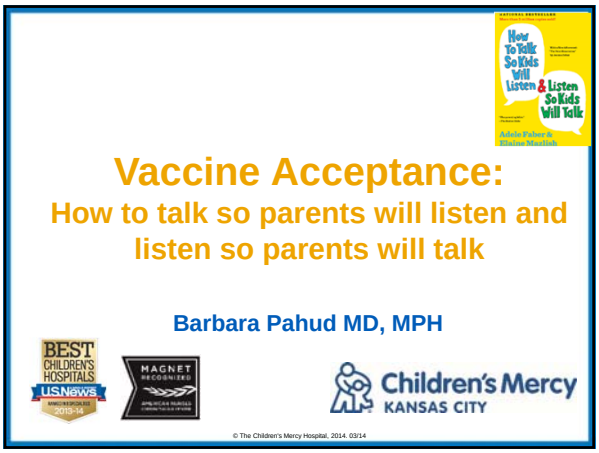
How To Talk So Kids Will Listen & Listen So Kids Will Talk
Vaccine Acceptance:
How to talk so parents will listen and listen so parents will talk
Barbara Pahud MD, MPH
BEST CHILDREN'S HOSPITALS U.S.News
MAGNET RECOGNIZED
Children's Mercy KANSAS CITY
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Disclosures
• Pfizer Grants for Independent Learning and Change - CoVER
• Pfizer and Sanofi- non-branded speaker
• Sequirus, Pfizer and Sanofi advisory board
• GSK, Alere, Clinical trials
• CDC, NIH
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Objectives

- Recognize the range of parental attitudes on immunization
- Identify effective approaches to discuss immunizations with specific parents
- Apply above mentioned approaches to increase HPV acceptance

5

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What do parents know?

- Belief that vitamin K is a vaccine
- Belief that their 3-6 month old infant had received vaccines against chickenpox, smallpox, or measles, mumps, and rubella
- Belief that they themselves had received a vaccination against chickenpox as a child
- Belief that their infant could become infected with HIV from vaccines
- Belief that infants develop influenza from the vaccine

6

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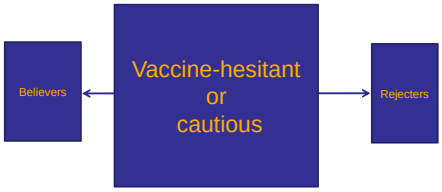
Historical Perspective

7 © The Children's Mercy Hospital, 2014. 03/14

Parent Types

Spend Your Time Wisely



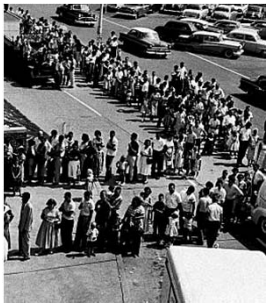
8 © The Children's Mercy Hospital, 2014. 03/14

Know Your Audience

- Tailor your dialogue to match the needs of your patient/parent
- Hesitancy: 34% of parents with up-to-date children had major concerns regarding vaccines

9 © The Children's Mercy Hospital, 2014. 03/14

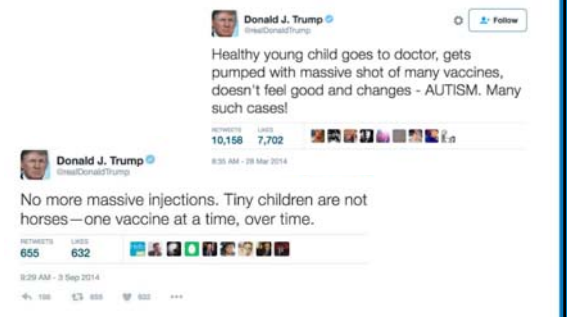
Before…



Before…

Now:
Internet/Social Media

TWEETS



What is a Parent to do?

Thus…

Parents worry about the well being of their children

16

Objectives

- Recognize the range of parental attitudes on immunization
- Identify effective approaches to discuss immunizations with specific parents
- Apply above mentioned approaches to increase HPV acceptance

17

Listen

Two ears

One mouth

18

Make a "CASE" for Vaccines

- Corroborate
  - Acknowledge the parent's concern
  - Find some point of agreement between you and the parent
  - Set the tone for a respectful conversation
- About me
  - Talk about what you've done to enhance your knowledge and expertise (eg, attended a conference)
- Science*
  - Describe what science has to say about the topic in question
- Explain and advise
  - Offer your recommendation, based on the science
  - Personal recommendation

19

Singer A. http://www.vicnetwork.org/wp-content/uploads/VICNetworkWebinar

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Case 1

20

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Make a "CASE" for Vaccines

- Corroborate
  - Acknowledge the parent's concern
  - Find some point of agreement between you and the parent
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  - Offer your recommendation, based on the science
  - Personal recommendation

21

Singer A. http://www.vicnetwork.org/wp-content/uploads/VICNetworkWebinar

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A Touch of Humanity

- Resist the righting reflex
  - Otherwise you run the risk of increasing a vaccine-hesitant parent's commitment to the status quo
- Understand motivations
  - Ask questions that elicit values and concerns
- Listen
  - Realize that simply providing the vaccine-hesitant parent with information doesn't automatically bring about change
- Empower
  - Remember: you are guiding the parent through the process of thinking aloud and deciding whether to change

