

Strategies to Improve HPV Vaccination Rates Among Eligible Undergraduates and Graduate Students





How to Confront Barriers to HPV Vaccination

Presenter



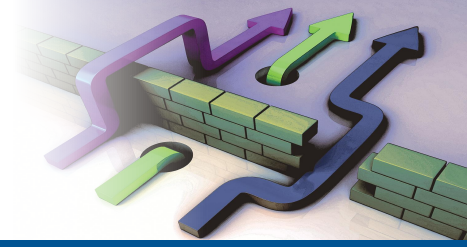
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Full Disclosure: I do not have any financial interests or relationships with a commercial entity whose products or services are relevant to the content of my presentation

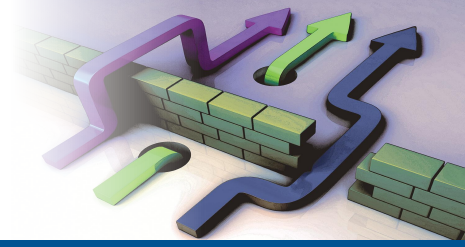
How Common is HPV?



- HPV infection is the most common sexually transmitted infection in the U.S.¹
- 80-90% of sexually active people will be infected at some point in their life¹
- 80 million people are infected with genital HPV²
- 14 million new infections occur each year²
 - 50% are in those 15-24 years old³

1. <https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-fact-sheet>
2. <https://www.cdc.gov/hpv/hcp/need-to-know.pdf>
3. Markowitz et al. *MMWR*. 2014;63(RR-05):1-30.

Does HPV affect both men and women?



- Yes, and some infections are more common in men¹
- From a recent study - 14 million oral HPV infections in the U.S.⁴
 - 11 million in men
 - 3.2 million in women

1. <https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-fact-sheet>

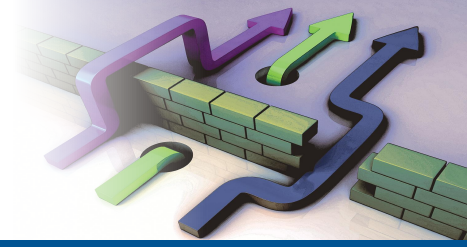
4. Sonawane K, et al. *Ann Intern Med.* 2017 Nov 21;167(10):714-724

How Is HPV Transmitted?



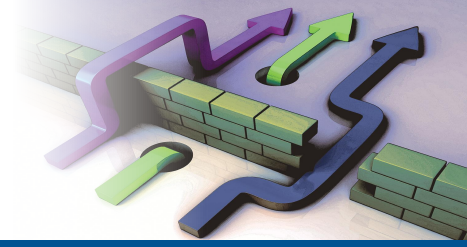
- More than 40 HPV types are spread through sexual contact
 - Includes vaginal, anal, and oral sex
- Condoms do NOT provide complete protection
- Most people never have any symptoms
 - Pass HPV to others unknowingly
- Most people will be infected with HPV after becoming sexually active for the first time

What diseases are caused by HPV?



- Most infections will clear within 1-2 years
- Those with persistent infection can develop:
 - Genital warts – caused by low-risk HPV types
 - HPV 6 and 11 cause 90% of genital warts
 - Certain cancers – caused by high-risk HPV types
 - Primarily HPV 16 and 18
 - Cervical, oropharyngeal (throat, tongue, tonsils), anal, vulvar, vaginal, and penile cancers

How Common Are HPV-Associated Genital Warts?



- Genital warts are not reported routinely in the U.S.³
- Before HPV vaccines became available, 350,000 cases* each year⁵
- Diagnosed cases are 3-4 times higher in men than in women⁶
- About 1/3 of cases return even with treatment⁵

