AMGA
Advancing High Performance Health

AMGA Foundation

Adult Immunization (AI) Best Practices Learning Collaborative, Group 3: Case Study

Prevea Health

Green Bay, WI

Organizational Profile

Prevea Health was founded in 1996 when three local clinics combined to form a 50/50 partnership with two hospitals. Since then, the organization has grown to include more than 80 health centers and employs 245 physicians, more than 200 allied health providers, and 1,600 staff members. The hospital partnership has also grown to now include six hospitals. Prevea Health's corporate headquarters are located in Green Bay, Wisconsin, and the organization's clinics serve regions spanning from the northeastern and western parts of the state. Approximately 90,000 patients seek primary care at the organization each year.

Executive Summary

One intervention undertaken during the AMGA Adult Immunization Best Practices Collaborative (AI Collaborative) focused on empowering staff to take action in updating and immunizing patients in need of pneumococcal vaccine. Prevea Health consistently pressed for annual influenza vaccinations; however, the organization needed to place additional focus on pneumococcal vaccinations.

In 2018, Prevea Health sponsored a competition for its Primary Care Departments. The competition began in October 2018, a time of year that coincides with the peak time to receive flu vaccination, and focused specifically on the age 65 and above population. During the months of October thru December, primary care was challenged to update a patient's pneumococcal status during an office or nurse visit that provided the patient with a flu vaccination. While offering vaccines is generally a part of standard work, during the busy flu season doing so can get overlooked or deferred until a later date. Updating pneumococcal status consisted of giving the appropriate pneumonia vaccination if the patient was due or updating the patient's historical immunizations with the date(s) and type(s) of pneumonia vaccine. Previously, one of the major barriers to offering multiple vaccinations during peak flu season at a given visit was mainly due to time constraints. However, this competition aimed to break down that barrier and reinforce the importance of providing vaccination while the patient was in the clinic. When Prevea Health designed the competition, not only was the importance of vaccination emphasized, but also departments that showed the most improvement were incentivized. One area that Prevea Health would like to expand on in years to come is to potentially incorporate specialties in the same or a similar competition. Also, Prevea Health would like to better arm staff with additional "did you know" facts they can share with patients, in addition to the standard messaging of immunizations prevent disease.

Acronym Legend

AI Collaborative: AMGA's Adult Immunization Best Practices Collaborative

CDC: Centers for Disease Control and Prevention

EMR: Electronic Medical Record

HP2020: Healthy People 2020

MMWR: Morbidity and Mortality Weekly Report

QA: Quality Assurance

Another intervention involved updating the electronic medical record (EMR) to identify and alert correctly for patients that were due for the pneumococcal vaccine. The EMR originally triggered for patients that were 65 and above. However, after receiving one pneumococcal vaccine, the trigger would satisfy and show the patient was in compliance. Prevea Health collaborated with its IT department and requested that, for the 65 and above population, the trigger only be satisfied after the patient has received both vaccinations. When this change occurred, it was impactful for staff. This was evidenced by numerous questions as well as refresher education requested by staff. An additional request was to have the alert identify chronically ill patients ages 19 to 64 years old that qualified for pneumococcal vaccination. The IT team is currently working on this build and validating it for accuracy.

A significant lesson learned was that, although education on the Centers for Disease Control and Prevention (CDC) guidelines for pneumococcal vaccinations was provided, Prevea Health did not anticipate the number of questions that were received from staff. These questions concerned the timing of administering pneumococcal vaccinations as well as the timing of receiving a pneumococcal and flu vaccination on the same day when staff identified a patient who was in need. Patients also inquired about their own pneumococcal status, which was believed to be a result of Prevea Health's competition/campaign marketing. Patient questions were directed to frontline staff, which prompted those staff's own questions regarding vaccination timing.

Program Goals and Measures of Success

AI Collaborative Goals

Collaborative goals were set for the Adult Immunization AI Collaborative (Groups 2 and 3 participants). The AI Collaborative goals were set based on reviewing the Healthy People 2020 goals from the federal office of Disease Prevention and Health Promotion (HP2020),[1] baseline data for each group, and with input from the AI Collaborative advisors (see Appendix).

