTIVES

- Understand the HPV virus and its prevalence and impact.
- Recognize the burden of HPV-related cancers each year.
- Highlight the safety and effectiveness of HPV vaccination.
- Share resources to support HPV education in the community.



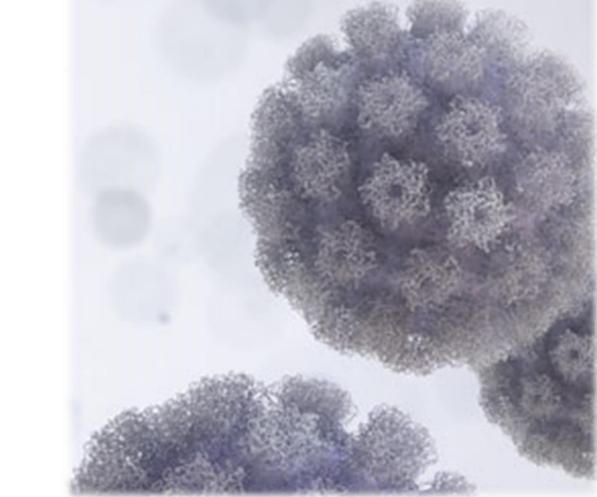
## HPV PREVALENCE AND IMPACT



### **WHAT IS HPV?**

### **Human Papillomavirus**

- >150 types
- About 15 types of HPV can cause cancer
- VERY common





### WHY FOCUS ON HPV?

- **1** HPV can cause 6 types of cancer.
- We have a vaccine that prevents HPV-related cancers.
- **3** We need to vaccinate more kids.
- 4 Success is achievable.





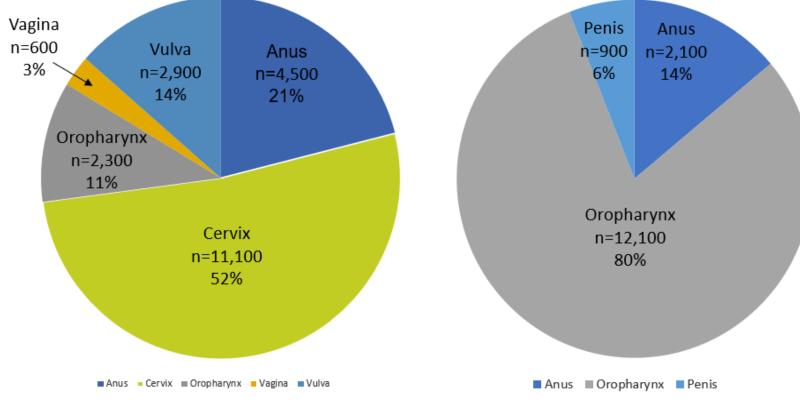
### **HPV VACCINATION IS CANCER PREVENTION**

We need to focus on prevention.

CANCER	ROUTINE SCREENING
Cervical	Yes
Anal	No
Penile	No
Throat	No
Vaginal	No
Vulvar	No



### AVERAGE NUMBER OF NEW CASES OF THE 6 KNOWN HPV CANCERS BY SEX, UNITED STATES 2014-2018









### CERVICAL PRECANCERS: ONE MILLION+ AFFECTED EACH YEAR

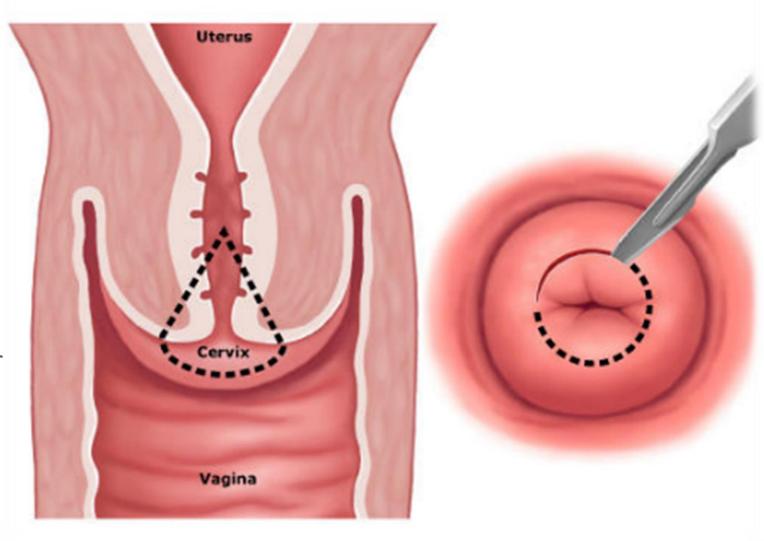
- Up to 1 million new cases of lowgrade cervical dysplasia
- 196,000 estimated new cases of high-grade cervical dysplasia (also known as "pre-cancer")





