

RUTGERS

Cancer Institute
of New Jersey

RUTGERS HEALTH

Current HPV-Related Cancer Rates

New Jersey State Cancer Registry



*Antoinette M. Stroup, PhD, Director
HPV NJ Roundtable
October 11, 2017
American Cancer Society
South Brunswick, NJ*



Number of HPV-Associated and HPV-Attributed Cancer Cases Per Year¹

Cancer site	Average number of cancers per year in sites where HPV is often found (HPV-associated cancers)	Percentage probably caused by any HPV type ^a	Number probably caused by any HPV type ^a	Percentage probably caused by HPV types 16/18 ^b	Number probably caused by HPV types 16/18 ^b	Percentage probably caused by HPV types 31/33/45/52/58 ^c	Number probably caused by HPV types 31/33/45/52/58 ^c
Cervix	11,693	91%	10,600	66%	7,700	15%	1,700
Vagina	819	75%	600	55%	500	18%	100
Vulva	3,671	69%	2,500	49%	1,800	14%	500
Penis	1,181	63%	700	48%	600	9%	100
Anus	5,229	91%	4,800	79%	4,200	8%	400
Female	3,416	93%	3,200	80%	2,700	11%	400
Male	1,813	89%	1,600	79%	1,400	4%	100
Rectum	772	91%	700	79%	600	8%	100
Female	528	93%	500	80%	400	11%	100
Male	244	89%	200	79%	200	4%	<100
Oropharynx	16,479	70%	11,600	60%	9,900	6%	900
Female	3,203	63%	2,000	51%	1,600	10%	300
Male	13,276	72%	9,600	63%	8,400	4%	600
TOTAL	39,844	79%	31,500	63%	25,300	10%	3,800
Female	23,330	83%	19,400	63%	14,700	13%	3,100
Male	16,514	73%	12,100	64%	10,600	4%	700

^aHPV types detected in genotyping study; most were high-risk HPV types known to cause cancer (Saraiya M et al. [U.S. assessment of HPV types in cancers: implications for current and 2-valent HPV vaccines.](#) *Journal of the National Cancer Institute* 2015;107:djv086).

^bHPV types 16/18 can be prevented by the bivalent, quadrivalent, and 9-valent HPV vaccines.

^cHPV types 31/33/45/52/58 can be prevented by the 9-valent HPV vaccine.

