KANSAS CHAPTER
AMERICAN ACADEMY OF PEDIATRICS

HPV Vaccine: an Update

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President-Elect

Kansas Chapter

American Academy of Pediatrics

Kansas Pediatric Foundation

Disclosure

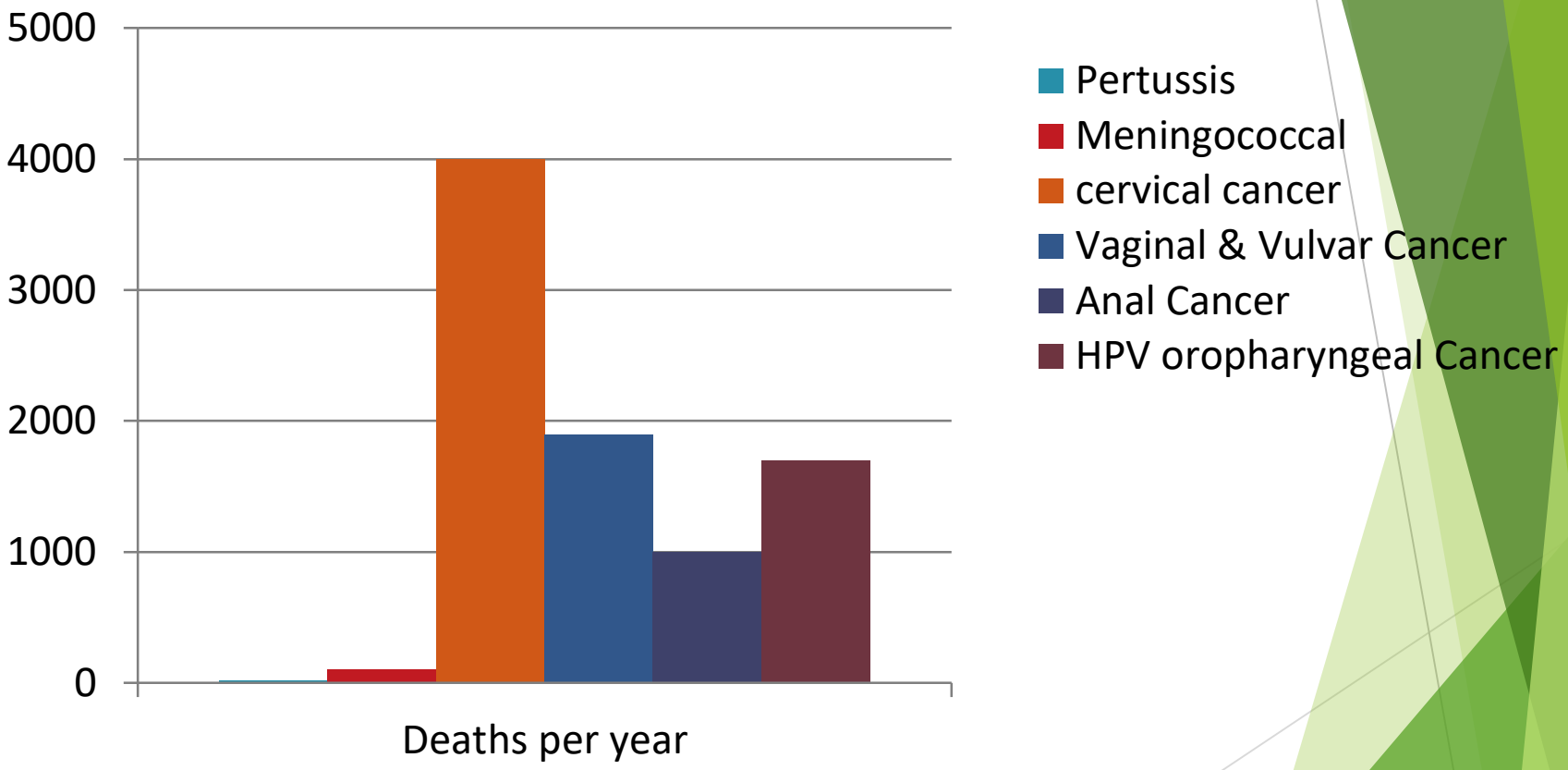
- We have no relevant financial relationships with the manufacturers(s) of any commercial products(s) and/or provider of commercial services discussed in this CME activity. **This program was made possible in part by a Kansas Department of Health and Environment grant.**

- We do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.

Objectives

- Realize how common HPV is and know the virulent & less virulent strains of HPV.
- Be able to educate patients and parents on HPV prevalence.
- Know more about the available HPV vaccine, its history and recommendations .
- Understand the importance of a strong provider recommendation for vaccination.