Prevea Goals

One main goal was empowering staff to give appropriate vaccinates and break down any barriers to administering them. One of the ways Prevea Health did this was by creating a standing order for immunizations based on CDC guidelines.

Another goal established was to see improvement in patients that were due for a pneumococcal vaccine, which was what the competition aimed to do. Clinical staff was supplied with a baseline list of patients that were showing as due for a pneumococcal vaccination. At month's end, their baseline and measure percent improvement would be compared. This data was sent out to all department supervisors, which provided a level of transparency and fostered competitive spirit. The highest performing team updated pneumococcal status on 50% of their patients, while the lowest performing team's rate was 0%. The average for all departments was 14%. The top three clinics were rural locations and their denominators were between 50-175 patients. Prevea Health was especially pleased to see improvement in its rural locations since that population can be prone to health disparities.

Lastly, it was important to have the EMR alert staff when a patient was due for either vaccine, instead of satisfying when the patient only received one. Within the rooming process, it is a standard that clinical staff initially address Health Maintenance and Immunization Alerts. Since clinical staff are the first line and work in this system daily, it was felt that embedding this prompt in the EMR would help drive improvement in immunization rates.

Data Documentation and Standardization

The data analytics team used the AI Collaborative measure specifications to develop and test data extraction queries. Immunization data is stored in Prevea Health's EMR and is considered the source of truth when reporting immunizations rates. Prevea Health obtains data from additional sources, such as the state registry; however, manual entry or acceptance of the data into its EMR is required. The quality assurance (QA) process confirmed that the immunization rates were accurately captured and calculated within the EMR.

Population Identification

All adult immunizations are available at every location that has primary care services, which is a majority of Prevea Health locations. Urgent Care centers and most specialty departments offer flu vaccinations and may have other adult vaccinations available dependent upon the populations, diseases, or conditions their teams manage and treat.

All primary care sites were involved in trying to improve adult flu and pneumococcal vaccination rates as they stock these vaccinations and identify patients that are due to receive. Specialty areas were also involved, since Prevea Health recommends flu shots for all patients, so those areas refer or vaccinate patients against the flu. Prevea Health also has a best practice alert for pneumococcal vaccination pertaining to patients age 65 and above. Since the same EMR is used, both primary and specialty care can see those alerts and either vaccinate or refer the patient to receive a pneumococcal vaccination. Certain specialties have more contact with those patients that are aged 19 to 64 with chronic conditions. Examples of these specialties include pulmonology, digestive health, cardiology, and endocrinology, and they routinely identify, refer, or immunize this group of patients eligible for pneumococcal vaccination.

All patients (children and adults) are offered a flu vaccination every year and these individuals may seek services in primary care, urgent care, or specialty offices. Prevea Health currently has an alert for patients in need of influenza vaccinations.

Pneumococcal vaccinations are offered to adults that are 65 years old and above in primary care. (There is currently an alert in the EMR for patients 65 years and above in need of pneumococcal vaccinations.) Many primary care

providers and staff are trained in understanding vaccination recommendations for patients aged 19 to 64 with qualifying conditions.

Many specialty departments (such as pulmonology and digestive health) identify and offer pneumococcal vaccinations to patients that are in either age cohort. Since these departments treat specific diseases that indicate the patient should receive pneumococcal vaccinations before age 65, they have learned to identify when patients are in need of vaccination.

Intervention

Provider and Staff Education

Information regarding the flu vaccine and what ages each brand of flu vaccine covers was provided to clinical staff and providers in all departments. Primary Care was given the pneumococcal algorithm (see Appendix) prior to the flu and pneumococcal immunization competition. Primary Care RN Care Managers were given the pneumococcal vaccine algorithm and worked through examples to help them navigate when to give either pneumococcal vaccine.

