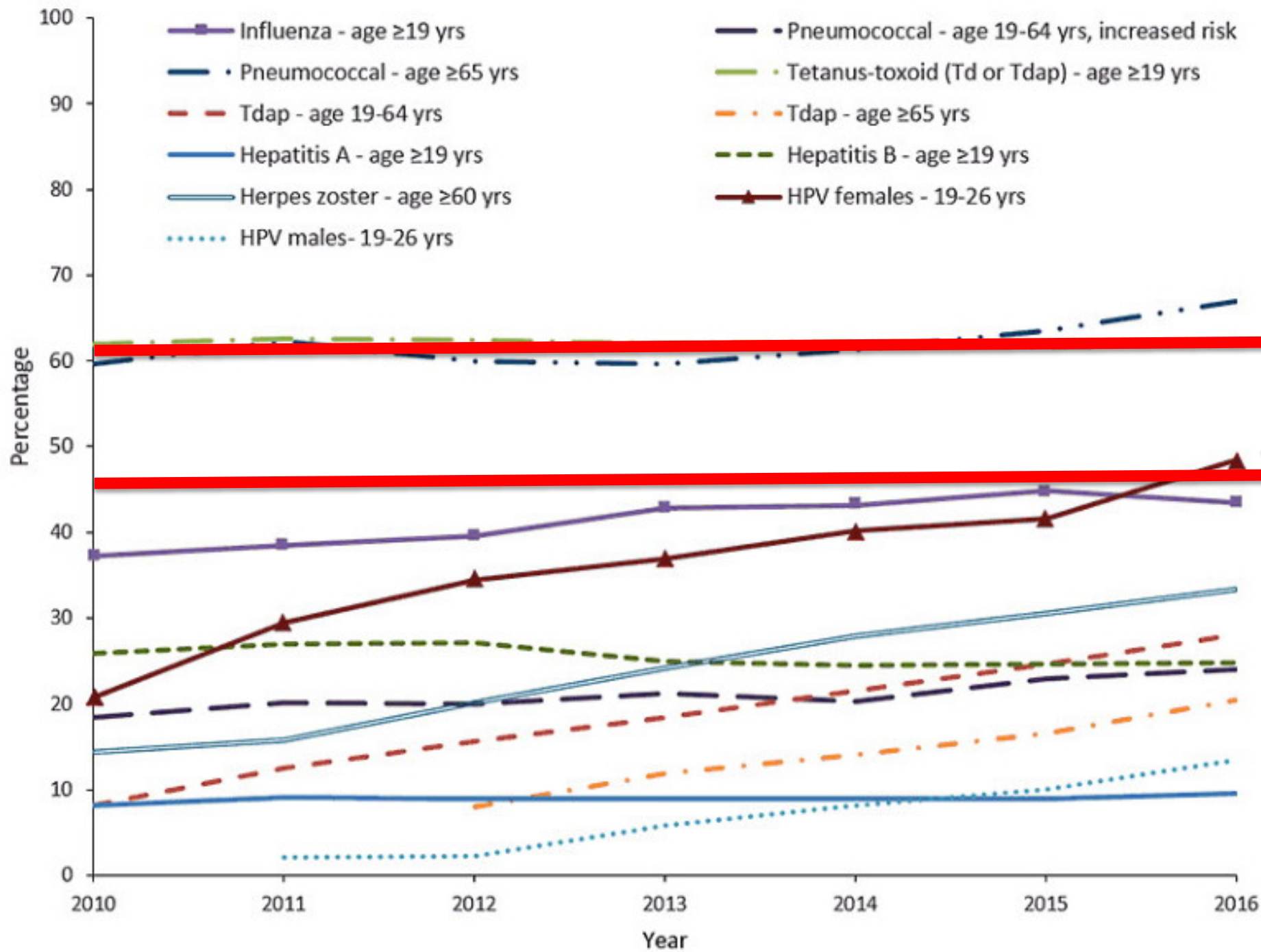




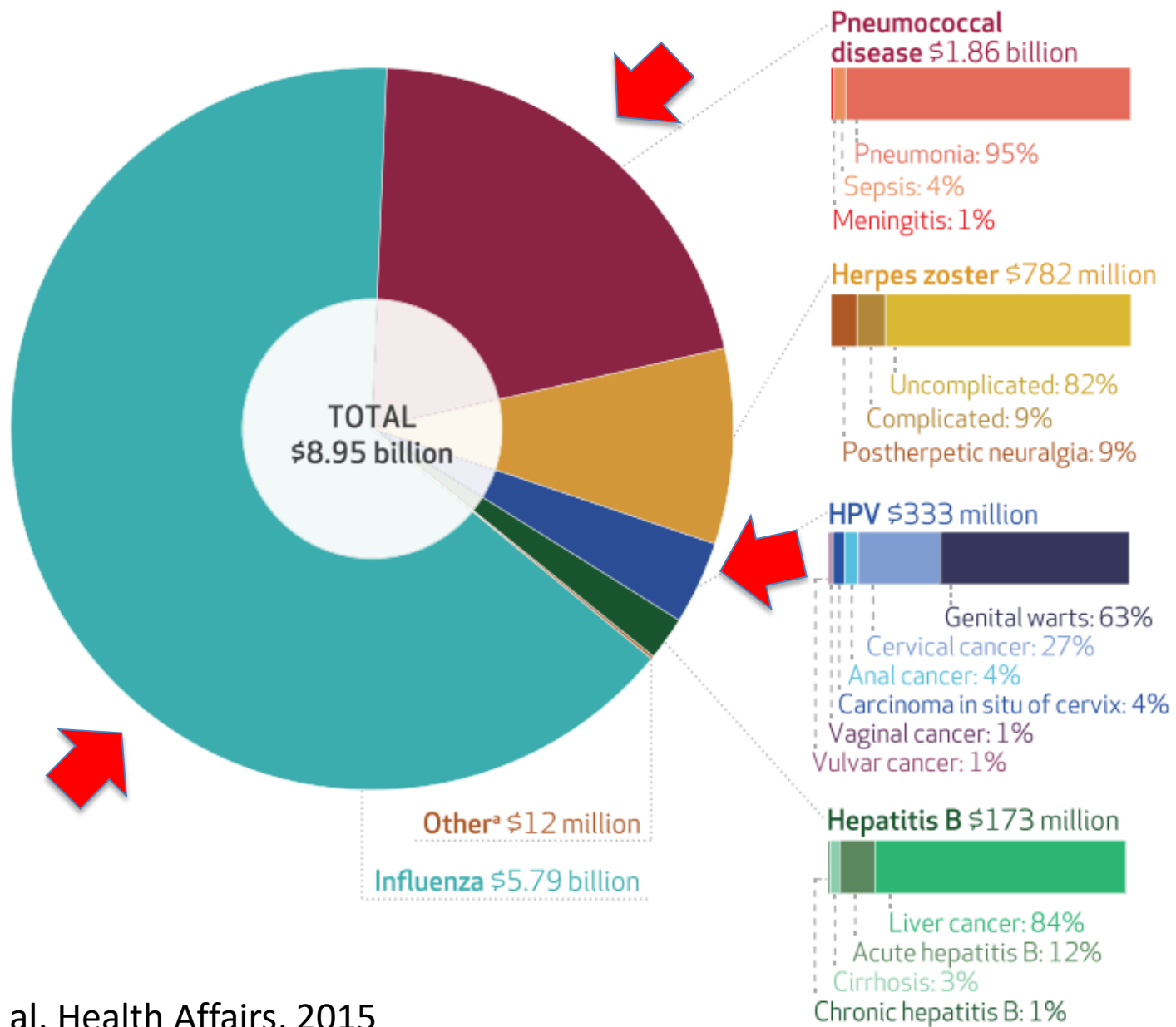
Immunization and Cancer Prevention – What's new with HPV?

