Appendix Table 1. Number of Cases of Invasive Cervical Cancer Among Women Aged 15–34 Years, USCS 2001–2014

Variable	Number of cases	
Age (years)	15–24	25–34
All	2,227	23,200
Time period		
2001–2006	1,056	10,498
2007–2014	1,171	12,702
Race/Ethnicity		
Hispanics	447	4,607
Non-Hispanic whites	1,292	14,433
Non-Hispanic blacks	353	2,869
Asian/Pacific Islanders	42	624
Histology		
SCC	1,334	15,395
Non-SCC	893	7,805

Notes: Data were from U.S. Cancer Statistics (USCS), the combined data from the Centers for Disease Control and Prevention (CDC's) National Program for Cancer Registries (NPCR) and the National Cancer Institute's (NCI's) Surveillance, Epidemiology, and End Results (SEER) Program.

SCC, squamous cell carcinoma.

Appendix Table 2. Effective Guidelines During the Study Period (2001–2014) From USPSTF, ACS, and ACOG

Year	Recommendation
USPSTF	
1996[1]	• Regular Pap tests are recommended for all women who are or have been sexually active and who have a cervix. • Testing should begin at the age when the woman first engages in sexual intercourse. • Pap tests should be performed at least every 3 years.
2002[2]	• Strongly recommends screening for cervical cancer in women who have been sexually active and have a cervix. • Beginning screening within 3 years of onset of sexual activity or age 21 (whichever comes first) and screening at least every 3 years. • Insufficient to recommend for or against the routine use of liquid-based cytology or HPV testing as alternatives or adjuncts to cytology screening.
2010[3]	• Strongly recommends screening for cervical cancer in women who have been sexually active and have a cervix. • Screening can safely be delayed until 3 years after onset of sexual activity or until age 21, whichever comes first. • Screening every 3 years.
2012[4]	• Recommend against screening earlier than age 21 years. • Screening women ages 21 to 65 years every 3 years with liquid-based or conventional cytology. • Start to recommend liquid-based cytology. • HPV testing combined with cytology (co-testing) every 5 years in women ages 30 to 65 years.
2014[5]	• Same as 2012.
ACS	
1987[6]	• Annual Pap test for all women who are or have been sexually active, or have reached the age of 18. • After a woman has had three or more consecutive, technically satisfactory, normal annual examinations, the Pap test may be performed less frequently at the discretion of her physician.
2002[7]	• Beginning screening approximately 3 years after the onset of vaginal intercourse or age 21. • Annually with conventional cervical cytology smears OR every 2 years using liquid-based cytology. • After age 30, women who have had three consecutive, technically satisfactory normal/negative cytology results may be screened every 2 to 3 years. • Every 3 years using conventional or liquid-based cytology combined with HPV DNA test (if FDA approved the test for cervical screening).
2012[8]	• No screening in women aged <21 years. • Aged 21–29 years: cytology alone every 3 years. • Aged 30–65 years: HPV and cytology “cotesting” every 5 years (preferred), cytology alone every 3 years (acceptable).

ACOG	
1995[9]	• Annual Pap test for all women who are or have been sexually active, or have reached the age of 18. • After a woman has had three or more consecutive, satisfactory annual examinations with normal findings, the Pap test may be performed less frequently at the discretion of her physician.
2003[10]	• Beginning screening approximately 3 years after the onset of sexual intercourse, but no later than age 21 years. • Annual screening for women <30 years old. Women ≥30 years old who have had three consecutive negative cytology results may be screened every 2 to 3 years. • Liquid-based and conventional methods of cervical cytology both acceptable.
2009[11]	• Cervical cancer screening should begin at age 21 regardless of age at onset of sexual activity. • Cervical cytology screening from age 21 to 29 is recommended every 2 years. Women ≥30 years old who have had three consecutive negative cytology results may extend the interval between cervical cytology examinations to every 3 years. • Co-testing using the combination of cytology plus HPV DNA testing is an appropriate screening test for women ≥30 years old with an screening interval no sooner than 3 years.
2012[12]	• Cervical cancer screening should begin at age 21 regardless of age at onset of sexual activity. • Cervical cytology screening from age 21 to 29 is recommended every 3 years. • Aged 30–65 years: HPV and cytology "cotesting" every 5 years (preferred), cytology alone every 3 years (acceptable).

