

Introduction

- Genital human papillomavirus (HPV) is the most common sexually transmitted infection in the United States with an estimated 6.2 million people newly infected each year.¹
- In June of 2006, the FDA licensed the first vaccine for use among females 9-26 years of age for the prevention of HPV-related diseases.
- The Advisory Committee on Immunization Practices recommends the routine vaccination of 11-12 year old females with three doses of quadrivalent HPV vaccine. Vaccination is also recommended for females ages 13-26 years who have not been previously vaccinated or who have not completed the full series.²
- Ideally, the HPV vaccine should be administered before potential exposure to HPV through sexual contact. Females who might have already been exposed to HPV should still be vaccinated.
- Legislators in at least 41 states and D.C. introduced legislation to require, finance or inform the public about the HPV vaccine and at least 17 states have passed these types of legislation.³ Texas legislators passed legislation on informing the public about the HPV vaccine.

Objectives

- To provide an overview of the knowledge of HPV vaccine.
- To estimate the proportion of females and parents of children who have had discussions with doctors about the HPV vaccine.
- To examine the acceptance of the recommendation that 11-12 year old females be routinely vaccinated against HPV.

Methods

- The Texas Behavioral Risk Factor Surveillance System (BRFSS) is a statewide telephone survey of the non-institutionalized adult population who live in a household with a residential phone line.
- In June, six questions were added to the 2007 BRFSS survey.
- Estimates were weighted to adjust for the probabilities of selection and using a post-stratification weighting factor that adjusted for the distribution of Texas adults by age and sex at the geographic stratum level.
- Data were managed in SPSS v15.0 and analyzed in SUDAAN 9.0.1.

Survey Questions

- Question 1:** The human papillomavirus, also called HPV, is a common virus known to cause genital warts and some cancers, such as cervical cancer in women. A vaccine to prevent HPV infection is available and is called the HPV vaccine, cervical cancer vaccine, or GARDASIL®. The vaccine was licensed and approved in June 2006. Before today, have you ever heard of the HPV vaccine? (Everyone)
- Question 2:** Have you ever had a discussion with a doctor or health care professional about being vaccinated for HPV? (Females less than 45 years of age who have heard of vaccine)
- Question 3:** Have you ever had a discussion with his or her doctor or health care professional about the HPV vaccine? (Parents, foster parents or guardians of children 8 years of age or older who have heard of vaccine)
- Question 4:** The next question is about people's attitudes toward the HPV vaccine. Do you agree slightly or strongly, or disagree slightly or strongly with the following statement. Girls should receive the HPV vaccine before they enter the sixth grade. (Adults who have heard of vaccine)
- Question 5:** What are your top two reasons for being in favor of this recommendation? (Adults who have heard of vaccine and agreed with recommendation)
- Question 6:** What are your top two reasons for not being in favor of this recommendation? (Adults who have heard of vaccine and disagreed with recommendation)

Results

Table 1
Before today, have you ever heard of the HPV vaccine?
Texas BRFSS, 2007

	% Yes	95% Confidence Interval
Total	71.3	(68.9 – 73.6)
Age		
18 to 24	64.4	(51.2 – 75.8)
25 to 34	70.5	(63.6 – 76.5)
35 to 44	74.6	(69.7 – 79.0)
45 to 54	75.6	(71.3 – 79.4)
55 to 64	74.4	(70.4 – 78.0)
65 and up	63.8	(60.4 – 67.1)
Sex		
Male	64.2	(60.0 – 68.2)
Female	78.5	(76.2 – 80.6)
Race/Ethnicity		
White	80.1	(77.5 – 82.5)
Black	63.9	(54.1 – 72.7)
Hispanic	52.4	(47.0 – 57.8)
Other	72.2	(59.0 – 82.4)
Household Income		
< \$25,000	53.9	(48.2 – 59.5)
\$25,000 to \$49,999	72.2	(67.1 – 76.7)
\$50,000 and up	85.3	(82.4 – 87.8)
Education		
< High School	40.3	(34.3 – 46.6)
High School Grad & Some College	70.8	(67.2 – 74.1)
College Graduate	84.0	(80.6 – 86.9)
Insurance		
Yes	75.7	(73.4 – 77.9)
No	58.3	(52.0 – 64.4)

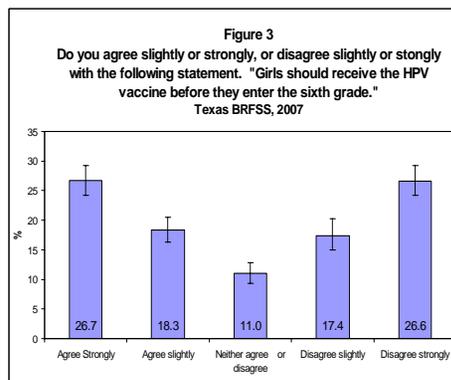
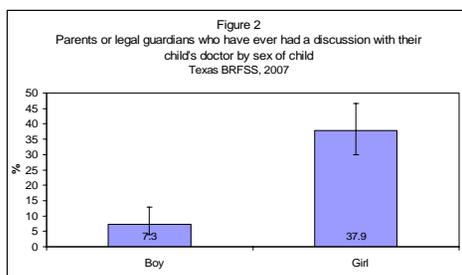
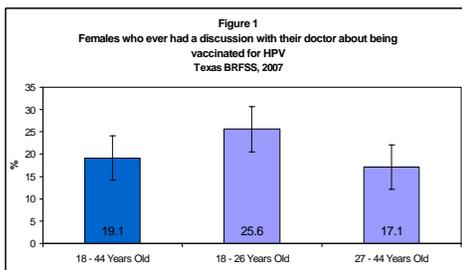