¹ <https://www.cdc.gov/cancer/hpv/statistics/cases.htm>

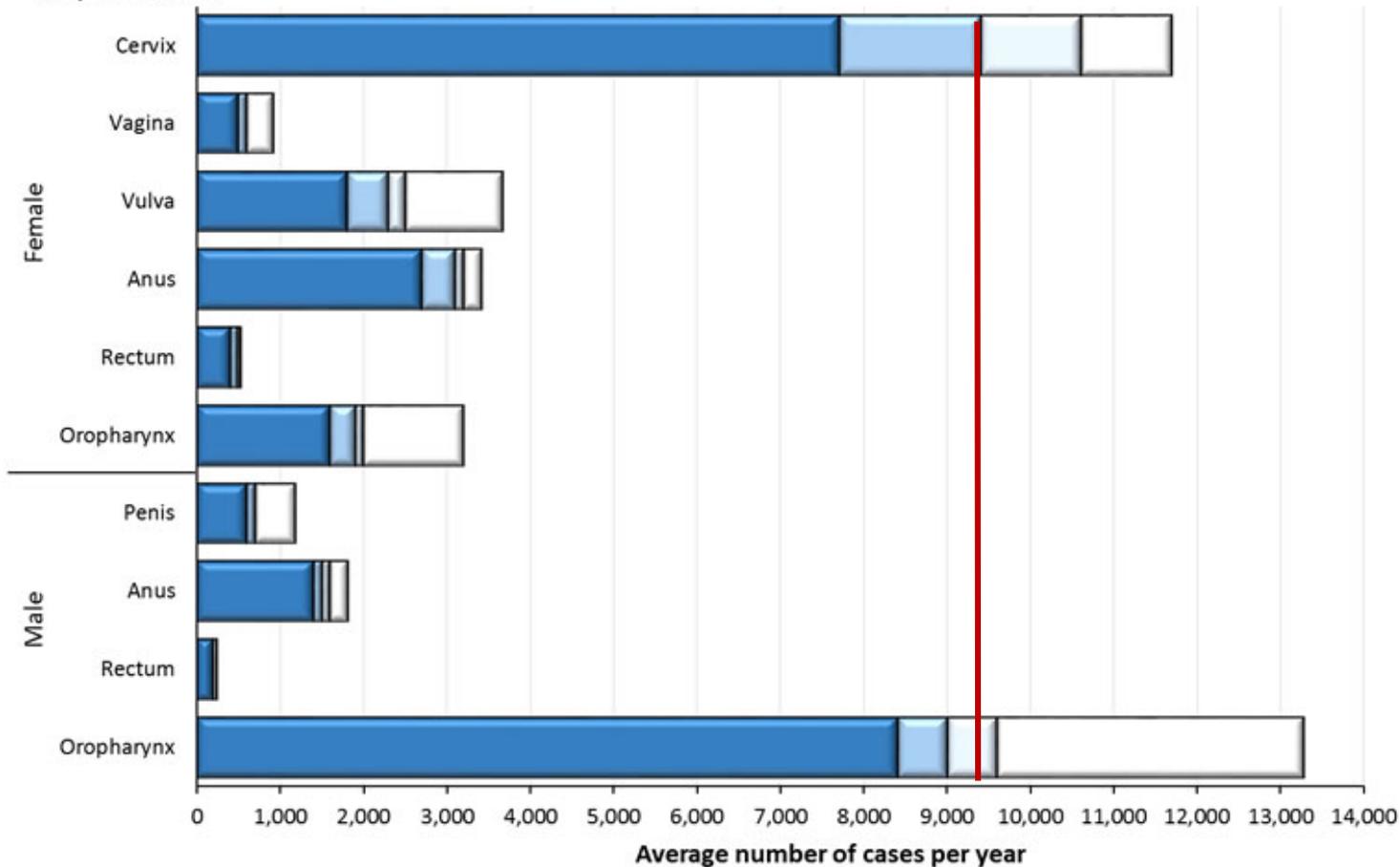
Number of HPV-Associated and HPV-Attributed Cancer Cases that can be Prevented¹