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nature human behaviour LETTERS

Association of moral values with vaccine hesitancy

- When faced with parents who are hesitant with regards to vaccinating their children, physicians often trot out the same aphorisms:

  "vaccines protect your children from harm"

  "vaccines protect society"

- New research shows that, far from being persuasive, individuals who are hesitant with vaccination to begin with may become more entrenched in their beliefs when they are confronted with these types of arguments.

https://www.medpagetoday.com/blogs/themethodsman/69649?xid=nl_mpt_weeklyvideo_2017-12-09&eun=g967364d0r#

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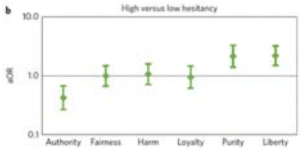

- Hesitant parents put high value on the concept of purity – they don't like the idea of putting something "unnatural" into their children.
- They value liberty – they want the choice of what goes into their kids.
- Appeals to authority – i.e., doctors – are not going to be very effective.

25

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Tips

- Appeal to concepts like purity and liberty.

Instead of saying

"vaccines protect your children"

Say

"Keep your child pure of infections – Vaccinate!"

26

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A Touch of Humor

TABLE 2. Number of Immunogenic Proteins and Polysaccharides Contained in Vaccines Over the Past 100 Years

1900		1960		1980		2000	
Vaccine	Proteins	Vaccine	Proteins	Vaccine	Proteins	Vaccine	Proteins/ Polysaccharides
Smallpox*	~200	Smallpox	~200	Diphtheria	1	Diphtheria	1
Total	~200	Diphtheria†	1	Tetanus	1	Tetanus	1
		Tetanus‡	1	WC-Pertussis	~3000	AC-Pertussis¶¶	2-5
		WC-Pertussis§	~3000	Polio	15	Polio	15
		Polio‖	15	Measles¶	10	Measles	10
		Total	~3217	Mumps#	9	Mumps	9
				Rubella**	5	Rubella	5
				Total	~3041	Hib††	2
						Varicella‡‡	69
						Pneumococcus§§	8
						Hepatitis B‖‖	1
						Total	123–126

Offit PA et al, *Pediatrics* (2002) 109:124-9

27

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A Touch of Reality

What We're Afraid Of	What The Real Risk Is
Shark attacks (28)	Dog bites (4.5 million)
Murder (14,180)	Suicide (33,289)
Death by peanut allergy (50)	Death by poisoning (27,531)
Death by plane crash (321)	Death by car crash (34,017)

Figures shown in parentheses are annual averages.

28

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Case 2

29

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A touch of – just tell them what to do!

- Use a ***presumptive*** format (eg, "Well, we have some shots to give today")
  - Presupposes patient will be immunized, increasing the likelihood of vaccine acceptance
- Avoid a ***participatory*** format (eg, "What do you want to do about shots?")
  - Implies that choosing not to vaccinate is medically acceptable
- Be persistent in cases of initial resistance (eg, "He really needs these shots" or "If she were my child, I'd definitely go ahead")

Opel DJ, et al. *Pediatrics.* 2013;132(6):1037-1046. 2. Opel DJ, et al. *Am J Public Health.* 2015;105(10):1998-2004.

30

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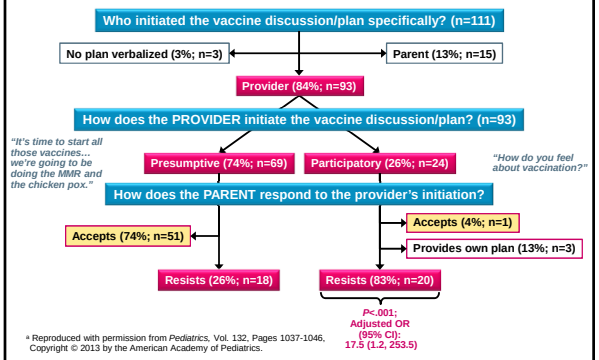
Don't Be Afraid to Use a Presumptive Approach to Immunization Communication[1a]



[a] Reproduced with permission from *Pediatrics*, Vol. 132, Pages 1037-1046, Copyright © 2013 by the American Academy of Pediatrics.

Reference: 1. Opel DJ, et al. *Pediatrics*. 2013;132(6):1037-1046.

31

From: Effect of a Health Care Professional Communication Training Intervention on Adolescent Human Papillomavirus Vaccination: A Cluster Randomized Clinical Trial

5 Interventions:

- HPV fact sheet library to create customized information sheets relevant to each practice's patient population
- Tailored parent education website
- A set of HPV-related disease images
- An HPV vaccine decision aid
- 2½ hours of communication training on using a presumptive vaccine recommendation, followed by motivational interviewing if parents were resistant to vaccination.
  - self-guided, 30-minute webinar, plus 2 in-person, group training sessions that lasted 1 hour each

JAMA Pediatr. Published online March 05, 2018.e180016 doi:10.1001/jamapediatrics.2018.0016

32

Did it work?