### **IMPLICATIONS OF PRE-CANCEROUS LESIONS**

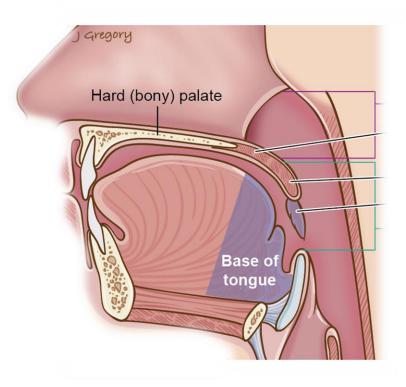
- Treatment with cervical conization or LEEP (loop electrosurgical excision procedure)
- May be associated with adverse
  - Obstetric morbidity
  - Preterm delivery
  - Low birth weight
- Financial costs of care
- HPV vaccination prevents precancer as well as six types of cancer

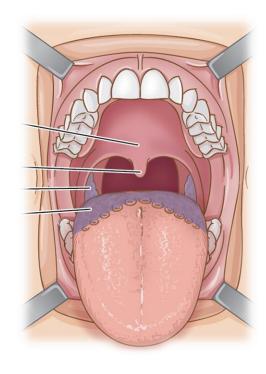




### **HPV-RELATED OROPHARYNGEAL CANCER**

- 14,400 cases annually, 12,100 in men
- Has surpassed cervical cancer as the most common HPV-related cancer
- HPV-related oropharyngeal cancers have more than doubled in the past three decades
- Rise in incidence and changing patient demographics due to HPV
- No screening test
  - No endpoint in clinical trials
  - Late-stage diagnosis

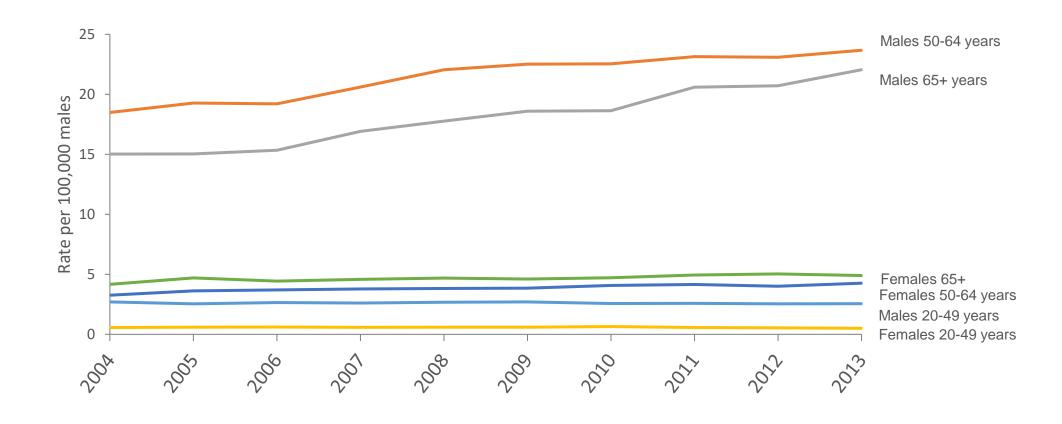






### **HPV-ASSOCIATED OROPHARYNGEAL CANCER**

### **Increasing Incidence**





## THE SCIENCE: HPV VACCINE GUIDELINES



### AMERICAN CANCER SOCIETY HPV VACCINATION GUIDELINES

- Boys and girls
- Age 9 12 = ON TIME; Can vaccinate LATE at ages 13 to 26
- ACS: Individuals ages 22 to 26 who were not previously vaccinated should be informed that vaccination at older ages is less effective in lowering cancer risk
- 2 doses\*