Patient Education

A Frequently Asked Questions document was developed for patients to provide information regarding the key differences between High Dose, Regular Adult, and FluMist. Buttons were created for staff to wear during Fall 2018 (the prime influenza immunization clinic time) to advertise how to receive both the flu and pneumonia vaccine, the latter which targeted the 65 and above population. The flu and pneumonia initiative was also displayed on waiting room televisions.

Information Technology

A request was put in to institute a bidirectional feed with the state registry and Prevea Health's EMR. Currently, if a vaccine is found in the state registry and it was not given in real-time by a Prevea Health facility, the organization needs to update the EMR manually. The project was researched, but has not been fulfilled yet.

With the organization's EMR upgrade, a best practice alert that requested to capture both pneumococcal vaccines when a patient turns 65 was activated, which staff are finding useful in prompting them to check vaccination history. The 19-to-64 age group chronic condition alert was turned on as well; however, it was realized there needs to be more validation done with this alert and work is being done with IT to smooth out the kinks.

Clinical Support

Within the organization, a standing order was developed that allowed for any clinical staff member working in primary care to give vaccinations based on CDC recommendations. Specialties were directed to refer the patient back to Primary Care or give the immunization if ordered by the specialist. This approach was decided upon because Primary Care is familiar with CDC vaccine schedules, whereas some specialties may be more or less familiar depending on the populations they serve.

Modifications to Existing Workflows and Staffing

The modification that occurred was that Primary Care clinical staff could now order and give the immunizations based on CDC guidelines. They did not have to wait for specific approval and this helped the clinics become more efficient.

Care Coordination/Outreach

When the pneumococcal health maintenance alert was updated to trigger for patients 65 and above, automatic messages went out to those patients who were due for one or both pneumococcal vaccinations if they were enrolled in the patient portal. On an annual basis, a reminder message for influenza vaccination goes out to every patient on the portal as well.

Operations

Having previously ordered pneumococcal and flu vaccinations, the process for ordering and stocking did not change. Some sites noticed they needed to order a larger quantity and/or more frequently. In 2018, Prevea Health experienced higher than planned usage of influenza vaccination and this resulted in the placement of additional orders with vendors for more.

Outcomes and Results

Results were tracked for the period of time the competition occurred (October thru December). In particular, Prevea Health looked at the number of patients showing due for pneumococcal vaccines as well as which patients either received the vaccine or had their immunizations updated at an office or nurse visit where flu vaccine was also given. Success was measured by who showed the most improvement in their unvaccinated rate prior to the beginning of the competition. As noted above, the highest performing team showed an improvement of 50%, with the average for all departments being 14%.

Sites were also tracked specifically for the competition. Looking at their denominator for eligible patients, sites were measured

every month to monitor improvement in number of patients vaccinated when a flu shot was given that day as well. These teams were given "credit" if they vaccinated the patient or if they updated the patient's pneumococcal status on the same day the flu vaccine was received.

For the 2017 flu season, Facebook postings were created for Prevea Health flu clinics, linking up to where the flu clinics were that week; the number of "hits" was tracked. Although the organization did not do this in 2018, the plan is to repeat the activity in 2019.

In regards to Prevea Health's quarterly results that were reported as part of the AI Collaborative, the organization demonstrated varying degrees of improvement in all areas. The greatest improvement was in the age 65 and above population who were in need of both pneumococcal vaccinations and 19- to 64-year-old patients with chronic conditions. At the beginning of the AI Collaborative, the baseline rate for 19- to 64-year-olds was 27.4%. By the last measurement period, the rate was at 34%. For the age 65 and above population needing both pneumococcal vaccines, Prevea Health began the journey at a baseline of 44.9% and ended at 51.4%. In 65-year-old patients, Prevea Health was already doing well at ensuring this group of patients had at least one pneumococcal vaccine. The organization started out at 81.4%, which was getting close to the Healthy People 2020 goal, and made improvement to 82.9%.

