



The Human Papillomavirus (HPV) Vaccination in Florida

Lynda Gowing

Leah Atwell



Outline

- Brief background of the Human Papillomavirus (HPV) and HPV vaccine
- Print & short video
- Specific objectives
- Methods
- BRFSS questions
- Analysis
- Results
- Conclusion
- Summary
- Future studies
- References
- Acknowledgements



Human Papillomavirus (HPV)

- What is HPV?

HPV is a virus that can cause various cancers and diseases in males and females (Centers for Disease Control and Prevention [CDC] 2017).

- How do you get HPV?

Through intimate skin-to-skin contact – most common way is vaginal, anal or oral sex with someone who has the virus (CDC 2017).

- What types of cancers does HPV cause?

Cancers of the mouth/throat, anus/rectum, penis, cervix, vagina, and vulva (American Cancer Society [ACS] 2017).

HPV is a common virus, and most people will get HPV at some time in their lives, and in most cases it goes away on its own (ACS 2017). However, there are about 14 million new HPV infections each year in the United States. Sometimes HPV infections do not go away, and can cause cancer (CDC 2017).



HPV Vaccine History

- First became available in 2006 (CDC 2017).
- A series of three shots (in 2016 it was announced that two shots could be administered for some) for those aged 9 through 26. CDC recommends children be immunized at 11 or 12 years old (CDC 2017).
- Legislation:

Bills have been introduced in many states to make HPV vaccinations mandatory for school attendance. Currently, only Virginia, Rhode Island, and Washington, DC require it (Immunization Action Coalition 2017).

In 2011, a Florida bill was introduced (SB 1116) that would require the Department of Health to add HPV as a recommended immunization, and require that schools provide availability to the vaccine, but it was not passed (The Florida Senate 2012).

Some public health experts believed mandating HPV vaccination in the early years was too soon (Schwartz 2010).



HPV vaccination is the best way to **PREVENT** many types of **CANCER**.

HPV vaccination is **RECOMMENDED** at ages 11 or 12.

HPV vaccination is **REDUCING** HPV DISEASE.

3 THINGS PARENTS SHOULD KNOW ABOUT PREVENTING CANCER

www.cdc.gov/vaccines/teens



(CDC 2017)

<https://www.youtube.com/watch?v=ULbB0SdVe94>

Every year in the U.S., 27,000 people get cancer caused by HPV.



That's 1 person every 20 minutes of every day, all year long.

(CDC 2017)



Objectives

- Do people know about the HPV vaccine? Who is least informed about the HPV vaccine? Who needs to be educated on this subject?
- Among the people who have received the HPV vaccine, how many completed the series of three shots?
 - Data is from the 2015 BRFSS
 - In 2016 the CDC changed the recommendation to 2 shots for people starting the series before their 15th birthday
- What are the demographics of the people receiving the vaccine?

Materials/Methods

- Analyzed 2015 Behavioral Risk Factor Surveillance System (BRFSS) data
- Used Statistical Analysis System (SAS) to run statistical analyses



2015 BRFSS HPV questions

A vaccine to prevent the human papillomavirus or HPV infection is available and is called the cervical cancer or genital warts vaccine or HPV shot. Have you ever had an HPV vaccination?

1. Yes
2. No
3. Doctor refused when asked
4. Don't know/Not sure
5. Refused

**Respondents were between ages of 18-49*

(Behavioral Risk Factor Surveillance System [BRFSS] 2015)



2015 BRFSS HPV questions

How many HPV shots did you receive?

- ____ Number of shots
- 3 All shots
- 77 Don't know/Not Sure
- 99 Refused

**Respondents were between ages of 18-49*

(BRFSS 2015)



2015 BRFSS HPV questions

Before today have you ever heard of the HPV vaccine?

1. Yes
2. No
3. Don't Know/Not Sure
4. Refused

****State added question****

(BRFSS 2015)



Analysis

- Descriptive statistics
- Odds ratio

Results

Have you ever had the HPV vaccine?

- 100 (10.29%) of 928 respondents had the HPV vaccine
 - 81% females
 - 19% males
 - Mean age: 26.27 (90% CI: 25.05-27.49)
 - Females: 26.62
 - Males: 24.79
- 827 (85.08%) had never had the vaccine
 - 37% were under the age of 34
 - Mean age 35.26 (90% CI: 34.64-35.87)
- 42 (4.32%) Did not know/Were not sure
- 1 (.10%) Doctor refused when asked

(BRFSS 2015)



Results: Odds Ratio

Have you ever had the HPV vaccine?

