SPECIAL ARTICLES

Planning and Implementation of a Student-led Immunization Clinic

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Students and faculty planned and implemented a pharmacist-led influenza clinic on election day. A needs assessment was conducted, and a core team was convened for planning and reaching out to health departments. Stakeholders helped to identify polling sites and obtain sponsorship for vaccinations. Standing orders and a protocol were considered and university legal counsel addressed potential liability issues. Volunteers were trained, and the event was promoted through media outlets. This pharmacist-led immunization clinic provided 153 vaccinations; 42 individuals received an influenza vaccination for the first time. Over 30 students and faculty members were involved in the clinic. Lessons learned, including challenges, opportunities, and practical recommendations, are provided for students and faculty pharmacists who wish to conduct similar programs.

Keywords: influenza, immunization, public health, election day

INTRODUCTION

US Healthy People is a comprehensive set of disease prevention and health promotion objectives for the nation to achieve over a decade.¹ One of its objectives is to increase the immunization rate to 90% for influenza and pneumococcal immunization coverage among adults 65 years of age or older and to 60% for high-risk adults 18-64 years of age, with similar goals for Healthy People 2020.¹ Vote & Vax, a national program established by the Robert Wood Johnson Foundation² in collaboration with Sickness Prevention Achieved through Regional Collaboration, provides immunizations near polling sites on election day. Since the expansion of Vote & Vax to multiple states in 2004, the program mainly targets influenza prevention in underserved communities. Of the 21,434 people who received influenza vaccinations through the project, 48% had not received an influenza vaccination in the preceding year or would not have otherwise been vaccinated, which qualified them as new recipients.²

In the 2004 national elections, approximately 125 million Americans voted, with 65% to 70% of those being

greater than 50 years old.³ The more than 180,000 polling sites across the nation offer countless opportunities to reach medically underserved populations. The provision of vaccinations on election day can be used to target underserved populations, including minorities and the elderly, thereby decreasing hospitalizations and lowering healthcare costs. The inaugural Maryland Vote & Vax program targeted Prince George's County because of its historically low vaccination rates of less than 13.5%.⁴

Pharmacists are authorized to immunize in all 50 states and play key roles in educating patients about vaccinations.⁵ The American Public Health Association 2006 policy statement on "The Role of the Pharmacist in Public Health" recognizes the important role of the pharmacist in the public health arena.⁶ As readily accessible health care providers, pharmacists have the opportunity to increase immunization rates.⁵ Providing immunization services can increase public awareness of the expanding role of pharmacists as well as provide a valuable public health service to underserved communities.

This article describes a 13-step process accompanied by action items, explaining the planning and implementation process for a student and faculty pharmacist-led influenza clinic on election day to increase immunization rates and improve public health. Lessons learned and practical recommendations are also provided, as well as an evaluation of the process, impact, and outcomes of this public health program.

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THE THIRTEEN-STEP PROCESS

A 13-step process was developed and implemented for the Vote & Vax influenza clinic on Election Day 2010 at a community center in Prince George's County, Maryland.

1. Conceptualize an Idea

The idea of implementing the Vote & Vax initiative in Maryland resulted from a discussion between a student pharmacist and her preceptor during a public health pharmacy practice experience at the University of Maryland School of Pharmacy. After reading about the Vote & Vax initiative, the student recruited a classmate with public health experience to discuss implementation of Vote & Vax and conduct a needs assessment with guidance from her preceptor.

2. Conduct a Needs Assessment

The first step in a public health program is to identify and assess a need in the community. The program's goal was to improve vaccination rates through implementation of an influenza clinic that would provide free vaccinations on election day. Vaccination and polling site statistics were compiled for Maryland's 23 counties and Baltimore City. Based on the Healthy People 2010 objective 22.24¹ and local statistics, Baltimore City and Prince George's County were targeted because of their historically low vaccination rates.⁴

3. Convene a Student Core Planning Team

Once the unmet need for an immunization program was identified and assessed, a core planning team was formed on which students served as chief organizers, media contacts, site coordinators, liaisons for the city and county targeted, researchers, and a volunteer coordinator. Selection of a small core planning team was critical, as it allowed for frequent meetings and quick decision-making. To ensure sustainability, leaders from 2 of the university's student organizations, the chair of the American Pharmacists Association Academy of Student Pharmacists (APhA-ASP) Operation Immunizations and the president of the Student Section of the Maryland Public Health Association (SMdPHA), were recruited to serve on the core planning team to facilitate communication and planning between student organizations.

