

Increasing HPV Vaccination through Community Pharmacy Partnerships: Lessons Learned from a Pilot Project

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Goals of the overall program

Pharmacies are important venues that can be used to increase human papillomavirus (HPV) vaccination rates. As such, the University of Kentucky (UK), a collaborating center of the Cancer Prevention and Control Research Network's (CPCRN) HPV Vaccination Workgroup, received pilot funding from the American Cancer Society (ACS) to implement a HPV vaccination pharmacy project from February-September 2016. The primary goal was to increase HPV vaccine initiation and completion rates through the implementation and evaluation of a pharmacy-based vaccination program.

Project Objectives:

1. Create additional HPV vaccination opportunities within a community featuring collaboration between a community pharmacy and local public health department.
2. Utilize, and tailor as necessary, existing education materials, tools and resources, including those developed by national health organizations (e.g., Centers for Disease Control and Prevention [CDC], ACS), in delivery of HPV vaccination services and parental/adolescent/provider education.

Introduction

Human papillomavirus (HPV) is the most common sexually transmitted infection, with 14 million new infections occurring among women and men in the United States each year.¹ HPV is responsible for approximately 39,800 cases of cancer annually, including virtually all cases of cervical cancer.² The HPV vaccine – which prevents HPV infection and subsequent HPV-related cancer – is recommended for adolescents beginning at 11 years of age. Over the past decade, various iterations of the HPV immunization guidelines called for a 3-dose series in all age groups. However, these were updated in October 2016 and currently, for males and females ages 9-14, HPV vaccination consists of two doses over the course of six months, while older adolescents and young adults ages 15-26 years require three doses.³ In 2015, approximately 63 percent of adolescent females in the U.S. received one dose of HPV vaccine,

while adolescent males' vaccine initiation rates were lower at 50 percent.⁴ However, series completion rates for both groups of adolescents are even lower than the initiation rates: only 42 percent of females and 28 percent of males received all three vaccine doses in 2015.⁴ These statistics indicate that HPV vaccination rates are still well below *Healthy People 2020* national goal of 80 percent.⁴ In Kentucky, however, the HPV vaccination rates are notably lower than national estimates. For example, in 2015, 57 percent adolescent females in Kentucky received one dose of HPV vaccine, compared to only 35 percent of adolescent males.⁴ Similarly, HPV series completion rates differ greatly between sexes, with only 36 percent and 17 percent of Kentucky females and males, respectively, receiving all three doses in 2015.⁴

A unique opportunity to increase HPV vaccination rates focuses on increasing accessibility to the vaccine in community settings. The 2012-2013 President's Cancer Panel Report⁵ specifically addressed the need to increase the availability of HPV vaccination for adolescents and young adults by offering immunizations outside of primary care in "alternative settings" such as community pharmacies. According to the report, pharmacies provide a convenient option for many, as evidenced by their efficiency in administering yearly influenza vaccines,⁶⁻¹⁰ and research suggests that nearly one-third of parents would be willing to have their child(ren) receive HPV vaccination in a pharmacy setting.¹¹ However, many state-level policies constrain pharmacists from fully delivering HPV vaccination. For example, nearly 40 percent of pharmacists surveyed reported that they were unable to administer the HPV vaccine to 12-year old girls, while another 24 percent were required to have a physician's prescription to administer the vaccine.⁵ These restrictions limit the potential impact pharmacies could have on increasing HPV vaccination among community constituents.^{12,13}

The desire to increase HPV vaccination through implementation of immunization services in alternative settings prompted a group of University of Kentucky (UK) College of Public Health investigators participating in the Centers for Disease Control and Prevention-(CDC) funded Cancer

Prevention Control Research Network (CPCRN) to apply for funding from the American Cancer Society (ACS) to implement a pilot pharmacy-located HPV vaccination project. The project was conducted in collaboration with the UK College of Pharmacy and Total Care Pharmacy (TCP) in Morehead. This academic-community partnership allowed researchers to better meet the needs of the community, while also pooling resources and experience.¹⁴ For example, UK collaborators were able to offer program evaluation and technical assistance, while TCP leaders provided extensive insight into the target community and administration of the HPV vaccine.

Methods

In January 2016, UK researchers and TCP leadership met to discuss the project, including the HPV vaccination protocol, data collection, clarifying roles and responsibilities and identifying areas where investigators could be of assistance such as offering continuing education (CE) programming for pharmacy staff, advising on a reminder system and a tracking database and promoting HPV vaccination in the community by branding existing CDC educational materials with TCP information. Discussion also included the possibility of enrolling in the Kentucky Department for Public Health's Vaccines for Children (VFC) program.¹⁵ Ultimately, TCP leadership decided not to pursue the VFC program, due to staff time constraints and facility limitations; however, the remainder of activities were implemented and are described herein.

UK collaborators offered a CE session for TCP pharmacists, which focused specifically on HPV vaccination, in March 2016. The session included best practices, current guidelines and strategies to increase HPV vaccine uptake. In addition to CE credit, this training helped to ensure TCP pharmacists were up-to-date regarding current practices and recommendations related to HPV vaccination.