can be prevented by bivalent and quadrivalent vaccines

can be prevented by 9-valent vaccine

Sex / Cancer Site



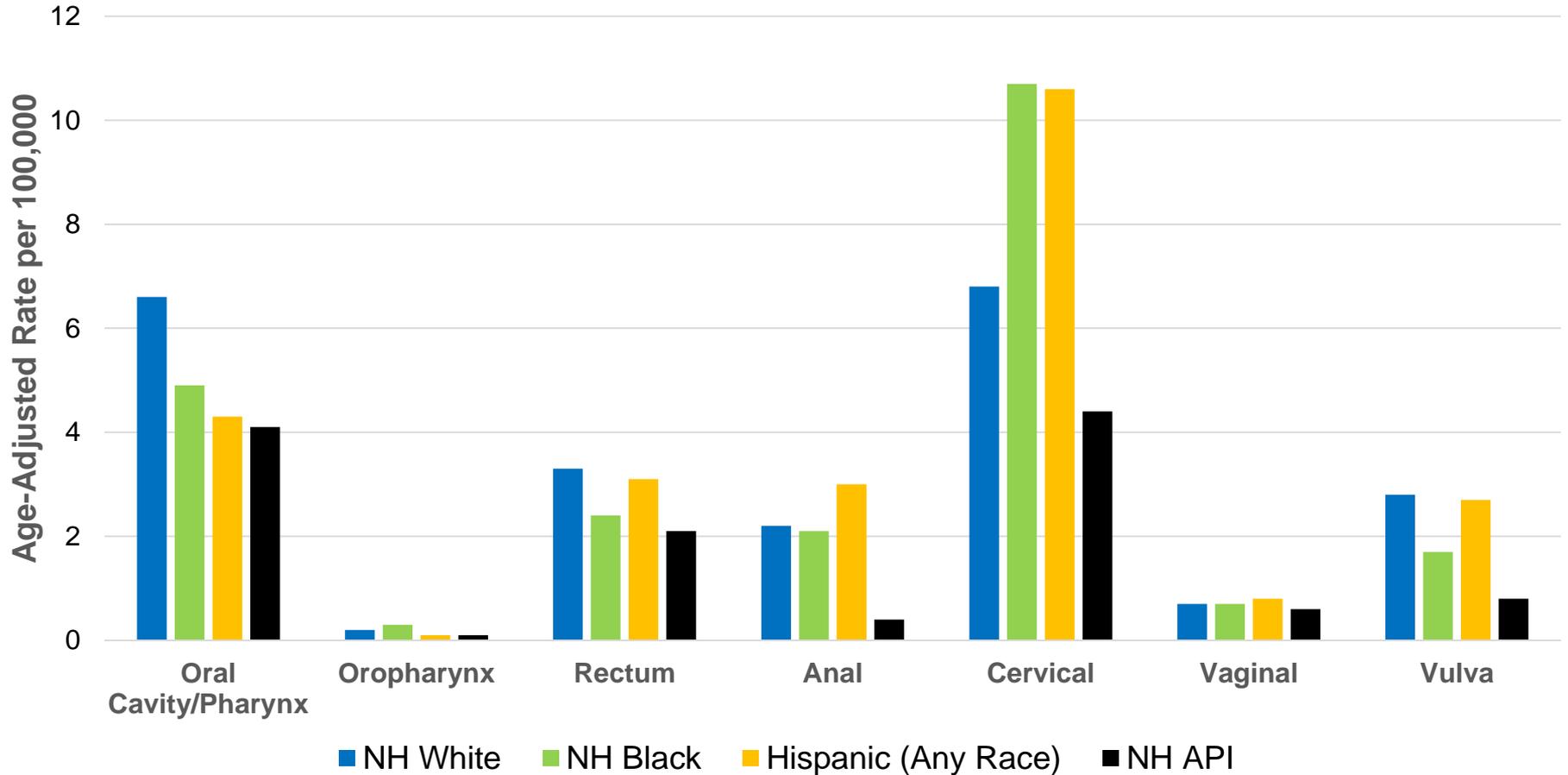
¹ <https://www.cdc.gov/cancer/hpv/statistics/cases.htm>

New Jersey vs. US Average Annual Age-Adjusted Cancer Incidence Rates*: HPV-Associated Cancers By Gender (All Race/Ethnicities), 2010-2014

Cancer Type	FEMALE		MALE	
	NJ	US SEER 17	NJ	US SEER 17
	Rate (Count)	Rate (Count)	Rate (Count)	Rate (Count)
Invasive Cervical	7.6 (1,902)	7.4 (14,923)	--	--
Vaginal	0.7 (203)	0.7 (1,659)	--	--
Vulvar	2.6 (734)	2.5 (5,500)	--	--
Anal	2.1 (596)	2.1 (5,221)	1.3 (313)	1.5 (2,914)
Rectum	6.9 (1,959)	7.0 (15,646)	10.9 (2,505)	11.2 (21,915)
Oral Cavity & Pharynx	6.0 (1,688)	6.3 (14,019)	15.6 (3,726)	17.0 (33,882)
Oropharynx	0.2 (61)	0.2 (410)	0.8 (191)	0.7 (1,454)
Penis	--	--	0.9 (185)	0.9 (1,623)

* Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2016 Sub (2000-2014) <Katrina/Rita Population Adjustment> - Linked To County Attributes - Total U.S., 1969-2015 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, released April 2017, based on the November 2016 submission

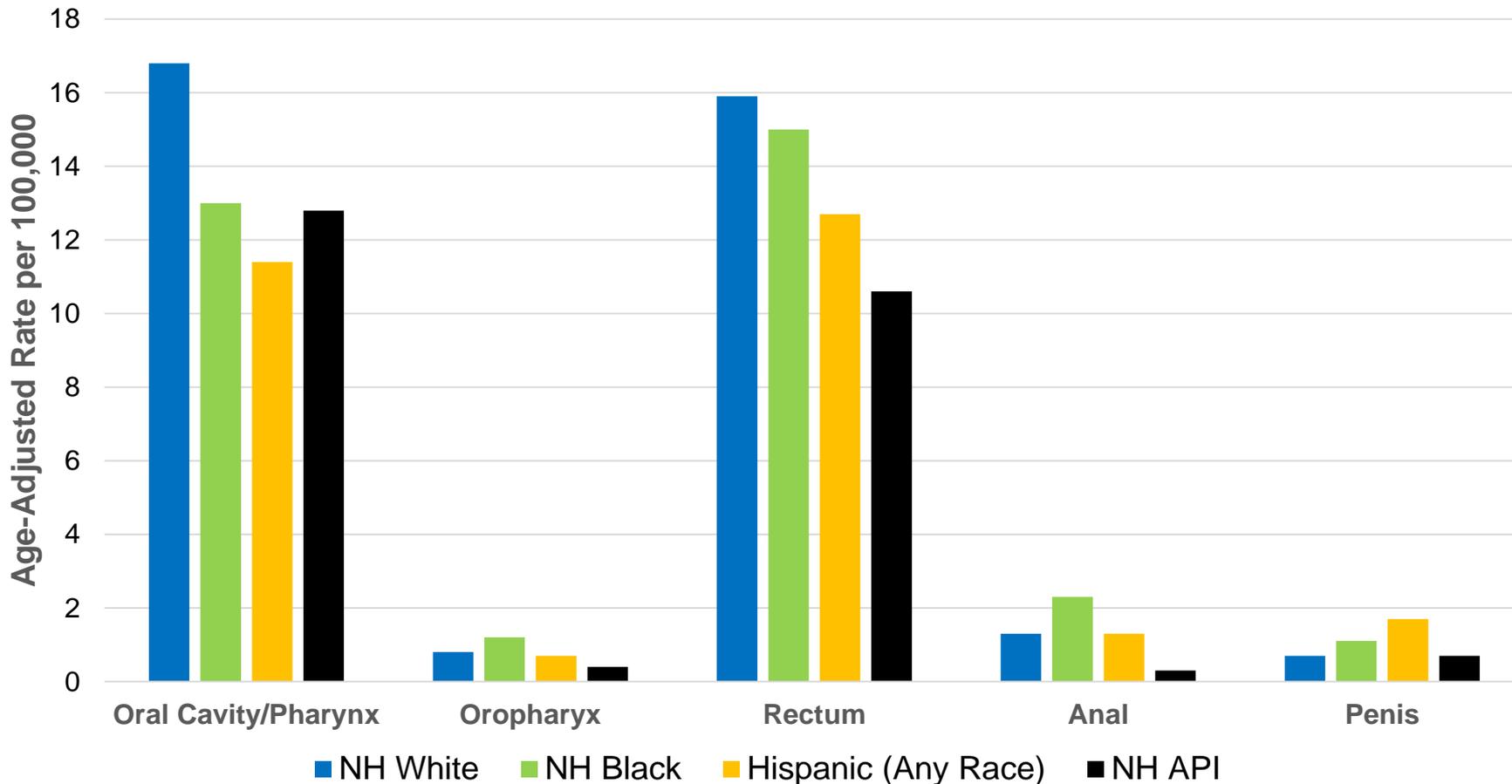
NJ Age-Adjusted Incidence Rates 2010-2014 by Cancer Type and Race/Ethnicity: **Female** HPV-related Cancers