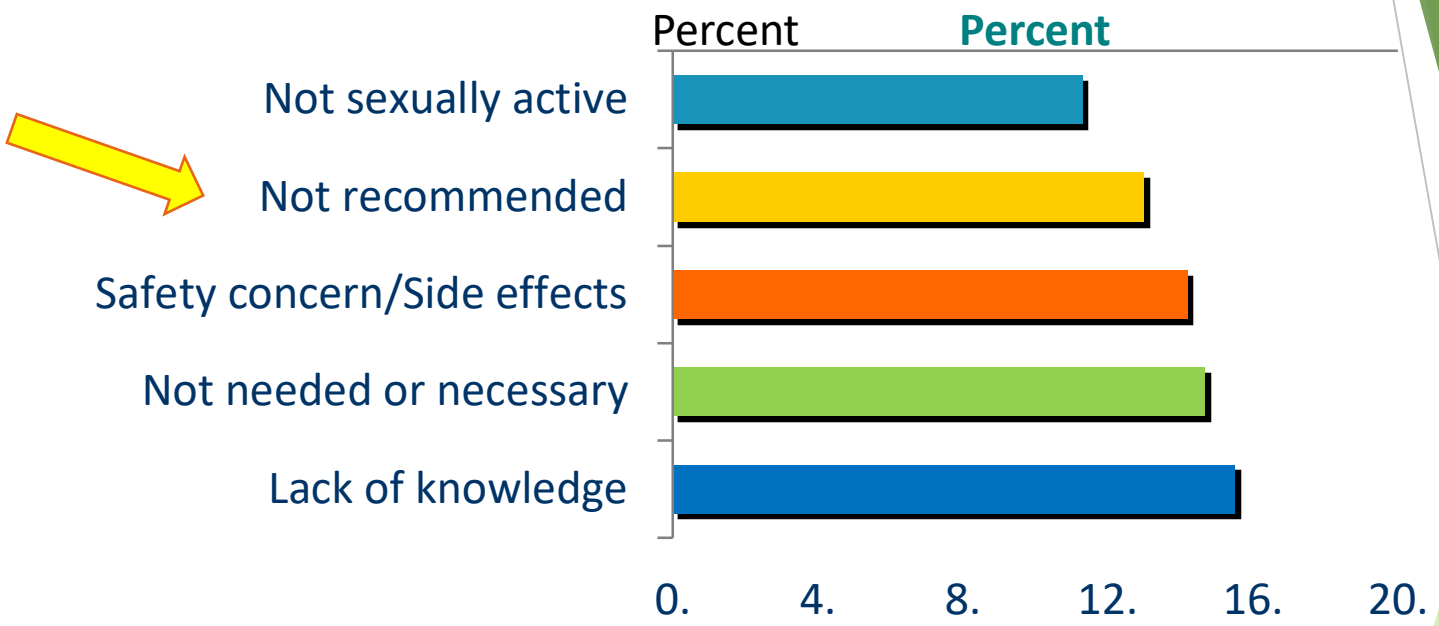
Vaccination Works!!



Strong Provider Recommendation

- Provider recommendation is strongly correlated with vaccination
  - Over 70% of adolescents who receive recommendation get vaccinated against HPV

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



MMWR 2014; 63(29);625-633; Unpublished CDC data, 2013.

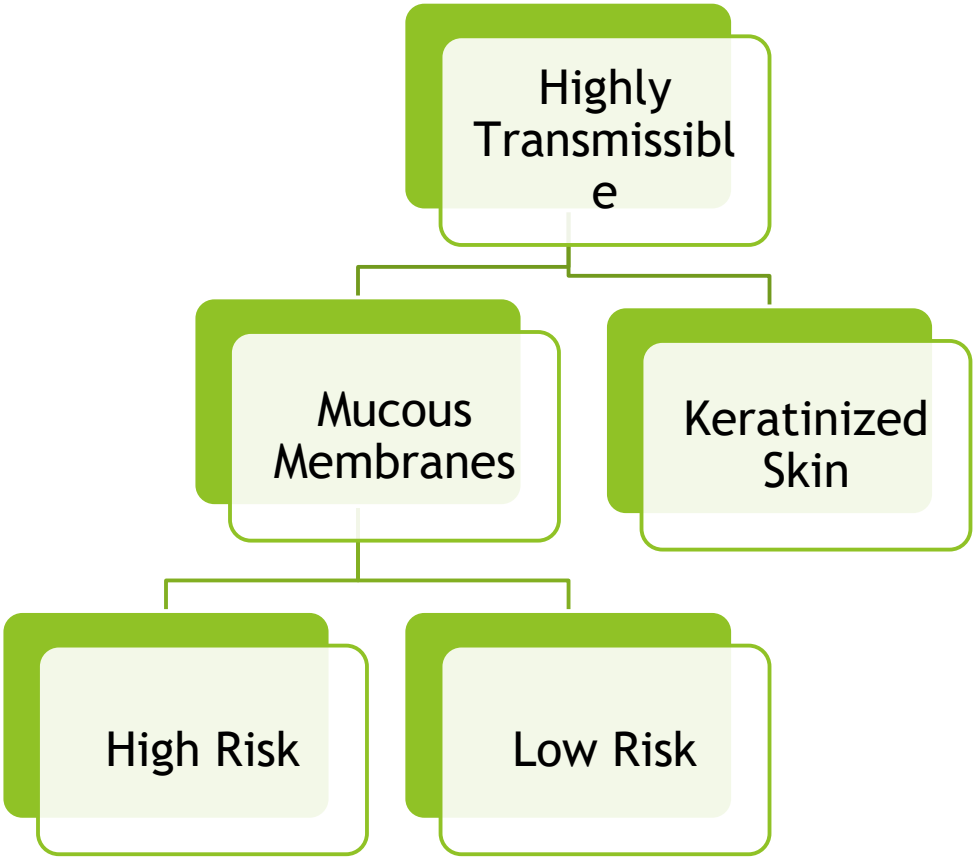
CDC 2015

“Now that your child is 11, he is due for vaccinations today to help protect him from meningitis, HPV cancers, and pertussis.”