*Number of people who sought care

3. Markowitz et al. *MMWR*. 2014;63(RR-05):1-30.

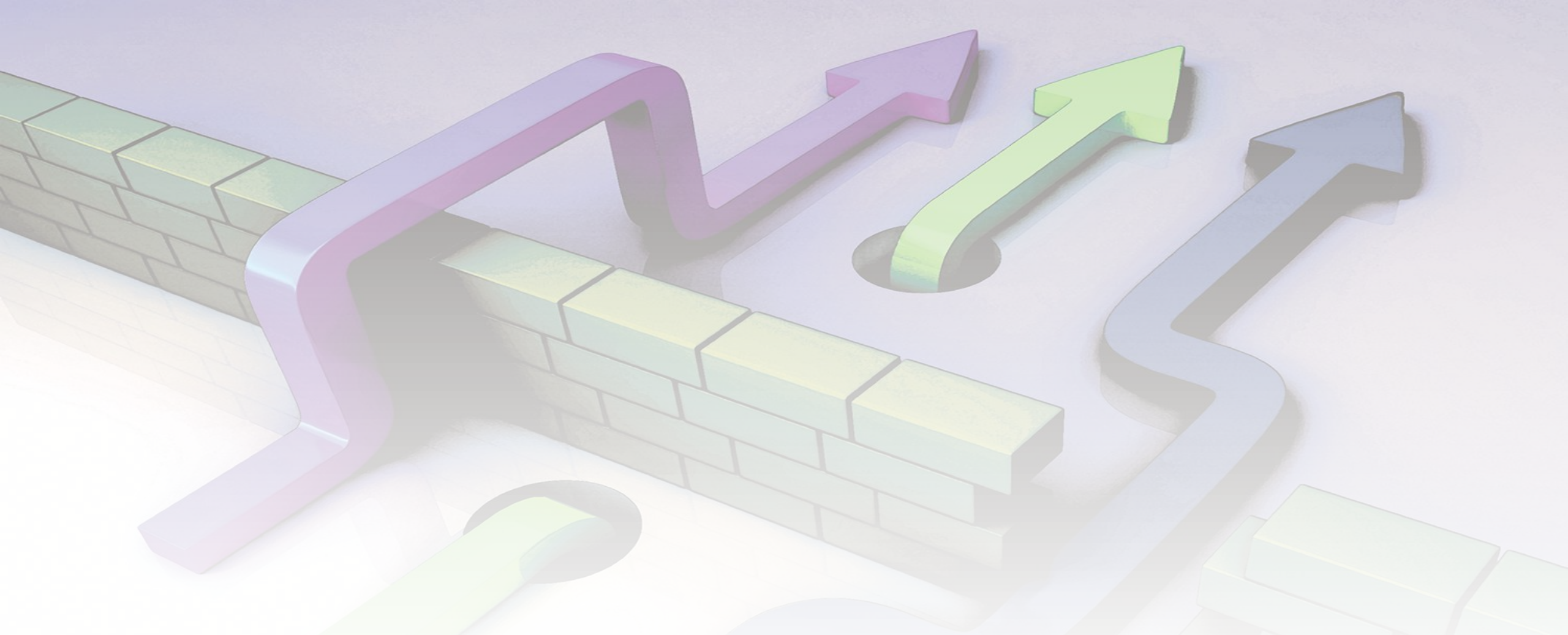
5. <https://www.cdc.gov/std/hpv/stdfact-hpv.htm>

6. <https://www.cdc.gov/std/stats13/other.htm>

How Common Are HPV-Associated Cancers?



- 31,500 cases each year
 - >10,000 cervical cancers
 - >11,000 oropharyngeal cancers
 - Nearly 5,000 anal cancers
- Nearly 40% of the total cancers are in men



HPV Vaccination

What Are the Current HPV Vaccination Rates?



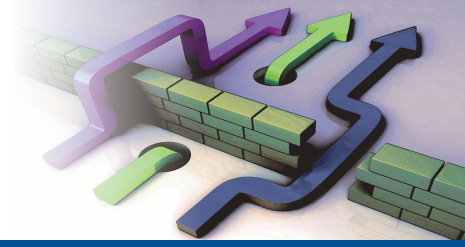
- Healthy People 2020 goal is 80%
- Only 60% of teens aged 13-17 years received one or more doses⁸
 - Only ~40% are completing the series
 - In 2015⁹
 - Women aged 19-26 years – 41.6% received at least 1 dose
 - Males aged 19-26 years – 10.1% received at least 1 dose
- Despite these low rates, the prevalence of HPV types has decreased 60-70%¹⁰

8. Walker TY, et al. *MMWR Morb Mortal Wkly Rep*. 2017;66(33):874-882.

9. <https://www.cdc.gov/mmwr/volumes/66/ss/ss6611a1.htm>

10. Oliver SE, et al. *J Infect Dis*. 2017;216(5):594-603.

9-valent HPV Vaccine (9vHPV)*



Efficacy¹¹ – highly efficacious

- 97% efficacy in preventing disease and persistent infection

Coverage¹² – protects against both low-risk and high-risk types

- HPV types 6, 11, 16, 18, 31, 33, 45, 52, 58

Safety – non-infectious recombinant vaccine

- Redness, pain, swelling are common at the injection site¹¹
 - Fainting can occur¹²
- Studied in >15,000 persons in clinical trials¹¹
 - Nearly 90 million doses of HPV vaccines have been distributed since their introduction²

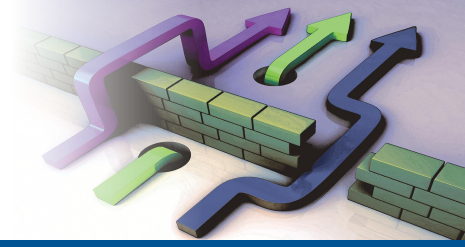
*Only vaccine currently in distribution in U.S.

