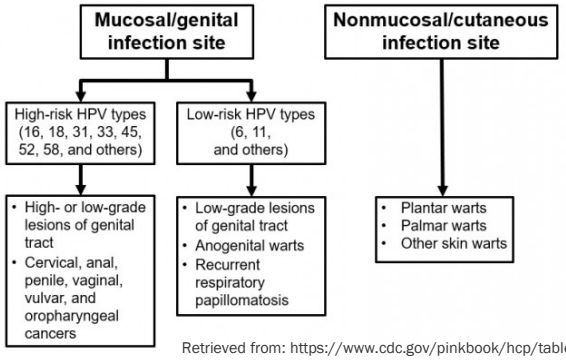
EPI WATCH

Human Papillomavirus & Cancer

By: Stephen Marlin, MPH, CPH

Human Papillomavirus (HPV) is the most common sexually transmitted infection. Nearly all sexually active individuals will contract at least one type of HPV during their lifetime. There are over 200 HPV types, with approximately 40 affecting the genital area. These are classified as either low-risk types (causing genital warts) or high-risk types (causing cancers).[1]

Transmission of HPV occurs primarily through skin-to-skin contact during sexual activity, including vaginal, anal, and oral sex. Condoms reduce but don't eliminate transmission risk because HPV can infect areas not covered by condoms and most HPV infections are asymptomatic and undetected. When symptoms do occur, they vary by HPV type: Low-risk (types 6 and 11) cause genital warts, which appear as small bumps or clusters; high-risk types typically do not cause visible symptoms until precancerous changes or cancer develops, often years or decades after initial infection. Cervical cancer may eventually cause abnormal vaginal bleeding, pelvic pain, or pain during intercourse, but early precancerous changes are asymptomatic. This emphasizes the importance of screening through regular pap smears and HPV testing.[1]



Retrieved from: https://www.cdc.gov/pinkbook/hcp/table-of-contents/chapter-11-human-papillomavirus.html

Most infections clear spontaneously within two years in the course of a natural immune response; but if the infection persists, especially with high-risk types like HPV 16 and 18, they can increase an individual's lifetime risk of cancer. Estimates suggest that HPV is associated with more than 90% of cervical and anal cancers. In the United States alone, HPV causes roughly 39,000 cancer cases annually, including cervical, oropharyngeal, anal, penile, vaginal, and vulvar cancers.[2]

The development of HPV immunizations represents a major public health achievement. Gardasil was approved by the FDA in 2006, protecting against HPV types 6, 11, 16, and 18. This was the first immunization specifically designed to prevent cancer. Cervarix, targeting types 16 and 18, followed in 2009. In 2014, Gardasil 9 was approved, expanding protection to nine types of HPV. Initially recommended for girls aged 11-12, recommendations expanded to include boys in 2011, recognizing HPV's role in cancers affecting all genders. Current CDC guidelines recommend routine immunization at ages 11-12, with catch-up doses through age 26, and shared clinical decision-making for adults 27-45.[3]

Immunization is most effective if achieved before individuals become sexually active but can still benefit those who are sexually active. Immunizations against HPV have demonstrated excellent safety profiles and high efficacy, with real-world data showing dramatic declines in HPV infections, genital warts, and cervical precancerous lesions in populations with higher levels of coverage.[4] Despite this success, immunization rates remain suboptimal in many regions, representing an ongoing public health challenge.

References:

[1]https://www.cdc.gov/pinkbook/hcp/table-of-contents/chapter-11-human-papillomavirus.html
[2]https://www.cdc.gov/united-states-cancer-statistics/publications/hpv-associated-cancers.html
[3]https://www.cdc.gov/immunizations/vpd/hpv/hcp/recommendations.html
[4]https://www.asco.org/abstracts-presentations/231759

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Select Reportable Diseases in Pinellas County

Disease	Pinellas		YTD Total		Pinellas County Annual Totals		
	Dec 2025	Dec 2024	Pinellas 2025	Florida 2025	2024	2023	2022
A. Immunization Preventable							
Coronavirus 2019	258	708	9605	214313	19905	45495	110629
Measles	0	0	0	7	0	0	0
Mpox	1	0	6	149	12	6	162
Mumps	0	1	0	11	2	0	0
Pertussis	4	9	99	1506	38	1	2
Varicella	4	2	20	546	175	25	24
B. CNS Diseases & Bacteremias							
Creutzfeldt-Jakob Disease (CJD)	0	0	2	49	3	1	3
Meningitis (bacterial, cryptococcal, mycotic)	1	0	4	125	16	6	12
Meningococcal Disease	0	0	1	31	1	3	2
C. Enteric Infections							
Campylobacteriosis	20	17	256	6371	227	224	208
Cryptosporidiosis	2	3	27	477	30	28	38
Cyclosporiasis	0	0	4	210	7	11	21
E. coli Shiga Toxin (+)	1	2	36	1245	34	37	28
Giardiasis	6	5	40	1094	59	40	34
Hemolytic Uremic Syndrome (HUS)	0	0	2	32	2	2	0
Listeriosis	1	0	5	61	1	2	3
Salmonellosis	15	15	200	8607	226	194	174
Shigellosis	6	5	59	1252	46	56	37
D. Viral Hepatitis							
Hepatitis A	1	0	1	142	1	1	20
Hepatitis B: Pregnant Woman +HBsAg	0	0	0	0	0	0	0
Hepatitis B, Acute	5	2	17	492	32	37	33
Hepatitis C, Acute	5	16	71	1627	93	106	120
E. Vectorborne/Zoonoses							
Animal Rabies	0	0	1	115	1	1	0
Rabies, possible exposure	20	16	304	8270	249	227	151
Chikungunya Fever	1	0	3	336	1	0	0
Dengue fever	0	0	8	544	10	5	7
Eastern Equine Encephalitis	0	0	0	0	0	0	0
Lyme Disease	2	1	20	446	13	21	11
Malaria	0	0	0	44	2	4	4
West Nile Virus	0	0	0	18	1	0	0
Zika Virus Disease	0	0	0	1	0	0	0
F. Others							
Hansens Disease (Leprosy)	0	0	0	38	1	1	0
Legionellosis	6	1	40	786	36	16	38
Mercury Poisoning	0	0	0	35	0	0	0
Vibrio Infections	3	2	25	384	32	13	11
Tuberculosis	2	1	31	678	25	20	22
G. Sexually Transmitted Infections							
Chlamydia	271	303	3503	95746	3904	4256	4054
Gonorrhea	155	146	1636	36398	1806	1802	1752
Syphilis, Total	27	41	467	15599	577	687	766
Syphilis, Infectious (Primary and Secondary)	14	23	185	2780	286	361	347
Syphilis, Early Latent	4	7	159	5377	144	206	279
Syphilis, Late Syphilis (Late Latent; Neurosyphilis)	9	10	119	7209	140	112	135
Syphilis, Congenital	0	1	4	233	7	8	5

All data are provisional and subject to updates as new reports are received and reviewed.

*YTD up to December 31, 2025

**includes travel and non-travel associated cases