AMGA

Advancing High Performance Health

AMGA Foundation

Adult Immunization (AI) Best Practices Learning Collaborative, Group 2: Case Study

Methodist Physicians Clinic

Omaha, NE

Organizational Profile

Methodist Physicians Clinic (MPC) is a multi-specialty ambulatory care organization under the Nebraska Methodist Health System umbrella. In 2016, the health system celebrated 125 years of caring for the community.

The Methodist story begins in 1891, when the three-story house, 28-bed Methodist Episcopal Hospital and Deaconess Home opened its doors to serve members of the Omaha community regardless of religion, race, gender, or ability to pay.

In 1908, due to overcrowding at its current location, a new hospital was built. Described by the *Omaha World-Herald* as "a truly magnificent structure," the new facility was built of fireproof brick and steel. Though the 80-bed, five-story Methodist Hospital was filled with the latest medical equipment, staff marveled most at the elevator—nurses were no longer required to carry patients up and down several flights of stairs for surgery.

Between 1950-1960, Methodist Hospital, now located on its current campus, was home to Nebraska's first intensive care unit and first cobalt radiation therapy unit, the Midwest's first tumor registry, and the first 24/7 physician-staffed emergency department between Chicago and the West Coast. Methodist Hospital created Nebraska Methodist Health System in 1982. After Methodist Health System was formed, MPC was welcomed on board in 1990 and Methodist Jennie Edmundson Hospital, located in Council Bluffs, Iowa, followed in 1994. As the first health system in the region, Nebraska Methodist Health System set out to establish a level of caring and quality that was second to none. The health system consists of three hospitals (Methodist Hospital, Methodist Women's Hospital, and Methodist Jennie Edmundson Hospital), 21 health clinic locations, a nursing and allied health college, medical supply distributorship, and a central laundry to ensure patients always have the care they need, when and where they need it.

MPC has more than 20 primary care clinics, housing 135 primary care providers and serving the people living in the Omaha-Council Bluffs metropolitan area as well as several rural areas in southeastern Nebraska and southwest Iowa. The 2017 patient visit census was 644,858, with 481,112 being primary care visits. The population of the Omaha-Council Bluffs metro area is well over 900,000, with projections to reach the one million mark by 2023.

With other specialties offered, including dermatology, plastic surgery, vascular surgery, physiatry, orthopedics, allergy, cardiology, pulmonology, OB/GYN, urogynecology, ENT, neurology, general surgery, and infectious disease, MPC employs more than 300 physicians (207 full-time equivalent [FTE]) and mid-level providers (96.6 FTE).

As an integrated health system located throughout the region, the hospitals and clinics of Nebraska Methodist Health System bring the full resources of a regional network of healthcare providers, educators, and support services to patients.

Acronym Legend

ACIP: Advisory Committee on Immunization Practices
ACO: Accountable Care Organization
AI Collaborative: AMGA's Adult Immunization Best Practices Collaborative
CDC: Centers for Disease Control and Prevention
COPD: Chronic obstructive pulmonary disease
EMR: Electronic medical record
FTE: Full-time equivalent
HP2020: Healthy People 2020
IAC: Immunization Action Coalition
MPC: Methodist Physicians Clinic
NCQA: National Committee for Quality Assurance
NESIIS: Nebraska State Immunization Information System
PCV: Pneumococcal conjugate vaccine
PPSV: Pneumococcal polysaccharide vaccine

Executive Summary

Prior to participating in AMGA's Adult Immunization Best Practices Learning Collaborative (AI Collaborative), MPC had no organized vaccine compliance or improvement oversight. While pockets of providers did very well with vaccination rates within their practice, others were more challenged. In addition, vaccinations were not administered in specialty clinics, with the exception of OB/GYN. MPC's baseline data proved that there were several opportunities for improvement. Both the pneumococcal and influenza vaccination rates were well below the project goals. The MPC project's efforts focused on the following interventions:

- Provide patient education across the organization
- Provide provider and staff education across the organization
- Leverage information technology (IT) enhancements

MPC began by presenting the details and goals of the AI Collaborative to the Physician Leadership Committees. Once their support was obtained, the project team attended physician and staff meetings in all primary care clinics as well as the cardiology and pulmonology practices. This was an important step as there had previously been no immunizations of any kind offered or administered in the cardiology and pulmonology departments.

The project team worked with MPC's Accountable Care Organization (ACO) to develop staff reminders and patient education materials for lobbies and exam rooms. They utilized a variation of the "What Vaccine Do I Need Today?" handout, which was developed by the Immunization Action Coalition (IAC), to prompt patients and staff to have the discussion on what vaccines may be needed and to decrease missed opportunities.[1] Additionally, MPC utilized social media to advertise flu shot clinics across the organization and offered weekend and evening options to patients.

MPC also developed a Vaccine Advisory Committee, which is made up of physicians from various specialties, pharmacy personnel, and key leadership members. The goal of this committee is to:

- Offer strategies for improving vaccine compliance and reducing barriers
- Support population health and quality initiatives
- Reduce costs by standardizing purchasing contracts and processes

The project team also worked with the IT department to push out flu vaccine reminders via the Cerner patient portal for those patients who were currently signed up. Those not on the Cerner portal received a hard copy reminder via mail. Utilizing the same Cerner portal messaging for pneumococcal vaccination reminders is an ongoing project. In addition, the project team is currently working on pneumococcal vaccine chart alerts for those patients in high-risk and at-risk populations.