The flu vaccination rate for ages 18 and above also improved from baseline during the peak time to receive flu vaccination. Starting out at a baseline of 34.1%, the organization saw the most improvement in quarter 2 (October 1, 2017 to December 31, 2017), which is when Prevea Health hosts mass flu vaccine clinics. During the second quarter, the rate increased to 38.5%.

Lessons Learned and Ongoing Activities

Main challenges concerned vaccine timing. While it was requested that the pneumococcal health maintenance alert be updated, much of the work was completed during an upgrade of the EMR. Due to the resources needed for the upgrade, delays in this project were experienced.

Another initial challenge concerned buy-in and education. There were some misconceptions about giving flu and pneumococcal vaccinations on the same day. Those were cleared up by reviewing information published in the CDC's *Morbidity and Mortality Weekly Report (MMWR)* report. Initially, Prevea Health also wanted to give both flu and pneumococcal vaccine at its large-scale flu vaccination clinics. However, due to the large volume that presents for flu clinics and the complexity of determining appropriate patients for the pneumococcal vaccination, it was decided to try this on a smaller scale and give them during scheduled office or nurse visits. Feedback will be solicited for next year and it will be determined if the same model should continue or be adjusted to give pneumococcal vaccines at large scale flu clinics.

Providing education to staff regarding CDC-recommended pneumococcal guidelines seemed to work well for the age 65 and above population. Many individuals were aware of these recommendations before and were comfortable giving the vaccine to this population. Regarding the 19- to 64-year-old chronically ill population, this education was at an introductory level to them. For this population of patients, it was learned that education needed to be reinforced and examples of how to time vaccinations provided. The team worked through several real-time examples with clinical staff to help offer reassurance and navigate the appropriate course of action. Looking back, it may have been helpful to provide an abundance of examples about what staff may encounter as well as making them more aware of the Immunization Action Coalition's webpage, which has a plethora of vaccination scheduling information easily available.

Lastly, Prevea Health received large interest in the competition for staff to impact patients and receive an incentive. As a result, the organization would like to hold additional competitions for staff to get involved. One lesson learned is to look at appropriate measurement. Prevea Health has several smaller rural clinics and other large clinics with varying denominators. Smaller clinics may need to impact fewer patients, but receive a higher percentage improvement; and larger clinics may need to impact more patients, but receive a lower percentage improvement. It was decided to place the clinics with smaller denominators into a separate bucket than those with a large denominator, and the plan is to revisit what success and improvement look like for the next competition.

References

1. Office of Disease Prevention and Health Promotion (ODPHP). Healthy People 2020. healthypeople.gov.

Appendix

Collaborative Goals

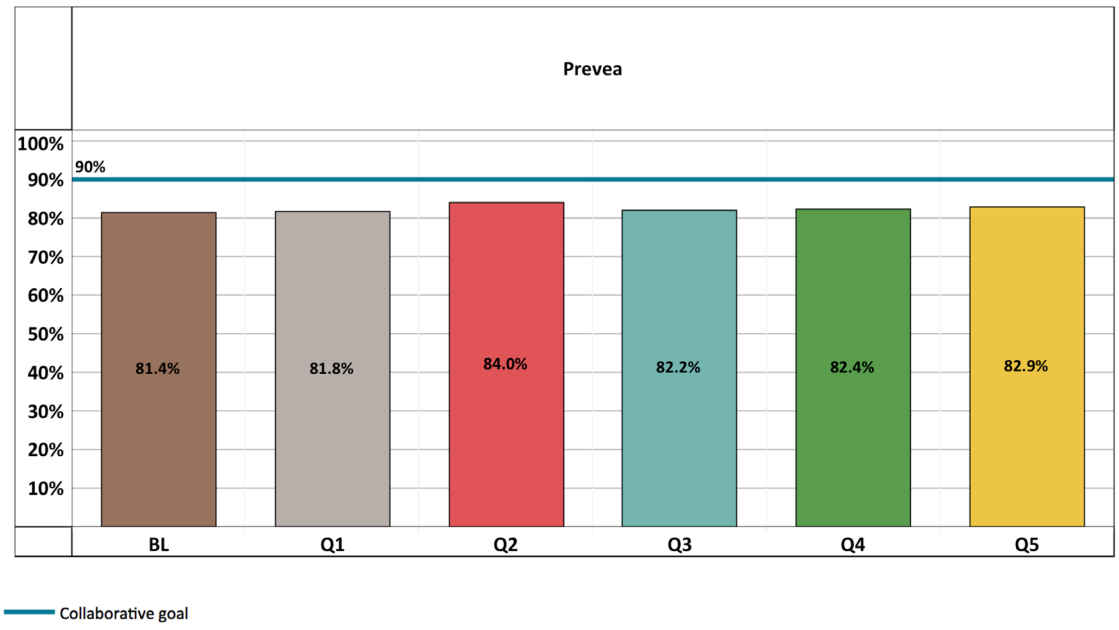
Measure	Healthy People 2020	Collaborative Goal
Measure 1 (65+) Any	90%	90%
Measure 1 (65+) Both PPSV and PCV*	90%	60%
Measure 2 (High-Risk)	60%	45%
Optional Measure 2a (At-Risk)**		
Measure 3 (Flu)	70%/90%***	45%