ACOG, American College of Obstetricians and Gynecologists; ACS, American Cancer Society; USPSTF, U.S. Preventive Services Task Force; HPV, human papillomavirus; FDA, U.S. Food and Drug Administration.

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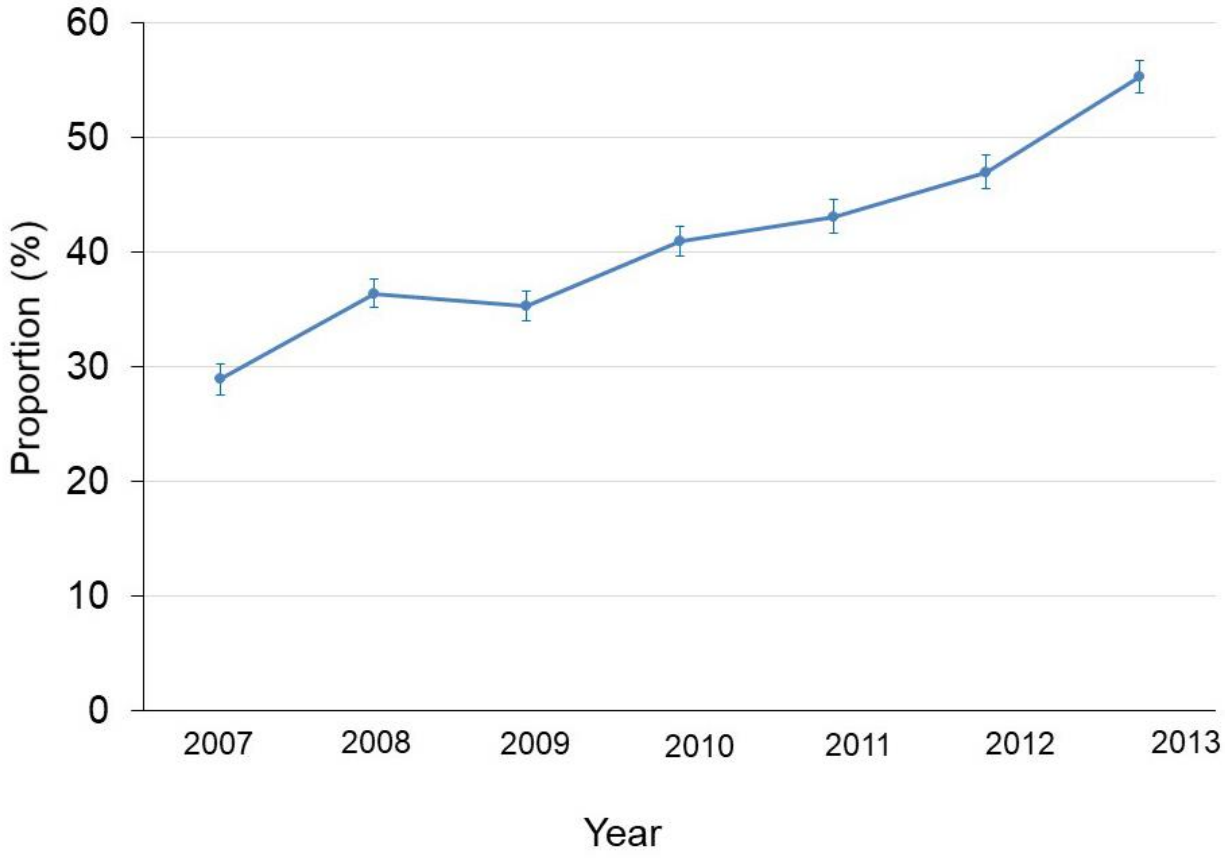
