

# Human Papillomavirus: Western New York Parents' Knowledge, Attitudes and Utilization of the Vaccine



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**Objective:** To determine awareness and knowledge levels of HPV, perceived benefits of and barriers to use of the HPV vaccine, and utilization of the HPV vaccine reported by parents of daughters ages 9 to 17 in Western New York.

## Introduction:

- Human Papillomavirus (HPV) represents the most common sexually transmitted disease\*
- Persistent infection with high risk HPV strands is a necessary cause of cervical cancer, and also contributes to vaginal, vulvar, penile, and anal cancers, as well as a subset of head and neck cancers and abnormal pap smears.\*
- Low risk HPV results in genital warts, abnormal pap smears and recurrent respiratory papillomatosis.
- Approximately 20 million Americans are currently infected
- 6.2 million more Americans are estimated to become infected each year\*
- It is estimated that about one-quarter of females ages 11-17 years have received at least one HPV vaccine (MMWR 57; 1110-1113)
- Knowledge and attitudes about HPV, and the adoption rate of the HPV vaccine are unknown for the general Western New York population
- Study aims:**
  - To describe the population of parents with daughters age 9-17 years, stratified by their daughters' HPV vaccination status
  - Describe vaccination rates among parents with at least one daughter age 9-17
  - Characterize parents who had vaccinated at least one daughter
    - Determine knowledge levels regarding HPV
    - Determine perceived benefits and barriers to the vaccine
  - Describe predictors of daughter's vaccination status

\*Genital HPV: CDC Fact Sheet, Dec. 2007, Centers for Disease Control, <http://www.cdc.gov/std/hpv/stdfact-hpv.htm>

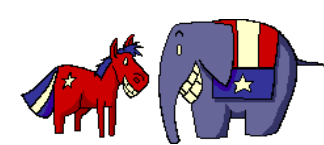
## Methods:

- Random-digit dial survey in Erie and Niagara counties by the Survey Research and Data Acquisition Resource (SRDAR) at Roswell Park Cancer Institute from January to March 2008
  - N=1347 respondents
    - 176 parents reported at least one daughter between ages 9 and 17, with a total of 228 daughters
      - Restricted to oldest or only daughter to avoid parents with multiple daughters contributing more than once
  - 90 questions addressing:
    - Respondent demographics
    - Past HPV and cervical cancer (for females) experiences of the parent
    - Knowledge and attitudes about HPV, HPV related health outcomes, and the HPV vaccine
    - HPV vaccination status or intention to receive the HPV vaccine for themselves
    - Vaccination status or intention to vaccinate their daughter(s)
    - Parents reported their perception of their daughter's awareness of HPV and the HPV vaccine
- Data was weighted to more accurately represent the general Western New York population with regards to race/ethnicity, gender, and age
- Predominately descriptive data analysis using SPSS© software
  - X<sup>2</sup> tests used to determine percentages and significant outcome and variable relationships
  - Logistic regression was used to determine significant covariates and strength of their relationship with vaccination status

