

# **A Dialogue About Promoting Adolescent Vaccination:**

## **Why Adolescent HPV Immunization, and Why Pediatric Providers?**

**Kenneth Alexander, M.D., Ph.D.**

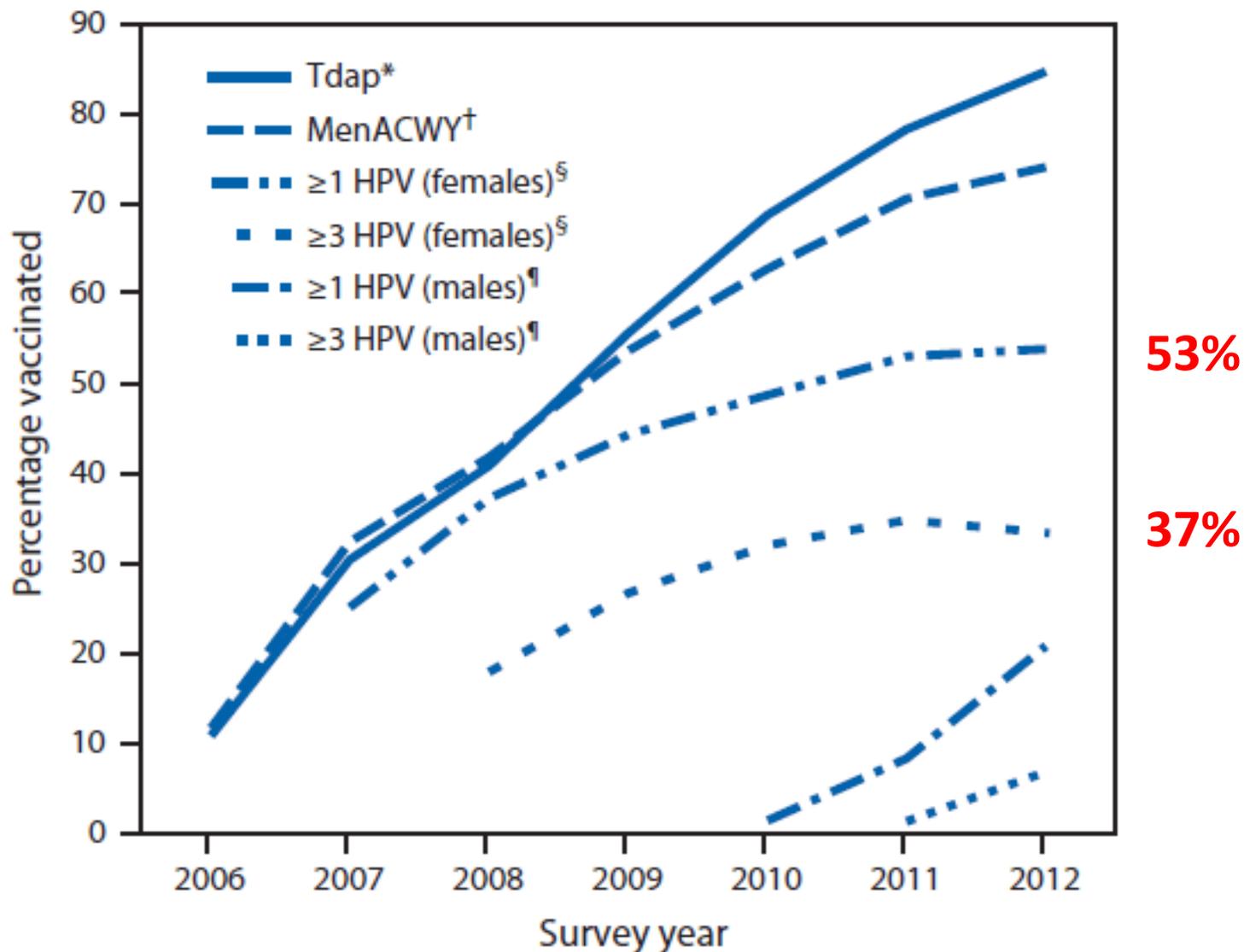
**Professor of Pediatrics**

**The University of Chicago**

# Potential Conflicts of Interest

- **Merck**
  - **Speaker**
  - **Advisory board**
  - **Investigator-initiated research project**
- **GlaxoSmithKline**
  - **Advisory board**