Program Goals and Measures of Success

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

MPC chose to focus on patient, provider, and staff education while also leveraging IT enhancements to remind providers of vaccination needs. To engage patients, questionnaires were given to patients at registration assessing vaccination opportunities at that specific clinic visit. These handouts asked patients if they had already received a flu vaccine, if they have ever had a pneumococcal vaccination and, if so, how many. The questionnaire also inquired about Tdap vaccination if the patient had an at-risk or high-risk condition. When the patient was called back to the exam room by the clinical staff, the handout was reviewed. The clinical staff then communicated with the provider on the patient's vaccination needs for the visit.

Another educational resource worked on in collaboration with the ACO was a pneumococcal vaccine timing card that was shared with staff and placed at every nursing station and in every exam room. One side showed the administration schedule for patients aged 65 and older and the other displayed the schedule for patients aged 19-64 with underlying conditions.

The project team placed posters reminding patients to ask about influenza and pneumococcal vaccinations in lobbies and on the back of bathroom and exam room doors. Flu vaccine reminders were sent through the Cerner patient portal to all patients not showing documentation of a vaccine in their electronic medical record (EMR) for the 2017-2018 flu season. Those patients not on the Cerner patient portal were mailed a reminder letter.

The project team felt it was important to review with providers and staff statistical evidence of the effectiveness of vaccinating adults in preventing illness and the clinical and economic burden of vaccine-preventable disease.[3-9] The team assisted with process changes in the cardiology and pulmonology clinics since they did not provide any vaccinations prior to MPC's involvement with the AI Collaborative. The team discussed with providers the importance of making the recommendation to vaccinate and talked about missed opportunities and ways to mitigate them. The team particularly emphasized the baseline data results, which put MPC well below both the HP2020 and AI Collaborative goals.

Though MPC adopted the AI Collaborative goals for their project, the project team did not initially choose to participate in Measure 2A as it was an optional. But, after learning more about MPC's baseline data and the population most at risk, the team decided to include this measure and set their goal at 40%.

MPC made some progress but realized significant opportunities and challenges remain. For example, MPC found that capturing relevant data is the biggest challenge. The project team feels that, as the state immunization registry gets better and MPC manages to receive more claims data, compliance numbers will improve. As follow-through, MPC will continue to engage with payers to onboard their data into the Cerner system.

The project team considers it a high priority to aggressively work with the IT team to implement chart alerts for at-risk and high-risk populations that require pneumococcal vaccination. The team also continues to work on patient portal messaging on pneumococcal vaccine reminders. Currently, MPC is in the process of creating new rules in the EMR that would enable pneumococcal vaccination opportunity alerts to fire as the patient's chart is opened. MPC's IT team is currently working on updating and creating the following pneumococcal rules:

- Update the current pneumococcal rule that fires for patients over 65 who are identified as needing pneumococcal vaccination, or to not fire if the order is in an ordered status
- Develop a new pneumococcal at-risk rule request to create a new rule to fire based on AMGA requirements for pneumococcal immunization for adults aged 19–64 who also have an at-risk condition (Measure 2a)
- Develop a new pneumococcal high-risk rule request to create a new rule to fire based on AMGA requirements for pneumococcal immunization for adults aged 19-64 who also have a high-risk condition (Measure 2)

In addition, MPC is working through the Vaccine Advisory Committee to implement standing orders for influenza by the fall of 2018 with pneumococcal standing orders to follow.

Data Documentation and Standardization

Initially, MPC reviewed the requirements for patient population and immunizations given. The same vendor is used for both MPC's EMR and analytics platforms. The data flows between these two platforms. MPC has also imported five major payer claims files data into the analytics platform to supplement the EMR data. This information was captured through querying data from encounter, diagnosis, problem, medication, health maintenance, and immunization tables. Data from the EMR and claims is normalized and mapped to concepts in the analytics platform. Because of this concept mapping, MPC is able to query on both EMR and payer claims data at the same time to capture multiple sources of data with ease using a consistent manner, thereby reducing duplicates.

MPC used Cerner's HealtheAnalytics as the analytics tool to query this data. This data was compared to EMR documentation for accuracy.

Population Identification

MPC provides primary care services in 16 clinic sites between Nebraska and Iowa that have been heavily engaged in improvement efforts. In addition, MPC has seven specialty clinics in both states that focus on influenza and pneumococcal vaccines: infectious disease, OB/GYN, cardiology, and pulmonology.

Currently, MPC does not have vaccinations embedded within the workflow in dermatology, vascular, orthopedics, physical therapy, or surgery clinics. The project team sees this as a future opportunity to assist with mitigating missed opportunities.

MPC's EMR vendor is Cerner. MPC has clinical pathways created in HealtheRegistries for both pneumococcal and influenza vaccines within MPC's Adult Wellness and Senior Wellness Registries. The Adult Wellness Registry will include persons in the registry population, aged 18 years to 64 years. The Senior Wellness Registry will include persons in the population who are aged 65 years or older. Chronic obstructive pulmonary disease (COPD) and asthma registries monitor influenza and pneumococcal compliance as well.

MPC has 147,000 assigned persons identified in system registries, of which 32,000 fall into the senior wellness category. Influenza and pneumococcal compliance is also monitored in the COPD and Asthma registries, but to use these numbers would skew the results as they are duplicates to the Adult Wellness and Senior Wellness Registries.

All eligible primary care physicians in MPC's health system are recognized by the National Committee for Quality Assurance (NCQA) for diabetes and heart stroke care. MPC is dedicating resources, personnel, and programs toward focusing on health and chronic disease management, beginning with the most vulnerable and costly heart and lung failure patient population.