Amanda F. Dempsey, MD PhD, MPH
NEBGH Webinar
July 2020



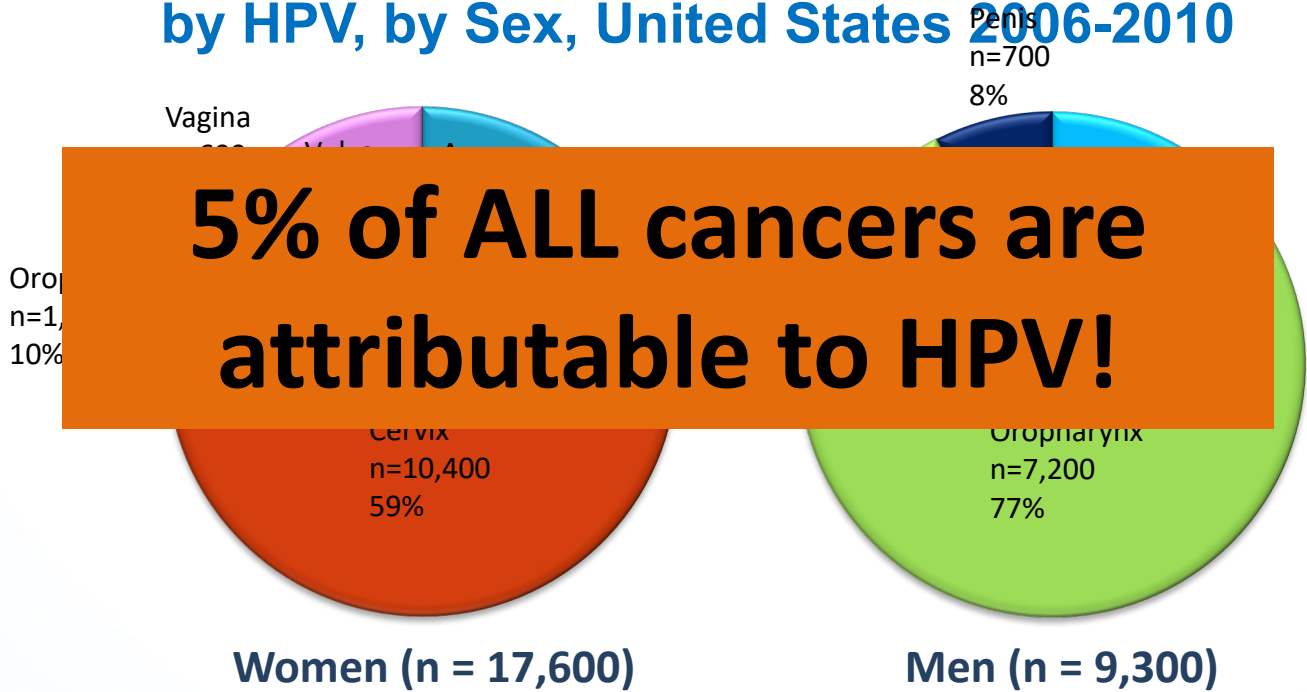


Annual economic burden of vaccine-preventable diseases, by pathogen, 2015



Why HPV?

Average Number of New Cancers Probably Caused by HPV, by Sex, United States 2006-2010