NH=Non-Hispanic; API=Asian/Pacific Islander

* Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2016 Sub (2000-2014) <Katrina/Rita Population Adjustment> - Linked To County Attributes - Total U.S., 1969-2015 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, released April 2017, based on the November 2016 submission

NJ Age-Adjusted Incidence Rates 2010-2014 by Cancer Type and Race/Ethnicity: **Male** HPV-related Cancers

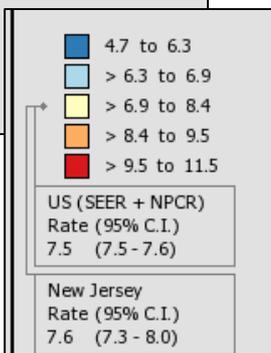
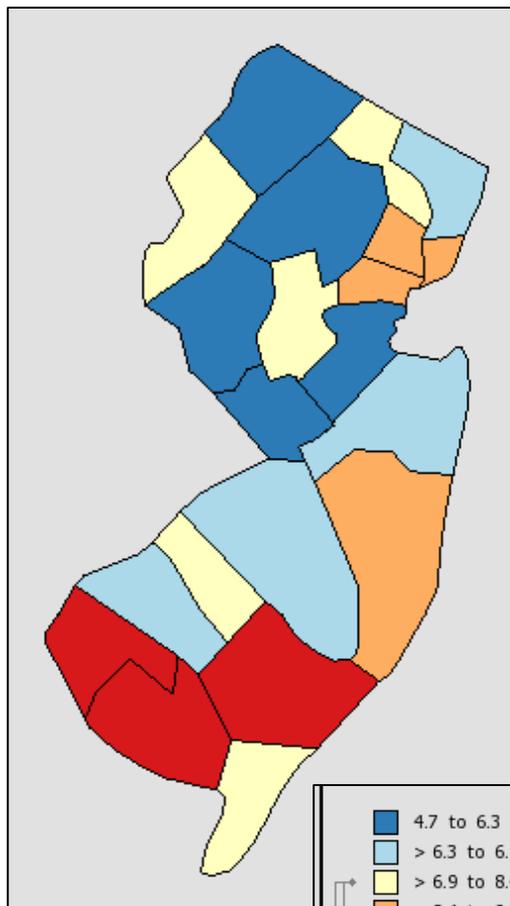


NH=Non-Hispanic; API=Asian/Pacific Islander

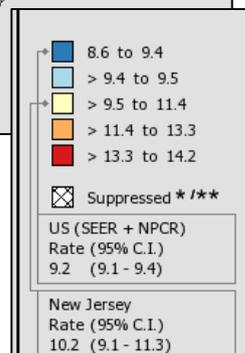
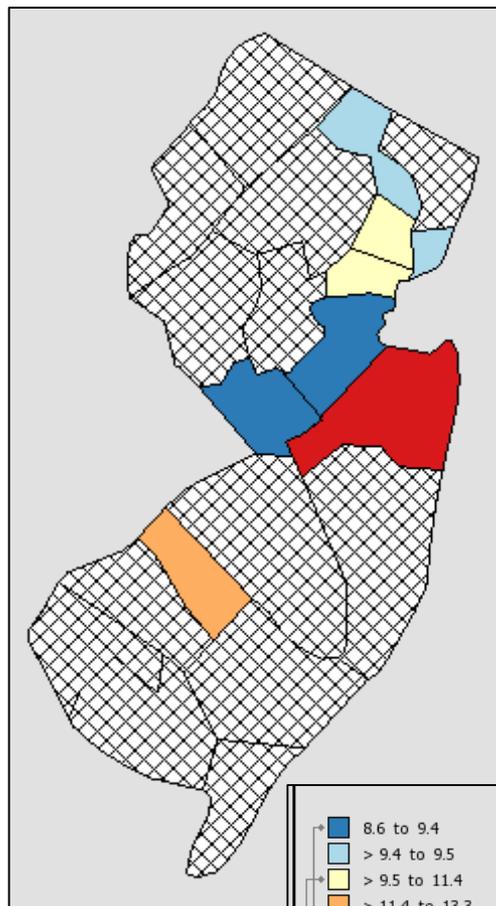
* Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2016 Sub (2000-2014) <Katrina/Rita Population Adjustment> - Linked To County Attributes - Total U.S., 1969-2015 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, released April 2017, based on the November 2016 submission