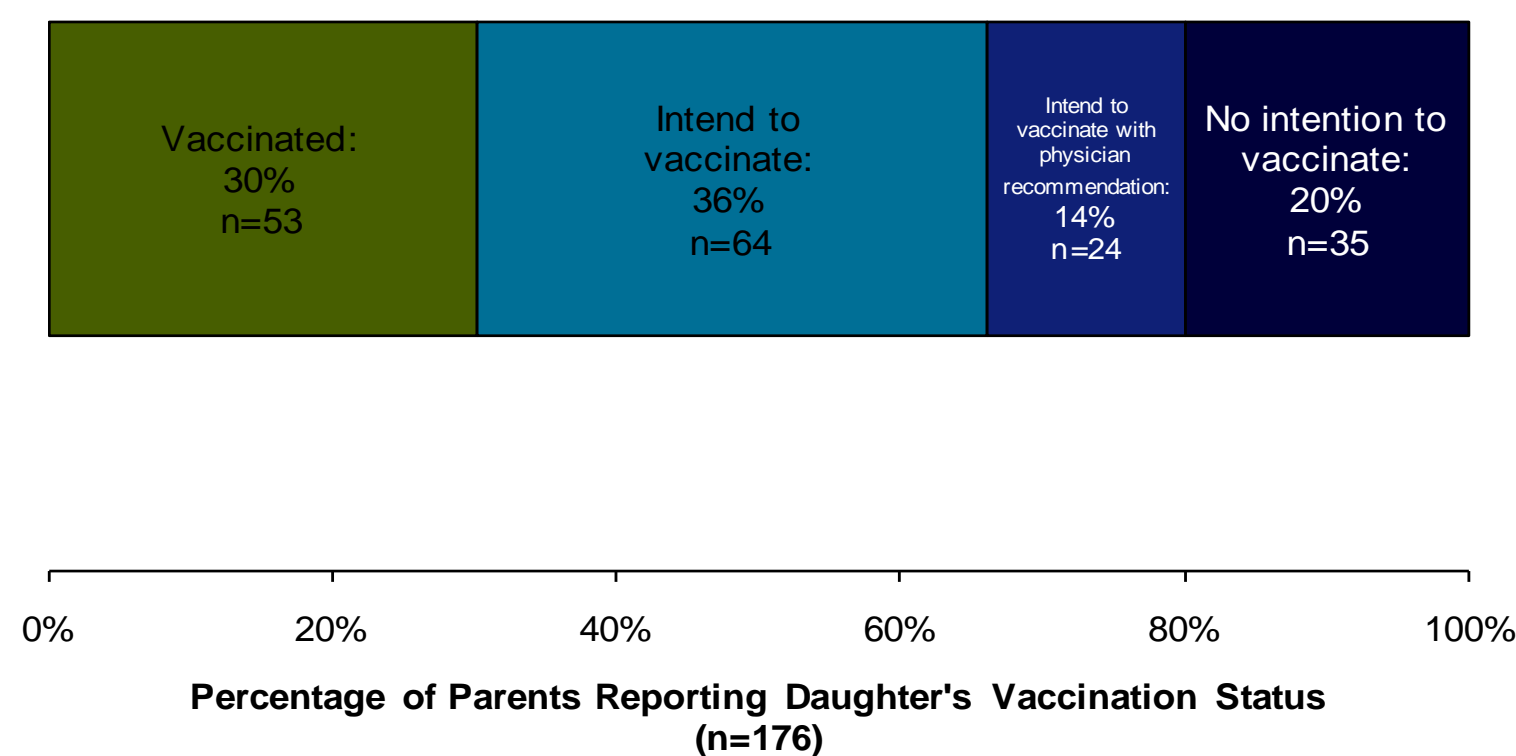
## Parent Demographics (n=176):

The majority of parents with at least one daughter in this sample are:

- Female
- White, non-Hispanic
- 40-59 years old
- Have two children
- \$60,001-\$110,000 gross annual income
- Independent political affiliation



## Vaccination Status of Daughters as Reported by their Parents:



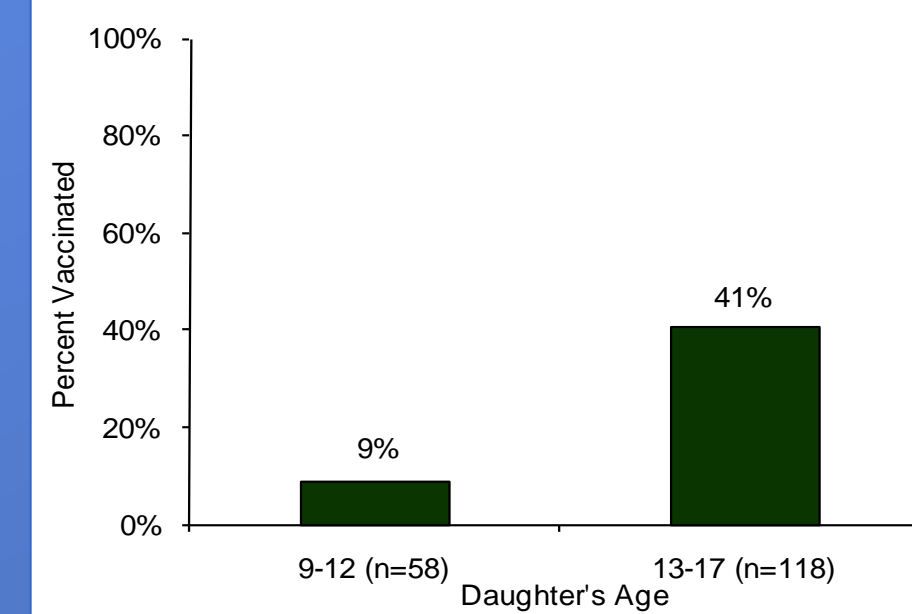
• Parents reported that one-third of oldest or only daughters have been vaccinated