- Adolescents in the intervention practices had significantly higher odds of HPV vaccine series initiation (adjusted odds ratio [aOR], 1.46; 95% CI, 1.31-1.62) and completion (aOR, 1.56; 95% CI, 1.27-1.92) than those in the control practices (a 9.5–absolute percentage point increase in HPV vaccine series initiation and a 4.4–absolute percentage point increase in HPV vaccine series completion in intervention practices).
- The intervention had a greater effect in pediatric practices compared with family medicine practices and in private practices compared with public ones.

33

What can I do?

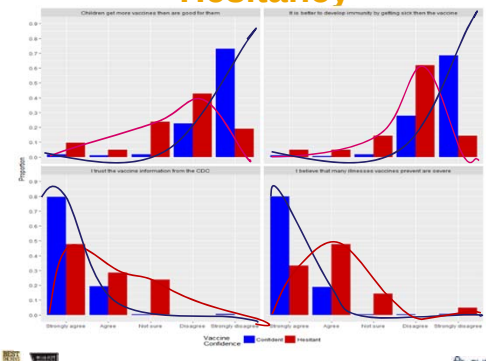
- Health care professionals reported that communication training and the fact sheets were the most used and useful intervention components.

COVER

Of 1447 residents invited, 746 completed the survey (52% response rate). Among participants, 12 were excluded due to inability to determine residency type and or year. The final cohort consisted of 734 residents.

- Knowledge: The proportion of correct answers increased with residency year from PGY1 to PGY4 (49%, [95% CI 47-51]; 64% [95% CI 58-70]; test for trend p<.001). Compared to Family Medicine residents, Pediatric residents were more likely to answer knowledge questions correctly (56%; 49%; p<.001).
- Attitudes: Confidence in communicating with parents increased with training year (p <.001), but confidence in vaccination did not.
- Hesitancy: Three percent of residents (n=21) self-reported as vaccine hesitant. They were more likely to be FM (75%, p<.001). Residents were more likely to delay a vaccine in a vaccine eligible patient (i.e., someone without a medical contraindication) with increased year of training (p<0.001).

Hesitancy



Objectives

- Recognize the range of parental attitudes on immunization
- Identify effective approaches to discuss immunizations with specific parents
- Apply above mentioned approaches to increase HPV acceptance

HPV
(Human papillomavirus)

Understanding the Burden

HPV INFECTION & DISEASE

YOU ARE THE KEY TO CANCER PREVENTION

HPV Infection

- **Almost all females and males will be infected with at least one type of HPV at some point in their lives**
  - Estimated 79 million Americans currently infected
  - 14 million new infections/year in the US
  - HPV infection is most common in people in their teens and early 20s
- **Most people will never know that they have been infected**

Jemal A et al. J Natl Cancer Inst 2013;105:175-201

YOU ARE THE KEY TO CANCER PREVENTION

HPV Transmission

- HPV exposure can occur with any type of intimate sexual contact
- Intercourse is not necessary to become infected
- Nearly 50% of high school students have already engaged in sexual (vaginal-penile) intercourse
  - 1/3 of 9th graders and 2/3 of 12th graders have engaged in sexual intercourse
  - 24% of high school seniors have had sexual intercourse with **4 or more partners**

Jemal A et al. J Natl Cancer Inst 2013;105:175-201

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HPV is found in virgins

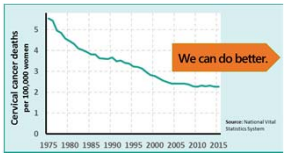
- Study examined the frequency of vaginal HPV and the association with non-coital sexual behavior in longitudinally followed cohort of adolescent women without prior vaginal intercourse
- HPV was detected in 46% of women prior to first vaginal sex
- 70% of these women reported non-coital behaviors that may in part explain genital transmission

Shew, J Infect Dis. 2012

YOU ARE THE KEY TO CANCER PREVENTION

Cervical Cancer

- Cervical cancer is the most common HPV-associated cancer among women
  - 528,00 new cases and 266,000 deaths world-wide in 2012
  - 12,000 new cases and **4,000 deaths** in the U.S. in 2013



- Half of cervical cancers occur in women <50 years
  - A quarter of cervical cancers occur in women 25-39 years

https://nccd.cdc.gov/uscs/ and http://gco.iarc.fr/today/home

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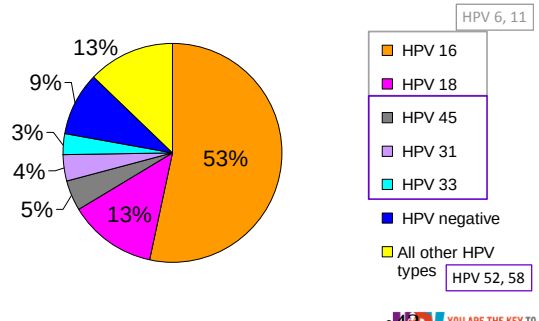
HPV Types That Cause Cervical Cancer: A Worldwide Survey