NJ Invasive Cervical Cancer Rates by County 2010-2014

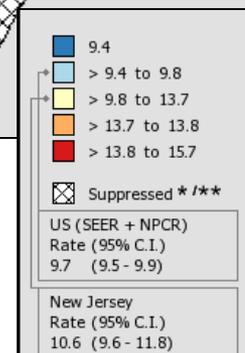
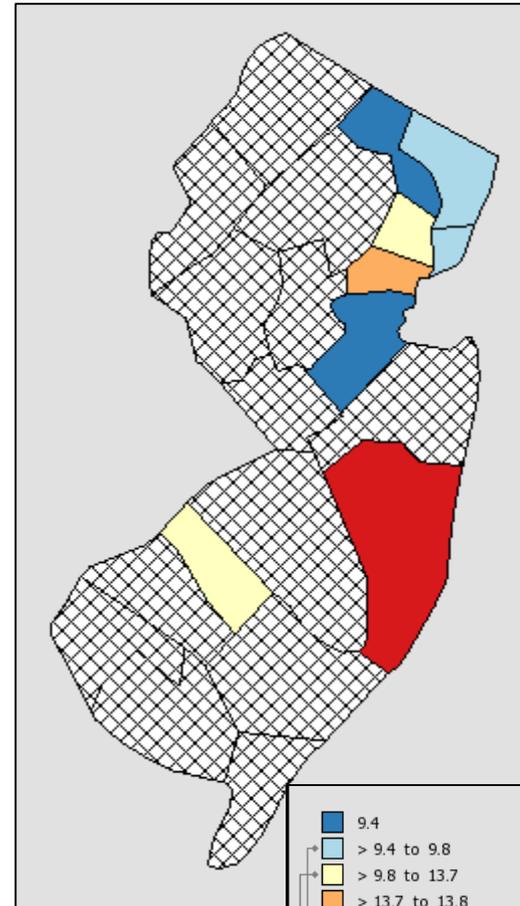
1. All Race/Ethnicities