Variable	Odds ratio	90% Confidence Limits
Sex (Female)	4.27	(2.54, 7.17)
Race (White vs Other)	0.43	(0.3, 0.61)
Race (Hispanic vs Other)	2.05	(1.43, 2.96)
Race (Hispanic vs White)	2.64	(1.75, 3.98)
Age (18-24 vs 25-34)	3.68	(2.41, 5.61)
Insurance (Yes)	1.23	(0.77, 1.95)



(BRFSS 2015)

Results

How many HPV shots did you receive?

- Only 47% of the respondents who had ever had the HPV vaccine had received all three shots
 - 87.23% were females
 - Mean age: 25.23 (90% CI: 23.75-26.71)
- 28% received only 1 shot
 - Mean age: 27.78 (90% CI: 24.95-30.61)
- 11% received only 2 shots
 - Mean age: 25 (90% CI: 21.46-28.54)
- 13% of respondents did not know/ not sure about how many shots received

(BRFSS 2015)



Results

Before today have you ever heard of the HPV vaccine?

- 64.09% (2409) had heard of the vaccine before
- 34.50% (1297) had not heard of the vaccine before
- Women were more likely to have heard of vaccine (74.83% vs 52.38%)
- Average age: 52.94 (95%CI: 46.94-58.95)
- 18-24 years old were less likely to have heard of the HPV vaccine than any other age group besides 65+
- More Education = More Aware
 - Some high school education (36.96%)
 - High School education (56.87%)
 - Some college or technical school (70.88%)
 - College graduate (77.45%)

(BRFSS 2015)



Results: Odds Ratio

Before today have you ever heard of the HPV vaccine?

Variable	Odds ratio	95% Confidence Limits
Sex (Female)	2.7	(2.69, 2.71)
Race (White vs Other)	1.71	(1.70, 1.72)
Education (> High School)	3.6	(3.59, 3.62)
Insurance (Yes)	1.53	(1.53, 1.54)



(BRFSS 2015)

Discussion/Conclusion

- In Florida, women have much higher odds of having heard of the HPV vaccine and received the vaccine
- Hispanics have higher odds of having received the vaccine even though whites are more likely to have heard of the vaccine before
- Young adults between the ages of 18-24 have much higher odds of having received the vaccine
- People with insurance are more likely to have heard of the vaccine and received the vaccine

(BRFSS 2015)



Summary

Human Papillomavirus (HPV) can cause cancer in men and women and there is a vaccine that can prevent it. Using Behavioral Risk Factor Surveillance System (BRRFSS) data, questions that asked about HPV were analyzed using SAS. It was found that in Florida, women were more likely to know about and receive the vaccine; Hispanics were more likely to get the vaccine although whites were more likely to have heard of it; those ages 18-24 had higher odds of receiving the vaccine; and those who were insured were more likely to have heard of and received the vaccine.



Future Studies

- Uptake of HPV vaccine in teens younger than 15 who only need to receive two shots
- More in-depth look at why males do not get vaccinated



References

Florida Department of Health, Division of Community Health Promotion, Public Health Research Section, Behavioral Risk Factor Surveillance System (BRFSS), 2015.

[“HPV and Cancer”](#). American Cancer Society. Retrieved 10 January 2017.

[“HPV Vaccines”](#). Centers for Disease Control and Prevention. Retrieved 6 January 2017.

[“HPV Vaccine - Questions & Answers”](#). Centers for Disease Control and Prevention. Retrieved 6 January 2017.

[“Media Library of Immunization PSAs | CDC”](#) Centers for Disease Control and Prevention. Retrieved 2 February 2017.

[“SB 1116”](#). The Florida Senate. Retrieved 6 January 2017.

Schwartz, J. 2010. [HPV Vaccination's Second Act: Promotion, Competition, and Compulsion](#). American Journal of Public Health. 100 (10): 1841–4.

[“State mandates for secondary schools”](#). Immunization Action Coalition. Retrieved 2 February 2017.

[“3 Things Parents Need to Know about Preventing Cancers”](#) Centers for Disease Control and Prevention. Retrieved 2 February 2017.

[“What is HPV”](#). Centers for Disease Control and Prevention. Retrieved 6 January 2017.



Acknowledgements

Thank you to Florida Department of Health in Pasco County, specifically Health Officer Mike Napier and Nursing Director Kathleen Yeater for their encouragement and support of the DOH Research Excellence Initiative.