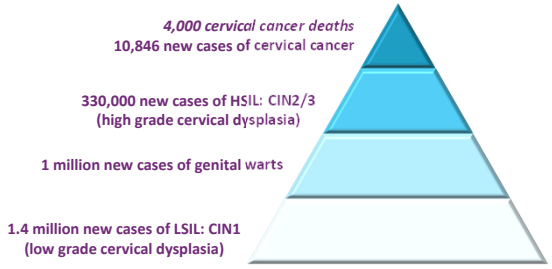
43

The Pap smear in the 21st Century

- Sensitivity of pap smear is problematic
- 50% of women diagnosed with cervical cancer never had cytology screening
- HPV testing is extremely sensitive, but less specific than Pap
  - All cervical cancers are due to HPV
  - But most HPV resolves without clinical disease
- Combinations of tests may emphasize strengths and decrease weaknesses

44

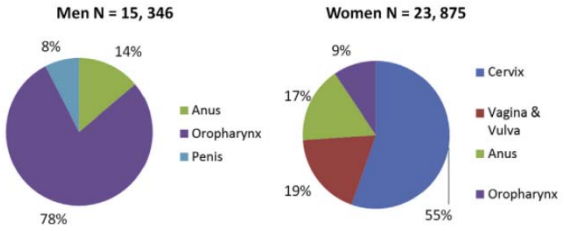
Without vaccination, annual burden of genital HPV-related disease in U.S. *females*:



Nearly 3 million cases and $7 billion

American Cancer Society. 2008; *Sex Transm Dis*. 2004; Schiffman *Arch Pathol Lab Med*. 2003; Koshiol Insinga, Pharmacoeconomics, 2005

Average Number of New HPV-Associated Cancers by Sex, in the United States, 2015



See Pahud & Ault 2015 and Saraiya *et al* 2015

HPV-Associated Oropharyngeal Cancers

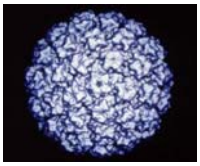
- Prevalence increased from 16.3% (1984-89) to **71.7%** (2000-04)
- Population-level incidence of HPV-positive cancers increased by **225%** while HPV-negative cancers declined by 50%

If trends continue, the annual number of HPV-positive oropharyngeal cancers is expected to surpass the annual number of cervical cancers by the year 2020

Chaturvedi, 2011, J Clin Oncol- data from SEER

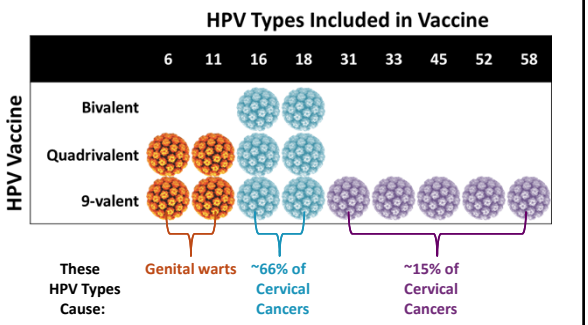
HPV Prophylactic Vaccines

- Recombinant L1 capsid proteins that form "virus-like" particles (VLP)
- Non-infectious and non-oncogenic
- Produce higher levels of neutralizing antibody than natural infection



HPV Virus-Like Particle

HPV Vaccine Comparison



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HPV Vaccine Recommendation

CDC recommends routine vaccination at age 11 or 12 years to prevent HPV cancers

- The vaccination series can be started at age 9 years
- Two doses of vaccine are recommended
- The second dose of the vaccine should be administered 6 to 12 months after the first dose.

Meites et al. MMWR. 2016.

YOU ARE THE KEY TO CANCER PREVENTION

HPV Vaccine Recommendations: Catch Up/Late

- Cat B: Vaccination for females through age 26 years and for males through age 21 years who were not previously adequately vaccinated. Males aged 22 through 26 years may be vaccinated.
- Vaccination is also recommended through age 26 for gay, bisexual, and other men who have sex with men (MSM), transgender people, and people with certain immunocompromising conditions (including HIV infection).

51

Meites et al. MMWR. 2016.

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Dosing Schedules

Before 15th birthday	On or after 15th birthday OR Immunocompromised 9-26 years
Recommended schedule is 2 doses of HPV vaccine	**Recommended schedule is 3 doses of HPV vaccine**
➡ 2nd dose: 6–12 months after 1st	➡ 2nd dose: 1–2 months after 1st
(0, 6–12 month schedule)	➡ 3rd dose: 6 months after 1st
	(0, 1–2, 6 month schedule)

Meites et al. MMWR. 2016.

