

# Attitudes of Kansas Primary Care Physicians Regarding Mandatory HPV Vaccination of Adolescent Girls: A Pilot Study

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**Introduction:** In 2006 the FDA approved Gardasil, a vaccine protecting against the four most common strains of HPV, which are accountable for 70% of cervical cancers. It is recommended by the CDC for females ages 9-26. Several states, including Kansas, have proposed legislation to mandate vaccination of adolescent females. This study was done to determine the attitudes of Primary Care Physicians (PCPs) in Kansas regarding mandatory vaccination. **Methods:** 1,200 PCPs in Kansas were surveyed; 36% responded. The survey addressed factors that could influence attitudes regarding mandatory legislation, such as knowledge about the vaccine, cost, and effects on sexual behavior and obtaining screening pap smears. **Results:** 88% of respondents were comfortable with their current training and education level regarding the vaccine. 46% would not support mandatory vaccination of adolescent females, 30% would support it, while the remaining 24% were unsure. Of the 46% who would not support mandatory vaccination, 39% stated cost as a factor. Ninety-six percent of the respondents would recommend Gardasil vaccination to at-risk females. **Conclusions:** Findings suggest that, while the majority of Kansas PCPs who responded to the survey would recommend HPV vaccination to at-risk females, almost half would not support legislation requiring mandatory vaccination.

## 1. Introduction

HPV vaccination became a hot topic in 2006 when the FDA approved the first vaccine to protect against the most common strains that cause cervical cancer. Following the approval of Gardasil, many states sought legislation to mandate the vaccine for females entering the sixth grade, which led to a variety of concerns from medical practitioners, legislators, and parents. The CDC initially recommended the vaccine for females between the ages of 9 and 11 [1]. Gardasil protects against HPV-16 and HPV-18 and also targets HPV-6 and HPV-11. Together, HPV-16 and 18 are accountable for 70% of cervical cancers [2]. Since these two strains account for the majority of cervical cancers caused by HPV, a vaccine that prevents infection would greatly reduce cost burden associated with the disease, as well as its morbidity and mortality [3]. Clinical trials of the vaccines conclude that the vaccine is unlikely to eliminate infection if already present. Regular pap-testing will still be needed even after vaccination [4]. Current research shows that the vaccine would be most effective if given prior to onset of sexual activity, primarily in adolescents [5]. The purpose of this research project is to determine the attitudes of primary care physicians in Kansas regarding mandatory vaccination to prevent HPV infection.

## 2. Experiment, Results, Discussion, and Significance

**Methodology:** Twelve hundred randomly selected names and addresses of primary care physicians (PCPs) in Kansas were obtained from the Kansas State Board of Healing Arts. A survey, consisting of 9 Likert-type statements, assessed familiarity with the vaccine, support for mandating or recommending it and factors that might influence attitudes regarding mandatory vaccination, such as cost, how it might affect sexual behavior and obtaining screening pap-smears. Frequency counts were used to determine gender, average age, number of years in clinical practice, practice setting and approximate percentage of female patients between 9 and 26. Chi-Square analyses were used to measure if there were any significant relationships regarding attitudes about mandatory vaccination, gender, age, years in practice and practice setting. The alpha level was set at 0.05. **Results:** The survey return rate was 36% (n=437). Gender makeup was 64% male and 36% female. Average respondent age was 47.6 years (range 29-79). Average number of years in practice was 17.5 (range 1-51). Thirty-nine percent practiced in a rural setting, 52% in an urban clinic, 6% in a community health clinic and 3% other. When asked about what percent of female patients were between the ages of 9-26 (the recommended ages for the vaccine), 65% stated less than 25%; 30% stated 25-50%; 4% stated 51-75%; and 1% stated that 76-100% of their female patients fell in that age range. Eighty-eight percent of respondents were comfortable with their current training and education level regarding the

vaccine. Forty-six percent would not support mandatory vaccination of adolescent females, 30% would support it, while the remaining 24% were unsure. Of the 46% who would not support legislation, 39% stated cost as a factor. Other possibilities, such as an increase in unsafe sexual practices and a decrease in numbers of females obtaining pap-testing, were not significant concerns should the vaccine become mandatory. Although less than half would support mandatory legislation, 96% of the respondents would recommend Gardasil vaccination to at-risk females. The only significant relationships noted were concerning gender. Males were almost twice as likely to agree with the statements that they have a professional responsibility to become educated about Gardasil and that they were reluctant to support mandatory vaccination because of its cost ( $p < 0.05$ ). Males were more likely to disagree with the statement that they were reluctant to support mandatory vaccination because of the number of clinical visits to complete the series of vaccinations ( $p < 0.05$ ). Males were more likely to disagree with the statements that mandatory vaccination will promote promiscuity and will result in an increase in unsafe sex practices ( $p < 0.001$ ). *Discussion:* While 46% of the respondents would not support mandatory legislation of the vaccine, more than half would either support it or had not decided. Those who are currently undecided could have a significant influence on legislation being passed if, in the future, most would decide in favor of mandating vaccination. The most frequent reason for not supporting legislation was cost, which may not be a significant factor since many insurance companies are beginning to cover the cost of the vaccine. However, if the vaccine becomes mandatory, there would need to be accommodation for those Kansans who are uninsured. Many physicians included written comments listing additional factors in deciding not to support mandatory vaccination. Many cited moral implications. Others did not support it due to patient autonomy and the belief that patients have the right to control individual decisions regarding health issues. Several also stated that the vaccine should not be mandatory because they believe that HPV is not an easily communicable disease and does not represent a community health concern, even though the CDC states that the prevalence of HPV in 2003-04 was 40% in 14-19 year-olds and 50% in 20-24 year-olds. It should also be noted that 65% of the respondents reported to have less than 25% of their female patients within the recommended age range for the vaccine, which could skew the results of the survey. *Significance:* The significance of this study is based on the large number of HPV infections worldwide, and the related morbidity and mortality associated with it. A vaccine that reduces the risk of contracting the virus could significantly reduce the morbidity and mortality of cervical cancer.

### 3. Conclusions

This research suggests that a majority of Primary Care Physicians in Kansas either do not support legislation mandating the HPV vaccine or are currently undecided. Cost was the most common reason given for not supporting mandatory vaccination. However, an overwhelming majority would recommend the HPV vaccine to females at risk for contracting HPV. Further research could focus on the attitudes of midlevel practitioners as well as patient and parental knowledge about the HPV vaccination.

### 4. Acknowledgements

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