

# Increasing Pneumococcal Vaccinations in the OSU Family Medicine Clinics



OSU Family Medicine

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## INTRODUCTION

Since the 1980's, vaccinations for streptococcal pneumonia have been recommended for individuals 65 and over (1). These vaccinations have improved in efficacy and demonstrated a significant decrease in mortality (2). Therefore, these pneumococcal vaccinations are vital in aiding in the prevention and decreased risk of contracting pneumococcal infections in adults 65 and over that can lead to serious causes of bacteremia and sepsis (1&2). However, the 2005 Behavioral Risk Factor Surveillance system estimated only 65% of all patients have received a pneumococcal vaccine (3). The CDC's Healthy People 2020 initiative aims to achieve at least 90% coverage of every adult senior 65 years and over(4).

## OBJECTIVES

Our aim is to increase the number of pneumococcal vaccinations administered to eligible adult patients 65 and over in OSU family medicine clinics located at OSU HCC, OSU Eastgate, and OSU WMC.

## METHODS

We believe that a two pronged approach to increase vaccination rates in OSU Family Medicine Clinics is warranted. The first step was to set up flyers in every clinic room to increase patient awareness of their need for vaccinations. Our Second approach was to set a reminder to each resident and attending physician in the EMR for patient's 65 and over. These reminders would show up next to the patient's names in the scheduling portion of the EMR in the form of "\*QI\*". When the residents would see this they would be reminded to ask the patient if they have been vaccinated and if they were eligible for vaccinations. These interventions will be in place for 12/16/2019 to 3/16/2020. After this, data will be collected and compared to data from last year of the same date ranges. These values will be compared using percent change statistics.

Fig 1. 12 vaccinations from 2018-2019 were given in the appropriate date ranges and that after interventions were initiated in 2019 -2020 13 vaccinations were given showing a percent difference of 8.33%

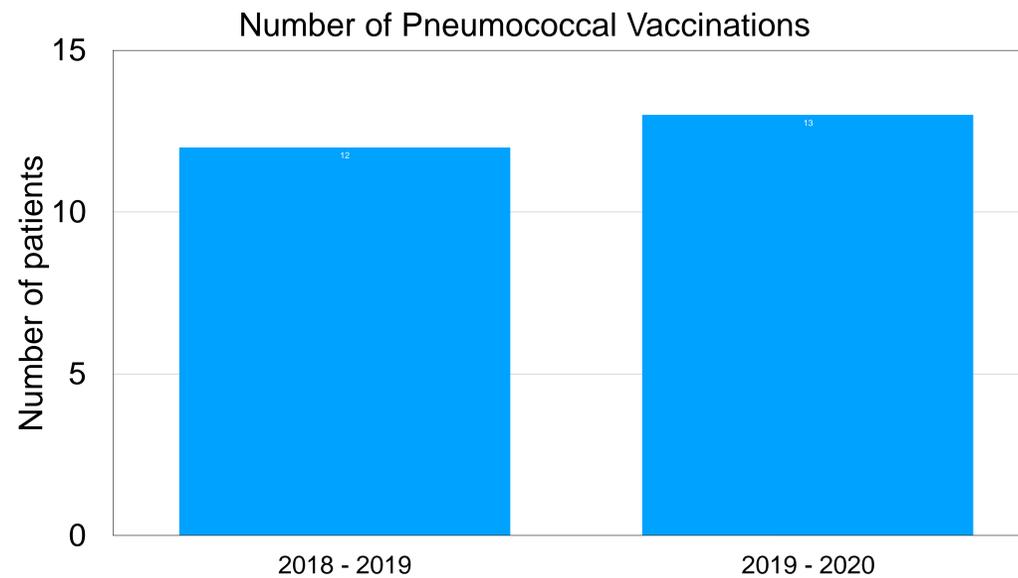


Table 1. The ACIP's rejection of the old guidelines after receiving new evidence that Pneumococcal conjugate 13 (PCV-13) combined with Pneumococcal polysaccharide vaccine 23 (PPSV-23) revealed no net increase benefit compared to single injection of PPSV-23 at the age of 65. Leading to recommendations for one dose of PPSV-23 for immunocompetent patients 65 and over.  
<https://www.cdc.gov/mmwr/volumes/68/wr/mm6846a5.htm>

