Impact of Implementing Education and Electronic Medical Record Tools on Pneumococcal Vaccination Rates in a Primary Care Clinic
Domenic Vita, PharmD, Karishma Patel, PharmD, Maria Summa, PharmD, BCPS, BCACP, Angela Stein, MD, FACP, Rebecca Teich-McGoldrick, MD
Saint Francis Hospital and Medical Center, Hartford, CT

Background
• Pneumococcal infections are an important cause of illness and mortality in the United States
  ➢ 31,000 cases and 3,500 deaths related to invasive pneumococcal disease (2017)
  ➢ Drug-resistant Streptococcus pneumoniae remains serious threat
• Vaccination reduces morbidity and mortality associated with pneumococcal disease
  ➢ Indicated for those with disease risk factors or at risk for severe outcomes
  ➢ Routine part of infant and childhood care since 2000 (PCV7 → PCV13)
  ➢ Adult pneumococcal vaccination efforts began in the 1980s (PPSV23)
  ➢ Adult vaccination recommendations became more complex with approval of conjugate vaccines (PCV13 → PCV15/20)
• Vaccine uptake remains a challenge given multiple vaccine types, recommended schedules, and multiple paths to vaccine access
  ➢ 69% of adults aged 65 years or older received at least one pneumococcal vaccine but only 24.5% of those aged 19-64 years at risk for pneumococcal disease (2017)
  ➢ Opportunities to vaccinate can be improved during office visits

Purpose
• Improve overall pneumococcal vaccination rates after implementing screening tools, standard workflows, and focused education in an internal medicine office setting
• GOAL: improve percentage of eligible patients in the practice who received pneumococcal vaccination

Methods
• Approved by Institutional Review Board
• Retrospective chart review
  ➢ Pre-intervention record review to determine baseline practice pneumococcal vaccination rate
  ➢ Design and deliver educations for medical residents and patients
  ➢ Post-intervention record review for evidence of vaccine update

Inclusion
• Males and females aged 19 and older
• Established patient at practice continuity clinic
• Completed appointment between 8/1/2022 – 10/14/2022

Exclusion
• Documentation of up-to-date status on pneumococcal vaccination

Data Collection Points

Medical Record Number
Age<br>Gender<br>Primary Care Provider<br>Pneumococcal Vaccination Date(s)

Pertinent Medical History
Cigarette smoking<br>Alcoholism<br>Chronic liver disease, including cirrhosis<br>Chronic heart disease, excluding hypertension<br>Chronic lung disease<br>Diabetes mellitus<br>Cardiac transplant recipient of cochlear implant<br>CSF leak
Apert syndrome<br>Sickle cell disease or other hemoglobinopathies<br>Congenital or acquired immunodeficiencies<br>Generalized malignancy<br>HIV infection<br>Hodgkin disease, leukemia, lymphoma, or multiple myeloma<br>Immunosuppression due to medications or radiation therapy<br>Solid organ transplant<br>Chronic renal failure or nephrotic syndrome

Interventions Performed
• Medical Resident Education
• Patient Education
• EHR Quick-Fix Reminders

Anticipated Outcomes
• Primary Outcome
  ➢ Percent of eligible patients receiving pneumococcal vaccination

• Secondary Outcomes
  ➢ Percent change in overall pneumococcal vaccination rate
  ➢ Percent of administered pneumococcal vaccines selected correctly
  ➢ Percent of patients ≥65 years of age receiving pneumococcal vaccination
  ➢ Percent of administered pneumococcal vaccines selected correctly in patients ≥65 years of age

Hypothesis/Application to Practice
• Medical resident education, patient education, and use of standardized electronic medical record workflows will increase pneumococcal vaccination rates in our setting.
• If successful, the methods used can be repurposed to close other vaccine gaps or improve rates of other preventative/wellness initiatives.

References

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Disclosures
Authors of this project 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 project.