• Approximately half of those parents who have not vaccinated their daughter have *intentions* to vaccinate them

• Less than a fifth of parents would intend to vaccinate their daughter **ONLY** if recommended by a doctor

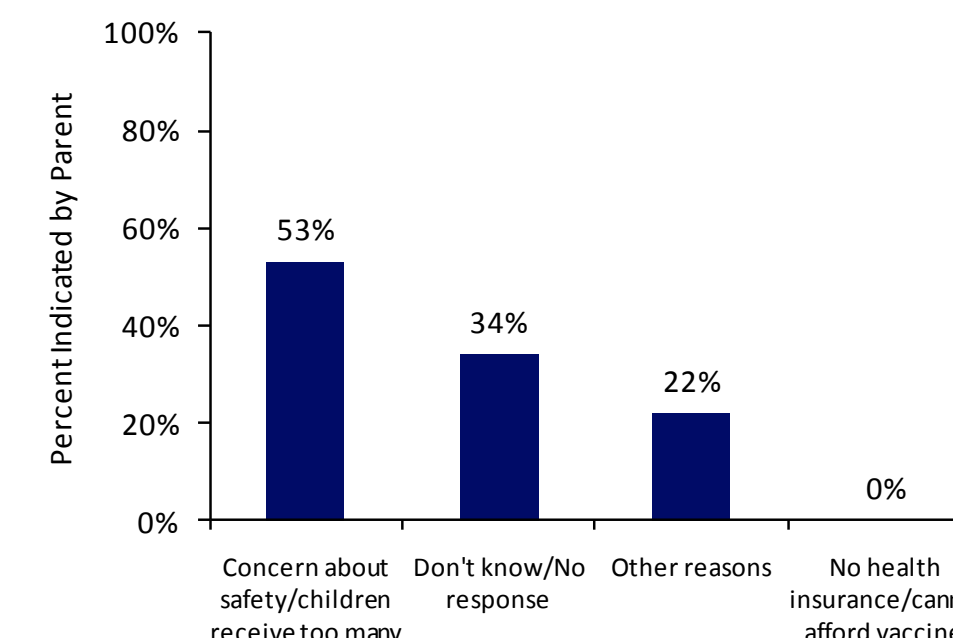
• One fifth of the parents sampled have absolutely no intention of vaccinating their eligible daughters, regardless of doctor recommendation. Also included in this group are those parents and/or daughters with no awareness of the HPV vaccine.

## Vaccination rates as reported by a parent, stratified by daughter's age category (n=176):



• WNY parents reported a greater proportion of older daughters (age 13 to 17) receiving the HPV vaccine than younger daughters (age 9 to 12)