**TABLE 2. Policy options\* for use of pneumococcal vaccines in adults aged ≥65 years presented for a vote and considerations by the Advisory Committee on Immunization Practices (ACIP), June 2019**

Proposed policy	Considerations raised at the June 2019 ACIP meeting		Outcome (votes in favor: against)
	In favor	Against	
ACIP recommends PCV13 for all adults aged ≥65 years who have not previously received PCV13. PCV13 should be given first, followed by a dose of PPSV23	PCV13 is effective against invasive pneumococcal disease and pneumonia	Low burden of PCV13-type disease remaining	Rejected (6:8)
	Changing the recommendation could negatively impact the perceived importance of adult pneumococcal vaccine recommendations	Population-level impact from PCV13 use among older adults observed to date has been minimal	
	Universal recommendations are easier for clinicians to understand and implement than the recommendation based on shared clinical decision-making	Universal PCV13 recommendation for older adults are not a judicious use of resources	
ACIP no longer recommends PCV13 for adults aged ≥65 years who do not have an immunocompromising condition, <sup>†</sup> CSF leak, or cochlear implant. All adults aged ≥65 years should receive a dose of PPSV23	Largest public health benefit for older adults is gained through indirect effects from pediatric PCV13 use	PCV13 is effective against PCV13-type invasive pneumococcal disease and pneumonia	Rejected (1:13)
ACIP recommends PCV13 based on shared clinical decision-making for adults aged ≥65 years who do not have an immunocompromising condition, <sup>†</sup> CSF leak, or cochlear implant and who have not previously received PCV13. All adults aged ≥65 years should receive a dose of PPSV23	Balances the minimal population-level impact of a routine recommendation with the potential for individual-level protection	— <sup>‡</sup>	Affirmed (13:1)
	PCV13 would remain available to patients who want this added protection		

## RESULTS

Data was collected demonstrating 12 pneumococcal vaccinations given last year from the dates of 12/16/2018 to 03/06/2019 and 13 Pneumococcal vaccinations given during the time of interventions at 12/16/2019 to 03/06/2020. A percent change statistical analysis was performed showing that there was an 8.33% increase compared to last years (fig-1.) The data presented showed that there was a trending increase in patients over the age of 65 and over receiving vaccinations.

## CONCLUSION/DISCUSSION

This quality improvement study showed that when interventions are added to clinical workflow that there is an increase of administration of pneumococcal vaccinations. However, the increase was substantially small at only 8.33%. There could be several reasons for this lower number of vaccinations administered during the intervention period when compared to the non-intervention period. One reason being the OSU HCC family medicine clinic ran out of pneumococcal vaccinations for approximately the month of January. Another unfortunate event was the coronavirus outbreak could have decreased the number of patients 65 and over from coming into the clinic due to concerns over the virus. Also, during March there was a switch from office visits to Telehealth visits due to the pandemic. Other complications to our study include changes in the CDC's pneumococcal guidelines for Pneumococcal conjugate 13 (PCV-13) and Pneumococcal polysaccharide vaccine (PPSV-23) to recommending just PPSV-23 for 65 and over unless for patients with certain conditions (Table-1). Another issue was that our data collection included only those who were administered a pneumococcal vaccination at the office and did not look at pneumococcal vaccinations that were obtained at a pharmacy or health department. Due to these variables confounding our results, we believe that this QI project should be repeated next year with the same interventions to see if accounting for these variable might show a greater percent increase. Future studies should also explore if patients have received vaccinations from outside sources like pharmacies or health departments.

## REFERENCES OR ACKNOWLEDGEMENTS

1. Isturiz RE, Schmoele-Thoma B, Scott DA, Jodar L, Webber C, Singhs HL, Paradiso P. Pneumococcal conjugate vaccine use in adults. Expert Review of Vaccines. Vol. 15, 2016- 3. Dec. 25, 2015.
2. <https://www.cdc.gov/vaccines/vpd/pneumo/public/index.html>
3. [https://www.cdc.gov/brfss/annual\\_data/annual\\_2005.htm](https://www.cdc.gov/brfss/annual_data/annual_2005.htm)
4. <https://www.healthypeople.gov>