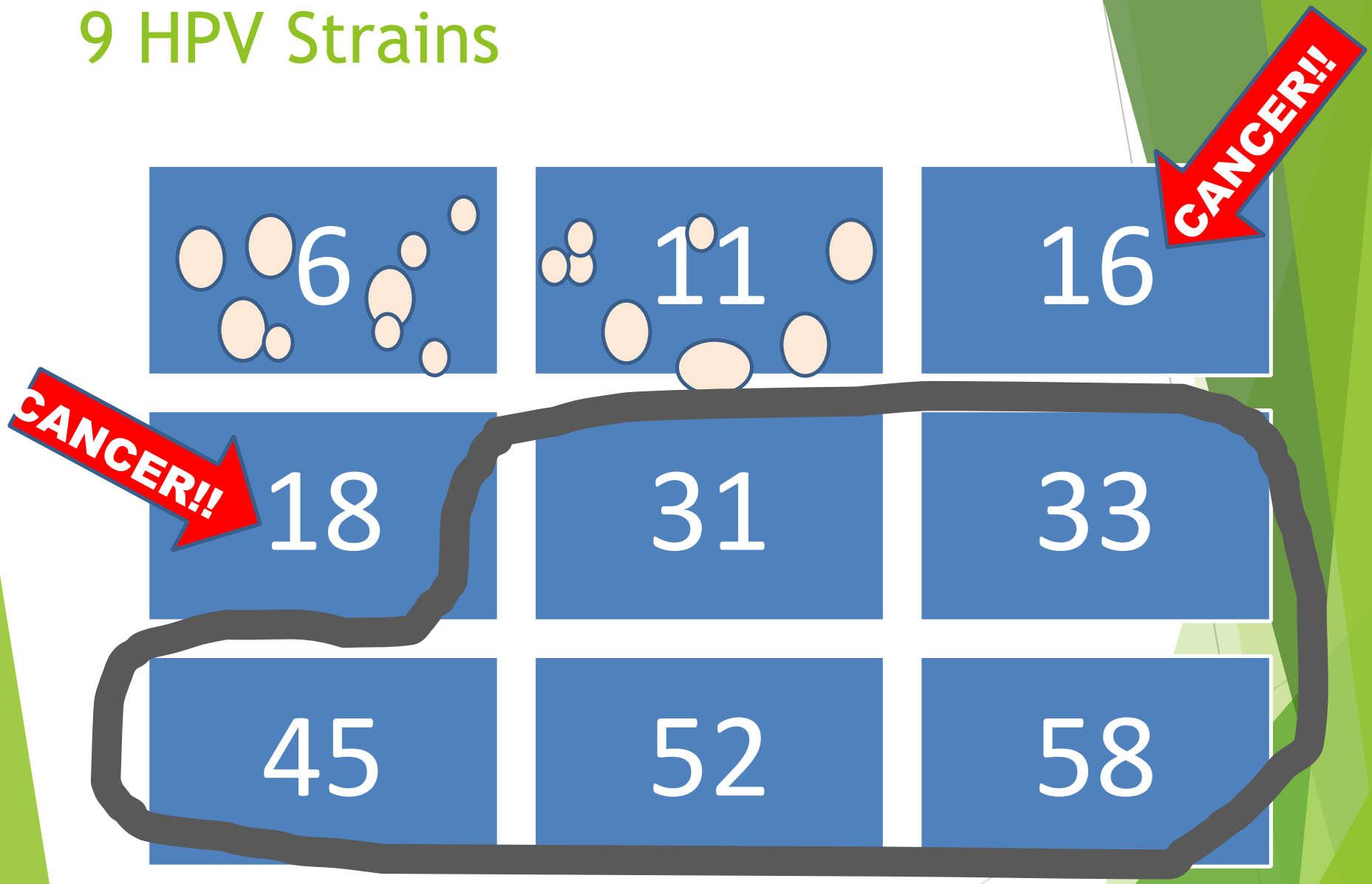
Insert your name here

Recommended phrasing from CDC

Human Papillomaviruses



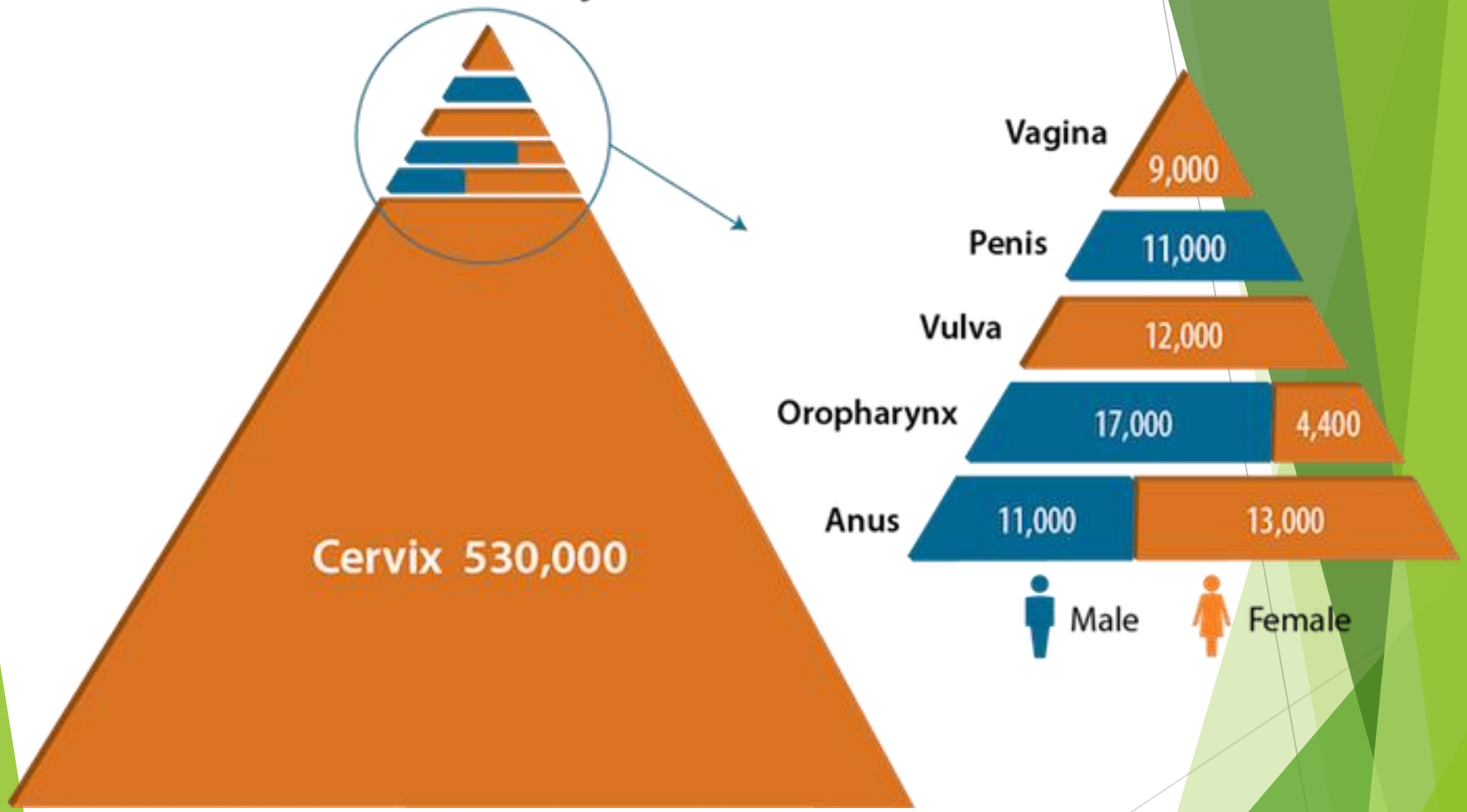
9 HPV Strains



How common is HPV?