* Increasing "Both" is a good goal for Groups which are already doing well on "Any"

** According to CDC guidelines, it is not currently recommended that the at-risk population receive PCV. Therefore, "PPSV" or "Unknown pneumococcal vaccination" are numerator options for Measure 2a.

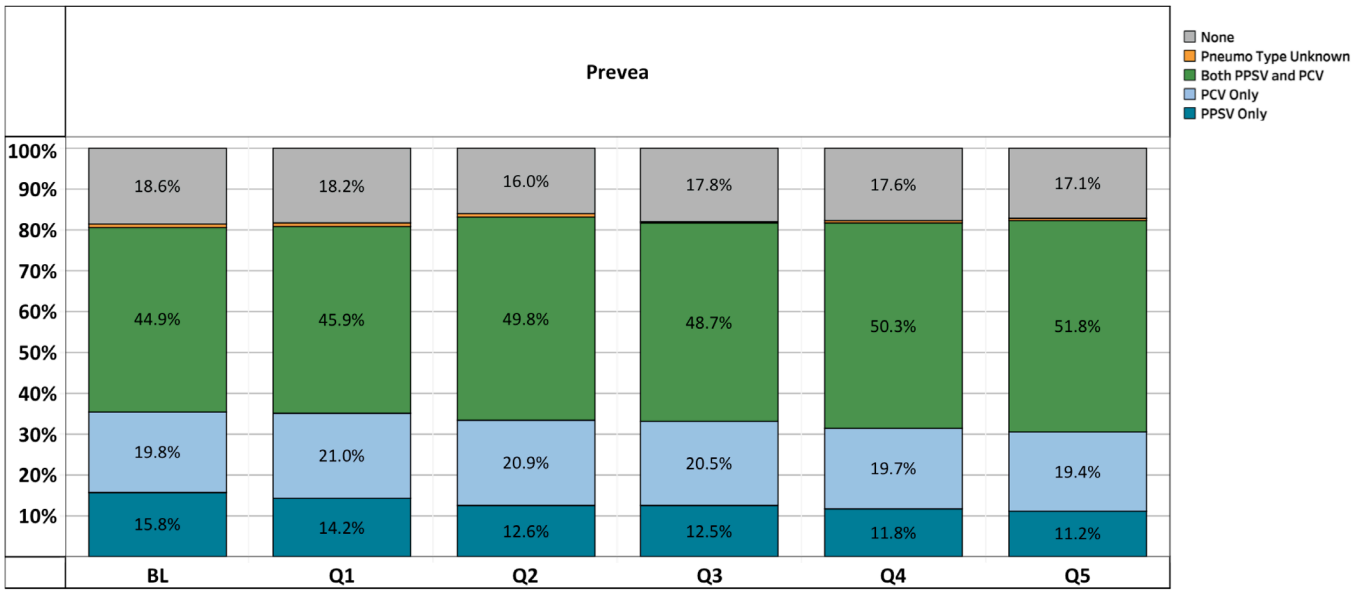
*** 70% for all patients, 90% for Medicare patients