CDC, United States Cancer Statistics (USCS), 2006-2010

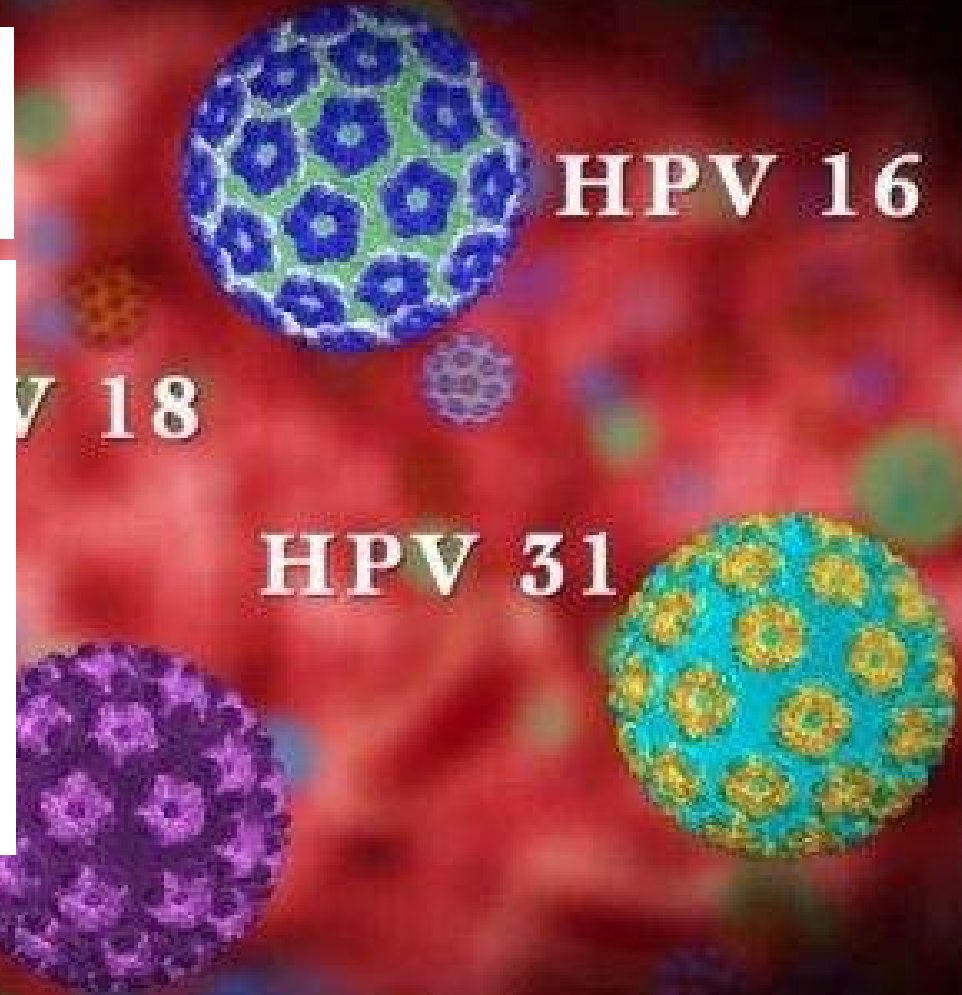


HPV Infection

- Most females and males (95+%) 