- Human papillomavirus (HPV) is the most common sexually transmitted virus in the United States.
- Almost **every sexually active person** will acquire HPV at some point in their lives.

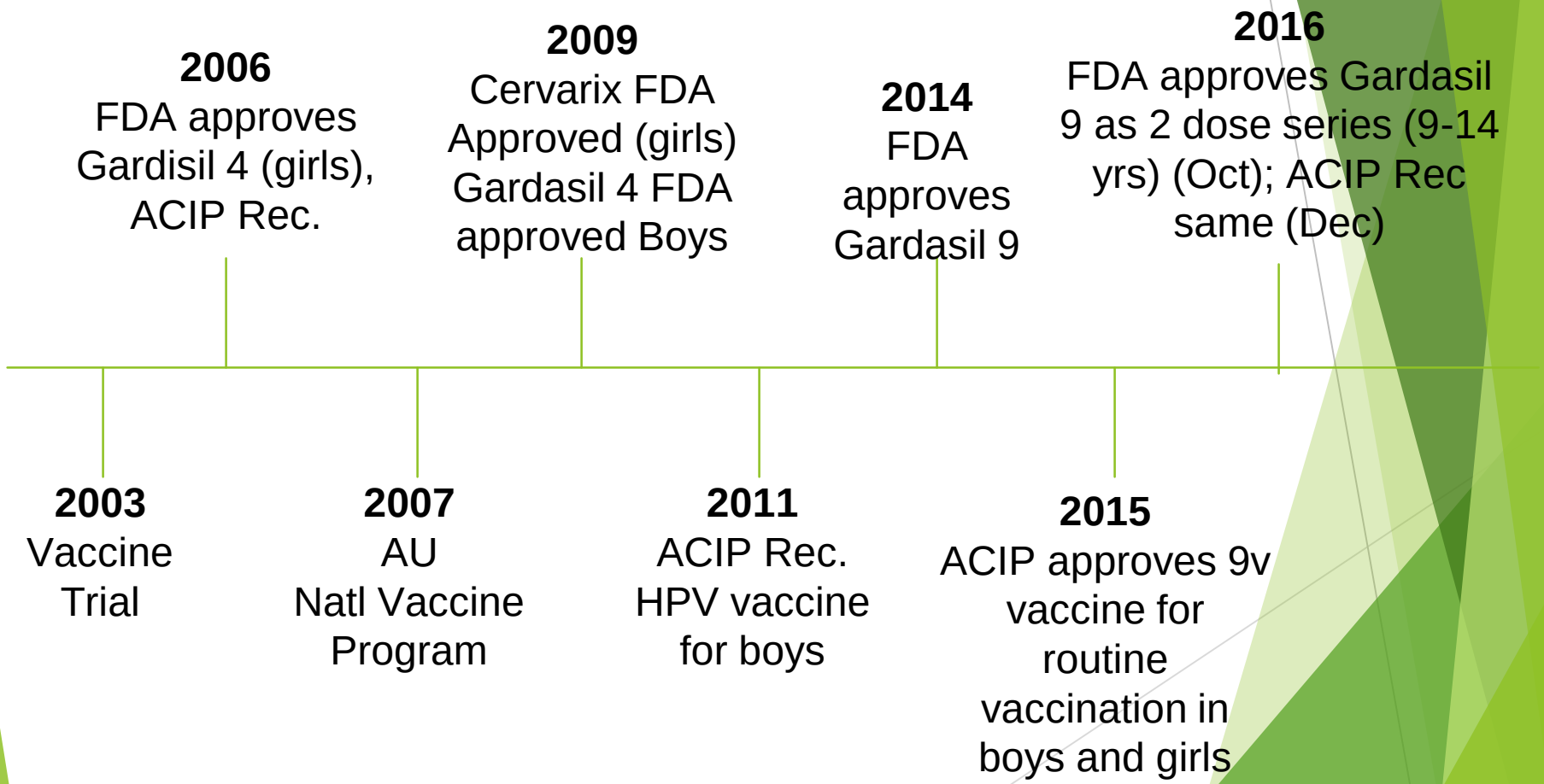
Numbers of Cancers Caused by HPV Worldwide Each Year



Source: de Martel C, Ferlay J, Franceschi S, Vignat J, Bray F, Forman D, et al. Global burden of cancers attributable to infections in 2008: a review and synthetic analysis. Lancet Oncol. 2012;13(6):607-15. Available from: http://www.ncbi.nlm.nih.gov/pubmed/22575588

The
Cancer-preventing vaccine!