Measure 1 – Pneumococcal (Any) Immunization for Adults Ages ≥ 65

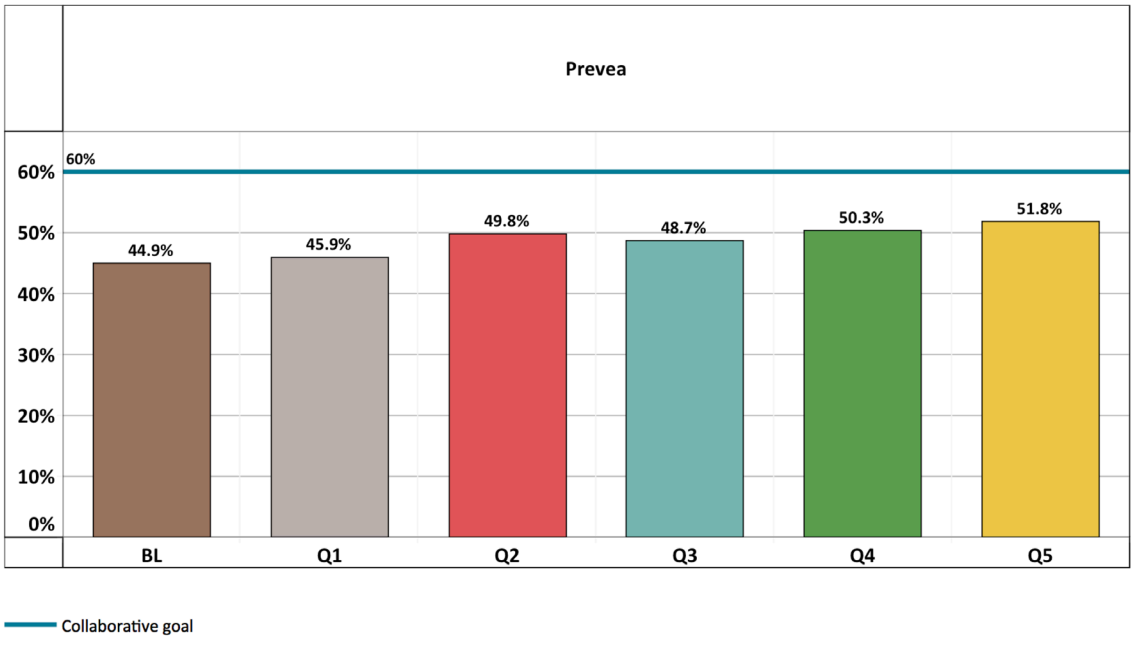


Appendix

Measure 1 – Pneumococcal (Any) Immunization for Adults Ages ≥ 65

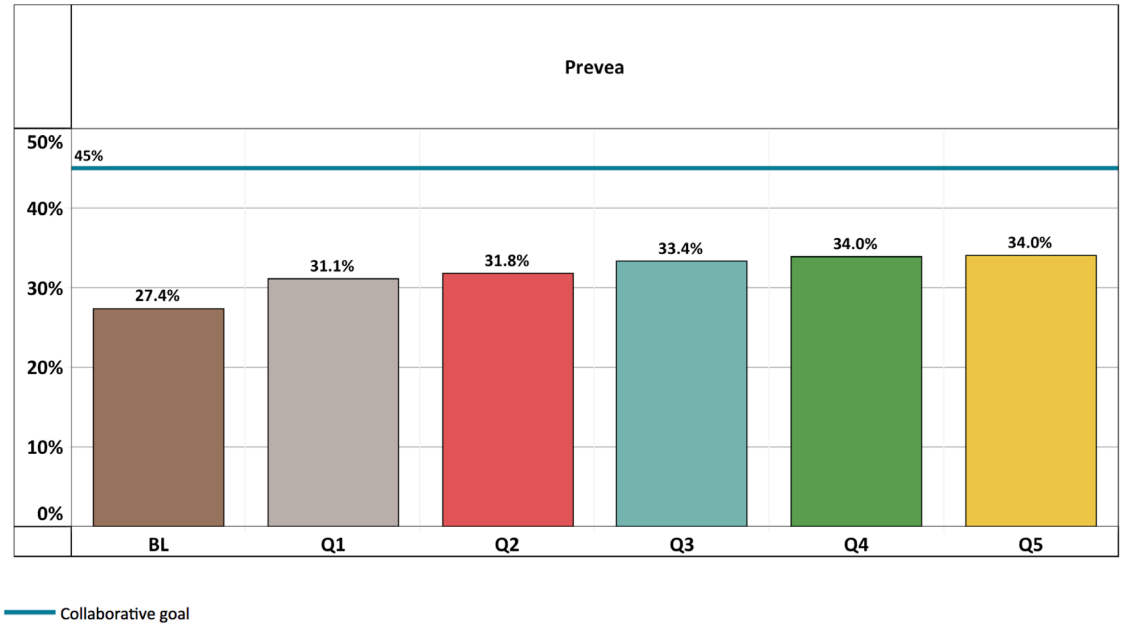