Intervention

Since there were no organized, clinic-wide vaccine improvement processes in place, the project team elected to focus on patient education, provider and staff education, and working with our IT department to leverage EMRs to assist with the identification of gaps and opportunities to vaccinate. MPC took the following measures listed below by category:

- Patient education:
  - Provided patients with an abbreviated version of the IAC's "Which Vaccine Do I Need Today?" questionnaire, which was handed out at registration
  - Created large "You're Not Just Protecting Yourself" and "Give Yourself the Gift of Time" lobby posters and smaller flyers of the same to be placed on the back of bathroom and exam room doors (see Appendix).
- Provider and staff education:
  - Provided a PowerPoint presentation to all primary care, cardiology, and pulmonology providers and staff on AI Collaborative goals, MPC baseline data, national pneumonia and flu vaccination rates, cost burden of vaccine-preventable diseases, and Centers for Disease Control and Prevention (CDC) and Advisory Committee on Immunization Practices (ACIP) vaccination administration and improvement recommendations
  - Created pneumococcal vaccine timing cards for exam rooms and nurse stations (see Appendix)
  - Created blue "Pneumonia Due?" badges to place on computers in each exam room to remind staff and providers to ask and check patient's chart to ensure patient is up to date on vaccines (see Appendix)
  - Specialty staff was trained on assessing vaccine compliance via chart review and proper vaccine administration procedure
  - Reinforced training with primary care clinical staff on assessing vaccine compliance either with pre-visit chart reviews or as patients were roomed for visit
  - Each clinic site identified a vaccine coordinator to ensure adequate supply of vaccines remained stocked
  - Created a multidisciplinary Vaccine Advisory Committee that had representation from both Nebraska and Iowa clinics to work on the standardization of vaccine administration processes, policy and procedure review, vaccine supply management, as well as vaccine purchasing and contract negotiations
- Information Technology:
  - Algorithms were created in Cerner health maintenance and HealtheRegistry based on clinical standards
  - Identify immunization status determined through health maintenance
  - Identify immunization through HealtheRegistry
  - Pneumococcal alert fires when patients who are over 65 and without documentation of one pneumococcal vaccine
- Compensation:
  - Administration provided guidance on coding and billing for Medicare patients and those with private insurance, choosing self-pay or no insurance

Outcomes and Results

Initially, MPC's IT department ran baseline numbers but found it challenging to clearly understand the data measurement specifications and value sets required by the AI Collaborative. In addition, MPC has only five payers supplying electronic claims data, which became accessible in the third quarter of 2017. Also, the Nebraska State Immunization Information System (NESIIS) and the Iowa Immunization Registry Information System (IRIS) were not operating until the first quarter of 2018. It is felt that increasing the number of payers that provide electronic claims data and utilizing NESIIS and IRIS immunization information will support higher vaccination percentages in the future.

MPC saw the most improvement in Measure 1 at 19.5%. The baseline percentage was 68.5%. The project team's education efforts were completed at the end of the beginning of the third quarter. The largest improvement (88%) was measured in the fifth quarter. With continued efforts, the AI Collaborative goal of 90% is attainable in this measure.

Other improvements in Measure 1 were the percentage of patients not receiving any pneumococcal vaccination, which decreased from 31.5% to 12.0%. There was improvement in patients receiving both pneumococcal polysaccharide vaccine (PPSV) and pneumococcal conjugate vaccine (PCV) from the

baseline score of 21.2% to 27.5%. Those patients receiving PCV only increased 5%; those receiving only PPSV increased 8.4%.

In Measure 2, MPC's baseline was 19.6% and improved only 4.8% to 24.4%. Initially, the project team chose to opt out of Measure 2a but upon further consideration and as system population health initiatives focus on this group of patients, it was decided to include the measure and set a goal of 40%. The baseline for Measure 2a was 16.3% with an improvement by the fifth quarter of 3.6% to 19.9%. Because the at-risk and high-risk patients are a focus of care management and population health initiatives, this measure will continue to be a focus of the organization.

The baseline for Measure 3 was 31.4% with an improvement to 61.6% in the sixth quarter, which met the AI Collaborative goal of 45%. As described above, claims data and state registry information will continue to help raise this metric, as MPC knows many more patients receive flu vaccinations.

Lessons Learned and Ongoing Activities

Through the project, it became clear that bringing awareness to patients, providers, and staff would improve vaccination compliance. It is well known that when providers make the recommendation to patients to vaccinate, compliance improves. MPC has also seen that when the focus is taken off screening and administering vaccinations, metrics can easily slip.

As industry changes put more and more pressure on providers to complete many and often new tasks, hardwiring vaccination processes through improved screening with IT enhancements and the implementation of standing orders will improve compliance. This will be a continued focus for MPC going forward. The project team will continue to partner with IT and the Vaccine Advisory Committee to ensure the processes started during the AI Collaborative will continue.

IT is in the process of building the new alerts for pneumococcal screening in at-risk and high-risk patients groups, with the goal for completion being August 2018. Also, the project team hopes to have standing orders for influenza standardized across the organization in the same timeframe. Once that is complete, the focus will turn to pneumococcal standing orders. The organization must continue to look at improving processes on the most effective ways to remind patients when vaccines are due.

MPC must continually investigate the rate of missed opportunities and how this is best managed and mitigate them. While influenza and pneumococcal vaccines are now in the pulmonology and cardiology clinics, compliance is still low and provider and staff resistance remains. In addition, there are many other specialty clinics where large patient populations—many at-risk or high-risk—seek care. The project team, in partnership with the Vaccine Advisory Committee and the Physician Quality Committee, will take this as an action item going forward.