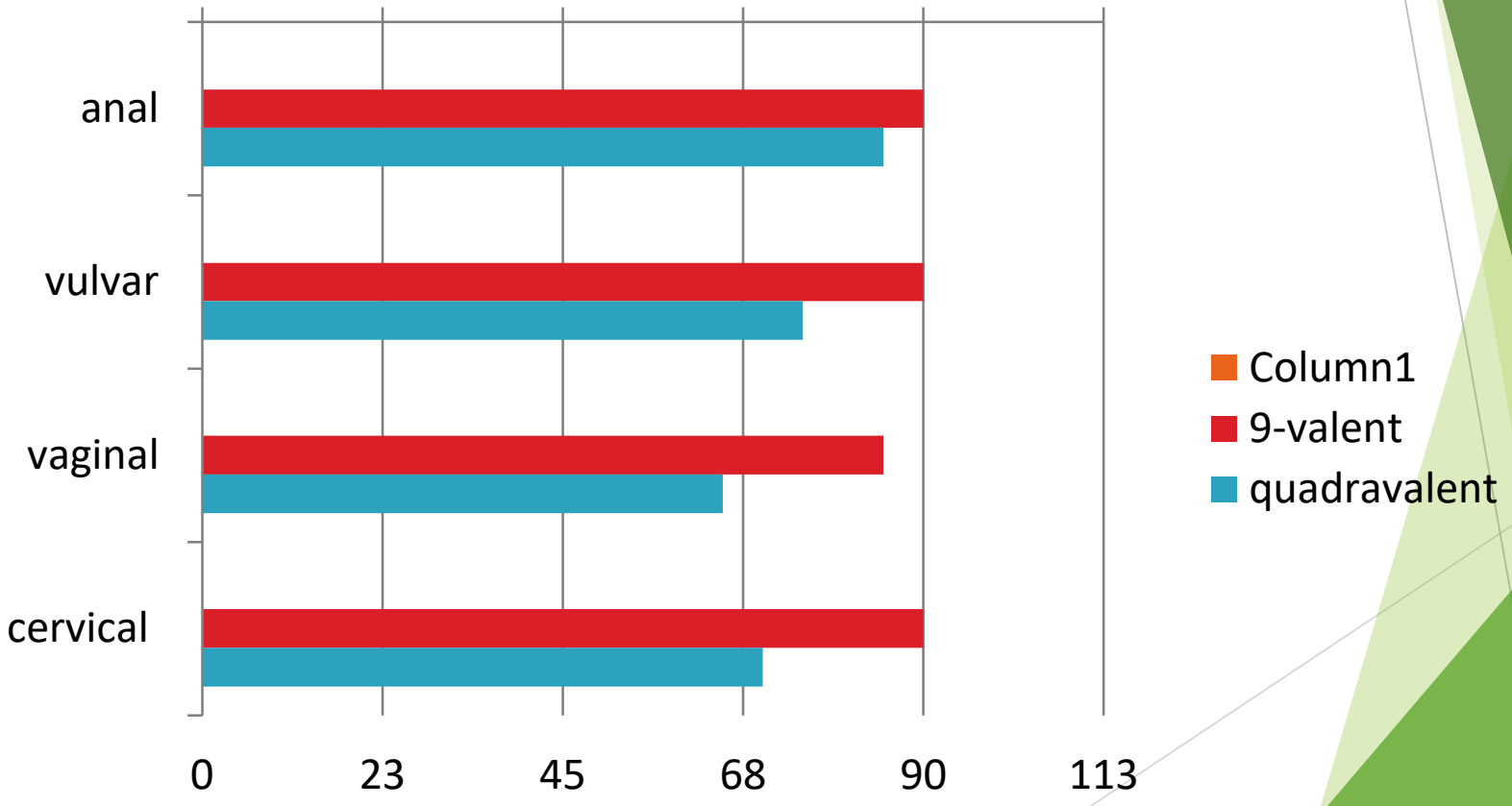
Timeline of HPV vaccination



	Bivalent Cervarix *HPV 16, 18*	Quadrivalent 4vHPV Gardasil *HPV 6, 11, 16, 18*	9-valent 9vHPV Gardasil 9 *HPV 6, 11, 16, 18, 31, 33, 45, 52, 58*
Manufacturer	GlaxoSmithKline	Merck	Merck
Year Licensed	Oct 2009 Females	June 2006 females Oct 2009 males	Dec 2014 Males and Females
Contraindications	Hypersensitivity to latex	Hypersensitivity to yeast	Hypersensitivity to yeast

CDC http://www.cdc.gov/hpv/hcp/need-to-know.pdf

Estimated type contribution for HPV Malignancies & Vaccine Coverage



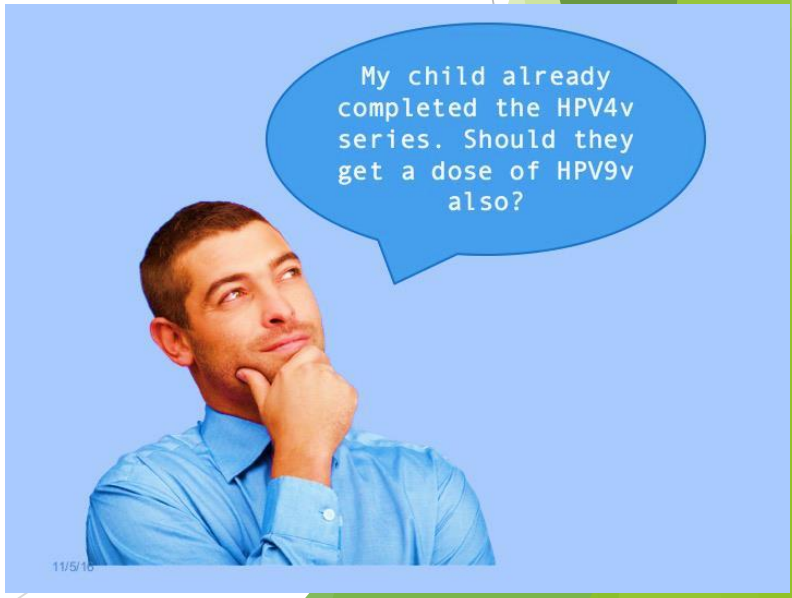
When to vaccinate

- ROUTINE vaccination for all kids 11-12 years
  - Safe and FDA approved at age 9
  - Females and Males to age 45
  - Take home: better immunity if < 15 years
  - **Two doses if given before age 15**