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 HPV infections are asymptomatic

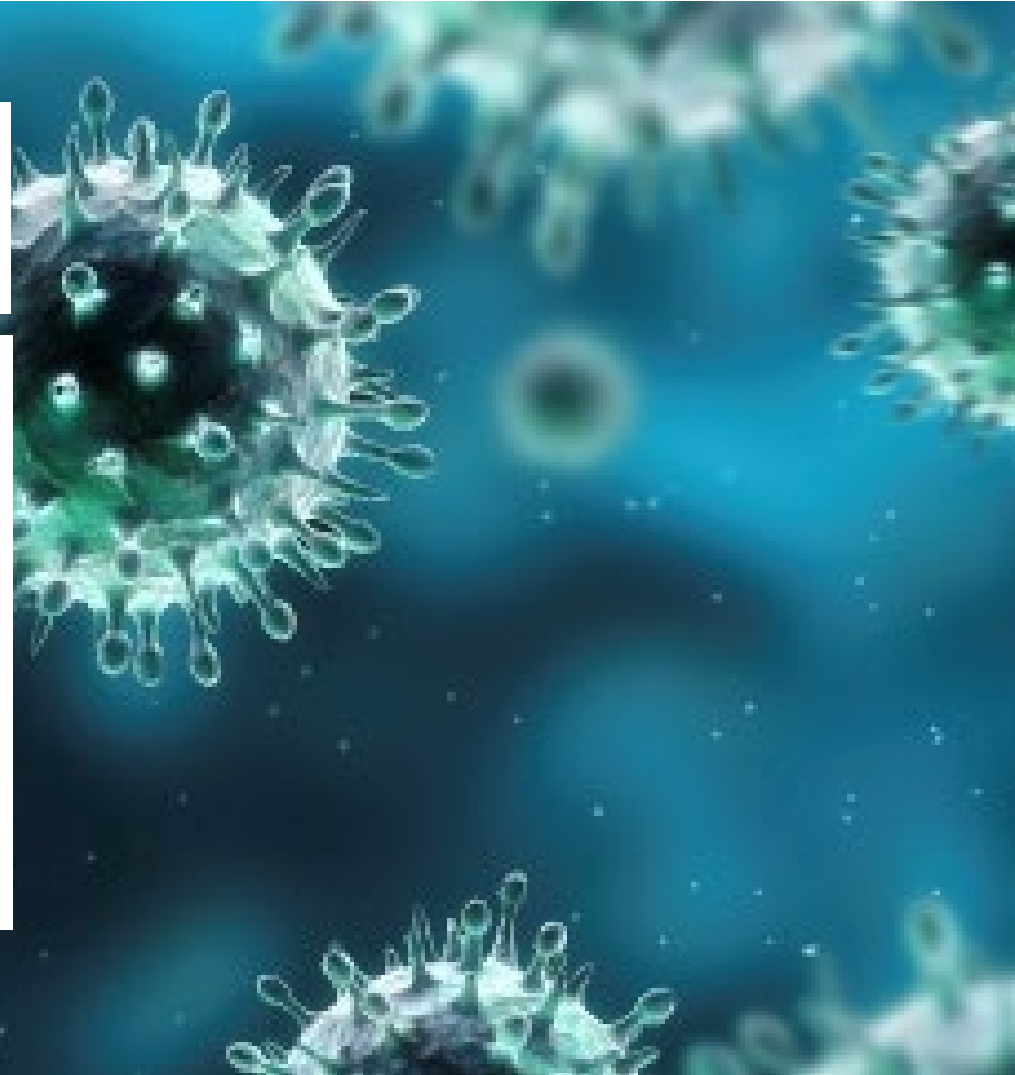
Human Papilloma Virus (HPV)