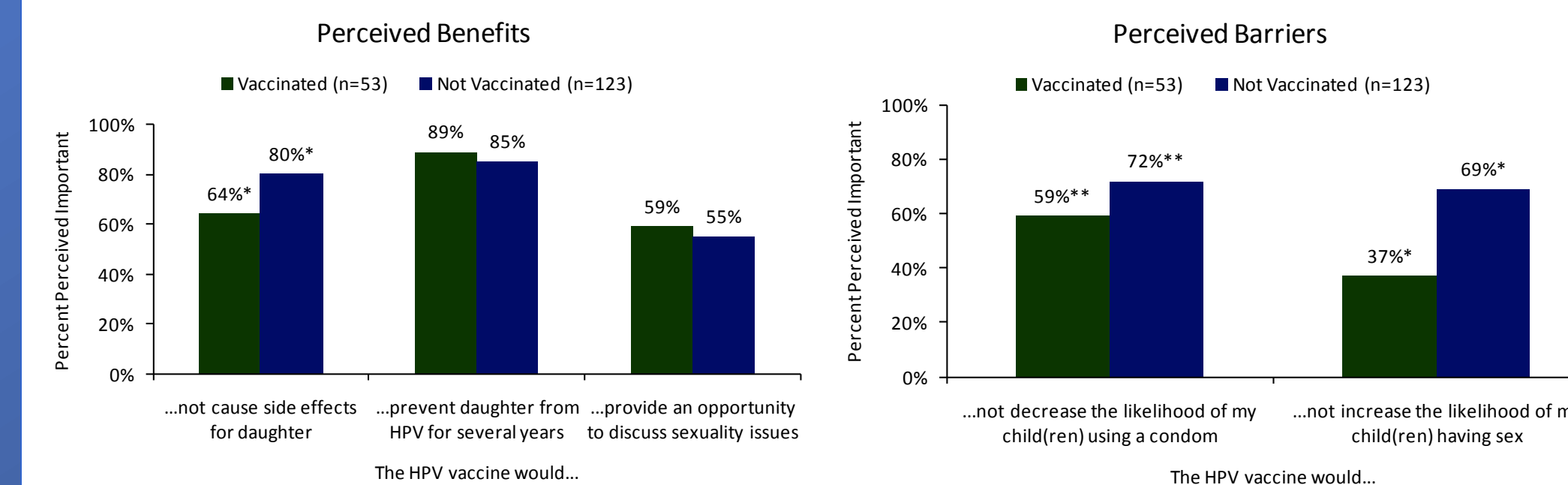
## Common reasons for parents having no intention to vaccinate their daughter\* (n=59):



- Most parents were concerned about the safety of the vaccine
- Not knowing or having a reason for no intention was very prominent
- Other reasons include that the parent was reluctant to discuss issues of sexuality and STDs, belief that it could lead to risky behavior, or that children receive too many vaccines already

\* Parents were allowed to indicate up to 3 reasons why they did not want their daughter vaccinated