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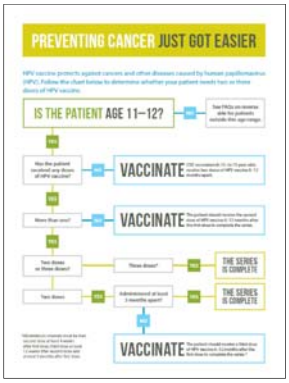

www.cdc.gov/hpv/downloads/hpv-2-dose-decision-tree.pdf

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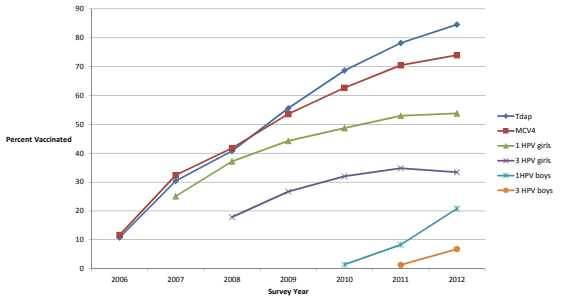
HPV Vaccination Is Safe, Effective, and Provides Lasting Protection

- **HPV Vaccine is SAFE**
  - Benefits of HPV vaccination far outweigh any potential risks
  - Safety studies findings for HPV vaccination similar to safety reviews of MCV4 and Tdap vaccination
- **HPV Vaccine WORKS**
  - Population impact against early and mid outcomes have been reported in multiple countries
- **HPV Vaccine LASTS**
  - Studies suggest that vaccine protection is long-lasting
  - No evidence of waning protection

Garland et al, Prev Med 2011; Ali et al, BMJ 2013; Markowitz JID 2013; Nsouli-Maktabi MSMR 2013

YOU ARE THE KEY TO CANCER PREVENTION

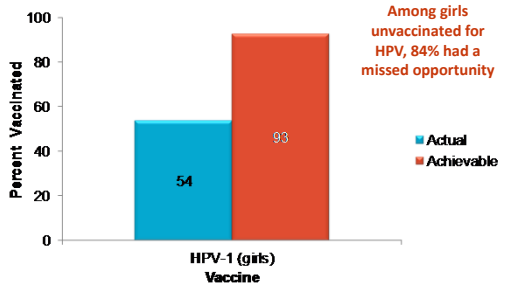
National Estimated Vaccination Coverage Levels among Adolescents 13-17 Years, National Immunization Survey-Teen, 2006-2012



Tdap: tetanus, diphtheria, acellular pertussis vaccine.
MCV4: meningococcal conjugate vaccine
HPV: human papillomavirus vaccine

YOU ARE THE KEY TO CANCER PREVENTION

Actual and Achievable Vaccination Coverage if Missed Opportunities Were Eliminated: Adolescents 13-17 Years, NIS-Teen 2012



Among girls unvaccinated for HPV, 84% had a missed opportunity

Missed opportunity: Encounter when some, but not all ACIP-recommended vaccines are given.
HPV-1: Receipt of at least one dose of HPV.

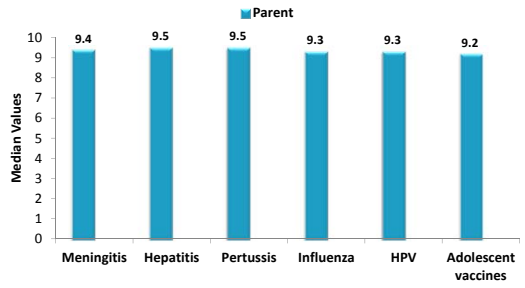
YOU ARE THE KEY TO CANCER PREVENTION

Talking about HPV vaccine

FRAMING THE CONVERSATION

YOU ARE THE KEY TO CANCER PREVENTION

Value Parents Place on the Vaccines



Adapted from Healy et al. Vaccine. 2014.

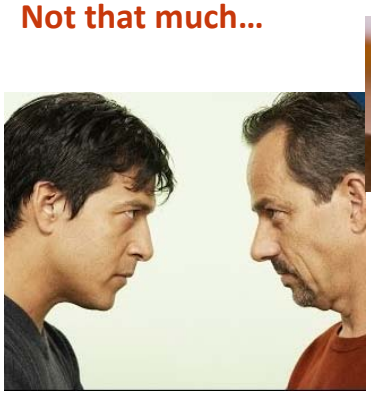
YOU ARE THE KEY TO CANCER PREVENTION

YOU ARE THE KEY TO CANCER PREVENTION

Eye contact!

YOU ARE THE KEY TO CANCER PREVENTION

Not that much…



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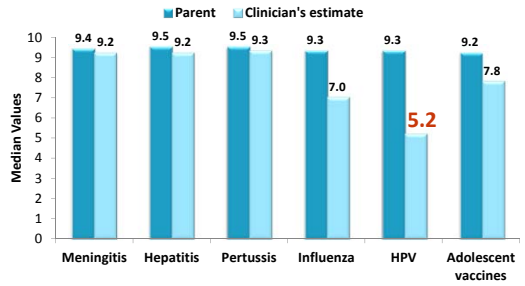
Clinicians underestimate the value parents place on HPV vaccine



Adapted from Healy et al. Vaccine. 2014.

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Why at 11 or 12 years old?

