


The HPV Epidemic and Cancer Burden

Satellite Conference and Live Webcast
Friday, April 6, 2018
10:00 – 11:00 a.m. Central Time

Produced by the Alabama Department of Public Health
 Video Communications and Distance Learning Division


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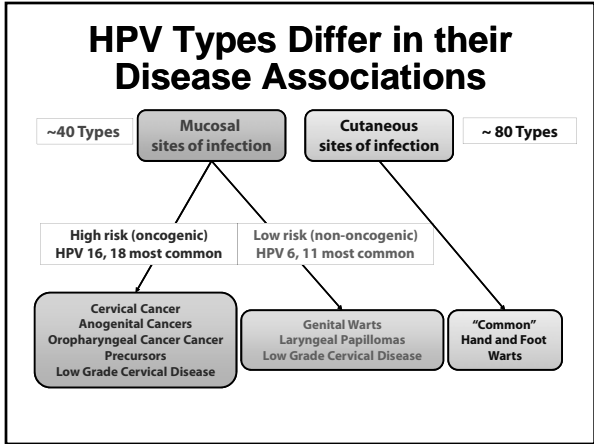


Disclosures

- **No disclosures**



Understanding the Burden HPV & CANCER



HPV Infection

- **Most females and males will be infected with at least one type of mucosal 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**

Satterwhite et al. Sex Transm Dis. 2013

Latest Update: HPV Prevalence

- During 2011–2014, prevalence of any oral human papillomavirus (HPV) for adults aged 18–69 was 7.3%; high-risk HPV was 4.0%
- Any oral HPV was highest among non-Hispanic black adults
- Prevalence of any and high-risk oral HPV was higher in men than women


Latest Update: HPV Prevalence

- During 2013-2014, prevalence of any and high-risk genital HPV for adults aged 18-59 was 45.2% and 25.1% in men and 39.9% and 20.4% in women, respectively
- Prevalence of any and high-risk genital HPV was higher among non-Hispanic black than both non-Hispanic white and Hispanic men and women

McQuillan et al. NCHS Data Brief No. 280, April 2017

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



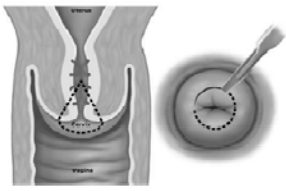
Cervical Cancer

- 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://jco.iarc.fr/today/home>

Cervical pre-cancer in U.S. females

- 1.4 million new cases of low grade cervical dysplasia
- 330,000 new cases of high grade cervical dysplasia



Koshiol Sex Transm Dis. 2004.
Schiffman Arch Pathol Lab Med. 2003.

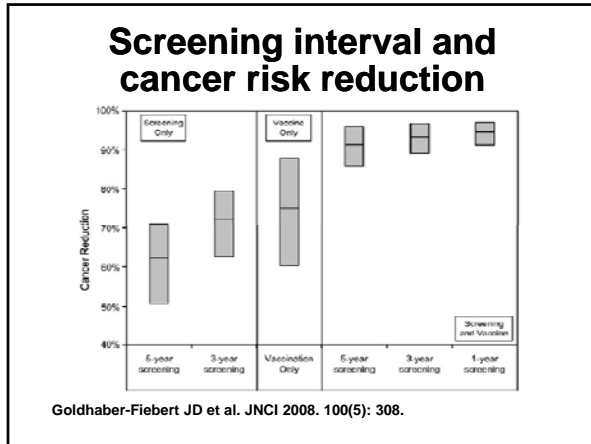
VACCINES WORK

Annual US disease cases in the 1990s vs 2010

Disease	1990s (Annual)	2010 (Annual)
DIPHTHERIA	15	0
TETANUS	10	0
POLIO	16,516	0
MEASLES	100,217	61
MUMPS	142,544	2,528
PERTUSSIS	200,752	4
RUSSIA	43,746	4
CHICKENPOX	100,000	220
INFLUENZA	200,000	220

Cervical cancer and preinvasive disease prior to pap smears ~ 350,000 cases/year

Cervical cancer and preinvasive disease since pap smears ~ 350,000 cases/year
We don't prevent, we just find it earlier!