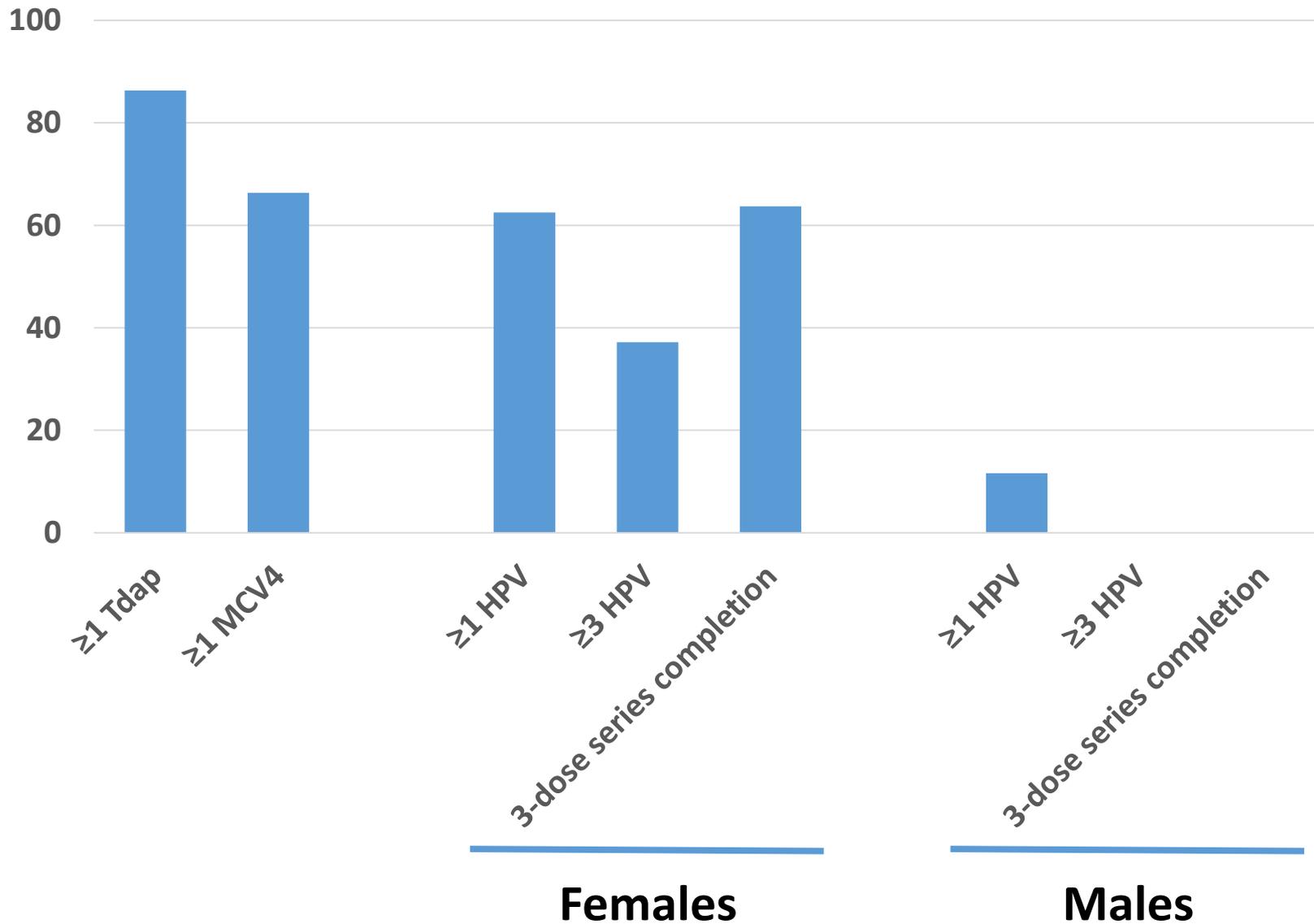
# NIS-Teen Survey: Uptake of adolescent vaccines, 2006 - 2012







# Estimated Vaccination Coverage Among Adolescents Aged 13-17 Years, National Immunization Survey-Teen, Nevada, 2012



# **Topics for our discussion**

- 1. HPV vaccine acceptance: Where are we now?**
- 2. Why is it important that we talk about adolescent immunization?**
- 3. How best to immunize adolescents?**
- 4. Why are pediatric providers the right people  
How best to talk about HPV immunization  
with our colleagues and in the community?**

**Why is it important that  
we discuss immunization of  
teens and young adults?**





TEXAS ONE OF THESE STARS  
BELONGS TO ME  
I'LL DO WHAT I MUST  
TO KEEP IT FREE.





