



Advancing High Performance Health

AMGA Foundation

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

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***Westmed  
Medical Group  
Westchester, NY***



## Organizational Profile

The Westchester Medical Group, P.C. (Westmed) formed in 1996 with 15 physicians, 80 staff members, and 30,000 patients. Today, Westmed has more than 1,500 employees, including 500 physicians and advanced practice providers, with over 60 medical treatments and specialties that provide care across 13 locations throughout lower Westchester County, New York, lower Fairfield County, Connecticut, and New York City. Westmed is an integrated system of multispecialty group practices including urgent care, lab, radiology, behavioral and palliative medicine, case management, diabetes education, and physical therapy, all dedicated to providing coordinated, efficient, and quality care to 350,000+ patients. Major milestones in Westmed's history include:

- In 2002, Westmed became a pioneer in the healthcare industry by implementing an electronic medical record (EMR) system
- In 2008, Westmed was designated Level 3 patient-centered medical home (PCMH); also designated as an accountable care organization (ACO) in 2012
- In 2010, Westmed opened the Rye Ambulatory Surgery Center
- Between 2010 and 2014, Westmed opened the Yonkers (Ridge Hill) office and a fourth full-service medical facility in New Rochelle, New York
- In May of 2015, Westmed opened its state-of-the-art 3030 Westchester Ave office and expanded into Fairfield, Connecticut, by opening three offices
- In 2016, Westmed opened a second Yonkers, New York, location

In 2017, Westmed redefined the organization's mission and vision, launching a new website, online patient portal, and mobile application to create a better user experience for patients and allow Westmed to fulfill its mission to be their partner in comprehensive, lifelong care.

## Executive Summary

Westmed sought to enhance patient, staff, and physician engagement and education around the importance of adult immunizations by leveraging educational resources, access, technology, and analytics.

## 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
- CTM:** Clinical task manager
- EMR:** Electronic medical record
- HP2020:** Healthy People 2020
- PCMH:** Patient-centered medical home
- PCP:** Primary care physician

Providers were educated through in-service for all internists, subspecialists, and nursing support staff on adult vaccines with a particular focus on Pneumovax, Prevnar, and flu vaccines for patients over age 65. In addition to electronic dashboards, updated monthly report cards on vaccination rates were developed and given to providers. This helped focus all staff on outlier patients. A comprehensive in-service "boot camp" on all vaccines was created and offered to all internal medicine and subspecialty nursing staff. The boot camp detailed a comprehensive education plan for all staff on all adult vaccines and is now part of ongoing continuing education for all internal medicine/medical specialty clinical staff.

To further engage staff, a vaccine awareness competition was established, wherein all physician and staff were invited to participate in a contest to design a logo for vaccine awareness for adults. The winning logo was then used by Westmed's marketing on social media. All staff with a Westmed primary care physician (PCP) were also encouraged to allow their flu vaccine administration to be preloaded into their Westmed medical record.

Finally, an interoffice competition was held, with the site posting the highest vaccination rates being awarded \$50.00.

Westmed utilizes an advanced EMR with the ability to customize templates. This allowed for the ability to easily view and understand a patient's vaccine history and improve vaccination administration. Westmed incorporated an updated vaccine viewing technology with links to the Centers for Disease Control and Prevention's (CDC) website that included vaccine information.

The Endocrinology Department chose improving Pneumovax vaccine rates as a 2017 department quality metric with a goal to vaccinate all diabetic patients. To assist the Endocrinology Department, a dashboard on vaccine rate per site/per physician was developed. A clinical task manager (CTM) template was also added to the endocrinology visit template to remind providers and staff when patients were due for the Pneumovax vaccine.

Westmed collaborated with its contracted insurance carriers to obtain and review payer claims data of vaccines administered outside of the practice. Review of the claims data allowed Westmed to update the vaccine history of patients who had previously received vaccines by non-Westmed providers.

Patient education measures included the use of secure messaging to remind patients when flu season began as well as follow-up texts to those who were not vaccinated by December 12, 2017, asking them to get vaccinated or notify Westmed if they had been vaccinated. As mentioned above, Westmed's website was updated to include current vaccine information, providing an additional resource for patients. Related social media and live education opportunities such as staffed tables tied in with National Immunization Month. In September, Dr. Sandra Kesh was a guest on WVOX (a local radio station) and discussed the importance of immunizations and the upcoming flu season. Westmed also created "vaccine cards," which were revised provider business cards that included vaccine tracking for annual flu, shingles, Prevnar, Pneumovax, and Td vaccines. In October, flu clinic date reminders were sent to all patients and posted on social media. Reminders were sent again in December to all patients with no vaccination on record.

In addition to providing access to flu vaccines in the traditional areas of pediatrics, internal medicine, and women's health, Westmed enhanced vaccine access by providing vaccine supply to non-traditional patient visit locations, such as the diabetic educator, CoumaCare nurses, and medical subspecialty departments. This allowed patients who had a regularly scheduled diabetic educator, CoumaCare visit, or visit with a subspecialty to receive the vaccine at that time rather than having to schedule a separate appointment.

## Program Goals and Measures of Success

The AMGA Adult Immunization (AI) Best Practice Learning Collaborative (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)<sup>1</sup>, baseline data for each group, and with input from the Collaborative advisors (see Appendix). Westmed utilized the Collaborative goals as a benchmark in its project planning.

Westmed's primary goal for patients, providers, and staff was to "Make the right thing to do the easy thing to do." Educating patients, staff, and providers was done in fun and innovative ways that leveraged creativity, technology, and social media. Access to vaccines was increased by providing them in departments such as oncology, nephrology, gastroenterology, allergy, OBGYN, and other medical subspecialty offices.