Recommendations

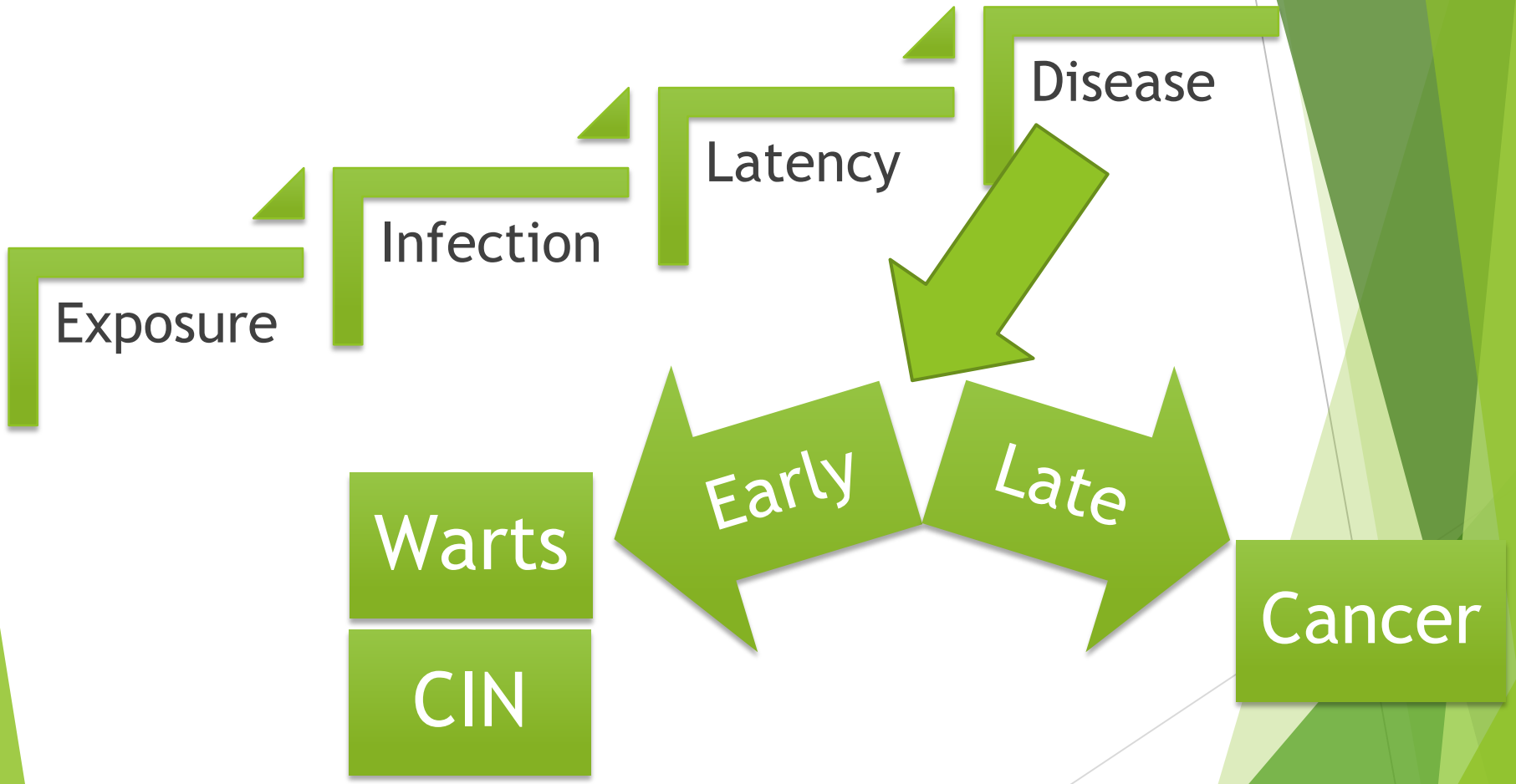
- 9-Valent vaccine may be used to continue or complete a series started with a different HPV vaccine product (2015)
- No additional doses are recommended for patients who started with bi-valent or quadrivalent vaccine
- No expectation of booster dose
  - Current data shows no waning of immunity

  10 years after completion, likely longer



DOES IT WORK?

Does it really prevent Cancer?



Garland. CID. 2016.

HPV 6/11/16/18 Prevalence

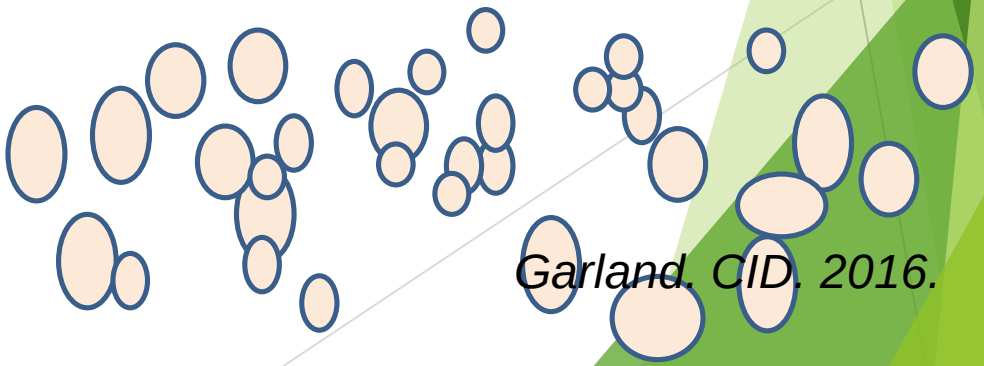
- Australian Women 18-24 years
  - ↓ 86% after 3 doses
  - ↓ 76% after 1 dose
- US Females 14-24 years
  - ↓ 89% after 1 dose

- Evidence of herd immunity!