# Vaccines for Teens: US

- **2000**

- **Td**

- **2014**

- **Tdap**

- **MCV4 (2 doses)**

- **HPV (3 doses)**

# Vaccines for teens: US 2014

- Tdap 1 dose
- MCV4 2 doses
- HPV 3 doses
- Hepatitis A 2 doses
- Influenza 1 dose annually
- Hepatitis B Catch-up to 3
- MMR Catch-up to 2
- Varicella Catch-up to 2

# Some vaccines that we wish we had

- HIV
- HSV
- GC
- RSV
- *Chlamydia*
- Group B *Strep.*
- Group A *Strep.*
- *Staph. aureus*
- Tuberculosis
- HCV
- Malaria
- Prostate cancer
- Breast cancer
- Stupidity

# Vaccines we wish we had that would likely go into teenagers

- HIV
- HSV
- GC
- RSV
- *Chlamydia*
- Group B *Strep.*
- Group A *Strep.*
- *Staph. aureus*
- Tuberculosis
- HCV
- Malaria
- Prostate cancer
- Breast cancer
- Stupidity



# **US Advisory Committee on Immunization Practices Recommendations**

- **Immunization of all males and females at ages 11 – 12 years**
  - **May begin as young as age 9 years**
- **Catch-up immunization of all females ages 13 – 26 years**
- **Catch-up immunization of all males ages 13 – 21**
  - **Catch-up immunization of males 21 – 26 years in high-risk populations**



**Are you crazy?  
My 9-year-old daughter isn't  
sexually active!**

**Good!**

**She shouldn't be!**

# *Why is it best to immunize adolescents at age 9 - 12 years?*



# **Three reasons to immunize at ages 9 - 12 years**

- 1. HPV vaccines are purely preventive**
- 2. Adolescents need other vaccines**
- 3. Young adolescents are still in our care**

# Three reasons to immunize at ages 9 - 12 years

## 1. HPV Vaccines are Purely Preventive

If we are to be good stewards  
of an expensive resource,  
we will immunize well before  
exposure to HPVs occurs



# Three reasons to immunize at ages 9 - 12 years

## 1. HPV Vaccines are Purely Preventive

Early immunization gives  
per-protocol efficacy.

Late immunization gives  
intention-to-treat efficacy.

# Three reasons to immunize at ages 9 - 12 years

## 2. Adolescents need other vaccines

**Tdap**

**Meningococcal vaccine**

**Influenza vaccine**

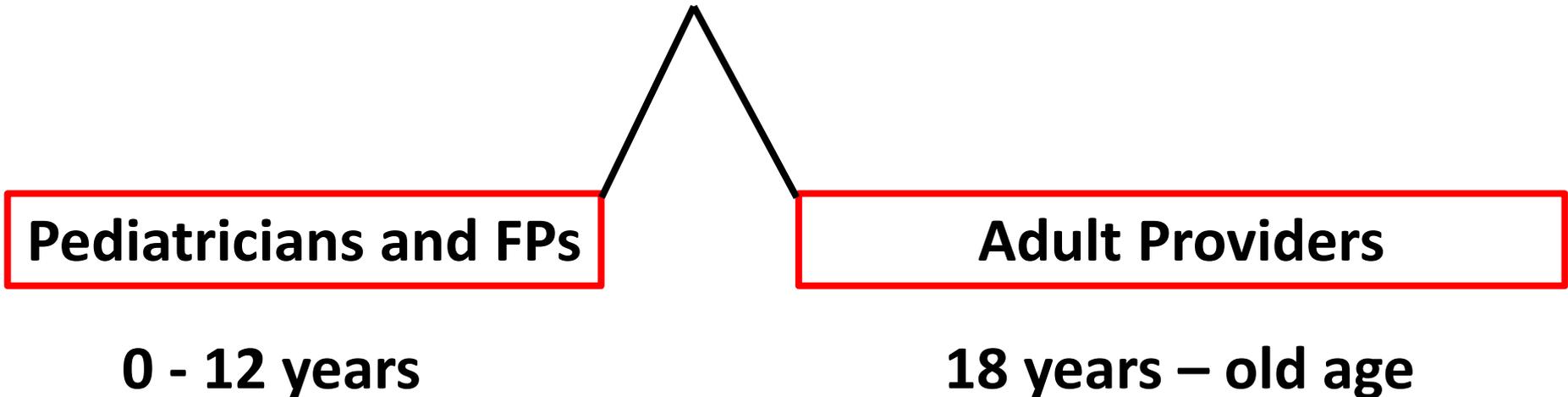
# Three reasons to immunize at ages 9 - 12 years

