



Missed Vaccine Opportunities During the COVID-19 Pandemic

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Introduction

- The 23-valent pneumococcal polysaccharide vaccine (PPSV23) is recommended for all adults over the age of 65 to reduce *S. pneumoniae* infection
- During the COVID-19 pandemic surge, the pneumococcal and influenza vaccine nurse-driven protocol was determined to be non-essential at our institution (on 3/23, and 4/2 respectively)
- Our study aims to characterize missed vaccine opportunities among patients hospitalized with COVID-19 during this surge

Methods

- Study Design:** Cross-sectional, retrospective study
- Participants:** 100 patients admitted and discharged alive
- Inclusion Criteria:** PCR positive for COVID-19, age over 65
- Study Period:** 3/23 and 4/21/2020
- Data Collection:** patient age, gender, race, length of stay, comorbidities that would indicate a vaccine opportunity, prior vaccinations, and whether there was a vaccine opportunity for PPSV23 and influenza (defined by ACIP indications*)
- Vaccine history was evaluated using the electronic medical record (EMR) and Michigan Care Improvement Registry (MCIR)
- Total number of vaccines given for time periods in 2019 and 2020 were collected from EMR for comparison
- Descriptive analysis was used

[*Indications for vaccine were: age over 65 years old, chronic lung disease, chronic kidney disease, cardiomyopathy or heart failure, HIV, solid organ malignancy or multiple myeloma, immunosuppressed (on immunosuppressive drugs, long term steroids, or solid organ transplant recipient), and other (cochlear implant, CSF leak, post splenectomy, sickle cell disease, or alcohol use disorder)]

Results

Table 1. Patient characteristics and vaccine information (n = 100)

Category	Number (%)
Age, years (mean)	72.84
Male gender, no. (%)	46 (46%)
Race, no. (%)	
- African American	66 (66%)
- Caucasian	6 (6%)
- Hispanic or Latino	1 (1%)
- Unknown	27 (27%)
Length of stay, days (mean)	4.99
Prior vaccination with PPSV23 or PCV13, no. (%)	57 (57%)
Received antibiotics while inpatient, no. (%)	87 (87%)
Readmission within 30 days, no. (%)	18 (18%)
Vaccine opportunity, no. (%)	
- <i>S. pneumoniae</i> (PPSV23)	52 (52%)
- Influenza vaccine	37 (37%)
Vaccine given, no. (%)	
- <i>S. pneumoniae</i> (PPSV23)	0 (0%)
- Influenza vaccine	0 (0%)
Number of indications for <i>S. pneumoniae</i> vaccine among those with missed vaccine opportunity (MVO)*:	
- One indication	17/52 (32%)
- Two indications	23/52 (44.2%)
- Three indications	8/52 (15.4%)
- Four or more indications	4/52 (7.7%)

Results

Figure 1. Impact of COVID-19 on Influenza Vaccinations

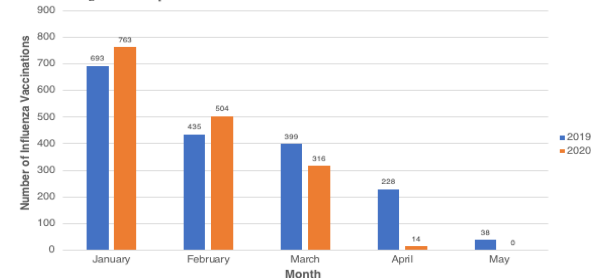
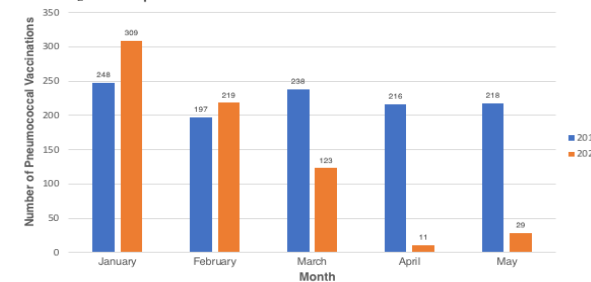


Figure 2. Impact of COVID-19 on Pneumococcal Vaccinations



Conclusions

- Due to prioritization of potential staffing shortages and clustering nursing care, opportunities to vaccinate patients with pneumococcal and influenza vaccines were missed
- It is important for health care providers to be aware of these missed opportunities for vaccination of high-risk patients in order to promote primary prevention during future waves of pandemics