MPC has found that participation in the AI Collaborative has been a valuable exercise in reviewing current practices and processes and learning about best practices as it strives to improve vaccination rates for the benefit of its community.

References

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Appendix

Collaborative Goals

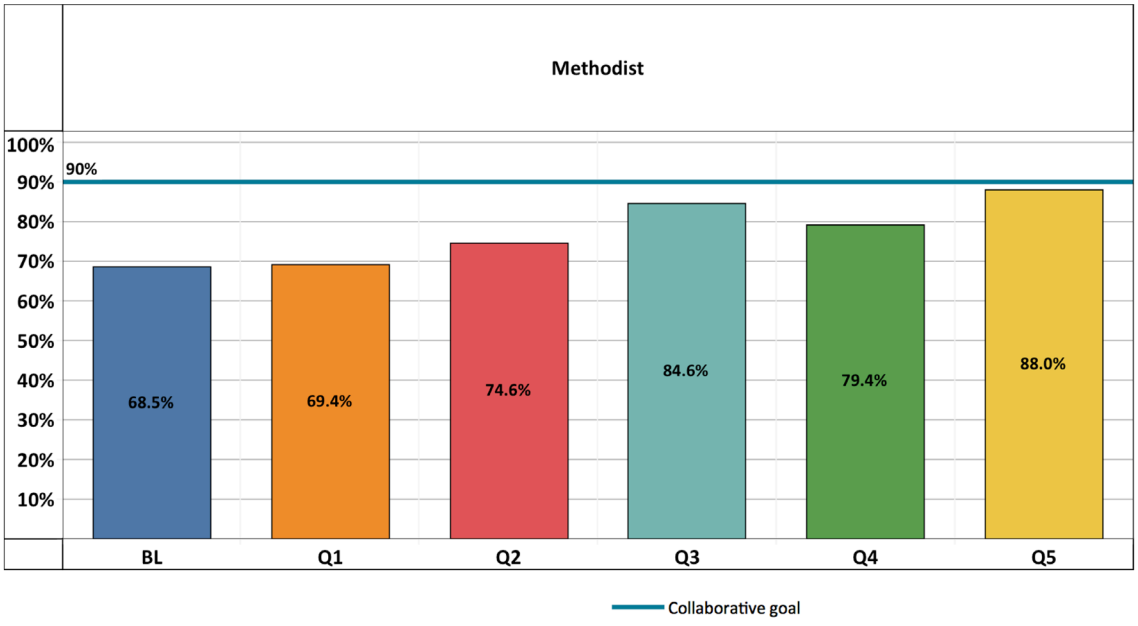
Measure	Healthy People 2020	Collaborative Goal
Measure 1 (65+) Any	90%	90%
Measure 1 (65+) Both PPSV and PCV*	90%	60%
Measure 2 (High-Risk)	60%	45%
Optional Measure 2a (At-Risk)**		
Measure 3 (Flu)	70%/90%***	45%

* 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.

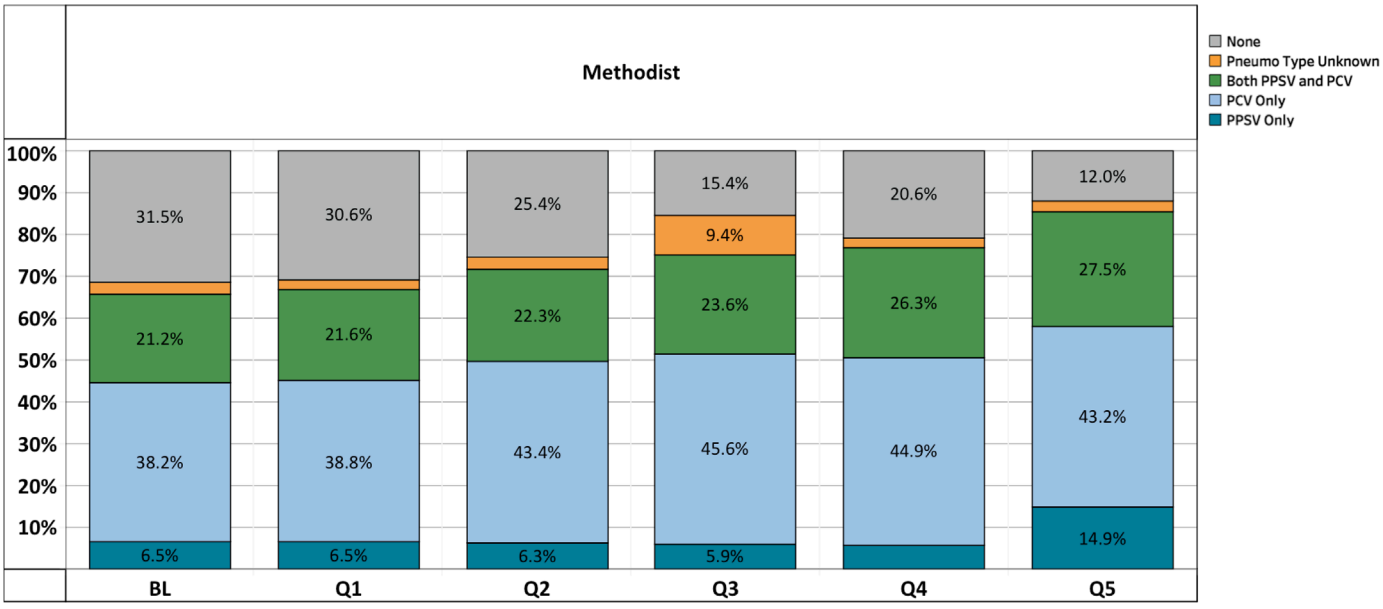
*** 70% for all patients, 90% for Medicare patients