*The most important reason*

**3. Young adolescents are still in our care**

# *The Window Period of Adolescence: A Gap in US Healthcare*

*Adolescent window period  
Ages 12 – 18 years*



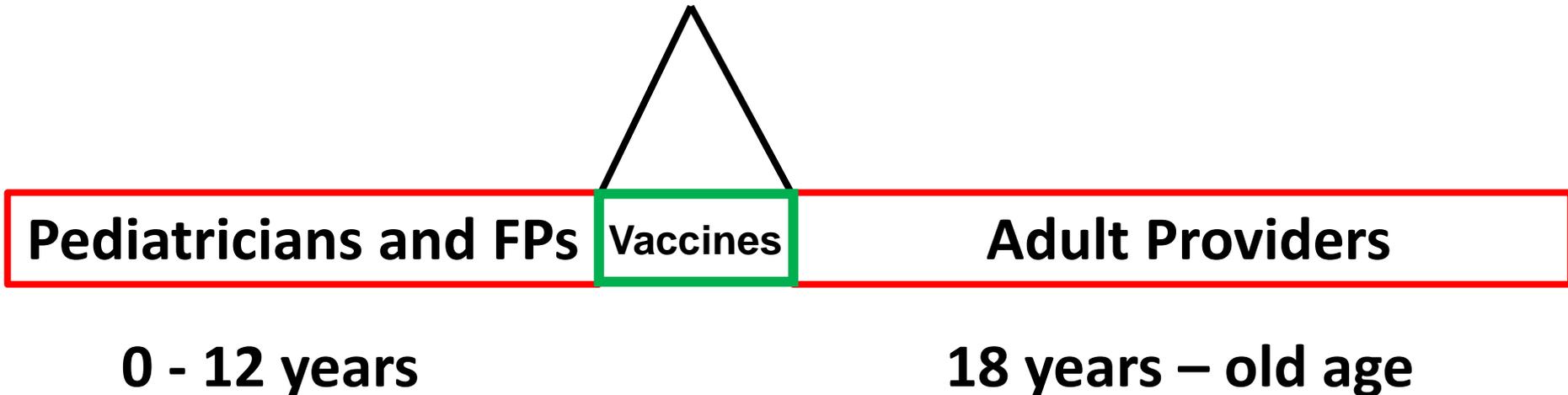
# **Immunization**

**is a well established tool that keeps infants and young children in our care.**

**Can we use immunization in the same way for adolescents?**

# *The Window Period of Adolescence: A Gap in US Healthcare*

*Adolescent window period  
Ages 12 – 18 years*



**Is the private office the best place to immunize adolescents?**

**Why have some countries done better than others?**



# **Why not private doctors' offices?**

- Many adolescents don't go to the doctor**
  - When they do go, it is for acute care**
- Many adolescents are poor**
- Many adolescents lack medical homes**
- Many offices don't immunize adolescents effectively**
- Costs for office-based immunization are high**

**If we're not going to immunize  
adolescents in doctors' offices,  
where should we immunize them?**

# Willie Sutton





**"Giving the HPV vaccine to young women could be potentially harmful because they may see it as a license to engage in premarital sex."**

***Bridget Maher,  
The Family Research Council***

WASSERMAN  
© 2011 THE BOSTON GLOBE  
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AHA! THE SURE SIGN  
OF PROMISCUITY!!