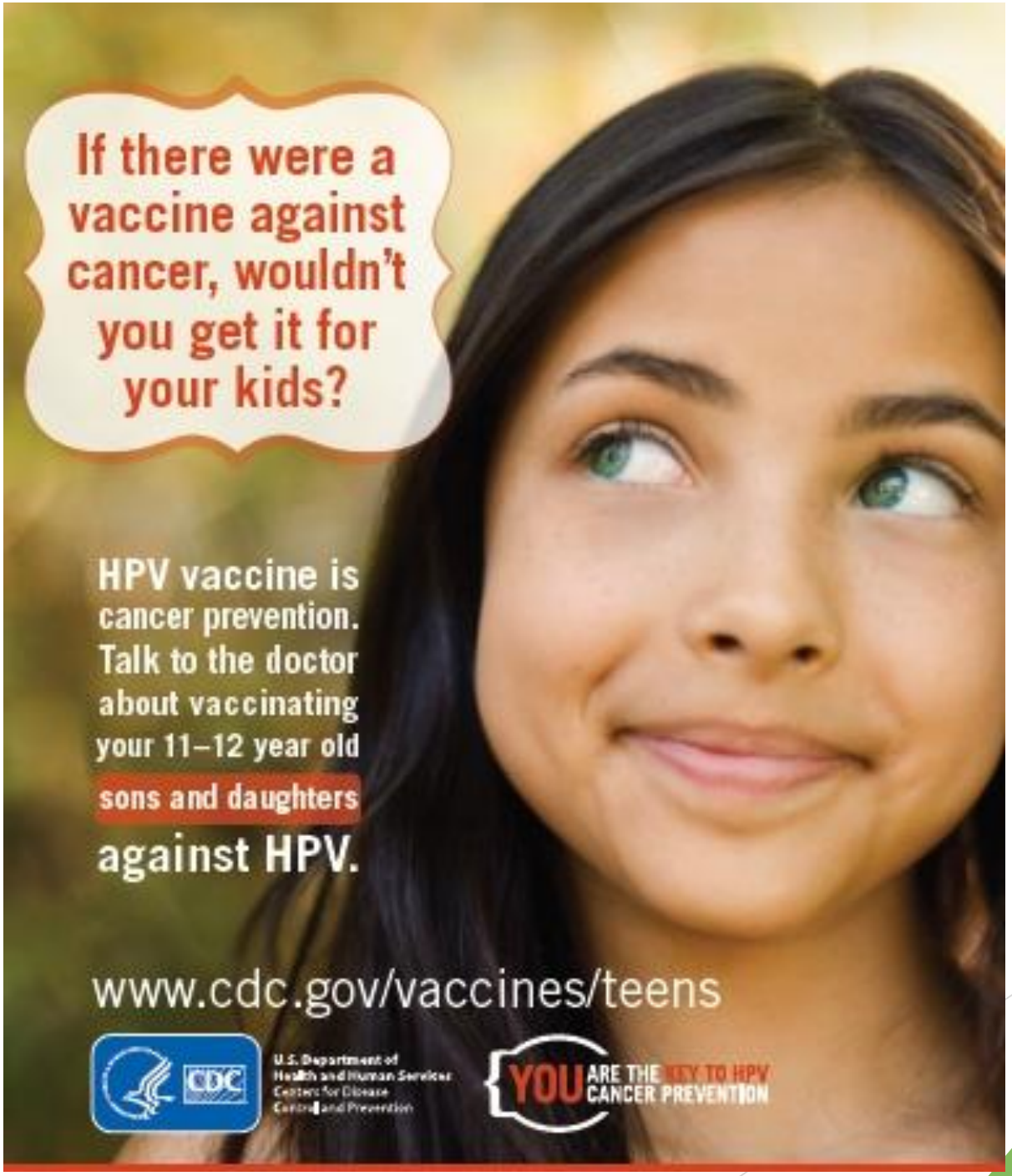
Garland. CID. 2016.

WARTS!

- Marked reductions in countries with high vaccine uptake (Australia and Denmark)
  - Reductions were greatest in youngest vaccine groups
  - Yearly reduction of 50% in multiple studies
  - Up to 92% reduction 4 years after vaccination (Australia)
- Herd Immunity!



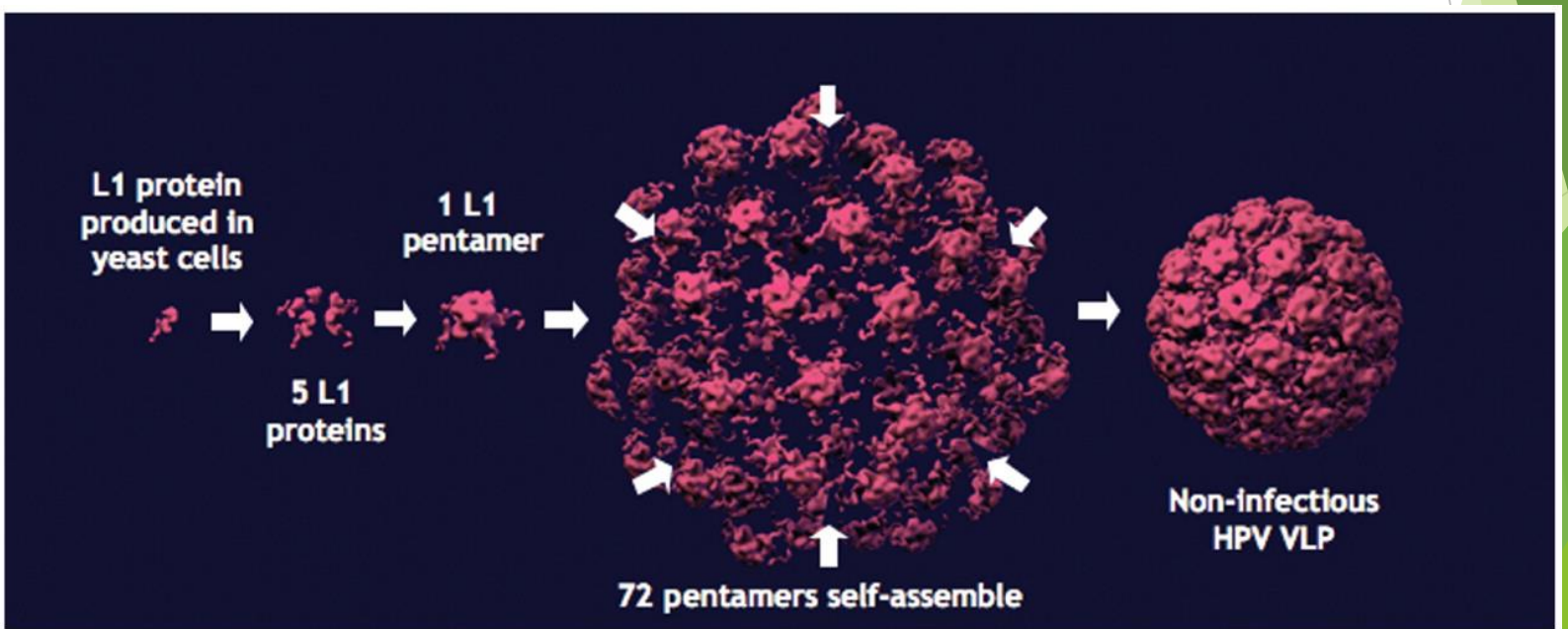
Garland. CID. 2016.


