

INTRODUCTION

Manchester is a small town in Coffee County, which is located in the Middle Tennessee region just one hour away from the state's capital of Nashville. More commonly known as the home to the Bonnaroo Music and Arts Festival, this city is a quaint town with a population of slightly over 10,500 citizens.¹ Marcrom's Pharmacy and Wellness Center, a local independent pharmacy, has provided pharmaceutical and health care for forty years and dispenses over 3,500 prescriptions weekly to the residents of Manchester and Coffee County. As a leader of pharmacy practice in the state of Tennessee for their innovative services, Marcrom's Pharmacy provides fifteen vaccines including the seasonal influenza vaccine and both pneumococcal vaccines. Many of the patient population, as well as the pharmacy staff, are aware of the purpose and need for pneumococcal vaccinations for adults aged 65 years and older. There is a gap of care in the understanding and need for pneumococcal vaccinations for adults aged 19 – 64 years of age. During the annual influenza vaccination season, it is a pivotal opportunity for community pharmacists to go above and beyond just administering this one vaccine. It is a perfect opportunity to acknowledge at-risk populations about their risks for other preventative diseases such as invasive pneumococcal disease and how to reduce their vulnerability by receiving the polysaccharide pneumococcal vaccine.²

The purpose of this proposal is to create a clinical care screening service that will identify patients at-risk for invasive pneumococcal disease and patient counseling before vaccine

¹U.S. Census Bureau (2018). *Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017*. Retrieved August 31, 2018, from <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>.

² Rhodes, L. A., Branham, A. R., Dalton, E. E., Moose, J. S., & Marciniak, M. W. (2017). Implementation of a vaccine screening program at an independent community pharmacy. *Journal of the American Pharmacists Association*, 57(2), 222-228. doi:10.1016/j.japh.2016.10.009

administration by a pharmacist. Following the screening process, the pharmacist may co-administer the pneumococcal vaccine on the same day as the influenza vaccine or she may create a follow up appointment with the patient for the pneumococcal vaccine. During the influenza season, Marcom's Pharmacy is expected to administer approximately 1300 immunizations, with about 1000 of those immunizations for patients aged less than 65 years. With our current patient population and the statistics of the state of Tennessee, it is estimated that over 10% of our patients have an increased risk of pneumococcal disease and are in need of vaccination. Per the Centers for Disease Control and Prevention, the pneumococcal polysaccharide vaccine is recommended for patients that are living with chronic kidney disease, chronic liver disease, diabetes, chronic heart disease, and chronic lung disease and current smokers.³ When a patient is living with these disease states, his immune response is becoming weaker as the illness progresses. Compared to healthy adults, this patient is suspected to have up to three times the risk of invasive pneumococcal disease. With the recommendation of a pharmacist, a patient will not only have increased awareness about the risk of pneumococcal disease, but some may also receive the pneumococcal vaccination.⁴

METHODS

The final week of November a pharmacist-led immunization training was held about the pneumococcal vaccination campaign to the pharmacy staff. In an effort to be efficient with time and optimize employee attendance, the training was provided as a working lunch. During the

³ Centers for Disease Control and Prevention. (2018, February 06). Immunization Schedules. Retrieved August 31, 2018, from <https://www.cdc.gov/vaccines/schedules/hcp/imz/adult-conditions.html>.

⁴ Merck Professional Services. (2018, May). Take every opportunity to speak with appropriate adult patients about pneumococcal vaccination. Retrieved August 31, 2018, from <https://www.merckvaccines.com/products/pneumovax23/pneumococcal-vaccine-pharmacy#annotation22>.

working lunch, the pharmacy staff was educated on the APhA Foundation, the need of pneumococcal vaccinations for at risk populations aged 19-64 years, the purpose of the screening tool, how to complete the screening, and how to promote the vaccination services. Included with the lunch was visual displays of the screening tool and promotional material. The training had interaction moments through mock patient engagements. These mock interactions prepared the staff on how to respond to suspected frequently asked questions about the immunization services and screening. After the training, employees were given email updates about the pneumonia screening campaign launch and additional advice to promote teamwork and customer service.