### Benefits of vaccinating at age 9-10 Provider/System/Public Health Perspective

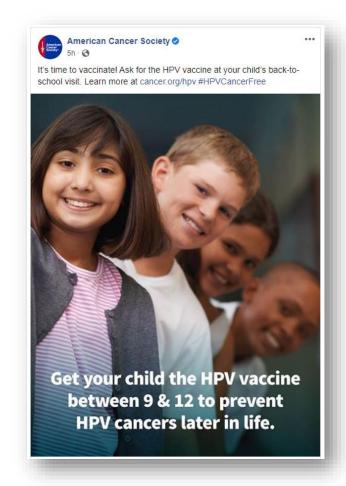
- Earlier initiation of HPV vaccination
- Offers more time for completion of the series
- Increases the likelihood of vaccinating prior to first HPV exposure
- Decreases the need to discuss sexual activity
- Decreases requests for only vaccines that are "required"
- Has been shown by several systems to increase vaccination rates
- Has been shown to be acceptable to systems & providers





### Benefits of vaccinating at age 9-10 Parent/Patient Perspective

- Decreases the need to discuss sexual activity
- Decreases the number of shots given in a single visit
- Has been shown to be acceptable to parents



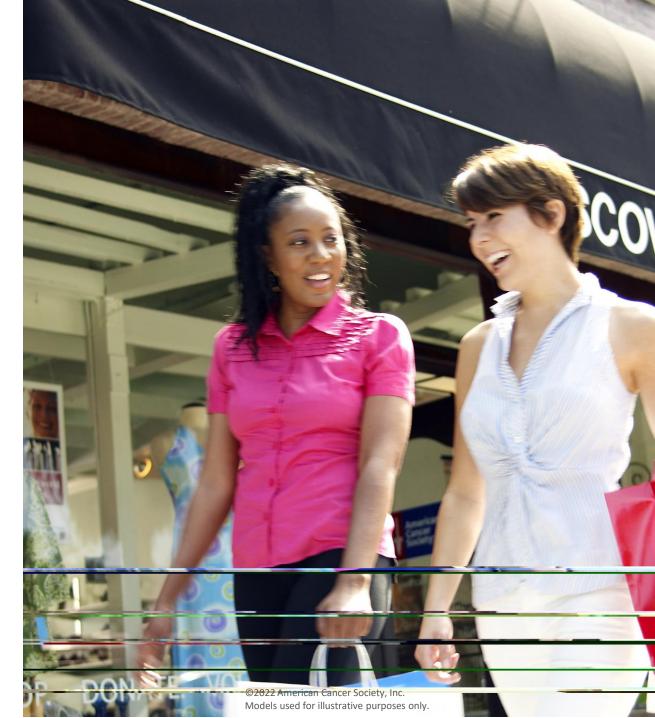
### WHAT ABOUT ADULTS?

The American Cancer Society does not recommend HPV vaccination for adults older than 26 years.

#### Why not?

- Lack of evidence shows low effectiveness and low cancer prevention potential of vaccination in this age group
- No guidance for shared clinical decision making which creates a burden on patients and clinicians
- Lack of sufficient guidance on the selection of individuals who might benefit
- Prevents less than 1% of cancers, precancers, and warts