CHRISTIAN  
RIGHT

# **Human Papillomavirus Vaccine and Sexual Behavior Among Adolescent and Young Women**

**Liddon *et al.*,  
American Journal of Preventive Medicine  
42 (1), 44-52 (2012)**

# Human Papillomavirus Vaccine and Sexual Behavior Among Adolescent and Young Women

Liddon *et al.*,

American Journal of Preventive Medicine 42 (1), 44-52 (2012)

## • Results

- HPV vaccination was not associated with being sexually active or number of sex partners at either age.
- Among sexually active adolescents aged 15–19 years, those who received HPV vaccine were more likely to always wear a condom.

**WE HAVE MET  
THE ENEMY  
AND HE IS US.**



# **A challenge to HPV immunization**

- Physicians' risk-based mindset**
  - Makes us think “not my patients”**
  - Makes us give the wrong information to parents**

*Comment from a colleague:*

**“I’ll give the vaccine  
to my  
high-risk patients.”**

*Comment from a colleague:*

**This is a vaccine for  
“bad girls”  
and for  
immoral people.**







# *Adam and Eve*

Lucas Cranach the Elder  
(1472-1553)



# *Solome*

**Bernardino Luini**  
**1485 - 1532**



# **HPV epidemiology: U.S.**

**For both men and women,  
the lifetime risk of a genital  
HPV infection is 70-80%.**

**Thinking about HPV:**

**Sexually-transmitted infection  
or  
normal human flora?**



*What should we teach immunizers?*

**For HPV,  
risk-based immunization is a  
failed strategy  
that leaves the unimmunized  
at risk of cancer.**

**Vaccines competing for our attention**  
*In a world of limited resources,*  
*which adolescent vaccine is most important?*



**Tetanus/diphtheria/  
acellular pertussis?**

**Meningococcal  
vaccine?**

**HPV?**

**Sometimes, we are unclear about  
our immunization priorities.**

**At other times,  
we have the wrong priorities,  
particularly when we let parents  
negotiate a delay in HPV  
immunization.**

# US, 2009...

- Invasive meningococcal disease affected about 850 Americans
  - **Approximately 110 died**
- Nearly 17,000 cases of pertussis were reported in the U.S.
  - Many more cases go undiagnosed and unreported.
  - **Approximately 25 pertussis-related deaths occur each year** in the US (>90% are infants)

Active Bacterial Core Surveillance (ABCs) 1997-2009. Available at:  
<http://www.cdc.gov/abcs/reports-findings/survreports/mening09.html>,

Accessed 5/21/2011.

# US, 2010:

- **12,200 cases of cervical cancer**
  - **4210 deaths**
- **4200 HPV-associated vaginal and vulvar carcinomas**
  - **1000 deaths**
- **5260 anal cancers**
  - **720 deaths**
- **Approximately 12,000 cases of HPV-associated head and neck cancers**
  - **Approximately 2500 deaths**

**HPV vaccination could prevent more than 5000 cancer deaths each year in the US**

*Victims of our own successes...*

**When you carry out a large  
vaccination program,  
bad things  
sometimes happen to people.**

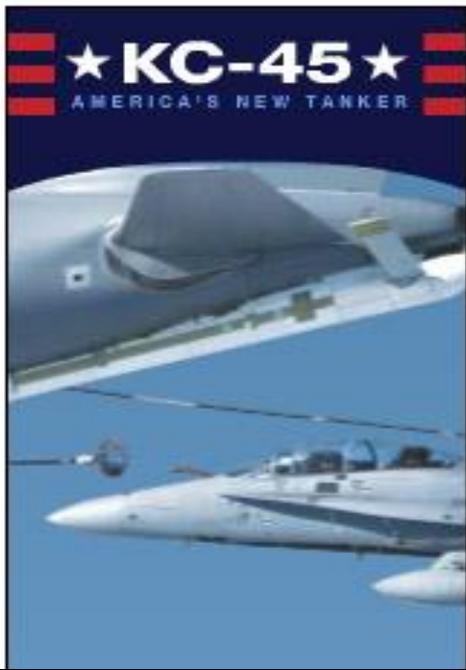
**Not all things that happen are  
vaccine-related.**

**People continue to mistake a temporal association for a causal association**

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# HPV vaccine's suspected side effects cause concern

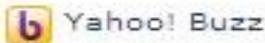
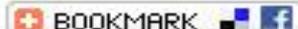
12:31 PM CDT on Friday, June 6, 2008

By JESSICA MEYERS / The Dallas Morning News  
jmeyers@dallasnews.com

Katherine Kimzey started suffering debilitating headaches, fainting spells and arthritis-like stiffness last November.