4. Seek Guidance and Support

Along with a core team of students, a core group of faculty pharmacists and professional staff members with expertise and experience in immunizations, public health, external affairs, marketing, and communications were recruited. These included a professor of

the school's immunization course and advisor of APhA-ASP, a faculty member who was author of a book on immunization, director of the experiential learning program, book author/editor of the Pharmacists in Public Health,⁷ 2 advisors of SMdPHA, and director of marketing and communications. The guidance and expertise of these individuals throughout the initiative were essential to its success. The dean provided support and served as a liaison to external stakeholders such as local health departments.

5. Collaborate With Local Organizations

Students identified potential sites in targeted communities with stakeholders' help. Typically, Vote & Vax clinics are held at polling locations so voters can receive their influenza shots after casting their ballots. Students and faculty members reached out to local and state boards of elections with a letter template developed to express a uniform message of intent to improve public health through provision of vaccinations. Although some polling sites expressed interest in hosting the event, the Maryland State Board of Election decided that providing vaccinations at the polling site could be a conflict of interest in an election year when healthcare reform was a contentious subject. Consequently, the team agreed to select locations in close proximity to polling sites. The site coordinator and assistant for each target area contacted these sites to determine their willingness to host the clinic at no cost and to ensure the site had sufficient parking, space, tables, and chairs. The team was able to find appropriate clinic locations in Prince George's County and in Baltimore City.

6. Collaborate With Local Health Departments

While working to identify and contact potential sites, the team also worked to identify and secure a sponsor who would provide the vaccines. The dean contacted the Deputy Secretary of the Maryland Department of Health and Mental Hygiene (DHMH) to request 250 doses of the influenza vaccine per site. Although DHMH committed to helping the group obtain vaccine from local health departments, it was also necessary to contact Prince George's County and Baltimore City health departments to coordinate the logistics of vaccine delivery, supplies, and forms. Unfortunately, at this point, the core planning team was unable to address a legal issue regarding liability coverage that needed to be resolved before holding an event in Baltimore City. Pursuant to the collaborative relationship with Prince George's County, participants were asked to join the Medical Reserve Corps (MRC) in Prince George's County. Meanwhile, the county health department agreed to deliver the vaccines on event day, provide all of the required supplies (eg, needles, sharps

containers, epinephrine), and retain the completed vaccination forms.

7. Address Influenza Clinic Protocols

The planning team informed the risk management office of the University of Maryland Baltimore campus about the purpose of the event and its specifics. Following the campus protocol to authorize student outreach events, the event had to be approved by legal counsel and risk management. As members of the MRC for Prince George's County, participating pharmacist faculty members and student pharmacists were able to immunize pursuant to the influenza immunization protocol for that county, which included procedures for responding to emergency situations. If the health department could not have been the sponsor, it would have been necessary to obtain a standing order for influenza immunizations and emergency protocol from a physician.

8. Ensure Compliance With Legal and Liability Guidelines

Another key component of the planning process was the early involvement of the university's legal office. University counsel was able to help obtain liability coverage and advise on local election laws regarding polling site boundaries. Acting as practitioners and representatives of the university, faculty pharmacists had additional credentials to provide immunizations as well as professional liability insurance. These credentials (ie, immunization-training and CPR certification) prepared faculty members to supervise the clinic, ensure appropriate communication, monitor documentation, and respond to complex issues. Students also had to meet a variety of legal and university requirements to be covered by the university-sponsored liability insurance. Within Maryland, students who have completed the appropriate immunizations training may immunize under the supervision of a credentialed pharmacist. Because liability insurance covers students' actions performed as part of their experiential education, fourth-year students were designated to serve as student immunizers. Other students had important roles as outlined in Appendix 1.