- **Parents want a concrete reason why 11-12 year olds should receive HPV vaccine**
  - In audience research with moms, almost all respondents were unaware of the correct age range the vaccine was recommended
  - Respondents also missed the concept of vaccinating before sexual activity

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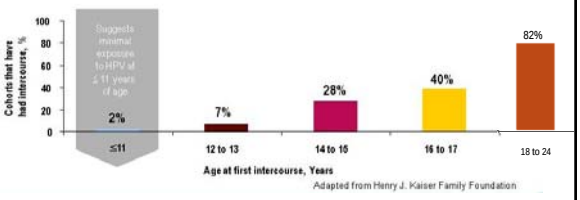
Rationale for vaccinating early: Protection prior to exposure to HPV



Markowitz MMWR 2007;
Holl Henry J Kaiser Found 2003;
Mosher Adv Data 2006

YOU ARE THE KEY TO CANCER PREVENTION

HPV vaccine effectiveness for cervical histological outcome by age

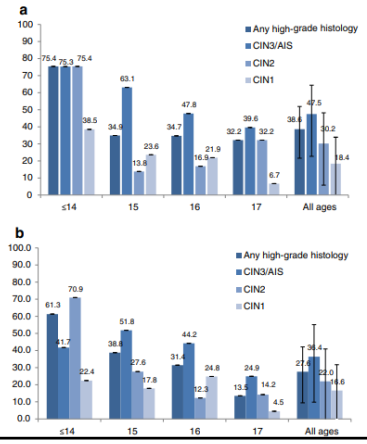
(a) Completed vaccine course

b) Any vaccine dose

All high-grade histology is defined as CIN2, CIN3, AIS and mixed CIN3/AIS.

Vaccine effectiveness is defined as (1-adjusted hazard rate) x 100.

Age in years, as of 2007.



When do we put our seat belts on?

A. Before turning on car

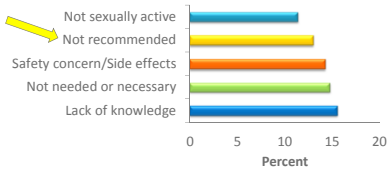
B. When leaving driveway

C. After a near accident

Temte JL. Pediatrics 2014

YOU ARE THE KEY TO CANCER PREVENTION

Give a Strong Recommendation to Receive HPV Vaccine at Ages 11 or 12



- ***A strong recommendation from you is the main reason parents decide to vaccinate***
- Many moms in focus groups stated that they trust their child's doctor and would get the vaccine for their child as long as they received a recommendation from the doctor

MMWR 2014; 63(29);625-633;
Unpublished CDC data, 2013.

YOU ARE THE KEY TO CANCER PREVENTION

"The perceived and real concerns of parents influence how the clinician recommends and administers HPV vaccine."

Adapted from Healy et al. Vaccine. 2014.

YOU ARE THE KEY TO CANCER PREVENTION

Some Parents Need Reassurance

- Many parents simply accept of this bundled recommendation
- Some parents may be interested in vaccinating, yet still have questions. Interpret a question as they need additional reassurance from YOU, the clinician they trust with their child's health care
- Ask parents about their main concern (be sure you are addressing their real concern)

Unpublished CDC data, 2013.

YOU ARE THE KEY TO CANCER PREVENTION

An anti-cancer vaccine

- **The "HPV vaccine is cancer prevention" message resonates strongly with parents**
  - In focus groups and online panels, mothers wanted more information on the types of HPV cancers
  - In focus groups mothers stated they were influenced to vaccinate their child because HPV vaccine prevents cancer, they had a family history of cervical cancers, and/or because they had a personal experience with cervical cancer

YOU ARE THE KEY TO CANCER PREVENTION


NCI-designated Cancer Centers Urge HPV Vaccination for the Prevention of Cancer

Approximately 79 million people in the United States are currently infected with a human papillomavirus (HPV) according to the Centers for Disease Control and Prevention (CDC), and 14 million new infections occur each year. Several types of high-risk HPV are responsible for the vast majority of cervical, anal, oropharyngeal (middle throat) and other genital cancers. The CDC also reports that each year in the U.S., 37,000 men and women are diagnosed with an HPV related cancer, which amounts to a new case every 20 minutes. Even though many of these HPV related cancers are preventable with a safe and effective vaccine, HPV vaccination rates across the U.S. remain low.

Together we, the National Cancer Institute (NCI)-designated Cancer Centers, recognize these low rates of HPV vaccination as a serious public health threat. HPV vaccination represents a rare opportunity to prevent many cases of cancer that is tragically underused. As national leaders in cancer research and clinical care, we are compelled to jointly issue this call to action.

According to a 2015 CDC report, only 40 percent of girls and 21 percent of boys in the U.S. are receiving the recommended three doses of the HPV vaccine. This falls far short of the goal of 80 percent by the end of this decade, set forth by the U.S. Department of Health and Human Services Healthy People 2020 mission. Furthermore, U.S. rates are significantly lower than those of countries such as Australia (75 percent), the United Kingdom (84-92 percent) and Rwanda (93 percent), which have shown that high vaccination rates are currently achievable.

The HPV vaccines, like all vaccines used in the U.S., passed extensive safety testing before and after being approved by the U.S. Food and Drug Administration (FDA). The vaccines have a safety profile similar to that of other vaccines approved for adolescents in the U.S. Internationally, the safety of HPV vaccines has been tested and approved by the World Health Organization's Global Advisory Committee on Vaccine Safety.