- Most Common STD
- Linked to numerous types of cancer:
 - Cervical
 - Vulvar
 - Vaginal
 - Penile
 - Anal
 - Mouth and throat



Human Papilloma Virus (HPV), continued

- More than 120 different types
 - High-risk vs. low-risk types
- Most infections are *asymptomatic*
- *Almost everyone* is exposed at one point in time (4 out of 5)
 - Most people clear the infection with their own immune system within two years of infection

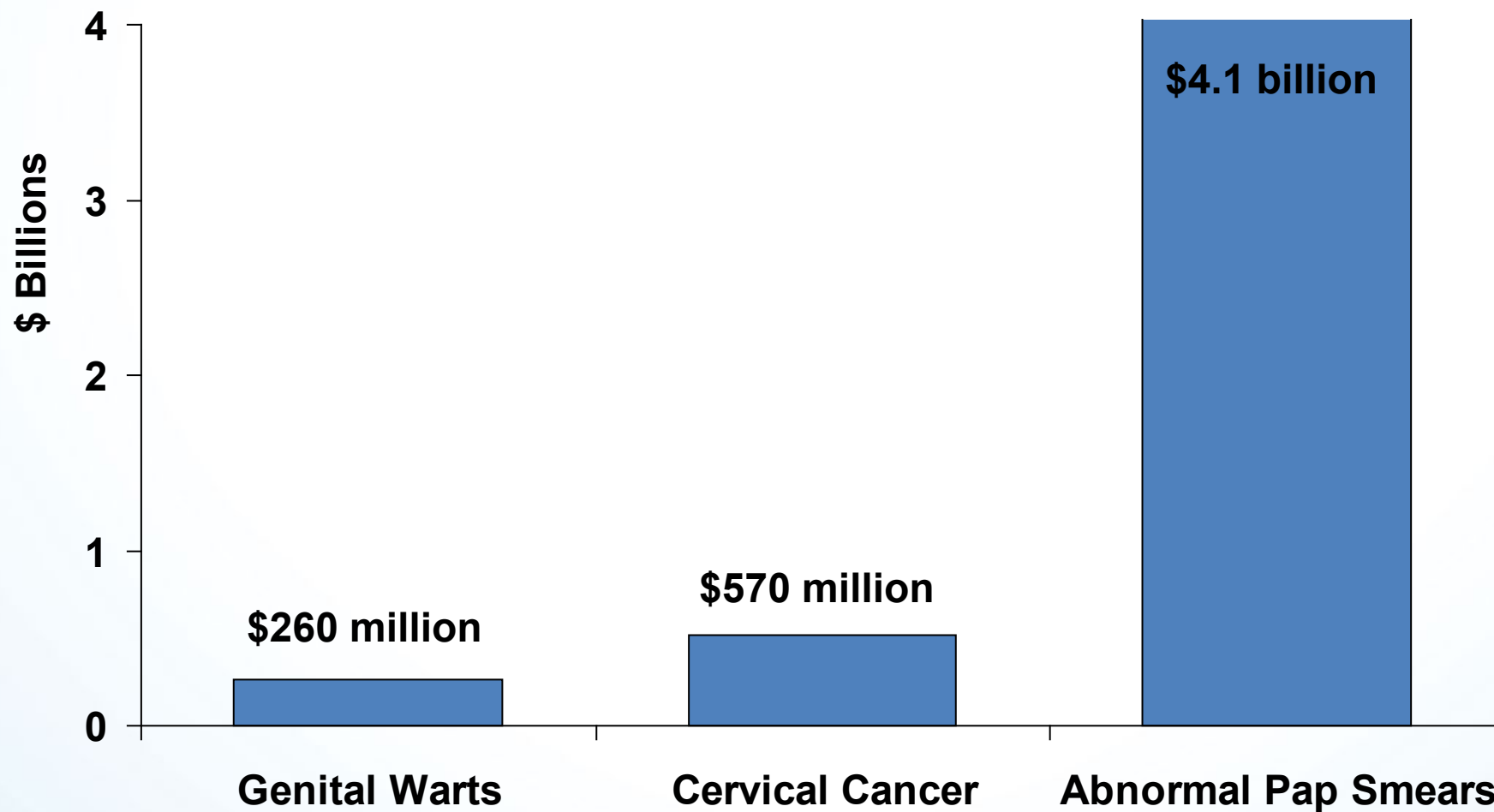


Every year in the US >48,000 people are diagnosed with a cancer caused by HPV



That's 1 case every 11 minutes

Annual cost of HPV in Women*?