2. <https://www.cdc.gov/hpv/hcp/need-to-know.pdf>

11. Joura EA, et al. *N Engl J Med*. 2015;372(8):711-23.

12. Gardasil 9 (9vHPV) PI. Merck.

Recommendations of the Advisory Committee on Immunization Practices (ACIP)



Routine 9vHPV vaccination

- Females 11-26 years old
- Males 11-21 years old
 - Through age 26 years for men who have sex with men (MSM), transgender persons, or immunocompromised men

9vHPV Dosage and Intervals



If the patient is...

- Ages 15-26 years – women
- Ages 15-21 years – men

- Immunocompromised

- MSM or transgender

Then...

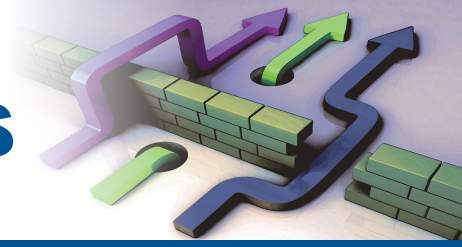
- 3 doses of 9vHPV are needed (0, 1-2, 6 months)

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- Routine vaccination through age 26 years
- If initiated >15 years, 3 doses are needed

NOTE: In females and males, ages 9-14 – 2 doses (0, 6-12 months)

9vHPV Catch-Up and Interrupted Schedules



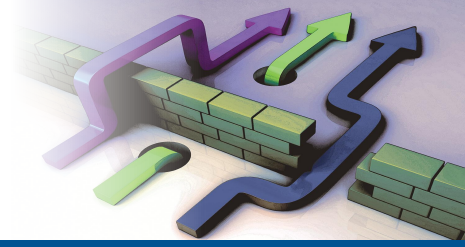
If the patient has...

- Initiated vaccination from ages 9-14 years
- Initiated vaccination at ages 15-26 years
- Started the series with 2vHPV or 4vHPV
- Completed the series with 2vHPV or 4vHPV

Then...

- Only one additional 9vHPV dose is needed
- Two additional doses of 9vHPV are needed
- 9vHPV can continue or complete the series
- No additional vaccine is needed

HPV Vaccination and Pregnancy

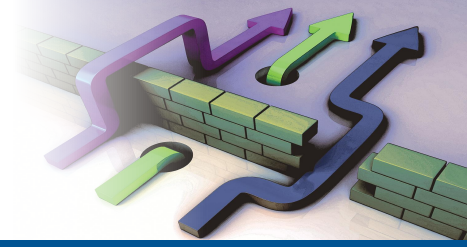


- 9vHPV not recommended for use during pregnancy¹²
- If initiated before pregnancy¹⁴
 - Wait until completion of pregnancy to continue
- A pregnancy test is not required prior to vaccination¹⁴
- No association between 9vHPV and increased risk of birth defects or miscarriages¹²
 - 9vHPV is not a live vaccine

12. Gardasil 9 (9vHPV) PI. Merck.

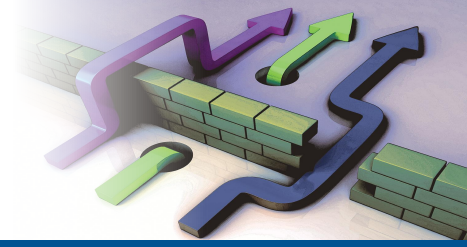
14. Petrosky E, et al. *MMWR Wkly Rep*. 2015;64(11):300-304.

What Can You Do to Increase HPV Vaccination Rates?



- Provide a strong, presumptive recommendation for vaccination
- Use a strong recommendation such as:
 - *“The HPV vaccine is important because it prevents infections that can cause genital warts or cervical, anal or oropharyngeal cancer. I strongly recommend this vaccine and so do experts at the Centers for Disease Control and Prevention and other major medical organizations”*
- Focus on prevention of genital warts and cancer message
- Stress the efficacy and safety record
- Assess vaccination status at every relevant visit
- Encourage young adults to take ownership of healthcare decisions
- Check state or local vaccine registries if vaccination status is unknown

What Systems Can be Used to Increase HPV Vaccination Rates?