CDC recommends that boys and girls receive three doses of HPV vaccine at ages 11 or 12 years. The HPV vaccine series can be started in preteens as early as age 9 and should be completed before the 15th birthday. The HPV vaccine is more effective the earlier it is given, however, it is also recommended for young women until age 26 and young men until age 21.

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Make an Effective Recommendation

- **Same way: Effective recommendations group all of the adolescent vaccines**
  Recommend HPV vaccination the *same way* you recommend Tdap & meningococcal vaccines.

- **Same day: Recommend HPV vaccine *today***
  Recommend HPV vaccination the *same day* you recommend Tdap & meningococcal vaccines or at any visit.

Unpublished CDC data, 2013.

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Is it safe?

Frequently Asked Questions about HPV Vaccine Safety

- Is HPV vaccine safe?
- Which HPV vaccine is available in the United States?
- Are there known side effects from getting HPV vaccine?
- Is there anyone who should not get HPV vaccine (Gardasil 9)?
- How are HPV vaccines monitored for possible safety problems?
- Have serious adverse events been reported after people receive HPV vaccines?
- Can HPV vaccines damage women's ovaries?
- Are HPV vaccines safe for pregnant women?
- Have HPV vaccines been linked to Guillain-Barré syndrome? (GBS)
- Can HPV vaccines cause postural orthostatic tachycardia syndrome (POTS)?
- Do HPV vaccines cause chronic regional pain syndrome (CRPS)?
- Do HPV vaccines cause chronic fatigue syndrome?
- Has anyone died after receiving HPV vaccines?
- Have FDA and CDC changed any HPV vaccine recommendations based on vaccine safety monitoring?
- What if someone has a serious reaction after getting an HPV vaccine?
- Where can I get more information about HPV vaccines?

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HPV Vaccine Safety Data Sources

- Over 60 million doses of HPV vaccine distributed in US since 2006
- Over 200 million doses of the quadrivalent and 80 million doses of the bivalent vaccines have been administered globally (2015)
- The vaccine surveillance systems in countries regularly monitor and report the serious and the non-serious adverse events after HPV vaccination

[1]Vaccine Adverse Events Reporting System, http://vaers.hhs.gov/index
[2]Vaccine Safety Datalink, http://www.cdc.gov/vaccinesafety/Activities/VSD.html
[3]http://www.who.int/vaccine_safety/Jun_2009/en/
[4]http://www.iom.edu/Reports/2011/Adverse-Effects-of-Vaccines-Evidence-and-Causality.aspx

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Over 10 Years of HPV Vaccine Safety Data

- HPV vaccine is safe
- Reactions after vaccination may include
  - Injection site reactions: pain, redness, and/or swelling in the arm where the shot was given
  - Systemic: fever, headaches
- Brief fainting spells (syncope) and related symptoms (such as jerking movements) can happen soon after any injection, including HPV vaccine
- Patients should be seated (or lay down) during vaccination and remain in that position for 15 minutes

Gee, et al. Hum Vaccin Immunother. 2016.

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Evaluating and Monitoring 9-valent HPV Vaccine Safety in the United States

Monitoring of VAERS Reports
- Clinical review of deaths and other pre-specified adverse events
- Data mining to identify disproportional reporting

Vaccine Safety Datalink
- Near real time monitoring of 10 pre-specified outcomes
- Evaluation of spontaneous abortion

Manufacturer post-marketing commitments
- Two, 10-year studies to assess long term safety
- Observational study to further characterize the safety profile in 10,000 persons
- Pregnancy registry

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Monitoring Impact of HPV Vaccine Programs on HPV-Associated Outcomes

HPV VACCINE IMPACT

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HPV vaccine impact monitoring

- Post licensure evaluations are important to evaluate real world effectiveness of vaccines
- Population impact against early and mid outcomes have been reported:

Genital warts
- Australia, New Zealand, Denmark, Sweden, Germany, Quebec, US

HPV prevalence
- Australia, Norway, Denmark, Sweden, UK, US

Cervical lesions
- Australia, British Columbia, Denmark, Sweden, US

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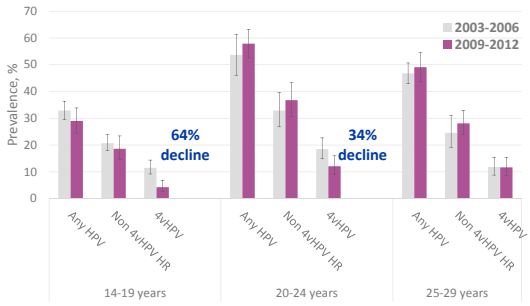
Prevalence of HPV before & after introduction of HPV vaccination in the United States



Markowitz L et al. Pediatrics. 2016.