* Not including costs from other HPV-related cancers or RRP



Oropharyngeal cancers

Incidence projected to surpass cervical cancer

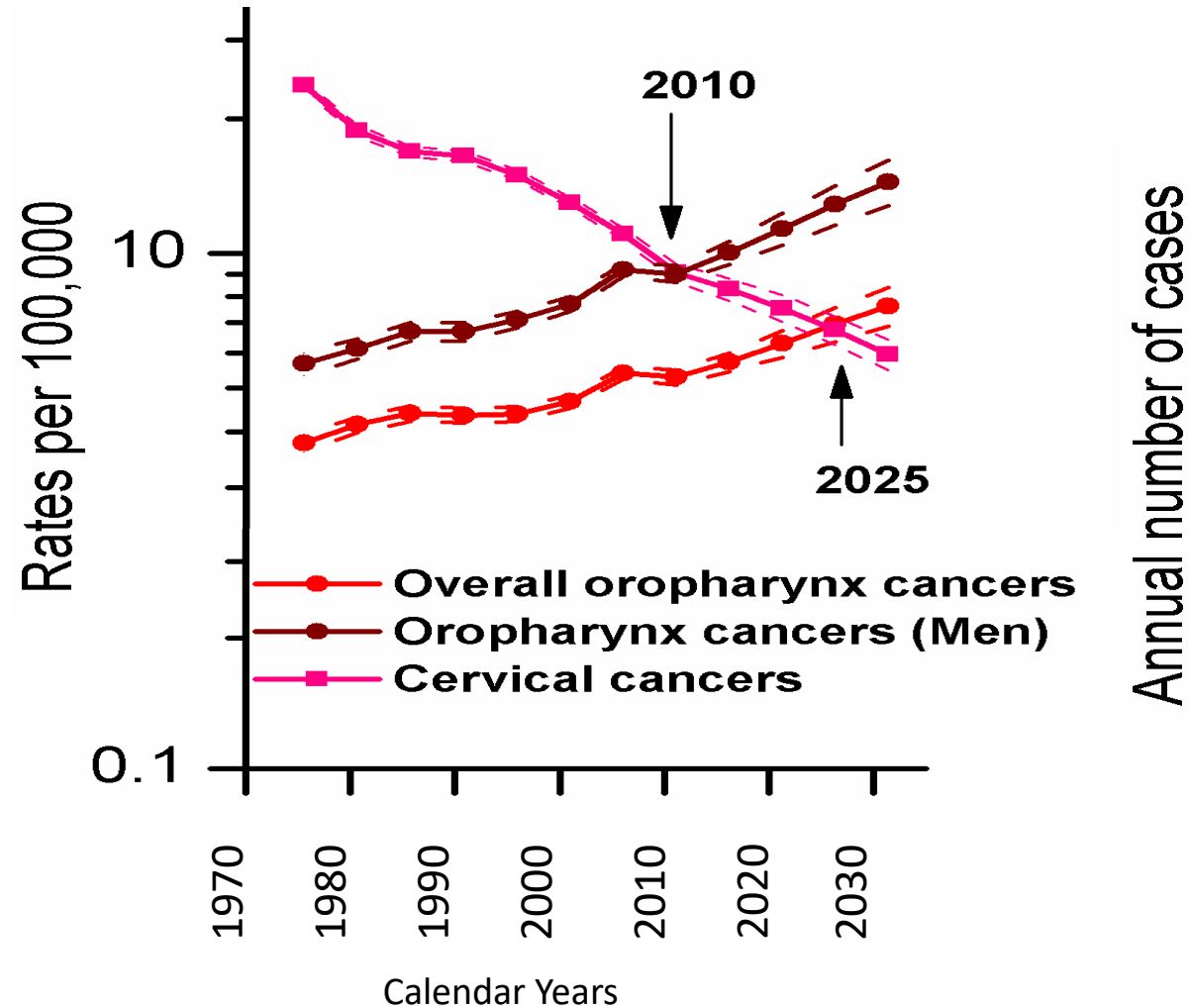




Photo Credit: Dr Michael Moore



HPV Vaccines

- Initially licensed in US in 2006 for girls
- Expanded in 2010 to boys
- Three “versions” made
 - 2 types
 - 4 types
 - 9 types
- Only the 9 type version in use today in US
- Made from other proteins – CANNOT give you HPV