## Parents' perceived benefits and barriers to the HPV vaccine (n=176):

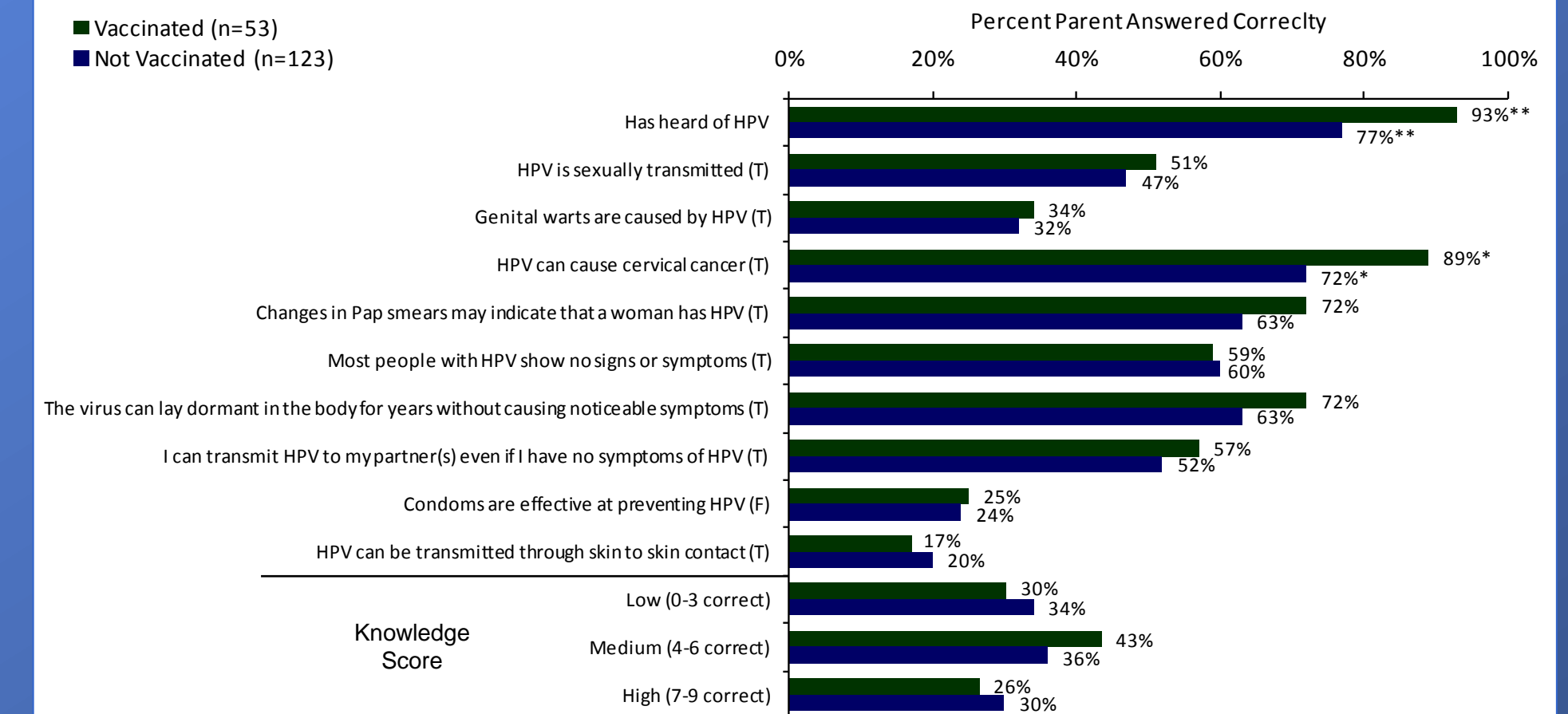


Compared with those who have vaccinated at least one daughter, parents who have *not* vaccinated are significantly more likely to perceive it as important that the HPV vaccine:

- Would *not* cause side effects for their daughter
- Would *not* increase the likelihood of their daughter having sex