If there were a vaccine against cancer, wouldn't you get it for your kids?
HPV vaccine is cancer prevention. Talk to the doctor about vaccinating your 11–12 year old sons and daughters against HPV.
www.cdc.gov/vaccines/teens
CDC
U.S. Department of Health and Human Services Centers for Disease Control and Prevention
YOU ARE THE KEY TO HPV CANCER PREVENTION

SAFETY OF THE VACCINE

Components

- Made from 1 protein of the HPV virus
- Virus like particles (VLPs)
- Will not cause HPV
- Non-oncogenic
- Immune response 10-100X stronger than natural immunity



Safe Vaccine

No increased risk of autoimmune disease

HPV vaccine induces T-helper and memory B cell responses

Possibly results in wide cross-protective immunity

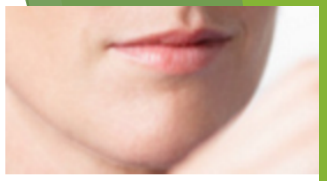
Immunity from the vaccine is BETTER than immunity from the disease.

Adverse Effects

- Most are local, site-related (increase with each dose, 20-90%)
- Temperature of 100 degrees for 2 weeks (similar in placebo group)
- Nausea, dizziness, myalgia and malaise (equal in placebo group)
- Syncope following adolescent vaccines – seated during vaccine, observation
- No serious adverse reactions (monitored by CDC and FDA)

Ouch !!!

CDC's Immunization Safety Office conducts four primary vaccine safety activities:



VACCINE ADVERSE EVENT REPORTING SYSTEM (VAERS)

An early warning system that helps CDC and FDA monitor problems following vaccination. Anyone can report suspected vaccine reactions and issues to VAERS.

CLINICAL IMMUNIZATION SAFETY ASSESSMENT (CISA) PROJECT

A partnership between CDC and several medical centers that conduct clinical research on vaccine-associated health risks in certain groups of people.

VACCINE SAFETY DATALINK (VSD)

A collaboration between CDC and several health care organizations that allows ongoing monitoring and proactive searches of vaccine-related data.

EMERGENCY PREPAREDNESS FOR VACCINE SAFETY

In the event of a disease outbreak in which a mass vaccination campaign is needed, CDC activates emergency preparedness activities to ensure that vaccines remain safe.

Safe! Effective! Recommend!

- HPV significant disease burden
- Vaccine is safe and effective
- Time to talk to patients!!!!

Talking to parents about HPV VACCINE

Make a Bundled Recommendation

- Recommend HPV vaccine the same way and on the same day you recommend Tdap and meningococcal vaccines. A strong recommendation from you is the main reason parents decide to vaccinate.
- You can say "your preteen needs three vaccines that provide protection against meningitis, HPV cancers, and pertussis."
- Hearing "HPV vaccine is cancer prevention" helps parents make the decision to vaccinate. Parents don't want to talk about HPV vaccine in the context of sexuality or sexual transmission.

Address Parents' Questions

- Help them understand why the vaccine is needed at age 11 or 12, let them know that like any other vaccine, they want their children protected long before exposure.
- Emphasize your personal belief in the importance of HPV vaccine to help parents feel secure in their decision. Let them know you have given/will give it to the children in your life.

CDC 2015

Vaccination Message

- **Your recommendation matters!**
- Recommend all routine vaccines together
  - Do not separate “required” from “recommended”
- Use recall/reminder systems to help ensure complete vaccination
- Vaccinate at ALL appointments (not just well checks)
- Educate parents on vaccine-preventable diseases
- Use standing orders to vaccinate

Some Parents Need Reassurance

- Many parents simply accept 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.

CDC 2015

Take Home

- Almost everyone will get HPV at some point.
- HPV is the leading cause of oropharyngeal CA in males and cervical CA in females.
- Vaccination protects against the most oncogenic strains (16, 18) and 7 other virulent strains.
- Routine vaccination is recommended at 11-12 years for all kids.
- Vaccination is safe and effective.
- Your recommendation is crucial in vaccine uptake!

Recommended Reading

- Garland SM, Kjaer SK, Muñoz N, et al. Impact and Effectiveness of the Quadrivalent Human Papillomavirus Vaccine: A Systematic Review of 10 Years of Real-world Experience. *Clinical Infectious Diseases: An Official Publication of the Infectious Diseases Society of America*. 2016;63(4):519-527. doi:10.1093/cid/ciw354. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4967609/
- Meites E, Kempe A, Markowitz LE. Use of a 2-Dose Schedule for Human Papillomavirus Vaccination — Updated Recommendations of the Advisory Committee on Immunization Practices. MMWR Morb Mortal Wkly Rep 2016;65:1405–1408.
  DOI: http://dx.doi.org/10.15585/mmwr.mm6549a5

Suggested Resources

- http://immunizekansascoalition.org

  Tool kits, videos, quizzes, and more

- https://www.childrensmercy.org/Clinics_and_Services/Clinics_and_Departments/General_Pediatrics/HPV_Vaccination_is_Cancer_Prevention/
- https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunizations/Pages/Immunizations-home.aspx
- http://www.vaccine.chop.edu

Thank You!

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- The Center for Disease Control

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