2. Blacks

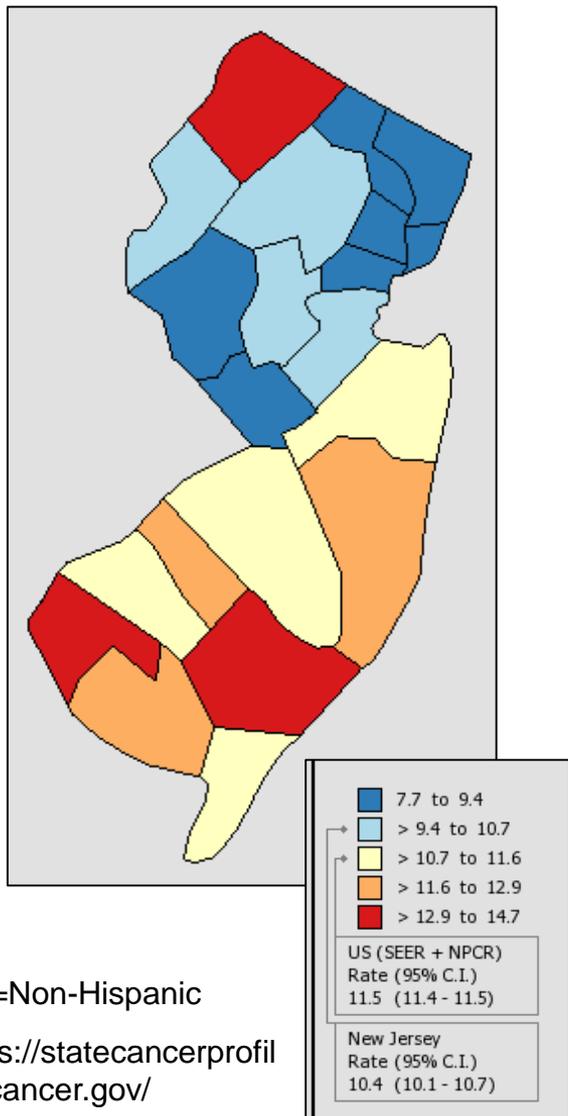


3. Hispanics (any race)

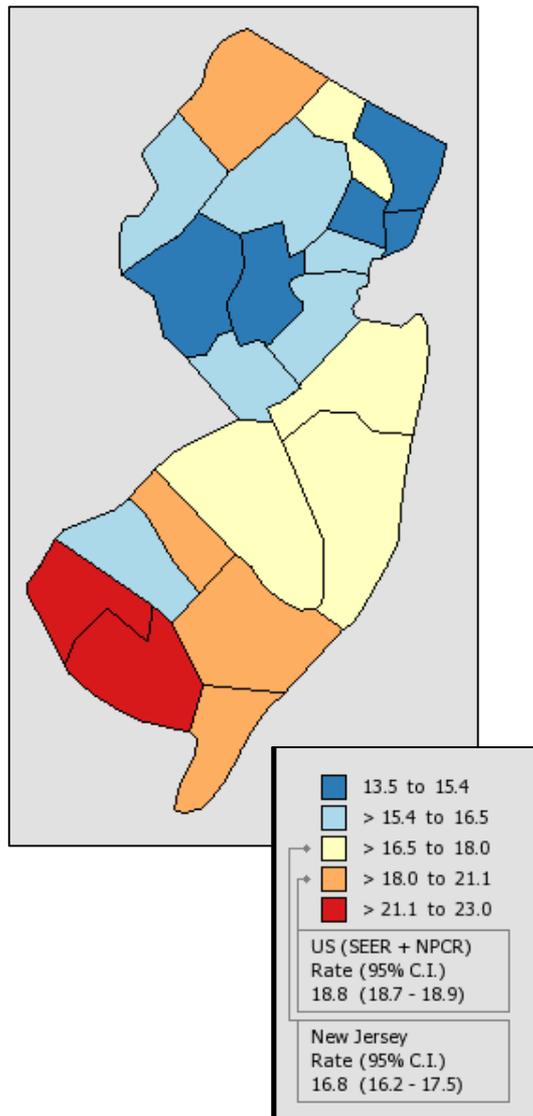


NJ Oral Cavity & Pharynx Rates by County 2010-2014

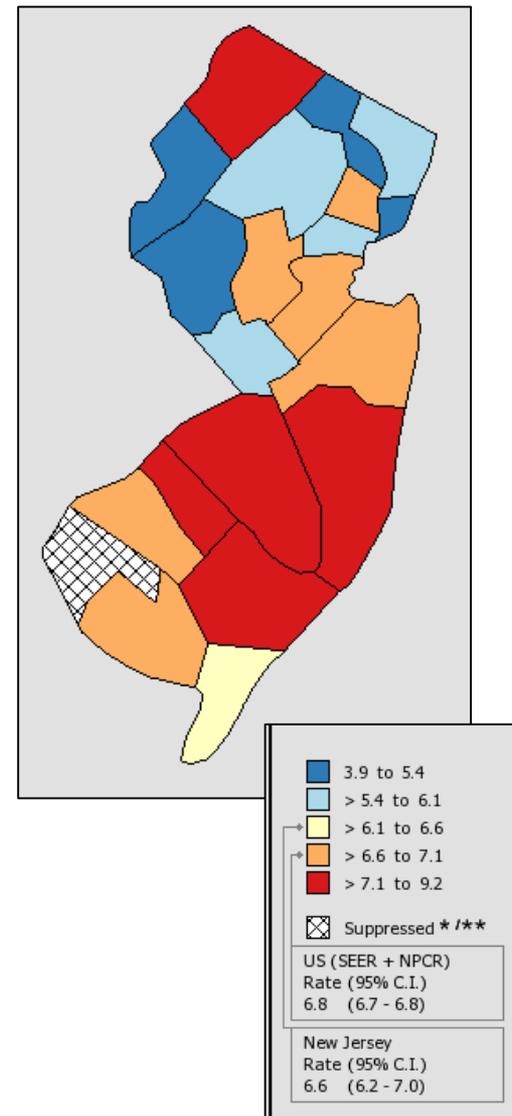
1. All Race/Ethnicities



2. NH White Males



3. NH White Females



NH=Non-Hispanic

<https://statecancerprofiles.cancer.gov/>

New Jersey Average Annual Age-Adjusted Cancer Incidence Rate: 10-year Trends* in HPV-Associated Cancers FEMALES by Race/Ethnicity, 2005-2014

Cancer Type	NHW APC	NHB APC	API APC	HISPANIC APC
Invasive Cervical	-2.6*	-3.3*	-8.0*	-3.4*
Vaginal	2.7	-8.1	-8.2	-4.1
Vulvar	1.0	-0.4	^	4.1
Rectum	-1.5	-2.9	-3.3	-1.4
Anal	3.5	1.3	^	6.4
Oral Cavity & Pharynx	0.9	-0.7	-2.3	-2.2
Oropharynx	3.7	^	^	^
APC = Annual Percent Change; NHW=Non-Hispanic White; NHB=Non-Hispanic Black; API=Asian/Pacific Islander * p < 0.05 ^ Statistic could not be calculated/Too few cases				

* Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2016 Sub (2000-2014) <Katrina/Rita Population Adjustment> - Linked To County Attributes - Total U.S., 1969-2015 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, released April 2017, 9 based on the November 2016 submission

New Jersey Average Annual Age-Adjusted Cancer Incidence Rate: 10-year Trends* in HPV-Associated Cancers MALES by Race/Ethnicity, 2005-2014