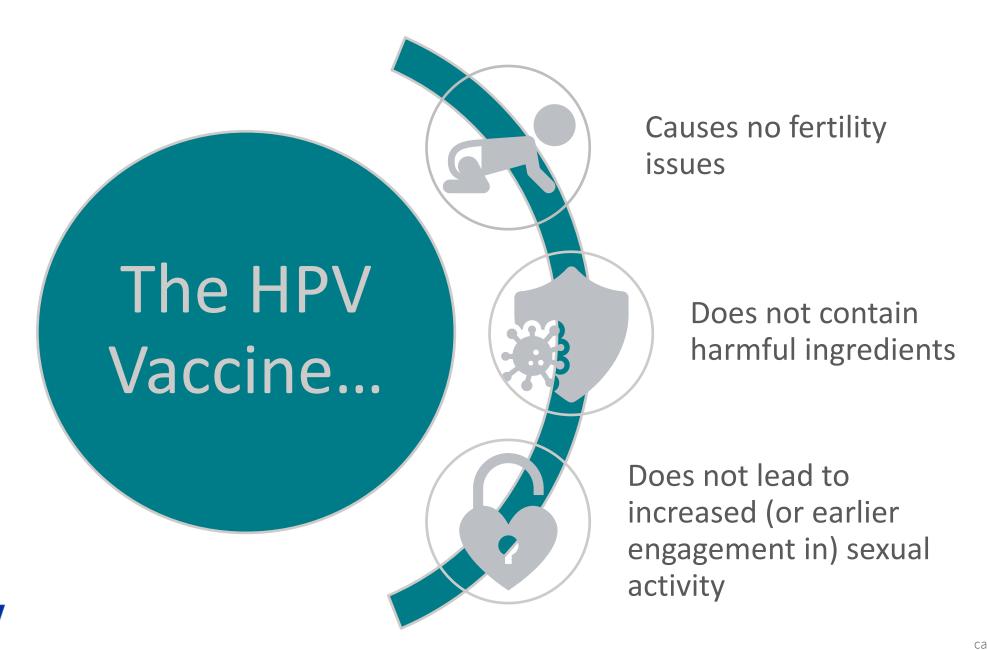


# THE SCIENCE: HPV VACCINATION IS SAFE AND EFFECTIVE



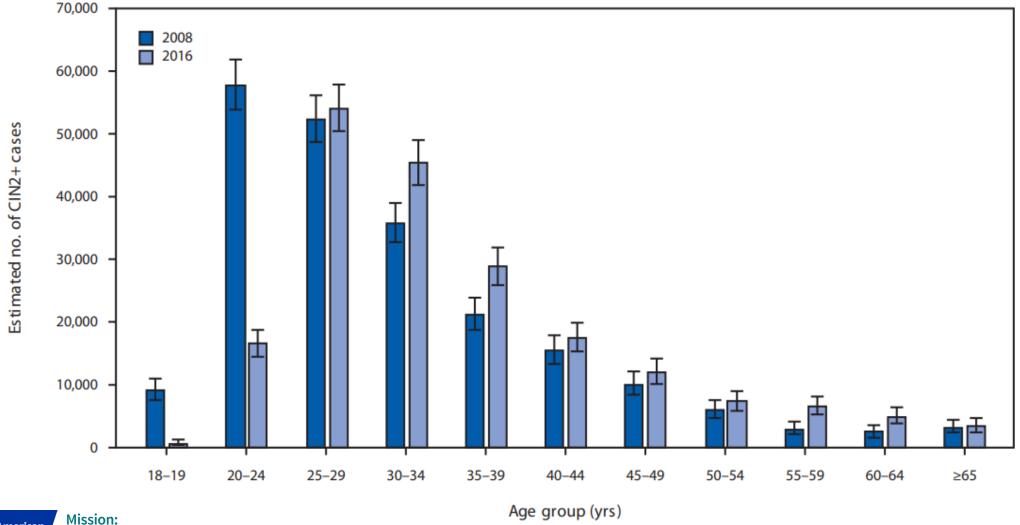
109 studies of 2.5 million people in 6 countries have shown: NO serious side effects, other than what's typical for all vaccines (i.e., allergic reactions, fainting).





### **HPV VACCINATION EFFECTIVENESS**

Dramatic decrease in high-grade cervical lesions among US women





### EFFECTIVENESS AGAINST CERVICAL CANCER

England's journey towards elimination

Age at Vaccination		
12-13	97%	87%
14-16	75%	62%
16-18	39%	34%

The HPV immunization program has successfully almost eliminated cervical cancer in England among women born since September 1995.

SOURCE: Falcaro, et al. Lancet 2021;398(10316):2084-2092 accessed at <a href="https://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2821%2902178-4/fulltext">https://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2821%2902178-4/fulltext</a> and summarized here: <a href="https://www.hpvworld.com/articles/the-impact-of-hpv-vaccination-program-on-cin3-and-cervical-cancer-incidence-in-england/">https://www.hpvworld.com/articles/the-impact-of-hpv-vaccination-program-on-cin3-and-cervical-cancer-incidence-in-england/</a>



#### THE LANCET

The effects of the national HPV vaccination programme in England, UK, on cervical cancer and grade 3 cervical intraepithelial neoplasia incidence: a register-based observational study

Milena Falcaro, PhD • Alejandra Castañon, PhD • Busani Ndlela, PhD • Marta Checchi, MSc • Kate Soldan, PhD • Jamie Lopez-Bernal, PhD • et al. Show all authors

Published: November 03, 2021 • DOI: https://doi.org/10.1016/S0140-6736(21)02178-4 • Check for updates

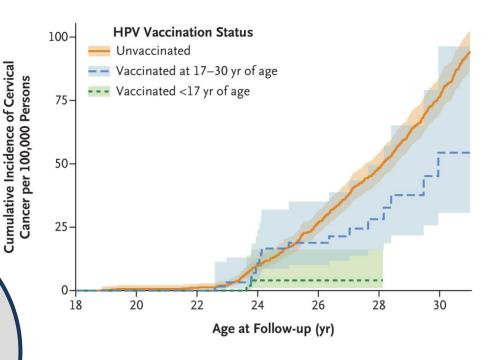
### **HPV VACCINATION IS CANCER PREVENTION**