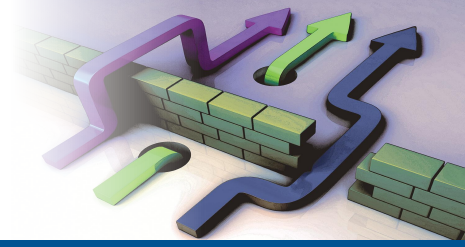
- Standing orders
- Reminder/recall systems
- Electronic medical records
- Text messaging
- Consistent messaging by medical staff

Is the HPV Vaccine Covered by Insurance?



- Yes, all ACIP recommended vaccines are covered by insurance for the recommended age groups

How Should Providers Address Questions About HPV Vaccination?

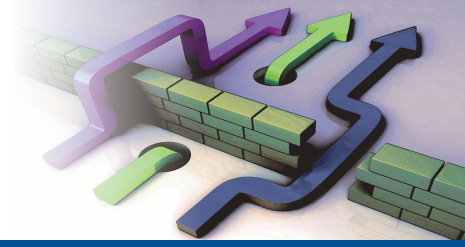


- Avoid long-winded explanations
 - Provide a strong, one-sentence recommendation for vaccination
- Use the "three A's" strategy
 - Ask about their concerns
 - Acknowledge their fears
 - Advice them on vaccination
- If patient declines vaccination
 - Try again at later visit(s)



How can you address common patient concerns about the HPV vaccine?

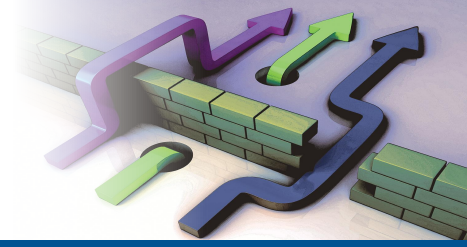
Q: Am I really at risk for HPV?



A:

HPV is a very common infection in both women and men that can cause genital warts or cancer. Starting the vaccine series today will help protect you from these diseases caused by HPV.

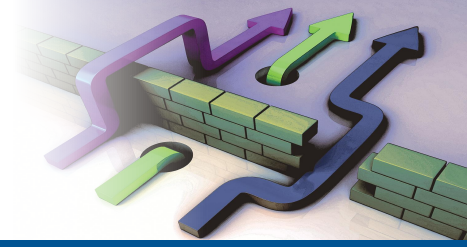
Q: What diseases are caused by HPV?



A:

Some HPV infections cause genital warts, or even certain cancers – like cancer of the cervix or back of the throat. We can protect you from these diseases in the future by getting the first HPV shot today.

Q: I'm worried about the safety of the HPV vaccine. Do you think it's safe?



A:

Yes, HPV vaccination is very safe. Like any medication, vaccines can cause side effects, like pain, swelling, or redness where the shot was given. But that's normal and it should go away in a day or two.¹⁴

The vaccine has been used in millions of people in the U.S. and around the world and has been available for more than a decade. It's as safe as any other recommended vaccine.¹⁵

15. <https://www.cdc.gov/hpv/hcp/for-hcp-tipsheet-hpv.pdf>

16. <https://www.cdc.gov/hpv/hcp/how-i-recommend.html>

Q: How do you know the vaccine works?



A:

Studies continue to prove HPV vaccination works extremely well, decreasing the number of infections and HPV precancers in young people since it has been available.

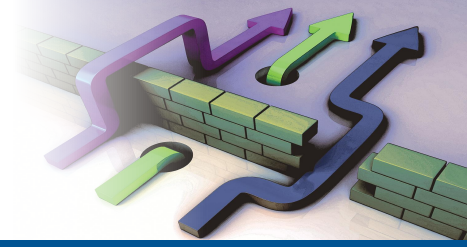
Q: I'm not sexually active. Do I still need to be vaccinated?



A:

Almost everyone will be exposed to HPV at some time in their life. We want to give the vaccine now, even if you aren't sexually active. Because the infection is so common, most people will be infected with HPV after becoming sexually active for the first time if not vaccinated. Even if you only have one sex partner, you can still be infected. And HPV infections are more likely in those who have sex with someone who has had many sex partners.

Q: Why do men need the HPV vaccine?



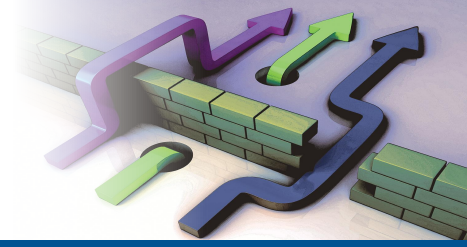
A:



HPV vaccination can help prevent future infections caused by the serotypes contained in the vaccine that can lead to genital warts or cancers of the penis, anus, and back of the throat in men.¹⁴ Since men are 3-4 times more likely to get diagnosed with genital warts than women,⁶ it's important that you get vaccinated today to prevent infection.