Six weeks later, the 14-year-old Dallas resident became so dizzy she could barely walk. She was hospitalized and missed three weeks of school.

Then, she had a seizure. For weeks, she bounced back and forth between specialists and was eventually diagnosed with epilepsy.

-  Email
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-  Yahoo! Buzz
-  BOOKMARK  

### Video



Katherine Kimzey, 14, talks about symptoms she suffered after her

**“The events reported  
were consistent with events expected in  
healthy adolescent and adult  
populations.”**

***Gardasil* Prescribing Information**

**“Causes of death among subjects were  
consistent with those reported in  
adolescent and adult female populations.”**

***Cervarix* Prescribing Information**

**What is the leading  
cause of death  
in adolescents who receive  
HPV vaccination?**





**Parents make decisions,  
not on the basis of facts,  
but on the basis of  
experience.**

**How we talk about HPV immunization  
with our patients and  
in the community  
must differ from  
how we speak with one another.**

**To best serve our patients,  
we must be translators.**

**When we speak doctor-to-doctor,  
we use the language of epidemiology.**

**We talk about risk.**

**We use statistics.**

**Proven facts matter.**

**When we talk to patients  
and in the community,  
we must be less scientific  
and more emotional.**

**We must tell compelling stories.**



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*Honoring those whose lives have been lost or forever changed by vaccination.*

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### They had no voice. They had no choice.

They are the men, women, and children who have died or been injured by vaccines in nations around the world for the past 200 years. This is a virtual Memorial dedicated to those whose lives have been forever changed by vaccines they were often required by law to use.

The National Vaccine Information Center, headquartered in the United States, has created

**In the US,  
about 4500 women die of  
cervical cancer each year.**

**4500 women/year dying of cervical cancer =  
One 747 crash every 6 weeks**



# Median Age at Cancer Diagnosis: US

- **Breast Cancer** 62 years
- **Colon Cancer** 68 years (men)  
72 years (women)
- **Prostate Cancer** 67 years
- **Lung Cancer** 72 years

# HPV-Associated Cancers Affect Younger Adults

## Median Age at Diagnosis of HPV-Associated Cancers

- **Oropharyngeal Cancer** **62 years**

- **30% before age 50 years**

- **HPV-related cancers typically <50 years**

- **Anal Cancer** **60 years**

- **Over 30% before age 55**

- **Cervical Cancer** **47 years**

- **More than 14% before age 35**





# **Two approaches...**

- HPV stands for human papillomavirus**
- HPV causes genital warts and cervical cancer**
- HPVs are transmitted sexually**
- Many adolescents become sexually active by age 13**
- Do you want this vaccine for your 11 year-old?**



***My child is not  
(and never will be)  
sexually active!***

# Two approaches...

- **Has anyone that you care about had cancer?**
  - **What was it like for them?**
  - **What was it like for you?**
- **We can reduce the chances of your son or daughter having a cancer experience.**
- **Do you want to reduce your child's risk of cancer?**



**When talking with parents  
about immunization,  
parents want to know three things:**

**1) Does it work?**

**2) Is it safe?**

**3) What is your recommendation?**

# Talking with Parents about Immunization

## 1) Does it work?

**Yes!**

**Vaccine efficacy is high for prevention of cervical disease, genital warts, and anal malignancies.**

**The vaccine may also protect against some head and neck cancers.**

# Talking with Parents about Immunization

## 2) Is it safe?

**Yes!**

**Large clinical trials and extensive post-marketing surveillance have identified sore arms, and the occasional headache and fever, as the only vaccine-associated side effects**

# Talking with Parents about Immunization

**3) What is your recommendation?**

**Use Every Opportunity to Immunize**



**Nothing you do for children  
is ever wasted.**

***Garrison Keillor***