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HPV Vaccine Impact: High HPV Vaccine Coverage in Australia

- 80% of school-age **girls** in Australia are fully vaccinated
- High-grade cervical lesions have declined in women less than 18 years of age
- For vaccine-eligible females, the proportion of genital warts cases declined dramatically by 93%
- Genital warts have declined by 82% among males of the same age, indicating herd immunity

Garland et al, Prev Med 2011
Ali et al, BMJ 2013

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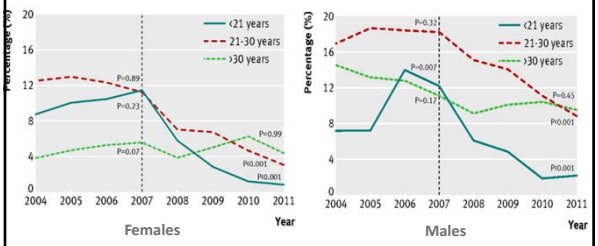
Impact of HPV vaccination in Australia

Proportion of Australian born females and males diagnosed as having genital warts at first visit, by age group, 2004-11



Ali, et al. BMJ 2013

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Systematic Review and Meta-Analysis: Population-Level Impact of HPV Vaccination

- Review of 20 studies in 9 high income countries
- In countries with ***>50% coverage,*** among 13-19 year olds
  - HPV 16/18 prevalence ***decreased at least 68%***
  - Anogenital warts decreased by ~61%
- Evidence of herd effects
- Some evidence of cross protection against other types

Drolet et al. Lancet Infect Dis. 2015

HPV Vaccine Duration of Protection

- Studies suggest that vaccine protection is long-lasting
- No evidence of waning protection
  - Available evidence indicates protection for ***at least*** 10 years
  - Multiple studies are in progress to monitor

ACIP. Summary Report. June 22-23, 2016.

Why We Need to Do Better in HPV Vaccination of 12 year olds

- Currently 26 million girls <13 yo in the US; If none of these girls are vaccinated then:
  - 168,400 will develop cervical cancer and
  - 54,100 will die from it
- Vaccinating 30% would prevent 45,500 of these cases and 14,600 deaths
- Vaccinating 80% would prevent 98,800 cases and 31,700 deaths

For each year we stay at 30% coverage instead of achieving 80%, 4,400 future cervical cancer cases and 1400 cervical cancer deaths will occur.

Avoid Missed Opportunities

- HPV vaccine can safely be given at the same time as the other recommended adolescent vaccines
- Provide HPV vaccine during routine sports, or camp physicals
- Review immunization record even at acute care visits
- Systems interventions depend on clinician commitment- determine what would work best for YOUR practice

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A green light for sexual activity?

- Parents may be concerned that vaccinating may be perceived by the child as permission to have sex
  - In focus groups, some parents expressed concern that in getting HPV vaccine for their child, they would be giving their child permission to have sex
  - This was one of the top four reasons respondednts gave when asked why they would not vaccinate their daughter
  - A few parents expressed that while they wanted their child to "wait to have sex" they understood that might not be the case

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Receipt of HPV vaccine does not increase sexual activity or decrease age of sexual debut

- Kaiser Permanente Center for Health Research
- 1,398 girls who were 11 or 12 in 2006, 30% of whom were vaccinated, followed through 2010
- No difference in markers of sexual activity, including
  - Pregnancies
  - Counseling on contraceptives
  - Testing for, or diagnoses of, sexually transmitted infections

Bednarczyk Pediatrics Oct 2012

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"How long can we wait and still give just two doses?"

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"The two-dose schedule is recommended if the series is started before the 15th birthday.

However, I don't recommend waiting to give this cancer-preventing vaccine. As children get older and have busier schedules, it becomes more difficult to get them back in.

I'd feel best if we started the series today to get your child protected as soon as possible."

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How Can Clinicians Help?

1. Give a **STRONG** recommendation
   - Ask yourself, how often do you get a chance to prevent cancer?
2. Start conversation early and focus on **cancer prevention**
   - Vaccination given well before sexual experimentation begins
   - Better antibody response in preteens
3. Offer a **personal story**
   - Own children/Grandchildren/Close friends' children
   - HPV-related cancer case
4. Welcome **questions** from parents, especially about safety
   - Remind parents that the HPV vaccine is safe and not associated with increased sexual activity

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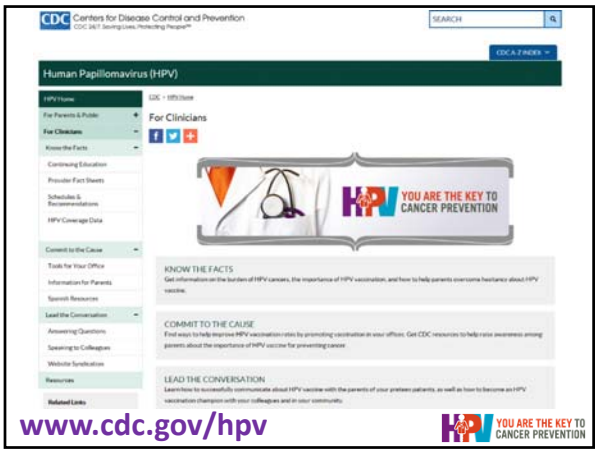

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