Table 2
Top two reasons for being in favor of the following statement: "Girls should receive the HPV vaccine before they enter sixth grade."
Texas BRFSS, 2007

	% Yes	95% Confidence Interval
Reduces the likelihood of getting cervical cancer	29.1	(25.7 – 32.7)
General Prevention	25.1	(21.9 – 28.6)
Prevents ALL HPV infections	14.4	(11.5 – 17.9)
Prevents ALL types of cervical cancer	14.3	(11.4 – 17.7)
Vaccines are safe	9.0	(6.7 – 11.8)
Prevents MOST types of cervical cancer	9.0	(5.9 – 10.3)
Immunize before sexually active	7.3	(5.5 – 9.5)
Other	4.3	(3.1 – 5.9)
Prevents SOME HPV infections	4.0	(2.6 – 6.1)
Prevents ALL types of genital warts	2.1	(1.2 – 3.6)
Prevents MOST types of genital warts	1.6	(.8 – 3.1)
Girls will not need to have Pap tests	0.9	(.6 – 1.5)

Table 3
Top two reasons for not being in favor of the following statement: "Girls should receive the HPV vaccine before they enter sixth grade."
Texas BRFSS, 2007

	% Yes	95% Confidence Interval
Personal or parents choice	28.4	(24.6 – 32.6)
Girls are too young	24.2	(19.3 – 29.9)
Will promote early sexual behavior	15.1	(12.3 – 18.3)
Do not know the side effects of the vaccine	14.7	(11.8 – 18.2)
Vaccine has not been on the market that long	13.0	(10.5 – 16.1)
Other	10.6	(8.4 – 13.4)
Do not like mandate	5.5	(4.1 – 7.4)
Cost	1.5	(.8 – 2.5)
Girls may not have Pap tests in the future	1.5	(.8 – 2.6)
Does not prevent ALL types of cervical cancer	1.1	(.5 – 2.3)
Does not prevent cervical cancer	0.7	(.3 – 1.6)
Does not prevent genital warts	0.4	(.2 – 1.0)
Boys should be getting vaccinated for HPV as well	0.4	(.1 – 1.3)

Summary of Results

- 71.3% of Texas adults have ever heard of the HPV vaccine. (Table 1)
- Female adults were more aware of the HPV vaccine than male adults (78.5% vs. 64.2%).
- White adults (80.1%) were more aware of the HPV vaccine than Black (63.9%) or Hispanic (52.4%) adults.
- Awareness increased with higher income levels, higher education levels, and insurance coverage.
- Only 25.6% of females 18 to 26 years old have ever had a discussion with their doctor or health care professional about being vaccinated for HPV. (Figure 1)
- Only 37.9% parents of girls have ever had a discussion with their child's doctor or health care professional about the HPV vaccine. More parents of girls have had discussions than parents of boys (7.3%). (Figure 2)
- Texas adults that agreed or disagreed with the statement that "Girls should receive the HPV vaccine before they enter sixth grade" was fairly split with 45.0% agreeing, 44.1% disagreeing and 11.0% remaining neutral. (Figure 3)
- The top two reasons for Texas adults agreeing with the recommendation include that it reduces the likelihood of getting cervical cancer and for general prevention. (Table 2)
- The top two reasons for Texas adults disagreeing with the recommendation include that the vaccine should be a personal or parental choice and that girls aged 11-12 years are too young for the vaccine. (Table 3)

Discussion

- The current quadrivalent HPV vaccine protects against four HPV types which are responsible for about 70% of cervical cancers.⁴
- In Texas there are over 1,000 new cases of cervical cancer and more than 300 deaths due to cervical cancer each year.⁵
- Although Hispanic and Black women are 50% more likely to get cervical cancer compared to White women, they are significantly less likely to be aware of the vaccine.⁵
- The 2007 Texas Youth Risk Behavioral Survey shows that 38% of 9th graders and 71% of 12th graders reported having sexual intercourse.
- A brief educational intervention between parents and physicians has been proven to significantly improve a parent's acceptance of the HPV vaccine.⁶
- Parents and physicians will play a key role in successful HPV vaccine delivery. Physicians should continue to recommend the HPV vaccine according to the national guidelines and discuss the benefits of receiving the vaccine with their patients or parents of their patients.

Disclaimer

The opinions are solely of the authors and do not reflect those of the Texas Department of State Health Services or the Texas Health and Human Services Commission

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