Measure 1 – Both PPSV and PCV Immunization for Adults Ages ≥ 65



Appendix

Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions



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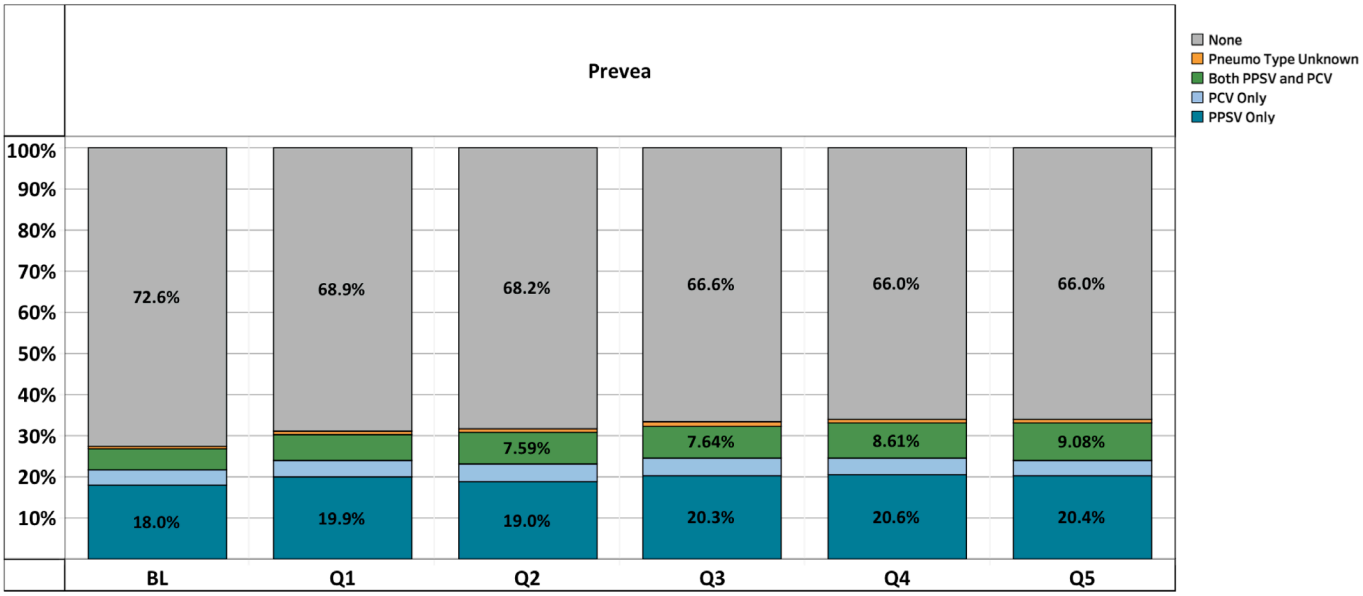
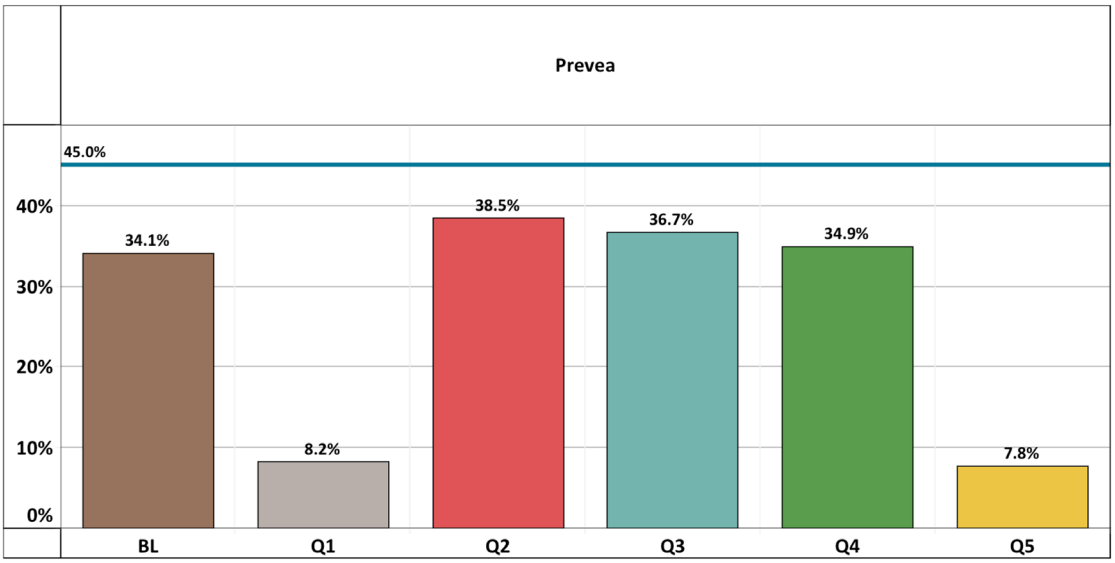


