Program Implementation to Address Human Papillomavirus (HPV) Related Disease in an Underserved Population in White County, Arkansas

Harding University College of Pharmacy
Linda Lee, Hannah Suh, Celia Nguyen, Kathy Chung, Pamela Obah, Diana Park, Crystal Deas, Pharm.D., BCPS, Julie Kissack, Pharm.D., BCPP, Forrest Smith, Ph.D, Rayanne Story, Pharm.D., Kenneth Yates, D.V.M.

Background
- Human Papillomavirus (HPV) is the causative organism in 70% of cervical cancer cases, with the high-risk strains 16 and 18 implicated in the majority of cases. In addition, certain HPV strains, such as 6 and 11, are considered low-risk regarding their induction of cancer but are linked to other conditions such as genital warts. Men and women are impacted differently by HPV-associated conditions, with HPV-related cervical cancer primarily affecting women over the age of 30 and men being the primary asymptomatic carriers and transmitters of HPV.

- There are currently two available vaccines which target various HPV strains, Cervarix® and Gardasil®. Cervarix® provides protection against cervical cancer caused by HPV strains 16 and 18; Gardasil® provides protection against HPV strains 6, 11, 16 and 18 which is associated with both genital warts as well as cervical cancer cases. As of October 28, 2011, the immunization committee of the Centers for Disease Control and Prevention (CDC) has expanded HPV vaccine recommendations beyond advising vaccination of women ages 9-26 to include recommending vaccination of boys ages 9-21 to reduce HPV transmission and incidence of genital warts.

- Despite available vaccines, the national incidence of HPV-related cervical cancer is 8.3 per 100,000 people. In White County, Arkansas, the cervical cancer incidence is substantially higher at 13.9 per 100,000 individuals, which is ranked as the second highest incidence observed in the state, despite the current availability of HPV vaccines. With 16.4% of White County residents living under the poverty level and only 39.3% with a high school education, these populations face additional challenges in obtaining health education and stand to benefit most from education about HPV and implementation of a large-scale vaccine program.

Objectives
- Utilize a multi-staged and multi-disciplinary approach to reduce the incidence of HPV-related infections and decrease transmission rates in White County, Arkansas.
- Survey community leaders, service providers and healthcare professionals of White County, Arkansas on their awareness and/or knowledge of HPV’s prevalence in the county.
- Develop programs to raise awareness, educate, and ultimately vaccinate the underserved female and male populations of White County, Arkansas.

Methods
- Following IRB approval, a Harding University College of Pharmacy student research group created surveys to administer to healthcare providers, local community leaders, and service providers to assess their scope of knowledge regarding HPV-related infections and vaccine availability. Surveys provide information about perceptions of White County residents’ healthcare behaviors and the standards of clinical practice specific to White County.

Data Collection Tools
- Three ten minute surveys:
  - Healthcare Professionals
  - Providers that perform pap smears
  - General Healthcare Professionals
  - Healthcare providers that do not perform pap smears
  - Community Leaders/Service Providers
  - Coding Instrument

Data and Results

Survey Demographics

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1- OB/GYN</td>
<td>1- White County Medical Center Administrator</td>
<td>2- City Officials</td>
</tr>
<tr>
<td>3- Primary care provider</td>
<td>5- Nurses (school districts)</td>
<td>4- Church Leaders</td>
</tr>
<tr>
<td>1- Cancer Registry</td>
<td>1- Health Department</td>
<td>10- Service Providers</td>
</tr>
<tr>
<td>1- Pharmacists</td>
<td>9- Pharmacists</td>
<td></td>
</tr>
</tbody>
</table>

- 100% perceived the HPV vaccine as beneficial in preventing cervical cancer or genital warts
- 90% did not know that White County has the 2nd highest incidence of cervical cancer in the state and almost twice that of the national average
- 91% preferred brochures as an education tool to increase their patient population’s awareness of HPV infections and/or available vaccines
- 70% perceived the HPV vaccine as beneficial in preventing cervical cancer or genital warts
- 94% did not know that White County has the 2nd highest incidence rate of cervical cancer in the state and almost twice that of the national average
- 88% preferred a mixture of brochures and contact with a healthcare professional as educational tools to increase awareness of HPV infections

Conclusion
- Healthcare Professionals: Believe most of their patients were not aware that HPV is the leading cause of cervical cancer.
- General Healthcare Professionals: Anticipate religious beliefs as a potential hindrance to achieving the goals in educating the community on the benefits of the HPV vaccine.
- Community Leaders/Service Providers: Majority were aware of the role that HPV plays in cervical cancer but were unaware that most men have asymptomatic infections and are the primary carriers and transmitters of HPV.

Data analyzed from 38 surveys indicated a consensus among those surveyed, on the need to increase awareness of HPV’s link to cervical cancer and genital warts and the need for education on preventative measures, such as vaccination.

Future Aims
- In an effort to decrease the incidence of HPV-related cervical cancer and genital warts, the next phase of this initiative will focus on the following areas:
  - Provide information, such as brochures, to facilitate healthcare providers in educating and increasing awareness in their patients.
  - Provide educational tools that target community leaders, school-age children, and their parents to increase awareness of HPV-related cervical cancer and genital warts.
  - Provide vaccinations, through a multidisciplinary framework, in cooperation with local health officials for the underserved patient population of White County, Arkansas, ages 9-26.

References
- ACIP. Updated ACIP recommendations for use of human papillomavirus (HPV) vaccines in children and adolescents. MMWR Recomm Rep. 2011; 60(RR-8). doi:10.15585/mmwr.rr6008a1

Disclosure
Authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.