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

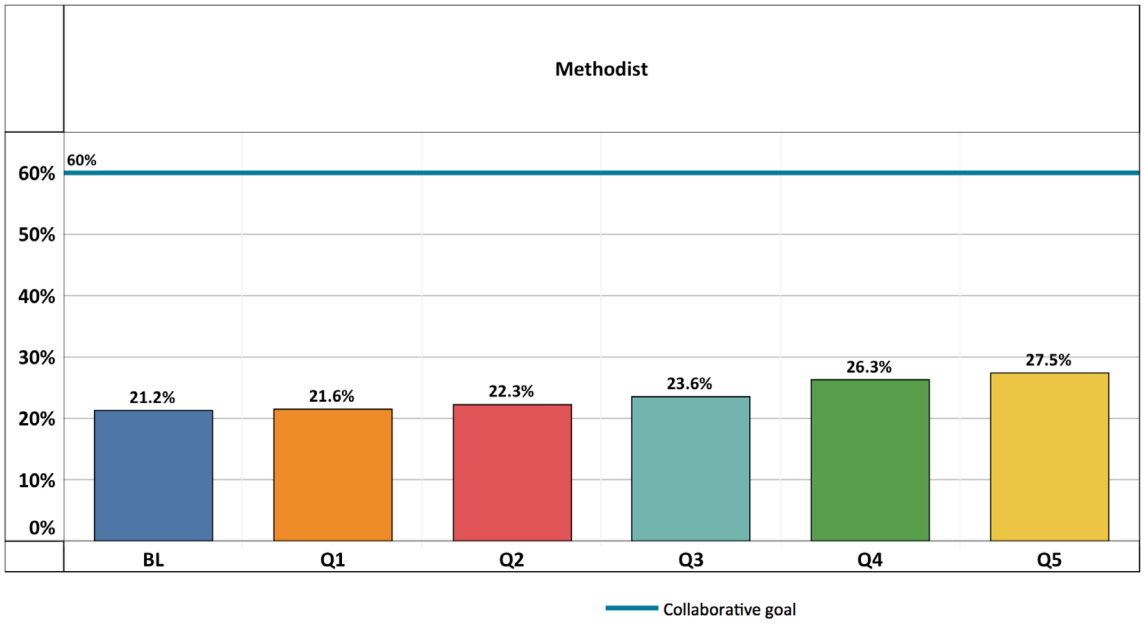


Appendix

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

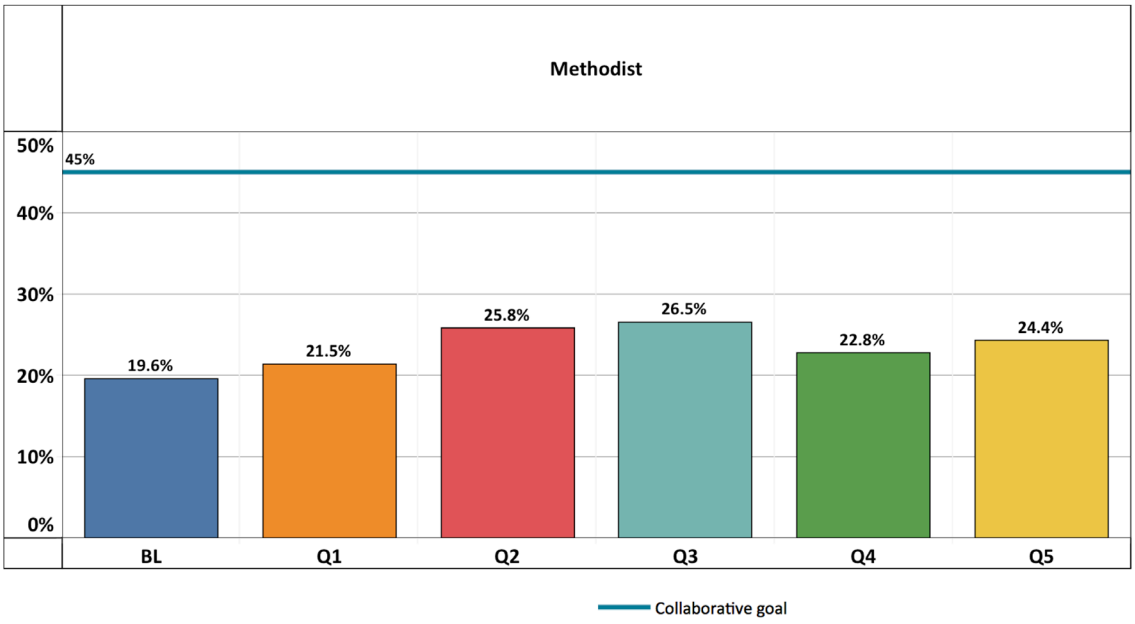