The screening service created 3 opportunities to be identify at-risk patients: at prescription input by a certified pharmacy technician, check out transaction by a pharmacy clerk, and the vaccine administration by the pharmacist. Certified technicians at the prescription input station obtained prescription orders for influenza vaccines. Patients aged 19 – 64 years of age were flagged at this location for a vaccination and disease state review by the verifying pharmacist. For patients not addressed at the prescription input station, the patient was asked about the need for the pneumococcal vaccine at prescription check out by a clerk.

The pharmacist reviewed the patient's immunization record through the WinRx computer system. This system will notify the pharmacist if the patient has received the pneumococcal vaccine at Marcrom's Pharmacy. This will help the pharmacist to avoid immunizing a patient that is already vaccinated. Upon verification, the pharmacist met with the patient in the immunization room. While preparing the vaccination, the pharmacist will provide information about the influenza vaccine. The pharmacist may have also asked additional questions about current disease states to better assess the patient's risk of pneumococcal disease and decreased immune response. For patients that agreed to have the pneumococcal vaccine that day, the

pharmacist notified the technicians at the prescription input station to complete the billing transaction for the pneumococcal vaccine so that both vaccinations were completed in one appointment. If a patient decided to schedule a follow up appointment for the pneumococcal vaccine, the pharmacist scheduled and documented the vaccination appointment for a later date. If a patient declined the pharmacist's recommendation, the pharmacist provided the patient with additional literature about the pneumococcal vaccine with the influenza vaccine information statement and document the patient's decline as well as any reasons as to why he chose to not receive the vaccine.

RESULTS AND DISCUSSION

The pharmacy staff was provided a pharmacist-led training about the pneumococcal vaccine services at Marcrom's Pharmacy. In attendance to the staff training were 3 staff pharmacists, 3 clerks, 1 store manager, and 9 technicians. All employees, except staff pharmacists, were unaware of the need for pneumococcal vaccinations for adults aged 19-64 years of age. All employees felt that the one-hour training was provided in enough time. Due to the training being provided during a working lunch, 5 clerks and 4 technicians were not in attendance based upon school requirements or planned off-day.

The data collection period began on December 10, 2018 and lasted until February 7, 2019. One hundred-six flu shots were given during that time period with 68 patients meeting the eligible age group (Table 1). Twenty-eight screenings were eliminated due to incomplete forms and 15 screenings were eliminated due to patients having previously received a pneumonia vaccine. Out of the 25 eligible patient screenings, 5 patients (20%) were flagged for an increased risk for invasive pneumonia. All five of the pharmacist's recommendations were declined. The

reasoning for patient refusals are seen in Table 2. Two patients (40%) were interested in receiving their vaccinations but declined due to the service not being covered by their insurance.

Limitations had a great impact on this grant research. Due to funding being provided after the projected grant schedule, 800 vaccinations were given during the initial collection period, October 8 – December 15, 2018, that were not screened. If data was collected during this time period, it may have been a better reflection of the patient population. The collection period ended one week early due to the pharmacy not being able to reorder influenza vaccines during the end of the flu season. Seven vaccinations were given at a flu shot drive. At this event, a different consent form was used without the screening questionnaire. This is due to the pharmacist not being capable of knowing if the pneumococcal vaccine was covered by the patient's insurance provider and the pharmacist not being able to provide the pneumococcal vaccine if requested on site. Another limitation to this research is the lack of consistency when verifying that patients completed the screening questionnaire. This could have helped to recover the 21 forms not completed correctly in the pharmacy. With future revisions, the screening questionnaire can be more efficient to ensure that documentation is completed correctly by the patient as well as the pharmacist administering the vaccine. These revisions may help to promote more vaccine appointments for patients screened at local flu shot drives.

CONCLUSION

Community pharmacists have the opportunity to increase patient awareness and understanding for their risk of invasive pneumococcal disease by providing one-on-one interventions during the influenza vaccination season to screen patients and provide patient education about the pneumococcal vaccine. The key factors in making this effort most effective are staff training, timing, and efficient documenting. With more documentation from patient

screenings to show the need for this service, insurance providers may make more initiative to provide some or all financial benefits for the vaccination service to patients aged 19-64 with an increased risk of invasive pneumococcal disease.