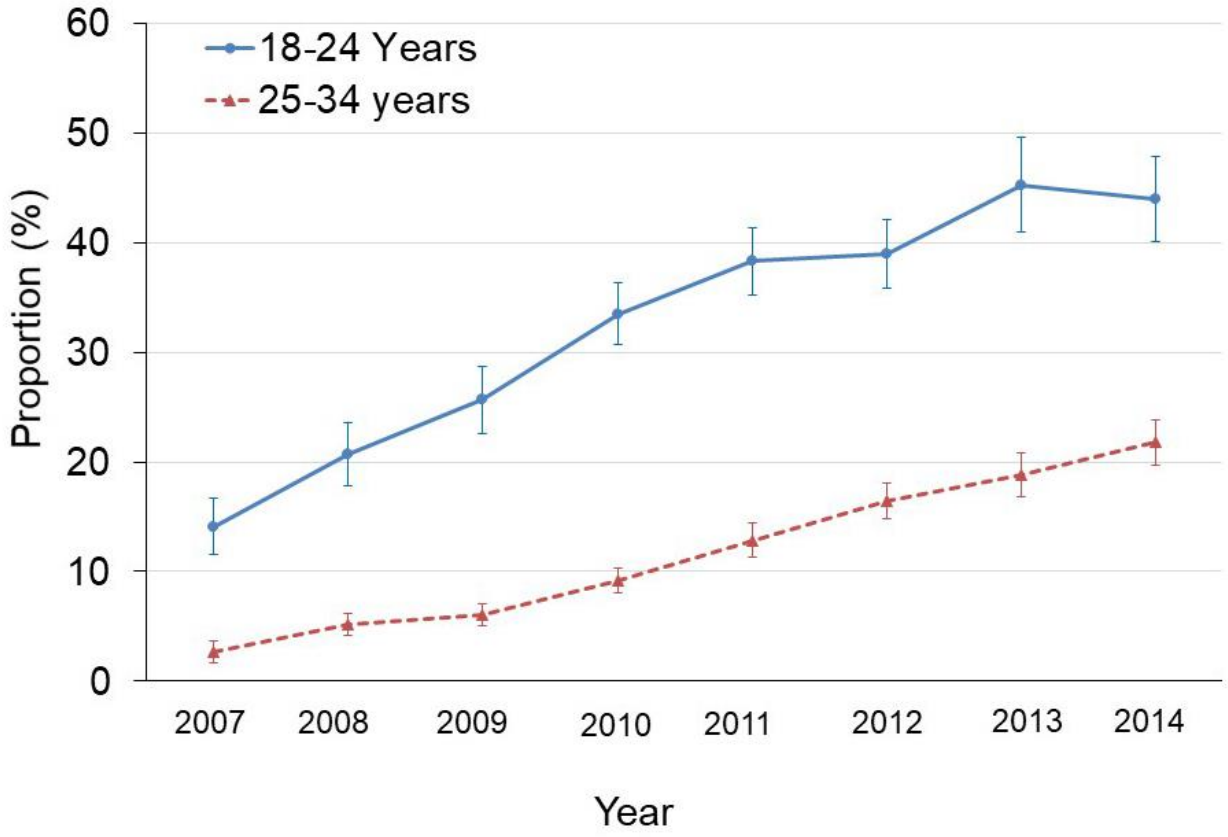
Appendix Figure 1. HPV vaccine coverage among girls aged 13–17 years, National Immunization Survey (NIS) – Teen 2008–2014. Proportion: girls who received at least one dose of HPV vaccine.