Measure 1 – Both PPSV and PCV Immunization for Adults Ages ≥ 65

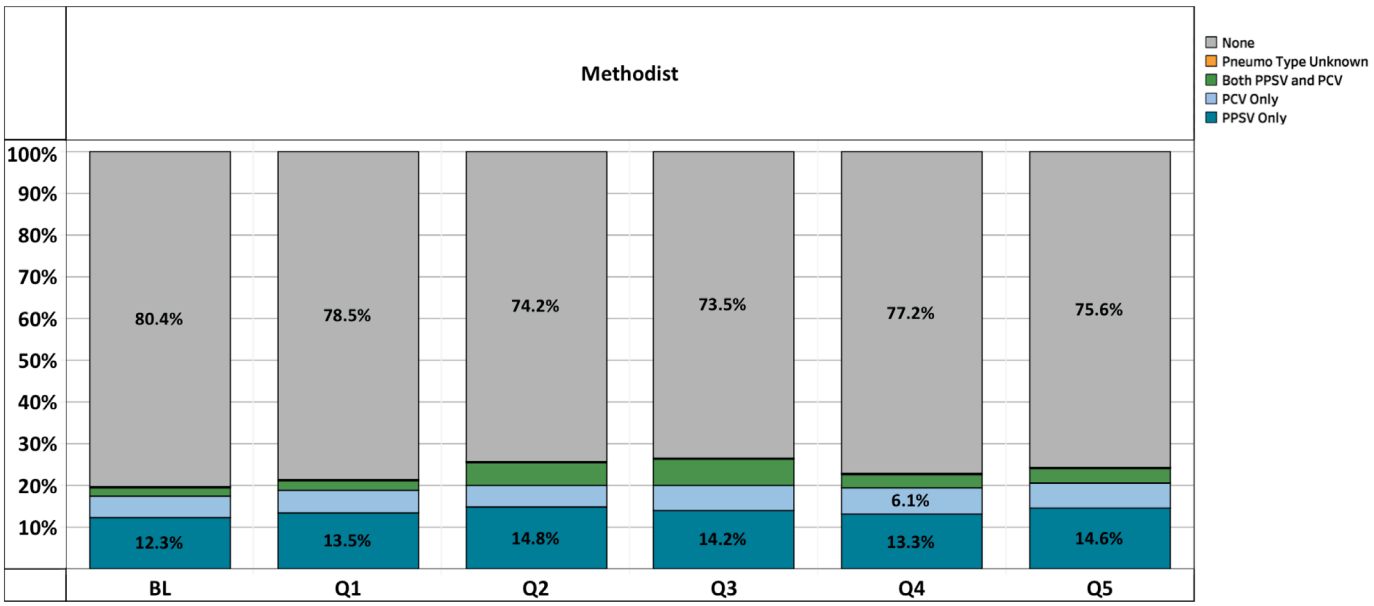


Appendix

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

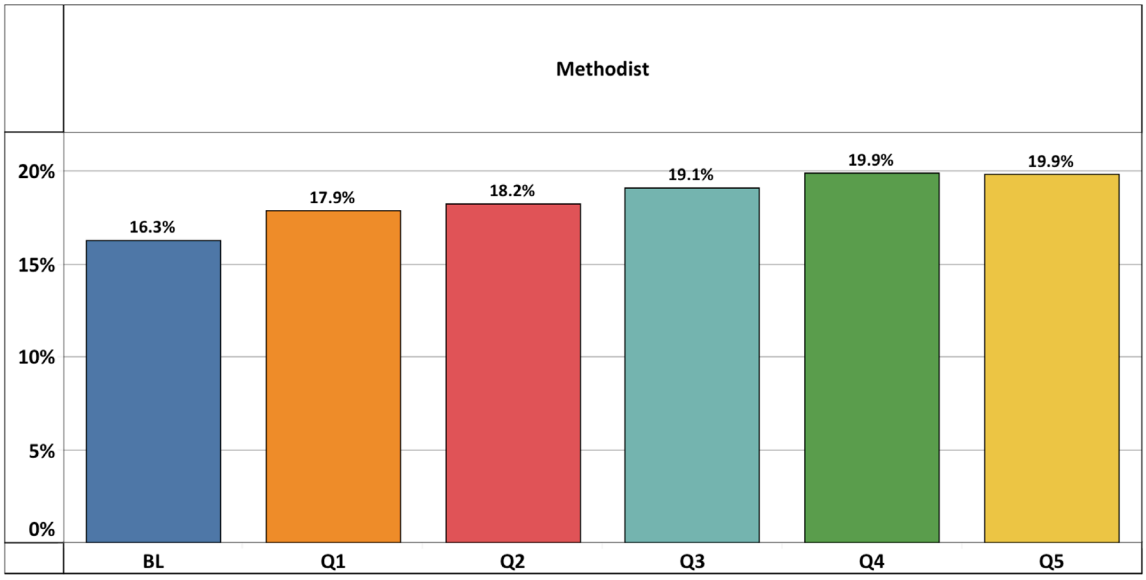


Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions

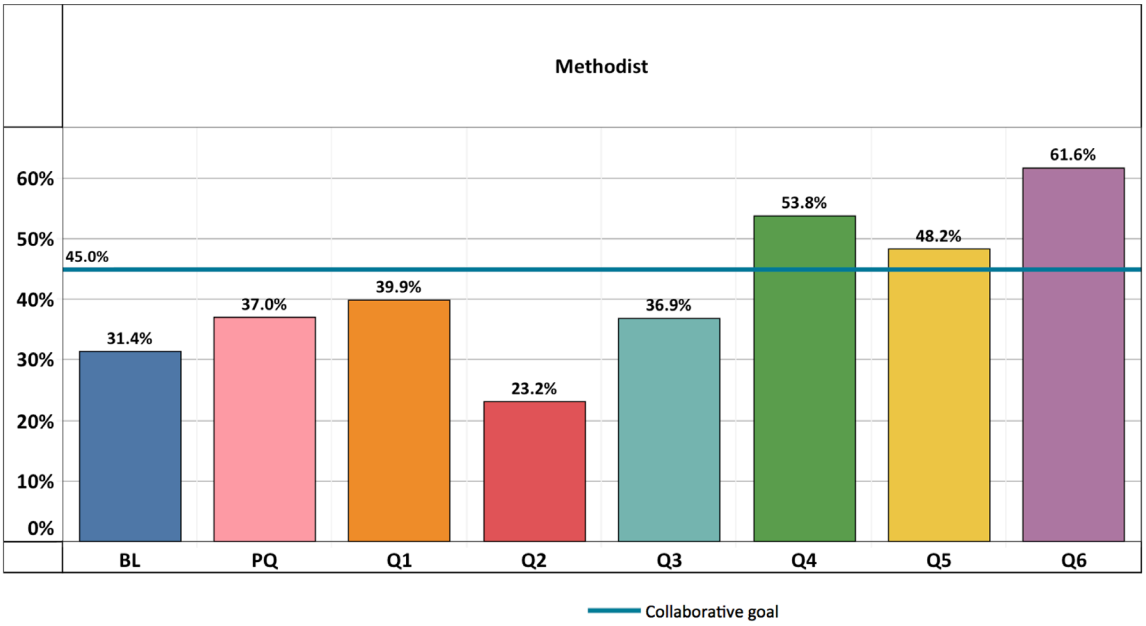


Appendix

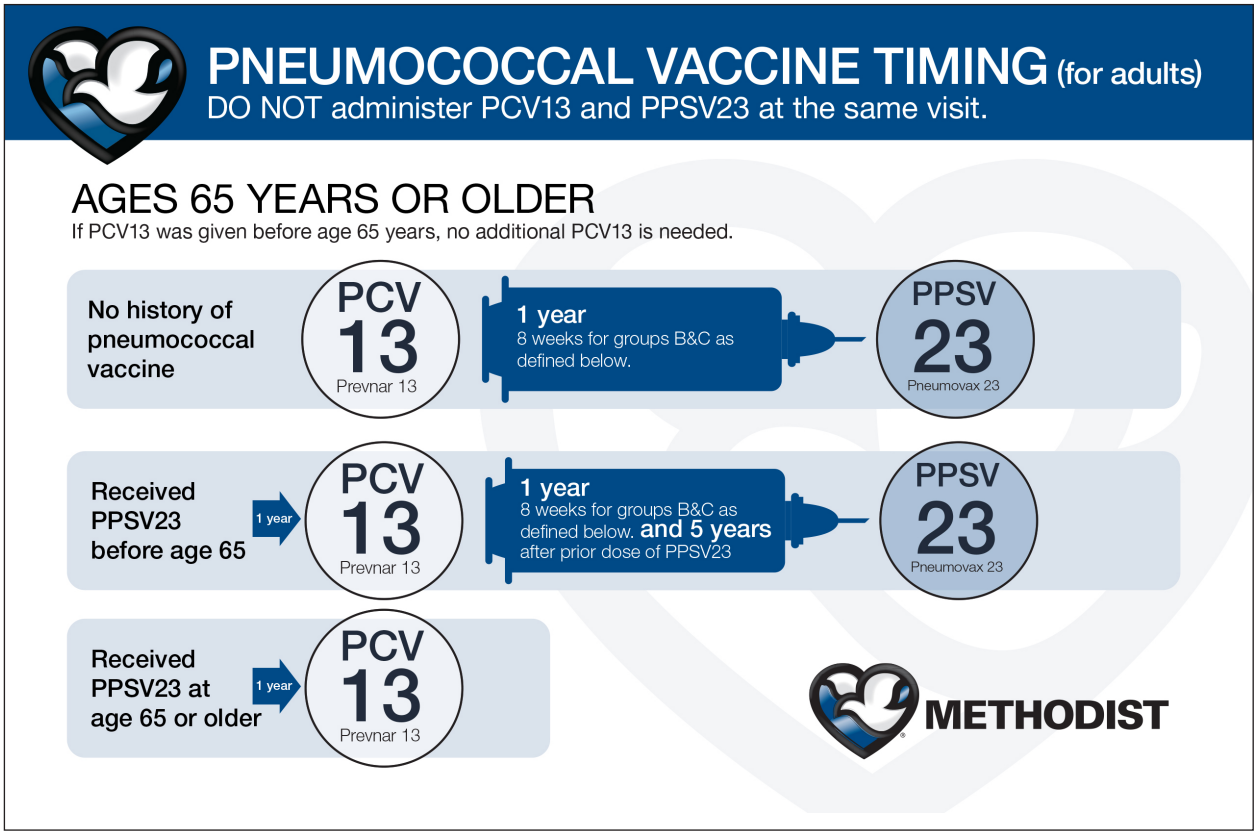
Measure 2A – Pneumococcal (Any) Immunization for Adults Ages 19–64 with At-Risk Conditions