#### Sweden, 2006-2017

- 1.7 million females ages 10-30
- 538 cases in 528,000 unvaccinated
- 19 cases in 518,000 vaccinated
  - 2 cases in 439,000 vax age 10-16

17 cases in 90,000 vax age 17-30

88% protection against invasive cervical cancer when vaccinated before age 17





SOURCE: Lei, et al, NEJM 2020 cancer.org/hpv

### **HPV VACCINATION EFFECTIVENESS**

Zero cases of HPV-related cancers in vaccinated women in Finland through 11-year study

Malignancy	HPV Vaccinated Women 3,341 participants		Non-Vaccinated Women 16,526 participants	
	N	Rate (95% CI)	N	Rate (95% CI)
Cervix	0	-	14	8 (4.8 to 13.6)
Vulva	0	-	1	0.6 (0.1 to 4.1)
Oropharyngeal	0	-	1	0.6 (0.1 to 4.1)
Vagina	0	-	1	0.6 (0.1 to 4.1)
All HPV associated cancers	0		17	9.8 (6.1 to 15.7)

This corresponds to vaccine effectiveness of 100%.



# THE SCIENCE: STRONG HPV VACCINE RECOMMENDATION



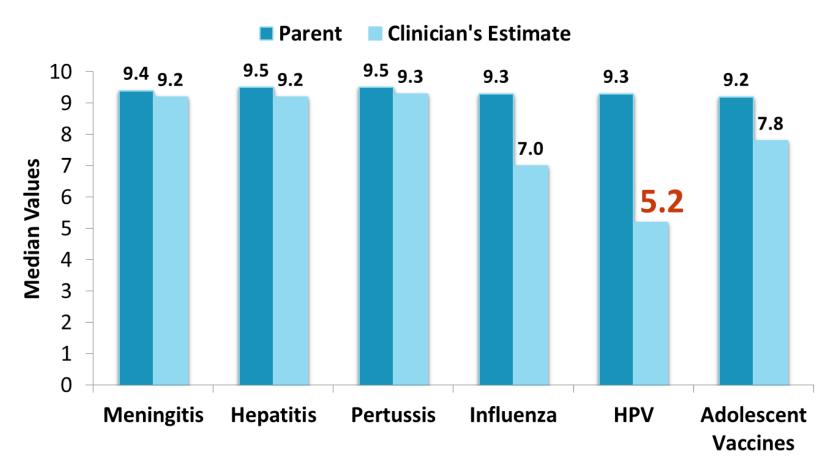
### **RECOMMENDATIONS MATTER**

The best predictor of vaccination uptake for both hesitant and non-hesitant parents was how the provider started the conversation.





### CLINICIANS UNDERESTIMATE THE VALUE PARENTS PLACE ON HPV VACCINE





### MAKE AN EFFECTIVE RECOMMENDATION

#### HPV vaccine initiation rates:

- 23%, if no recommendation
- 53%, if low-quality recommendation
- 73%, if high-quality recommendation

#### Same way:

Recommend all vaccinations in the same way, with the same confidence.

#### Same day:

Recommend HPV vaccine today.





### SAMPLE 9-10 RECOMMENDATION

"Ben is 9 years old which means he's due for his first dose of the HPV vaccine, which protects against HPV cancers. We will give it to him at the end of the appointment."

### SAMPLE 11-12 RECOMMENDATION

"Molly needs three vaccines today to protect against meningitis, HPV cancers, and whooping cough. She will get those at the end of the visit."



### **Announce**

The child is due for their vaccine to prevent disease.

### If parent hesitates...

### **Connect and Counsel**

### Connect

- Ask parent for their main concern.
- Show parent that you are listening.

### Counsel

- Ask if parent is open to hearing your message.
- Address their main concern.
- Clearly recommend getting the vaccine today.