\*x<sup>2</sup> p<0.05  
\*\*p is approaching significance at α=0.05

## Parent's knowledge of HPV in relation to their daughter's vaccination status (n=176)

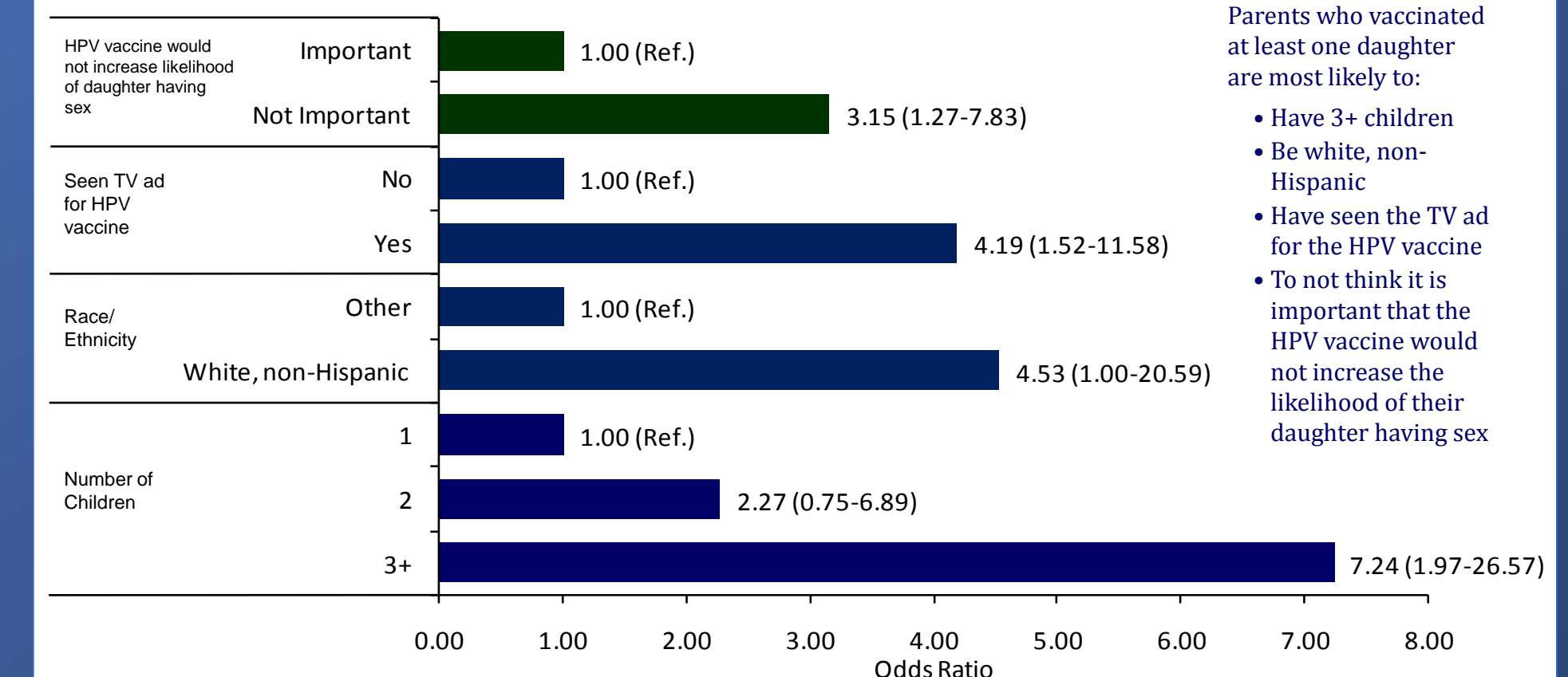


Significantly more parents who had vaccinated at least one daughter, compared to those who had not vaccinated at least one daughter:
 

- Know that HPV can cause cervical cancer (p=0.014)

\*x<sup>2</sup> p<0.05  
\*\*x<sup>2</sup> approaching p<0.05

## Significant predictors of parents reporting vaccinating their daughter (n=176)



Parents who vaccinated at least one daughter are most likely to:

- Have 3+ children
- Be white, non-Hispanic
- Have seen the TV ad for the HPV vaccine
- To not think it is important that the HPV vaccine would not increase the likelihood of their daughter having sex

Parental variables controlled for in the model but not presented due to extreme statistical insignificance: religious affiliation, religious service attendance, alcoholic beverage binge drinking, smoking status, gross annual income, knowledge scores, and perceived importance of the HPV vaccine would not cause side effects.

## Conclusion:

- 1/3 of eligible 9-17 year old girls have been vaccinated in Erie and Niagara counties, which is consistent with the national estimated proportion of vaccinated females (25%)\*
- About 1/2 of respondents who had not vaccinated their daughter note an intention to have their age-eligible daughters vaccinated
- In this sample, it appears that parent's desire to prevent future illness and lack of concern for the sexual nature of the virus best predict their daughter's positive vaccination status.
- Physician recommendation of the HPV vaccine will increase intentions to vaccinate

\*\*Vaccination coverage among adolescents aged 13-17 years - United States, 2007: MMWR Morb Mortal Wkly Rep. 2008 Oct 10;57(40):1100-3

## Future Work:

- Follow up study to see if the daughters who were not vaccinated, and whose parents had no intentions of vaccinating them, chose to be vaccinated once they were 18 or older.
- Design and study an intervention to increase vaccination rates and intentions to vaccinate in WNY.
- This data suggests that almost half the parents with no intention to vaccinate their daughter, would indeed intend to if it were recommended by a doctor. Further study into this could result in an intervention via physician offices.
- Explore knowledge of HPV and HPV vaccine acceptance among boys and men in WNY

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