9. Promote the Initiative/Clinic

Under the guidance of the university's news bureau director and the school's marketing and communications director, the student serving as the primary media contact drafted a press release, which was then sent to local newspapers, radio stations, and the Associated Press 3 weeks prior to the event. In addition to contacting the press, the team also registered with the national Vote & Vax program so the event would be listed on the program's Web

site. Students helped in contacting the elected officials for the district where the event was held and encouraged them to come to the event. Students also used social networking sites and flyers at the clinic site for promotion.

10. Recruit and Train Volunteers

Approximately 1 month before the event, the student volunteer coordinator created a Web-based interactive sign-up sheet to recruit and organize student volunteers. Faculty members who were not directly involved with the initiative supported it by accommodating student volunteers when they had to be absent from class and/or having them watch recorded lectures online. All student volunteers were required to attend a 1-hour training session 5 days before the event. Students were given a review of immunizations and were briefed about what to expect on the day of the event, including the check-in process and media contacts.

11. Put it All Together

Throughout all the aforementioned planning steps, the core group of students worked closely with the core faculty advisors, county health department, and selected event sites to ensure successful implementation of this student-organized project. Students functioned as liaisons to assist and ensure all legal issues were addressed; confirm that DHMH would provide vaccine, syringes, needles, sharps containers, etc; and manage registration forms after the event. Additionally, students were responsible for scheduling and organizing meetings of the core planning group, including documenting and sending meeting minutes after each session. Finally, a student chief organizer conducted a site visit prior to the event to meet with the site manager and create a plan for set-up and workflow.

12. Implement the Clinic and Manage Last-Minute Challenges

On Election Day, the core team arrived 1.5 hours prior to the start of the immunization clinic to direct the set-up process for the site (immunization stations, registration, signage, post-immunization monitoring area, adverse reaction emergency station). Although site setup had been preplanned, the team was informed on the afternoon prior to the event that the county health department would be sending nurses to vaccinate children under the age of 18 years. This required the team to make last-minute changes to the site plan, but allowed patients of all ages to be immunized at the event. Throughout the day, the 2 chief organizers monitored the event to ensure stations had adequate supplies, answered questions from volunteers and the health department, and directed volunteers to areas where help was needed.

13. Follow-up and Evaluation

After the event was over, the chief organizers informed the school's media director of the number of vaccinations provided so the information could be included in news articles about the event. A report for the Vaccine Adverse Event Reporting System was completed on a non-life-threatening adverse event experienced by 1 participant. Results from the brief exit survey instrument administered to participants to assess their experience and satisfaction were tabulated, and student volunteers were asked to provide feedback. The chief organizers also worked with faculty advisors to evaluate the program, including lessons learned, challenges to overcome, and opportunities to explore in preparation for future Vote & Vax events.

EVALUATION OF THE INITIATIVE

As with any public health program, it is important to evaluate the process, impact, and outcomes, as well as identify areas for improvement for future efforts. Regarding the evaluation of the efficiency and effectiveness of the process, student chief organizers reflected on the event and solicited formal and informal feedback from planning team members, volunteers, and patients throughout both the planning and implementation phases of the project. Individuals providing feedback included stakeholders (eg, health department and community center staff), faculty pharmacist advisors and supervisors, student immunizers and volunteers, and patients. Areas of feedback included communications, organization, and setup and flow of the clinic.

Student chief organizers worked with faculty advisors to monitor and record the number of vaccinations given and identify news and media responses to the event highlighting the expanded role of the pharmacist in public health. The 6-hour influenza clinic was conducted by 12 student pharmacist immunizers, 18 student pharmacist volunteers, and 4 faculty pharmacist supervisors. The influenza vaccine was administered to 153 individuals, 42 of whom received the vaccine for the first time. Additionally, results from the participants' experience survey showed that many individuals likely would not have received the influenza vaccine elsewhere. Regarding awareness of the pharmacist's role in public health, there was media coverage on the influenza clinic on a local television news station, several Associated Press news links and articles on Web sites, and in the Gazette, a local newspaper. There was also an invitation from the health department and community center to hold the influenza vaccination clinic again in the future.