### How to talk about HPV Vaccine

- Use a presumptive announcement that HPV vaccine is due today
- Focus on cancer prevention
- If hesitant, ask for their main concern and address it
- If the parent declines, try again another day
- 70% of parents who initially decline HPV, eventually say YES

#### Follow the Path to **Increasing HPV Vaccination** Take these steps for effectively recommending HPV vaccination. They will save you time and improve patient satisfaction. ..... If a parent is / **USE A PRESUMPTIVE ASK FOR THEIR** MAIN CONCERN parents are ready to vaccinate. This is an AND ADDRESS IT effective way to recommend adolescent Connect with parents by showing vaccines, including HPV vaccine.1 you heard them. Counsel using a research-test message. Examples are available on the other side of this flyer or at hpvIQ.org2 Note child's age to cue that this is part of routine care Say you will Announce children vaccinate this age are due for vaccines that diseases, placing HPV cancers in middle of list Almost 70% of parents who initially declined later agree to HPV vaccine or plan to soon.3 ANNOUNCEMENT EXAMPLE "Now that Sophia is 12, she is due for three vaccines Today, she'll get vaccines against meningitis, HPV cancers, and whooping cough,"

https://www.hpviq .org/wpcontent/uploads/2 021/01/HPVIQflyer-FINAL.pdf







#### **AGE**

"Kids respond more strongly to HPV vaccine when they are younger. This may give better protection against some cancers."

#### **REQUIREMENTS**

"School requirements don't always keep up with medical science. The HPV vaccine is an important vaccine that can prevent many cancers."

#### **SEX**

"This really isn't about sex. The HPV vaccine is about preventing cancer."

#### **BOYS**

"HPV infections don't care if you're a boy or girl. The virus can cause cancer and many other diseases."

#### **SAFETY**

"This vaccine is one of the most studied medications on the market. The HPV vaccine is safe, just like the other vaccines given at this age."

#### **GUIDELINES**

"Experts at the CDC agree that kids should get the HPV vaccine by age 11 or 12 to prevent several cancers."

#### **EFFECTIVENESS**

"Over 30,000 Americans get cancer from HPV every year. Most could be prevented with the HPV vaccine."



### PANDEMIC'S IMPACT:

COVID-19 recovery may take 3-10 years for HPV vaccination

IF WE DON'T TAKE ACTION



### **PRE-PANDEMIC:**

### HPV vaccination was finally the new normal in the U.S.

- 75% of US adolescents started the HPV vaccine series
- 58% fully vaccinated

### **POST-PANDEMIC:**

 HPV vaccination rates have dropped 18% compared to prepandemic.

### Don't leave patients unprotected!

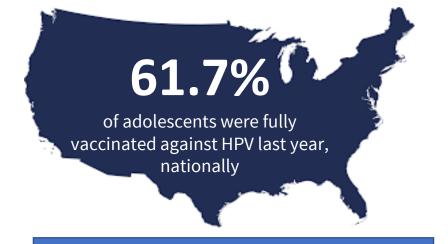




### Montana

### **Gender Disparity**





#### **HPV Vaccination Rates**

31%

Up-to-date HPV Vaccination, Males and Females (before 13<sup>th</sup> birthday) 2018-2020 data

**52.6%** 

Up-to-date HPV Vaccination, Males and Females (13-17 yr.)

1

1.8% from 2020

### Where are the gaps and opportunities?

- Renewed focus on HPV vaccinations overall
- Emphasis on starting at age 9 and completion by age 13
- Focused effort on adolescent females
- Opportunity for rural and frontier outreach

### Ranked 57/63

States and Local Areas for up-to-date HPV vaccination

Other Adolescent Vaccines

≥ MenACWY

77.1%

**≥ Tdap** 88.8%

48.4%



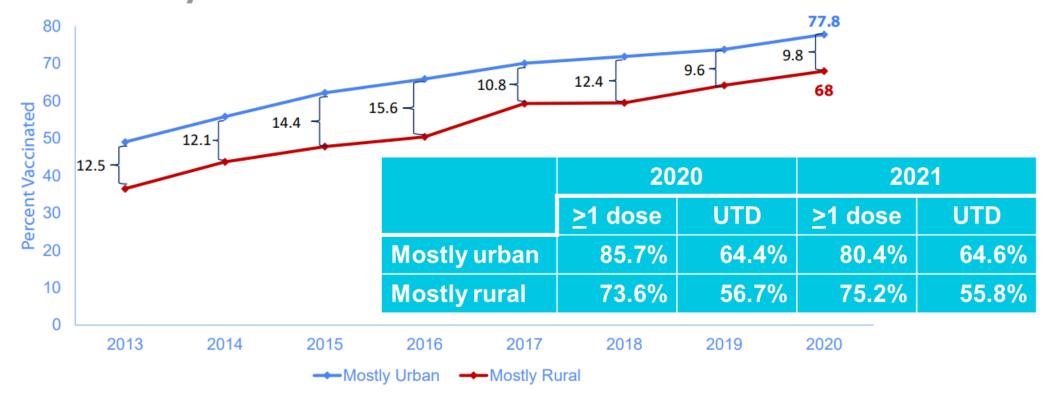


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### WHY YOU? Rural Disparity