26 million: number of girls under 13 years of age in the United States

168,400: number who will develop cervical cancer if none are vaccinated

54,100: number who will die from cervical cancer if none are vaccinated

Cancers Caused by HPV per Year, U.S., 2009-2013

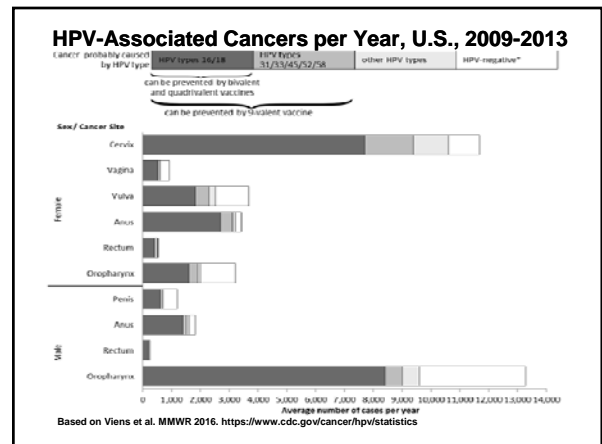
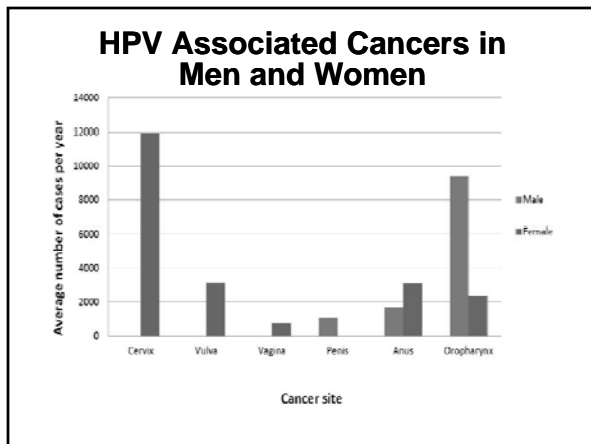
Cancer site	Percentage probably caused by any HPV type	Number probably caused by any HPV type		
		Female	Male	Both Sexes
Cervix	91%	10,600	0	10,600
Vagina	75%	600	0	600
Vulva	69%	2,500	0	2,500
Penis	63%	0	700	700
Anus	91%	3,200	1,600	4,800
Rectum	91%	500	200	700
Oropharynx	70%	2,000	9,600	11,600
TOTAL		19,400	12,100	31,500

Based on Viens et al. MMWR 2016. <https://www.cdc.gov/cancer/hpv/statistics>

HPV Cancers in Alabama

Primary Site Group	HPV-associated Cancer Incidence Rates and Counts for Alabama by Primary Site Group, by Sex, 2012-2015			
	Female		Male	
	Rate	Count	Rate	Count
Cervix	9.2	942	N/A	N/A
Vagina	0.6	75	N/A	N/A
Vulva	2.0	243	N/A	N/A
HPV-associated Oropharynx*	2.1	254	4.2	1,038
Anus	1.7	216	1.1	135
Rectum and Rectosigmoid Junction	0.4	52	0.2	24
Penis	N/A	N/A	0.9	89

Rates are per 100,000 and age-adjusted to the 2000 U.S. (19 age groups) standard.
 Rates and counts are for malignant tumors only.
 * Includes the following ICD-O-3 site codes: C019, C074, C078, C051, C052, C090, C091, C098, C099, C100, C101, C102, C104, C108, C109, C140, C142, and C148.
 All cancer sites other than cervix were limited to squamous cell carcinomas only meaning ICD-O-3 histology codes 8050 to 8084 and 8120 to 8131.
 Source: Alabama Statewide Cancer Registry, 2018.



Patient Videos

- Oropharyngeal cancer patient
- Someone you Love trailer

Cancer Diagnosis and Treatment

- Oropharyngeal cancers
 - Most diagnosed Stage II or greater
 - Treated with life altering surgery or chemo/radiation or both
 - Survival is high 85-90% for lower stage disease

Cancer Diagnosis and Treatment

- Cervical cancer
 - > 50% diagnosed late stage
 - Disparities in minorities
 - Treated with radical surgery or chemo/radiation
 - Most treatments result in loss of fertility
 - 1/3 will recur and die, including patients with Stage I

Economic Impact Related to HPV-Associated Disease, 2010

Event	Cost (\$ billions)
Cervical cancer screening*	6.6
Cervical cancer	0.4
Other anogenital cancers	0.2
Oropharyngeal cancer	0.3
Anogenital warts	0.3
RRP**	0.2
TOTAL	8.0

*Cervical cancer screening costs: ~ 80% routine screening, ~20% follow-up
 **RRP costs: ~ 70% juvenile-onset, ~ 30% adult-onset