

# Rural Primary Care Practice HPV Vaccination Rates: A Retrospective Analysis in

## Gibson Area Hospital Primary Care Practice

Elizabeth N. Holcomb

Rural Student Physician Program, Department of Family and Community Medicine  
University of Illinois College of Medicine at Peoria

### Introduction/Background

According to the CDC, the human papillomavirus (HPV) is the most common sexually transmitted infection. Patients can be infected with HPV for years without knowing it, as infection is largely asymptomatic for the majority of subtypes. This increases risk of transmission. Significant HPV sequelae include genital warts, cervical cancer, penile cancer, anal cancer and oropharyngeal cancer. Gardasil® is a three-dose HPV prevention vaccination that protects against serotypes 6, 11, 16, and 18; serotypes 6 and 11 cause 90% of genital warts. It is recommended that Gardasil doses be administered every 2 months until completion. The Ford-Iroquois Health Department identified low HPV vaccination rates as the top health issue in the counties. The purpose of this study is to quantify patient consent to the vaccine and patient compliance in completing the vaccine series in a rural health clinic affiliated with Gibson Area Hospital.

### Methods

A retrospective analysis was performed of Practice Partner EMR for patient demographics (age and sex) and vaccination compliance for patients who met vaccine eligibility, per CDC guidelines. Two separate reports were generated: one for males and one for females. Male inclusion criteria were male patients ages of 9 to 26 years old at the time of patient encounter who received Gardasil vaccine between December 2010 and March 31, 2014. Female inclusion criteria were female patients ages 9 to 26 at the time of patient encounter who received Gardasil vaccine between June 2006 and March 31, 2014. Each subject's medical record was checked to verify dates vaccine was received. Patients who appeared on generated report with no record of receiving vaccine in their medical record were excluded.

Following verification that the subjects received the vaccine, an Excel spreadsheet was created to calculate proportions of patients receiving incomplete vaccine doses and patients who completed the vaccine series. Patients with incomplete series who received the last dose in calendar year 2013 were labeled "in process".

### Results

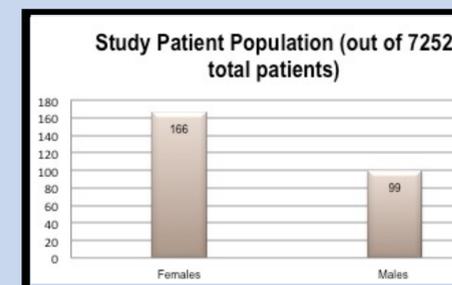
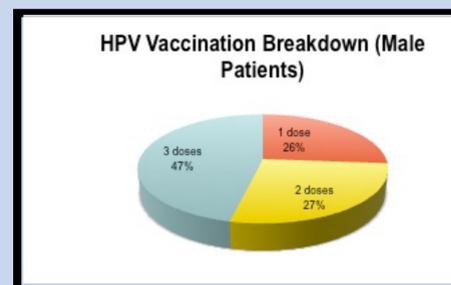
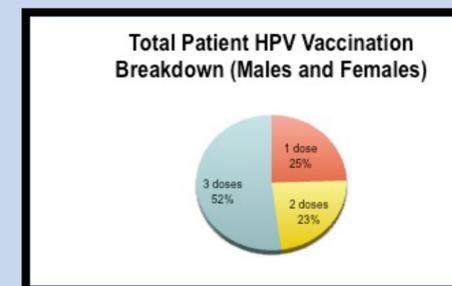
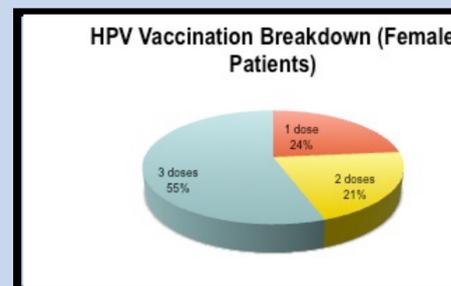
•A total of 265 subjects were identified in the report generated in Practice Partner EMR. 166 subjects were female, 99 subjects were male. Female patients were predominant (63%). The clinic patient population from which subjects were selected from is 7,252. The study subjects represent 3.65% of clinic population.

•Male and female patients were compared based on the number of vaccine doses received. The number of male patients who received one vaccine dose in the series was 26 (26%); the number of female patients who received one vaccine dose was 39 (23%). This difference was not found to be significant ( $p = 0.235$ ).

•The number of male patients who received two vaccine doses in the series was 27 (27%), and the number of female patients who received two vaccine doses was 35 (21%). This difference was not found to be significant ( $p = 0.211$ ).

•The number of male patients who completed the vaccine series (three doses) was 46 (46%) and the number of female patients who completed the vaccine series was 92 (55%). The difference was not found to be significant ( $p = 0.554$ ).

•Finally, the number of male patients who were "in process" was 21 (21%) and the number of female patients in process was 26 (16%). This difference was found to be significant, with  $p = 0.00496$ .



### Conclusions

The primary care practice analyzed had a low percentage of patients receiving the Gardasil vaccine (3%). With regard to patient demographics, it was observed that females predominated the group of subjects. Eligible male patients were observed to predominate patients who were "in process" (who received the most recent vaccine dose in the previous calendar year.) This was the only category where male subjects outnumbered female subjects.

### Discussion

This study laid the groundwork to elucidate interventions and protocol to improve HPV vaccination follow-up in patients who did not complete the vaccine series. Future investigation should attempt to establish sociodemographic characteristics of patients who did not consent to receiving the vaccine, and if improved provider/patient communication and education would increase the number of patients consenting to the vaccine.

### References

- "Human Papillomavirus." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 01 Feb. 2013. Web. 20 Mar. 2014.
- ABOUT GARDASIL." About GARDASIL®. Merck Sharp & Dohme Corp, 2011. Web. 20 Mar. 2014.
- Malkowski, Jennifer. "Confessions of a Pharmaceutical Company: Voice, Narrative, and Gendered Dialectics in the Case of Gardasil." Health Communication 29.1 (2014): 81-92. Print.
- Fontenot, Holly B., and Natalie Morelock. "HPV in Men Is a Women's Health Issue." Nursing for Women's Health 16.1 (2012): 57-65.
- Jit, M., Y. H. Choi, J. F. Laprise, M. C. Bolly, M. Drolet, and M. Brisson. "Two-dose Strategies for Human Papillomavirus Vaccination: How Well Do They Need to Protect?" Vaccine 410.14 (2014): n. pag. Web. 15 Apr. 2014.