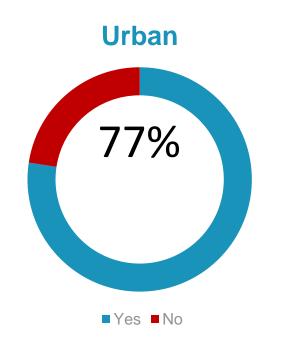
### ≥1 HPV vaccination coverage in rural areas is consistently lower

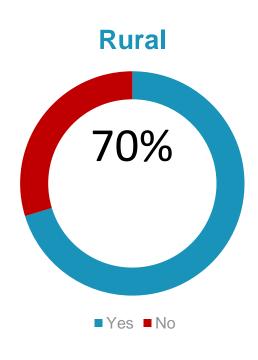




Source: https://www.cdc.gov/vaccines/imz-managers/coverage/teenvaxview/index.html

### Fewer parents in rural areas report receiving a recommendation for HPV vaccine from their provider







Source: 2018 NIS-Teen

### **COVID-19 IMPACT ON HPV VACCINATION**

- Cancelled or delayed well child visits
- Development and rollout of new clinic safety protocols
- Loss of 20% of health care workers
- Safer at home framework
- Virtual work & school; no or less need for sports physicals











### Overall Annual Changes in Vaccines for Children (VFC) Program Provider Orders of Select Vaccines Compared to Fiscal Year (FY) 2019

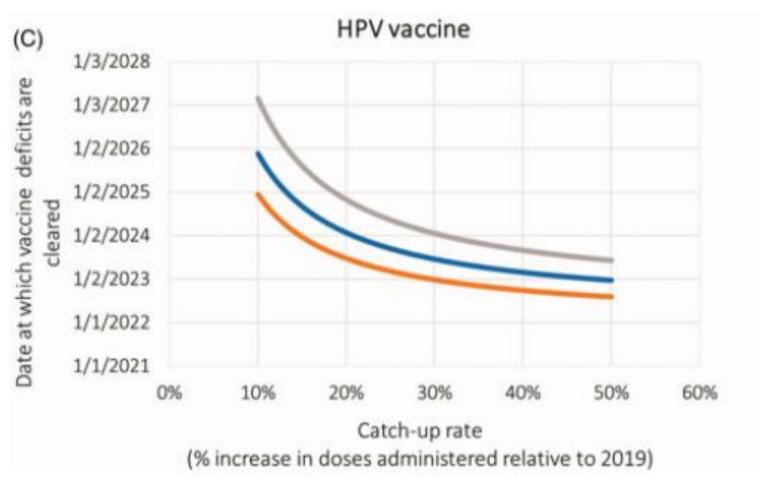
Vaccine	FY2020	FY2021	Year-to-date FY2022 (as of 3/27/22)	
Total Non-Flu	-15%	-7%	-6%	
	(-8.5M doses)	(-4M doses)	(-1.6M doses)	
HPV	-25%	-9%	-10%	
	(-1M doses)	(-391K doses)	(-156K doses)	
Tdap	-27%	-1%	+7%	
	(-676K doses)	(-16K doses)	(+68K doses)	
MenACWY	-24%	+1%	+3%	
	(-873K doses)	(+32K doses)	(+46K doses)	
Overall non-Flu cumulative change for the period FY2020 through FY2022 is -10% (-14.2M doses)				

<sup>\*</sup>Fiscal Year is defined as October 1 through September 30.

American Cancer

### **COVID IMPACT ON HPV VACCINATION**

Projected time to reverse deficits in routine adolescent vaccination in the U.S.



"The projected deficit of missed doses is expected to be cleared between winter 2023 and fall 2031."