In terms of outcome measures, student chief organizers worked with faculty advisors to compile and

analyze patient experience survey results and conducted further literature searches. Of the 90 participants who completed the survey instrument, 32 (35.6%) were male and 58 (64.4%) were female. Eight (9%) were over 65 years old, 15 (16.9%) were between 50 to 64 years, and 66 (74.2%) were 18 to 49 years old. As far as comorbidities, 16 (18%) of the participants had diabetes, asthma, lung disease, heart disease, and/or were pregnant. In terms of race and ethnicity, 13 (14.4%) of the respondents were Caucasian, 16 (17.8%) were African American, 50 (55.6%) were Hispanic, and 11 (12.2%) were other races or ethnicities. With regard to insurance coverage, 7 (7.9%) had Medicare, 6 (6.7%) had Medicaid, 33 (37.1%) had other types of insurance, and 43 (48.3%) had no health insurance coverage. In terms of previous influenza vaccination, 45 (50%) respondents had received an influenza vaccine the previous year; 25 (28%) reported it was not likely that they would have received the vaccine elsewhere. In general, the patient experience survey results reflected satisfaction among those who were vaccinated. Overall, the influenza clinic improved vaccination rates and potentially decreased hospitalizations and mortality associated with influenza and its related illnesses. Furthermore, these could also translate to healthcare cost savings for the county or state health systems.

LESSONS LEARNED AND RECOMMENDATIONS

Despite thorough efforts, the core planning team faced some challenges during this inaugural student and faculty pharmacist-led public health program. Among the most difficult challenges were the short initial planning period for the event (less than 5 months), time lost as a result of the concerns of and resistance from the local boards of elections, multiple potential sites to manage, and legal or liability issues. To prevent these barriers, planning should start at least 6 months prior to the event. Input from external decision-makers and stakeholders should be obtained early in the process and lines of communication should be maintained. Members of the Boards of Elections who are supportive of public health initiatives and can provide insight into potential clinic sites near polling places should be identified and contacted.

In terms of site selection, while it may be good to identify multiple sites initially, it is difficult to know which site(s) will be willing and able to accommodate a clinic. After potential sites have been identified, it is essential to choose only 1 site on which to focus energy and efforts, especially when planning and implementing an influenza clinic for the first time. It is best to have the core planning team at 1 site so that challenges can be addressed together.

Next, clarify what the site offers, including supplies and equipment, as well as emergency kits.

Also, the core team must have experts who are familiar with legal issues. Planners should anticipate and be aware of liability issues early to help determine which site(s) and sponsor(s) will be most compatible for the event. Another challenge is the Maryland pharmacist's scope of practice, which excludes vaccination of children, hence the involvement of nurses. In our case, there were concerns from the health departments regarding turning away children less than 18 years of age from receiving the influenza vaccination pursuant to various state laws. Because of pharmacists' legal scope of practice, it is important to involve nurses, especially if the community has a large population under 18 years old.

Keep in mind that whether early voting (voting prior to the scheduled election day) is allowed and whether it is a presidential election year may affect voter and clinic turnout. Consider scheduling the clinic prior to election day if early voting is more popular in the area where the clinic will be held. Attempt to get an estimate of the difference in expected voter attendance between presidential and nonpresidential election years in order to ensure appropriate quantities of supplies and vaccine. Additionally, anticipate and be prepared to address common language and cultural barriers at the clinic site that may hinder communication with patients.

Finally, it is helpful to delegate roles to volunteers before the event, begin publicizing early, and contact local media outlets well in advance. Identify the roles of volunteers and assign specific tasks for the day of the event to ensure a steady workflow. Recruit students early and create a sign-up list for volunteers and assign their specific positions or roles for the day of the clinic. Also, identify the number of immunizers needed. If nurses or other healthcare providers will be helping at the event, communicate with them prior to the clinic to see what supplies they are bringing and what they expect the organizers to provide. Involve communications or marketing and media teams early to develop press releases and media friendly advertisements to increase awareness of the event. Send advertising materials to local media outlets early to avoid the information being lost among news features on other events. Walk through the site at least 1 week before the event and develop a site map to ensure efficient workflow. Finally, be flexible and anticipate changes on event day, but enjoy the public health initiative.