With assistance from UK team members, TCP developed a reminder system for HPV vaccine doses 2 and 3. TCP documented patients' receipt of HPV vaccination and provided record of the immunization to the patient's healthcare provider by fax or electronic method upon request. TCP also maintained a patient log using REDCap software, which was designed by UK to track each vaccination. Data entry included the following: date, name, sex, age, race/ethnicity, county of residence, insurance status, HPV dose number, patient reaction (if any) and pharmacist initials.

In June 2016, TCP partnered with Gateway District Health Department to approve the HPV vaccination protocol and process for administering the vaccines under the protocol. The process involved TCP staff identifying age-eligible patients, contacting patients with reminders for subsequent doses, administering HPV vaccinations under the approved protocol and tracking each vaccination in the data log. Before administering the vaccination, patients or their legal guardians completed a screening questionnaire and signed an authorization form.

UK team members were actively involved in adapting existing educational materials and marketing the project throughout Morehead and Rowan County. The UK team printed HPV vaccine-related posters and handouts produced by the CDC for providers, parents, adolescents and young adults and delivered them to TCP and student health services at Morehead State University (MSU). Between July and September, the team explored a variety of advertising mediums, including newspapers, radio stations, direct mailings, electronic billboards and face-to-face interactions, which were used to promote the availability of HPV vaccination at TCP.

Results: Process

For advertising purposes, the research staff printed, stamped and delivered 430+ envelopes to TCP, which contained a Frequently Asked Questions factsheet regarding HPV vaccination from the Immunization Action Coalition (IAC), as well as information about receiving the vaccine through TCP. Pharmacy staff addressed the envelopes and mailed them to age-eligible clients. In addition, UK collaborators scheduled a series of 30-second ads to air in fall 2016 on several local radio stations (WIVY, WQHY and WMKY) for a total of 237 ads. Four bi-weekly ads, designed by Research Communication Office at the UK Markey Cancer Center, also were printed in a local newspaper, along with an ad in a local community magazine. Finally, researchers coordinated IAC flyer and CDC poster distribution with community programs, including a back-to-school middle school event with 100+ families and student health services at MSU.

Results: Outcome

Ultimately, three patients received a vaccine dose, and eight others scheduled appointments during the course of this project. Unfortunately, three interested patients were turned away because their insurers did not cover the vaccine in a pharmacy setting. However, the project had an impact on the community in terms of education about the HPV vaccine. In March 2016, four staff members attended the CE training session at TCP; when completing evaluation forms, staff members rated the session's speakers, learning objectives and content with the highest scores ("excellent"). This CE was used to springboard an HPV vaccination-specific presentation at the 2016 Kentucky Pharmacists Association meeting attended by 25 pharmacists and 11 Doctor of Pharmacy students from UK. A similar CE presentation also was delivered to approximately 75 people who attended Northeast Kentucky Area Health Education Center's Immunizations Conference in September 2016.¹⁶

Discussion

Despite few administrations of the HPV vaccine in the pharmacy site, the team learned valuable lessons from this pilot project, which inform and guide future implementation of similar initiatives. Challenges included vaccine payment at pharmacies. For example, more work is needed to help pharma-

cies enroll in the VFC program and manage the related requirements. It should be noted, however, that even if the pharmacy had participated in the VFC program, additional Medicaid policy changes are needed to ensure payment of the associated vaccine administration fee. Future conversations with payers about reimbursing pharmacies for delivering HPV vaccination – and subsequent changes in policy – would be useful. Similarly, understanding pharmacies' capacity to participate in quality improvement projects and new vaccination initiatives is needed to maximize their involvement and buy-in. Since the end of this project, new legislation was passed in Kentucky allowing pharmacists to administer all age-appropriate vaccines via prescriber protocol down to age 9. This new policy in particular may remove barriers to pharmacies providing HPV vaccination given that the recommended age for completion of the HPV vaccine series is 11-12 years.

In the process of developing a protocol and gathering promotional materials for recruitment, investigators easily found helpful educational materials about HPV vaccination for a range of target populations, including practitioners, parents, young adults and adolescents. The team used posters and flyers available on the CDC website for commercial printing for display throughout the community. One improvement that could be made to the available materials focused on HPV vaccination would be an increased availability of versions in various languages or the ability to tailor the materials to include pictures of local youth and community providers.

Through this academic-community collaboration, new partnerships were formed between UK Colleges of Public Health and Pharmacy, TCP and Gateway District Health Department, which could be beneficial for future "scaled-up" interventions in eastern Kentucky pharmacies. The program also provided CE for TCP staff members, as well as pharmacists and students across Kentucky regarding best practices and ways to increase uptake of HPV vaccination. Finally, through advertising efforts and community engagement, this program raised awareness regarding the benefits and current recommendations for vaccinating adolescents against HPV.

Conclusion

Delivery of the HPV vaccine using pharmacy-public health partnerships is a promising model for the improvement of immunization rates through the use of alternative settings. Preliminary public reactions were positive, recognizing the convenience presented by longer business hours and the walk-in availability of HPV vaccination in pharmacies. Pharmacists were eager and competent vaccine providers, with the largest barrier encountered during the payment process.

Lessons learned will be used to inform future collaborative opportunities to increase HPV vaccination rates. Additionally, we would pursue possible expansion of the pilot project, for instance to the five additional TCP pharmacy sites, or other

community pharmacies located throughout Kentucky.

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