### KEY RESOURCES

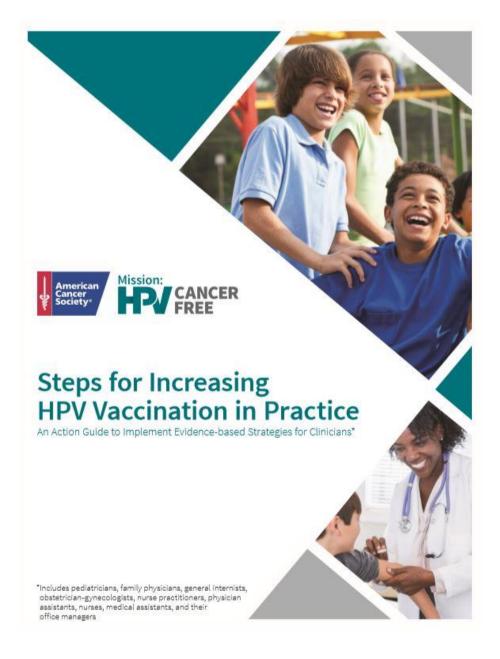


### **STEPS GUIDE**

An Action Guide to implement evidence-based interventions in clinical practice

### **Steps Guide Link**

- Toolkit+
- Road map
- Portal to resources
- Launched June 2015
- Tested and improved by over 80 FQHC cliniclevel intervention projects





### **AMERICAN CANCER SOCIETY**

Download the materials below for more detailed information about the HPV vaccine and how it can help protect your kids.



Take a shot at cancer! [PDF]



Protecting Our Children From HPV Cancer [PDF]



Don't Wait to Vaccinate [PDF]



HPV Vaccination: Just the Facts [PDF]



HPV (Human Papillomavirus)

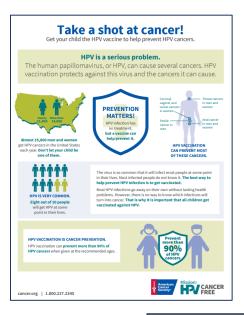


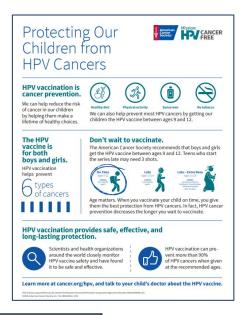
What Parents Should Know About the HPV Vaccine



**HPV Vaccines** 

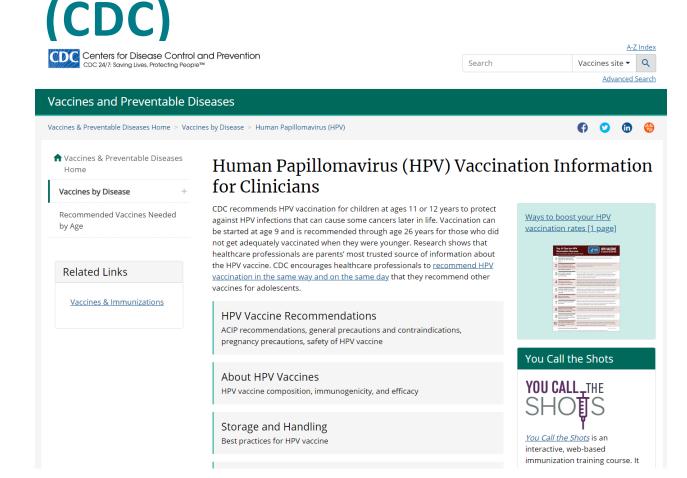


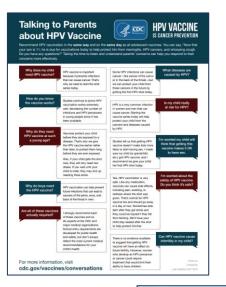




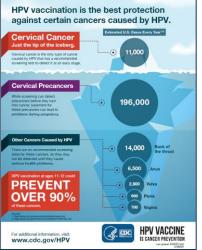


### CENTERS FOR DISEASE CONTROL AND PREVENTION









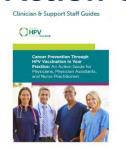


### NATIONAL HPV VACCINATION ROUNDTABLE

### **Resource Library**



### **Action Guides**



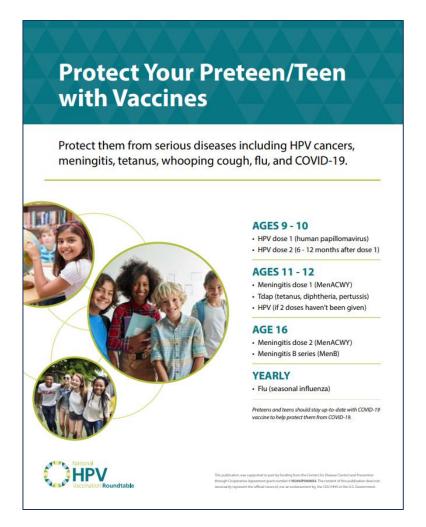








#### **Clinic Poster**



### QUESTIONS?