6. <https://www.cdc.gov/std/stats13/other.htm>

15. <https://www.cdc.gov/hpv/hcp/for-hcp-tipsheet-hpv.pdf>

How to Take the Posttest and Get Your Certificate



- Please visit: <https://hopkinscme.cloud-cme.com>
- Click Sign In. If you do not have an account with Hopkins CME, you will be prompted to create one after clicking 'sign in with email and password'.
- Click on 'Online Courses'
- Enter **80043368-3** into the 'Quick Search' box
- Click on 'Details'
- Click on 'Content & Tests' 
- Click on 'Test' 
- Complete the post-test and evaluation and attest to the amount of time spent in the activity. Upon receiving a score of 70% or above, print your CME certificate. You will have 3 attempts to achieve a passing score.
- Credits are also available under the 'My CME' button in the Transcript tab.
- If you have any difficulty, please contact cmetechnsupport@jhmi.edu

References



1. National Cancer Institute. HPV and Cancer. <https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-fact-sheet>. Accessed May 3, 2018
2. National Center for Immunization and Respiratory Diseases. HPV Vaccine Information for Clinicians. <https://www.cdc.gov/hpv/hcp/need-to-know.pdf>. Accessed May 3, 2018
3. Markowitz LE, Dunne EF, Saraiya M, et al. Human papillomavirus vaccination: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR Morb Mortal Wkly Rep*. 2014;63(RR-05):1-30.
4. Sonawane K, Suk R, Chiao EY, et al. Oral Human Papillomavirus Infection: Differences in Prevalence Between Sexes and Concordance With Genital Human Papillomavirus Infection, NHANES 2011 to 2014. *Ann Intern Med*. 2017 Nov 21;167(10):714-724.
5. Centers for Disease Control and Prevention. Genital HPV Infection – Fact Sheet. <https://www.cdc.gov/std/hpv/stdfact-hpv.htm>. Accessed May 3, 2018.
6. Centers for Disease Control and Prevention. 2013 Sexually Transmitted Diseases Surveillance. <https://www.cdc.gov/std/stats13/other.htm>. Accessed May 3, 2018.
7. Centers for Disease Control and Prevention. How Many Cancers Are Linked with HPV Each Year? 2017. <https://www.cdc.gov/cancer/hpv/statistics/cases.htm>. Accessed May 3, 2018.
8. Walker TY, Elam-Evans LD, Singleton JA, et al. National, Regional, State, and Selected Local Area Vaccination Coverage Among Adolescents Aged 13–17 Years — United States, 2016. *MMWR Morb Mortal Wkly Rep*. 2017;66(33):874-882.
9. <https://www.cdc.gov/mmwr/volumes/66/ss/ss6611a1.htm>
10. Oliver SE, Unger ER, Lewis R, et al. Prevalence of Human Papillomavirus Among Females After Vaccine Introduction—National Health and Nutrition Examination Survey, United States, 2003–2014. *J Infect Dis*. 2017;216(5):594-603.
11. Joura EA, Giuliano AR, Iversen O-E, et al. A 9-Valent HPV Vaccine against Infection and Intraepithelial Neoplasia in Women. *N Engl J Med*. 2015;372(8):711-723.
12. Gardasil 9 (9vHPV, Human Papillomavirus 9-Valent Vaccine, Recombinant) PI. Merck & Co, Inc.; Whitehouse Station, NJ. 2017.
13. Meites E, Kempe A, Markowitz LE. Use of a 2-Dose Schedule for Human Papillomavirus Vaccination – Updated Recommendations of the Advisory Committee on Immunization Practices. *MMWR Morb Mortal Wkly Rep*. 2016;65(49):1405-1408.
14. Petrosky E, Bocchini JA, Hariri S, et al. Use of 9-valent human papillomavirus (HPV) vaccine: updated HPV vaccination recommendations of the advisory committee on immunization practices. *MMWR Morb Mortal Wkly Rep*. 2015;64(11):300-304.
15. Centers for Disease Control and Prevention. Talking to Parents About HPV Vaccine. <https://www.cdc.gov/hpv/hcp/for-hcp-tipsheet-hpv.pdf> Accessed May 3, 2018.
16. Centers for Disease Control and Prevention. How I Recommend HPV Vaccination Video Series. <https://www.cdc.gov/hpv/hcp/how-i-recommend.html> Accessed May 3, 2018.