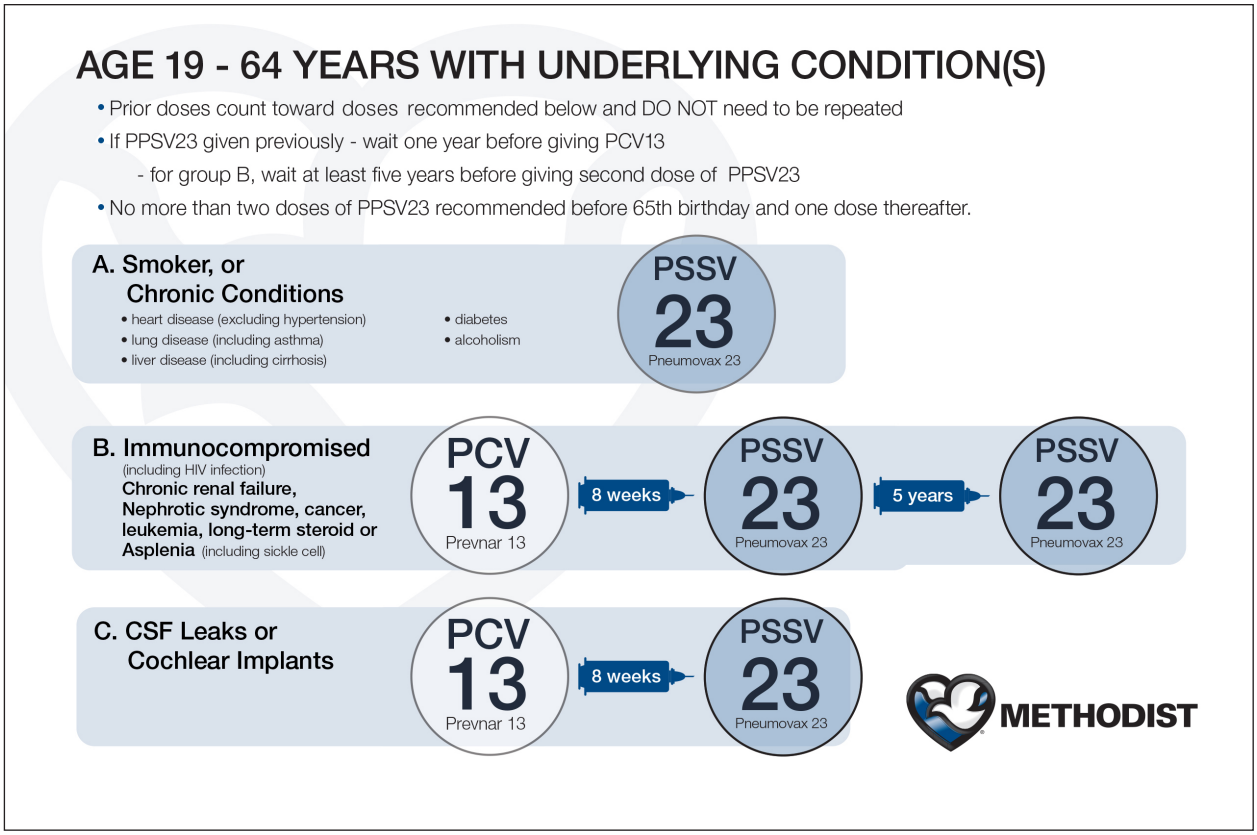


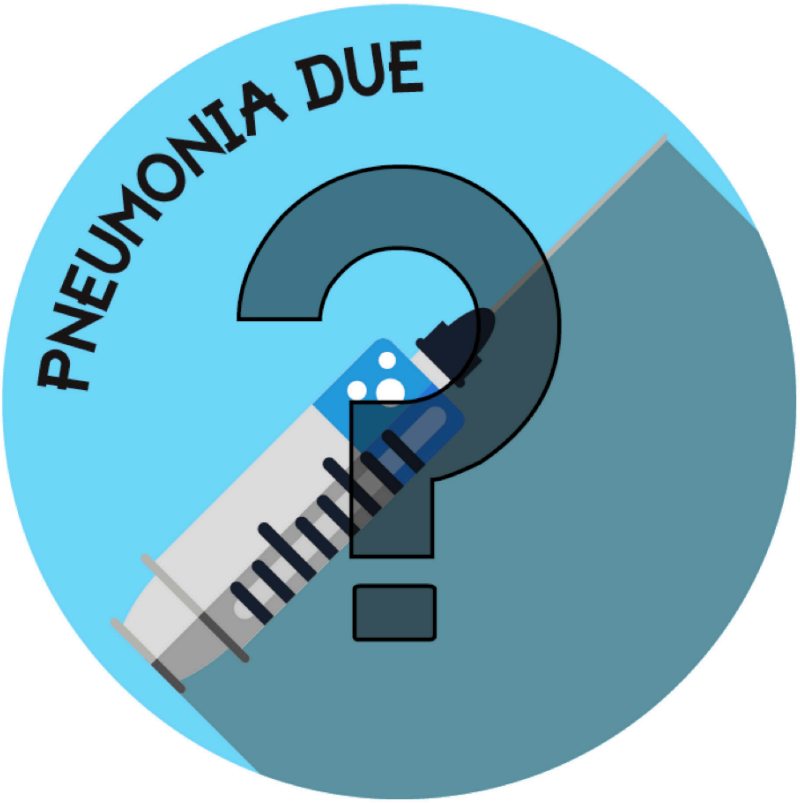
Measure 3 – Influenza Immunization, Age ≥ 18



Pneumoccocal Vaccine Timing



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Time to...
teach him how
to catch.
Its time to get your
Pneumonia Vaccine.
Give yourself the time your family wants and needs. Are you 65 and over? Its time to talk to your doctor and schedule your vaccine.
Pneumonia can kill even the healthiest of patients. Don't let pneumonia steal precious time from your family.
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