The success of this inaugural student and faculty pharmacist-led immunization initiative was the result of the collaborative and collective effort of multiple individuals and stakeholders in the state of Maryland. While the organizers had hoped that the clinic would administer a

higher number of vaccinations, their collaboration with the health department is expected to yield more substantial results in the future. It was valuable for the faculty and student pharmacists to work as a team with each other and with other health professionals and community leaders and to contribute toward meeting important health goals. Faculty members also anticipated that the student pharmacists will build on this experience by integrating public health initiatives into their future practice as pharmacists. The 13-step process developed for this project may be helpful in fostering this integration, as it can be generalized and used as a guide for other health initiatives designed to coincide with local, state, or national events. Ultimately this was a public health program that provided real-world learning experience for student pharmacists to engage in the key components of program planning, implementation, and evaluation for health promotion and disease prevention. This initiative also helped to meet one of the objectives of the US Healthy People initiative by increasing immunization rates (a national health goal) while furthering the pharmacists' role in public health.

CONCLUSION

Organizing and providing a Vote and Vax clinic was a valuable opportunity to advance public health and promote goodwill among the school, public health services, legislators, and citizens. With the support of faculty members, student pharmacists can provide significant leadership in planning and implementing a successful public health event. The 13-step process may be adapted to use in planning other types of outreach initiatives and partnerships to improve public health.

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Appendix 1. A 13-Step Process With Responsible Individuals and Timeline for Planning and Implementation of a Vote & Vax Influenza Clinic on Election Day

13-Step Process	Responsible Individuals	Timeline
1. Conceptualize an Idea	Chief organizers	≥ 6 months prior
2. Conduct a Needs Assessment	Chief organizers	≥ 6 months prior
3. Convene a Student Core Planning Team	Chief organizers Core student planners	≥ 6 months prior
4. Seek Guidance and Support	Core student planners Chief organizers	≥ 6 months prior, ongoing
5. Collaborate with Local Organizations	Core student planners Site recruiter (from core student planners)	5-6 months prior
6. Collaborate with Local Health Departments	Core planning team (students and faculty)	5 months prior
7. Address Influenza Clinic Protocols	Faculty advisors	4 months prior
8. Ensure Compliance with Legal and Liability Guidelines	Faculty advisors Core student planners	4 months prior
9. Promote the Initiative/Clinic	Public Relations / Marketing student (from core planning team)	1 month prior
10. Recruit and Train Volunteers	Student recruiter (from core planning team), faculty advisor	1 month prior
11. Put it All Together	Chief organizers, core planning team (students and faculty)	2 weeks prior
12. Implement the Clinic and Manage Last-Minute Challenges	Chief organizers, core planning team (students and faculty)	Day of event
13. Follow-up and Evaluation	Chief organizers, core faculty planners	0-4 weeks post-event

Responsible Individuals:

Chief Organizers – The 2 student pharmacists in charge of conceptualizing, planning, implementing, and evaluating this public health program; also known as "Incident Commanders" on influenza clinic day.

Core Student Planners – The small group of 6 student pharmacists who assisted with the planning and implementation of the influenza clinic; these include student officers from sponsoring student organizations.

Core Faculty Advisors – The small group of 6 School of Pharmacy faculty pharmacists and professional staff with expertise and experiences in immunizations/vaccinations and public health, as well as offices of experiential learning, external affairs, and marketing and communications

Core Planning Team – Chief organizers, core student planners, and core faculty advisors

Student Pharmacist Immunizers – Fourth-year student pharmacists who have completed the American Pharmacists Association (APhA) Immunization Certificate Training Program

Faculty Pharmacist Supervisors – Individuals with multiple layers of credentials to provide immunizations. All 4 are licensed pharmacists and designated to provide immunizations by the Maryland Board of Pharmacy which requires extensive training and ongoing continuing education. The Maryland Department of Health and Mental Hygiene provide identification cards to qualified, trained pharmacists to serve in the Pharmacist Volunteer Corps for emergency response; 2 of the 4 faculty members maintain this credential. The faculty also maintains individual professional liability insurance.