Adolescent Vaccine Recommendations

Girls

- Routine at 11-12
- As early as 9
- Catch up to age 26

Boys

- Routine at 11-12
- As early as 9
- Catch up to age 26*

*For Boys, Age 21-26 if high risk



Adolescent Vaccine Recommendations

< Age 15

- 2 doses*
- 0 and 6-12 months

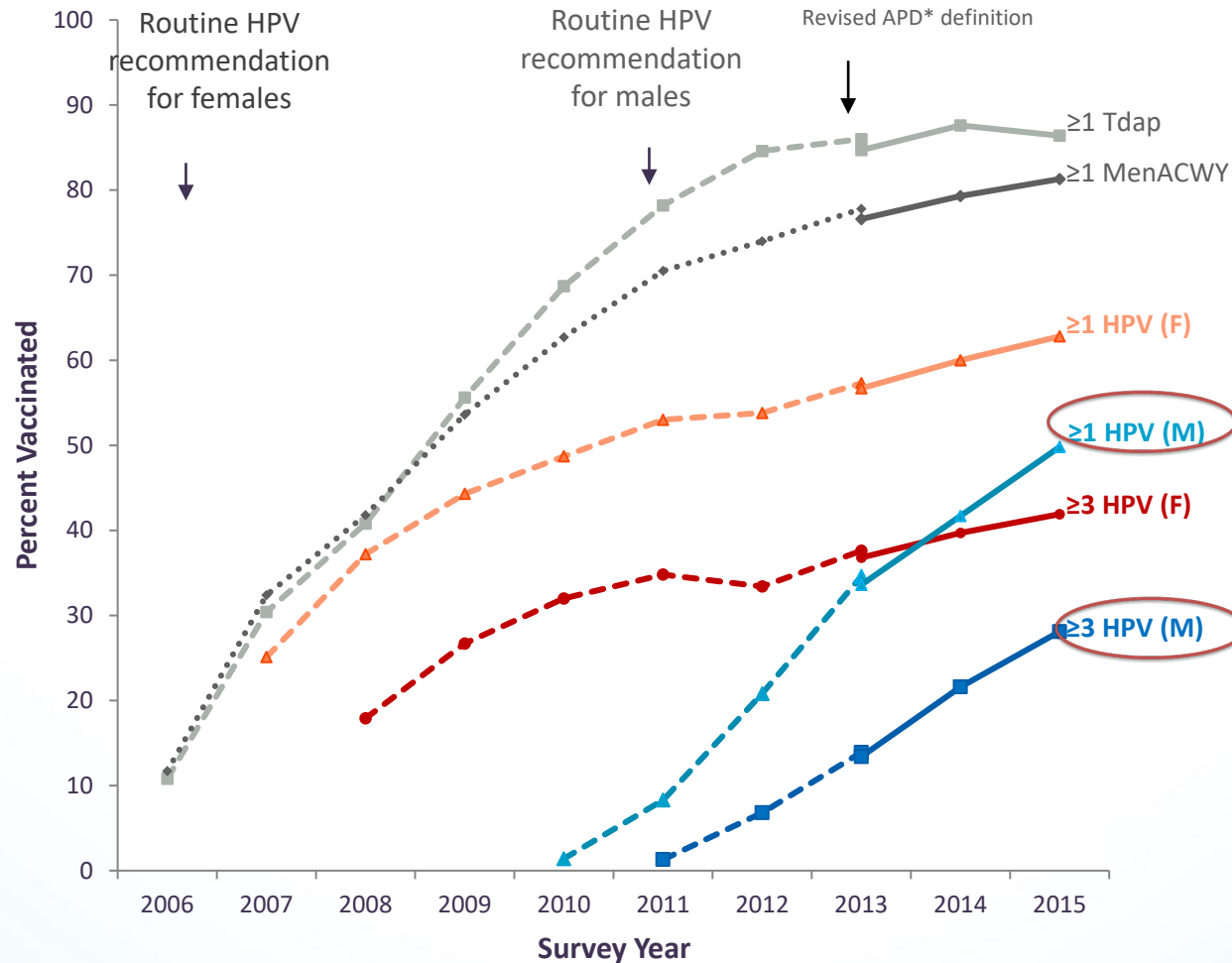
≥ Age 15

- 3 doses*
- 0, 2 and 6-12 months

* Don't need to start over if intervals are longer than above



Estimated Vaccination Coverage among Adolescents 13–17 Years (2006-2015)



Real Life Implications

26 million

- Girls <13 in US

168,400

- # to develop cervical cancer if no vax

51,400

- # die from cervical cancer if no vax





New Adult HPV Vaccine Recommendations = 2018

Women

- Routine catch up to age 26
- Selective catch up 27-45

Men

- Routine catch up to age 26*
- Selective catch up 27-45



Adult Vaccine Recommendations

≥ Age
15

- 3 doses*
- 0, 2 and 6-12 months

* Don't need to start over if intervals are longer than above





Selective Catch Up: Category “B” Recommendations

- The clinician and patient should have a conversation
- Shared decision making regarding pros and cons
 - Pros - prevent infection and disease, safe, effective if given before exposure
 - Cons – may not be useful, hurts, costs \$.
- SHOULD be covered by insurance under ACA rules as it is officially “recommended” by ACIP but questions remain.





Why Expand to Adults?

- HPV is common
- Cancer from HPV occurs mostly after “new” infections
- Some adults can get newly infected
- No tests can determine past infection
- While many adults already exposed to HPV, few exposed to all 9 types in the vaccine
 - Vaccine protective against types not exposed to before
- Vaccination is an important part of preventive care to optimize health – especially now!





Vaccine Safety

- Rigorous testing BEFORE the vaccine was licensed was done
- Ongoing testing AFTER the vaccine was marketed is ongoing
- More than 500 MILLION doses have been provided world wide
- NO unusual safety signals have come up





What Can Employers Do to Promote Vaccination?

- Clarify insurance coverage for adults
 - Expand coverage to whole family
- REMIND people they need the vaccine
- REMIND people of second and third doses
- Help practices/people track vaccination rates – esp. adults
- Tackle the three C's that drive low vaccination
 - Complacency – education of patients, parents and providers
 - Convenience – offer/cover vaccination at other locations besides PCP
 - Confidence – education, incentives (?), don't do anything that undermines





HPV Vaccination Resources

- [CDC](#)

- <https://www.cdc.gov/vaccines/vpd/hpv/hcp/resources.html>

- [ACS](#)

- <https://www.cancer.org/healthy/hpv-vaccine.html>

- HPV Vaccine Communication App

From the Google Play Store

https://play.google.com/store/apps/details?id=com.kognito.hpv_immunization

From the Apple iTunes Store

<https://itunes.apple.com/us/app/hpv-vaccine-same-way-same-day/id1356847181?mt=8>



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