Cancer Type	NHW APC	NHB APC	API APC	HISPANIC APC
Penis	3.6	^	^	0.3
Rectum	-1.6*	-2.6*	-2.3	-3.8*
Anal	-0.8	3.8	^	-0.7
Oral Cavity & Pharynx	1.3*	-0.5	0.2	-2.0
Oropharynx	0.2	10.0	^	-8.7

APC = Annual Percent Change; NHW=Non-Hispanic White; NHB=Non-Hispanic Black; API=Asian/Pacific Islander * p < 0.05 ^ Statistic could not be calculated/Too few cases

* Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2016 Sub (2000-2014) <Katrina/Rita Population Adjustment> - Linked To County Attributes - Total U.S., 1969-2015 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, released April 2017, based on the November 2016 submission

Thank you!

Nan Stroup, PhD, Director

Nan.Stroup@rutgers.edu



Acknowledgement: Cancer data used in this study were provided by the New Jersey State Cancer Registry, Cancer Epidemiology Services, New Jersey Department of Health, which is funded by the Surveillance, Epidemiology and End Results (SEER) Program of the National Cancer Institute under contract HHSN261201300021I, the National Program of Cancer Registries (NPCR), Centers for Disease Control and Prevention under grant 5U58DP003931-02 as well as the State of New Jersey and the Rutgers Cancer Institute of New Jersey.