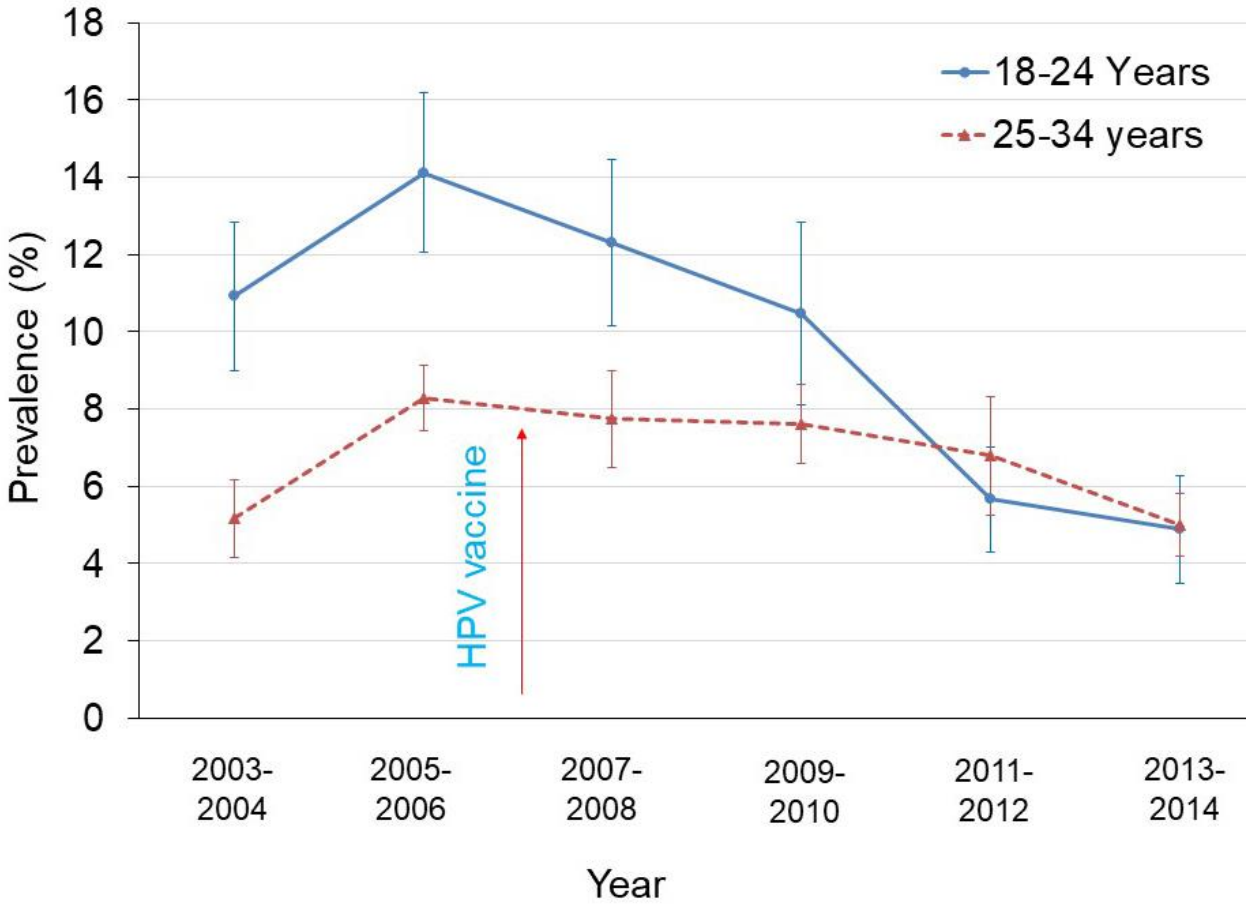
HPV, human papillomavirus.

Appendix Figure 2. HPV vaccine coverage among females aged 18–24 or 25–34 years, National Health Interview Survey (NHIS) 2008–2015. Proportion: girls who received at least one dose of HPV vaccine.



HPV, human papillomavirus.

Appendix Figure 3. Prevalence of high-risk vaccine type HPV (16 and 18) among females 18–24 or 25–34 years old, National Health and Nutrition Examination Survey (NHANES) 2003–2014. HPV prevalence was estimated using test results of HPV DNA from vaginal swabs.



HPV, human papillomavirus.