Measure 3 – Influenza Immunization, Age ≥ 18



Pneumococcal Vaccine Algorithm from CDC-California

Pneumococcal Vaccine Timing–For Adults

DO NOT administer PCV13 and PPSV23 at the same visit.

Age 65 Years or Older

• If PCV13 was given before age 65 years, no additional PCV13 is needed.

No history of pneumococcal vaccine → **PCV 13** Prevnar 13® → **1 year** (8 weeks for groups B & C as defined below) → **PPSV 23** Pneumovax® 23

Received PPSV23 before age 65 → **1 year** → **PCV 13** → **1 year** (8 weeks for groups B & C as defined below) **and 5 years** after prior dose of PPSV23 → **PPSV 23**

Received PPSV23 at age 65 or older → **1 year** → **PCV 13**

Age 19-64 Years With Underlying Condition(s)

• Prior doses count towards doses recommended below and do not need to be repeated.
• If PPSV23 given previously – wait one year before giving PCV13
– for group B, wait at least five years before giving a second dose of PPSV23.
• No more than two doses of PPSV23 recommended before 65th birthday and one dose thereafter.

A. Smoker, Long-term facility resident, or Chronic conditions:
- heart disease (excluding hypertension)
- lung disease (including asthma)
- liver disease (including cirrhosis)
- diabetes
- alcoholism

→ **PPSV 23**

B. Immunocompromised (including HIV infection), **Chronic renal failure, Nephrotic syndrome, or Asplenia** → **PCV 13** → **8 weeks** → **PPSV 23** → **5 years** → **PPSV 23**

C. CSF leaks or Cochlear implants → **PCV 13** → **8 weeks** → **PPSV 23**

CDPH

For further details, see: www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/pneumo.html
California Department of Public Health, Immunization Branch **www.EZIZ.org**
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