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## ADVANCES IN PHARMACY PRACTICE

## Implementation of a pharmacist-driven immunization program designed to improve overall vaccination rates in indigent and uninsured patients

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## ABSTRACT

**Objective:** To demonstrate the results of a pharmacist-driven immunization program designed to increase overall vaccination rates among the low-income, uninsured patients in a free clinic.

**Setting:** Cape Fear Clinic, a free clinic located in Wilmington, North Carolina.

**Practice description:** Cape Fear Clinic provides medical, pharmacy, mental health, and dental services to adults in 4 eastern North Carolina counties who are uninsured and have incomes of no more than 200% of Federal Poverty Guidelines.

**Practice innovation:** A pharmacist-driven immunization program consisting of a comprehensive chart review of every active clinic patient in order to improve the vaccination status of the clinic's patients at no cost to the patient.

**Interventions:** Student pharmacists completed a comprehensive chart review of every active clinic patient to identify patients eligible for immunizations according to the Advisory Committee on Immunization Practices guidelines.

**Evaluation:** More than 500 patients eligible for immunizations were notified of their immunization status and educated about indicated vaccinations. Patients willing to receive indicated vaccinations would present to the pharmacy and a pharmacist or student pharmacist administered the necessary doses.

**Results:** The vaccine initiative was introduced January 1, 2015 and has since delivered 1878 doses of vaccines as of June 30, 2016.

**Conclusion:** The immunization program implemented by pharmacists and student pharmacists at Cape Fear Clinic has been successful in increasing awareness of vaccine preventable diseases as well as increasing rates of vaccination among eligible clinic patients.

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Vaccines are recommended throughout life to prevent many diseases and potential complications. Despite educational outreach and initiatives from the Centers for Disease Control and Prevention, current vaccination rates among adults are much lower than the target goals set by the Healthy People 2020 initiative, especially in the indigent and uninsured population.<sup>1</sup> As trusted and accessible health care professionals in the community, pharmacists have the unique opportunity to provide education and needed access to life-

saving vaccines and have been found to improve overall vaccination rates in the United States.<sup>2</sup>

A recent meta-analysis performed by Baroy et al. identified 8 studies that compared pharmacist immunization programs and usual care. A wide variety of immunizations were provided in the studies, including influenza, herpes zoster, pneumococcal, tetanus–diphtheria–acellular pertussis (Tdap), hepatitis A and B, measles, mumps, rubella (MMR), varicella, meningococcal, and human papillomavirus. Overall, the risk ratio favoring pharmacist immunization programs was 2.95 ( $P < 0.001$ ), but the impact varied substantially. The impact was affected by the types of vaccine involved as well as study size.<sup>3</sup> Results indicated that pharmacist immunization programs that actively identify patients needing immunization and use some type of advocacy (educating and motivating patients) have the potential to substantially increase immunization rates.

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**Key Points****Background:**

- Vaccination rates among adults are much lower than the target goals set by the Healthy People 2020 initiative, especially in the indigent and uninsured population.
- Pharmacist-driven immunization programs have the potential to make significant impact and substantially increase immunization rates.
- Affordability and access to health care are barriers that remain for patients despite multiple strategies implemented by pharmacists to provide immunization services.

**Findings:**

- The proactive chart review identified all possible immunizations that were indicated for a patient, which allowed for multiple vaccine administrations during 1 visit to the pharmacy.
- Procurement of vaccines from manufacturer patient assistance programs allowed patients to receive vaccinations at no cost.
- Implementation of a pharmacist-driven immunization program at Cape Fear Clinic was associated with a large number of ACIP-indicated vaccinations administered to patients.

Various strategies have been used in implementing pharmacist immunization programs. Notable techniques identified in the literature include but are not limited to press releases, flyers provided with dispensed prescriptions, personalized letters to eligible patients, screening tools and documentation forms for pharmacy technicians and pharmacists, automated outbound telephone messaging, and personal selling.<sup>4-7</sup> Despite the many avenues that exist for patients to gain access to immunization services, barriers remain for certain patient populations, such as affordability and access to health care. A 2012 retrospective study revealed that community pharmacists are in a unique position to help provide convenient and accessible venues for patients to receive influenza vaccines and other immunizations, especially in medically underserved areas (MUAs). During the 2009-10 influenza season, more than one-third of influenza immunizations were administered by pharmacies located in MUAs nationwide, providing up to 77.1% in some states.<sup>8</sup> Similar barriers to immunization exist for patients who are low income and uninsured.

At Cape Fear Clinic, a free clinic located in Wilmington, NC, barriers to receiving immunizations were apparent, with a majority of patients not up to date on their immunizations and many without any immunization documentation. With this in mind, the pharmacy staff of Cape Fear Clinic set out to create a pharmacist-driven immunization program using current recommendations from the Advisory Committee on Immunization Practices (ACIP).<sup>9</sup> Before implementation of this new immunization initiative, vaccines were already available to

Cape Fear Clinic patients; however, the process of identifying appropriate patients was not implemented, and the process of obtaining vaccines was inefficient. Patients could be attending medical appointments or picking up prescriptions when it would be discovered that they were not current on their vaccinations. The clinic's chief pharmacy officer would obtain a complete immunization history, and necessary doses of vaccines would be requested from patient assistance programs. On receipt of the vaccine from the manufacturer, the vaccine could be administered at the patient's next visit. This process proved to be lengthy and ineffective because the majority of clinic patients had incomplete immunization histories. Seeing an unmet need within their patient population, the pharmacy staff decided to implement an immunization initiative to improve vaccination rates among the clinic's patients at no cost to them. This new initiative would comprise of a systematic, proactive chart review of active clinic patients in the clinic's electronic medical record (EMR) and North Carolina Immunization Registry (NCIR) to increase the number of vaccinations administered to eligible patients.

**Objectives**

The primary objective of the vaccine initiative was to identify low-income and uninsured patients eligible for vaccination at a free health clinic to increase awareness about vaccine-preventable diseases as well as improve overall vaccination rates. Driven by student pharmacists and pharmacists, the initiative consists of a proactive chart review integrated into the prescription processing workflow of the clinic pharmacy. The purpose of this article is to describe the implementation of the pharmacist-driven immunization program at Cape Fear Clinic and demonstrate its success by measuring the total number of vaccinations administered to eligible patients.

**Practice description**

The Cape Fear Clinic (hereafter referred to as the clinic) provides medical, pharmacy, mental health, and dental services to adults in 4 eastern North Carolina counties who are uninsured and have incomes of no more than 200% of federal poverty guidelines. The clinic pharmacy provides extensive pharmacy services to patients enrolled at the clinic, including screening for vaccinations, medication therapy management, and medication synchronization. Medications are dispensed to patients at little or no cost.

The clinic pharmacy employs 1 full-time pharmacist who acts as the chief pharmacy officer and oversees all pharmacy operations as well as handles typical pharmacist duties. The clinic pharmacy also employs a patient assistance manager, a patient assistance coordinator, a pharmacy technician, and a volunteer pharmacist is present 1 day a week. On average, a student pharmacist is onsite each month completing his or her pharmacy practice experiential requirement. The clinic pharmacy also has volunteers from all walks of life—from retirees to students from local universities and community colleges—and is open for 30 hours each week. The pharmacy layout consists of 2 counters (1 for prescription drop-off and 1 for pick-up and checkout) and a separate, more private space for counseling and vaccine administration.

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