## Data Documentation and Standardization

In terms of data documentation and standardization, several measures were utilized to ensure consistency and adherence:

- Westmed analysts maintained and submitted data extracted from the universal EMR
- All Westmed locations utilize the same EMR and immunization templates
- All Westmed locations utilize the CTM, which identifies patients due or overdue for vaccinations
- All Westmed locations utilize the same immunization dashboards to measure and monitor population health
- Dashboards can be sorted by the entire group, by location, and by provider

## Population Identification

Within the Westmed system, adult immunizations are provided at eight sites across two states and 12 specialties by more than 80 providers. The patient population for adult immunization is identified as all adult patients aged 18-75 without a documented pneumococcal or influenza vaccine. High-risk patients are identified based on the CDC recommendations as adults aged 19-64 with a high-risk condition (see Appendix).

## Intervention

Westmed provided educational materials on pneumonia and flu vaccines based on CDC and Advisory Committee on Immunization Practices (ACIP) recommendations. An Immunization Boot Camp was also created for all clinical staff to attend and a department-wide physician and staff meeting/ in-service was held to review all adult vaccines and focus on flu and Pneumovax vaccines with a particular emphasis on high-risk patients under the age of 65. Additionally, each provider was issued report cards to keep track of vaccination rates. Nursing-specific education initiatives included identifying a workgroup of nurse managers to create a presentation for nurses on vaccine education, which was delivered to all internal medicine nurses and subspecialty nurses in one in-service session and also as part of annual competency review and orientation boot camp.

Several education and engagement measures were initiated for patients, including the development of an adult immunizations fact sheet that was posted on the Internet and in offices. Secure messaging was employed to remind all patients when flu season began, with follow-up messages sent to patients who were not vaccinated later in flu season asking them to get vaccinated or notify Westmed if they had been vaccinated. National Immunization Month was highlighted through social media, tables at service sites, and handouts. Additional awareness was raised by having staff who received their own flu vaccine wear stickers stating, "I helped protect you, ask me how."

Updated vaccination information was made available on the Westmed website and on the patient portal, and vaccine dashboards were utilized to identify gaps in patient care and create chase lists for follow-up. Additionally, physician and staff

vaccine viewing technology in the EMR was updated, including the addition of a new vaccine viewer, which leveraged the CTM to identify patients due or overdue for a vaccination at the time of their visit and prompt staff to address the issue.

While clinical standards and algorithms existed in the EMR prior to the AI Collaborative, algorithms were enhanced by including high-risk patients; algorithms were also added to medical subspecialties documentation templates. Modifications were made to existing workflows for medical subspecialties by educating them on the use of the CTM and providing access to vaccines. Additionally, dashboards were used for care coordination and outreach.

Vaccination rates are figured into physician bonus metrics.

## Outcomes and Results

Westmed is a well-established group accustomed to participating in multiple AMGA and other performance initiatives. The Primary Care group provides care at eight separate locations. All locations are staffed, managed, and function the same way with the same quality metrics, workflows, and performance improvement processes. One of the eight locations, Norwalk, was acquired by Westmed on August 29, 2017. The Norwalk location consists of a 16-physician internal medicine/multispecialty group practice. At the time of acquisition, Norwalk did not have the same infrastructure, management, staffing, and performance improvement processes in place as the existing core group. For much of the AI Collaborative, Norwalk lagged behind in documenting and adapting workflows since it was simultaneously onboarding and learning to assimilate into the routine day-to-day operational policies and processes of Westmed. These same Westmed internal medicine resources

Measure	Definition	Baseline	Final Baseline	Change
Measure 1	Pneumococcal (Any) Immunization Age >65	82.5	90%	-0.5
Measure 2	Pneumococcal (Any) Immunization Age 19-64 with High Risk	15.95	60%	3.55
Measure 2a	Pneumococcal (Any) Immunization Age 19-64 at Risk Conditions	18.5	22.3	3.8
Measure 3	Flu Vaccine	33.46	36.2	2.74



dedicated to onboarding the Norwalk group were also dedicated to the AI Collaborative and, as such, there were times when staff was stretched thin in the pursuit of success for both projects. Difficulties in extrapolating vaccine information from the Norwalk's previous EMR along with keeping the new providers focused on a quality initiative while assimilating into a new practice proved challenging. The final overall improvement for Westmed in the AI Collaborative was therefore impacted by the additional population of Norwalk patients into the denominator. At this time (almost a year later), the Norwalk site has begun to assimilate into the Westmed workflows and EMR to a degree that their practice is not negatively impacting the overall performance of the group.

The summary table (see Appendix) below depicts that the populations with the greatest benefit from the AI Collaborative were the high-risk populations and patients receiving flu vaccine. Overall Performance for all measures can be seen in the following table (see Appendix).

## Lessons Learned and Ongoing Activities

Throughout the AI Collaborative, Westmed found that being persistent, communicating well, and thinking outside the box were extremely helpful when implementing difficult institutional and cultural changes. These behaviors, along with taking the opportunity to add a sense of fun when engaging patients, staff, and physicians, were effective when taking a bottom-up approach to accomplish short term gains

that would serve as investments in future, long term goals. On the other hand, it was learned that patient vaccine cards were not as effective as hoped because they required manual documentation, which was cumbersome and slowed down patient visits.

Major next steps for Westmed fall into the categories of sustainability and scalability. All of the measures put in place during the AI Collaborative are still in place and have become part of the regular workflow for internal medicine and medical specialties (endocrinology, rheumatology, pulmonology, infectious disease), as well as in the oncology, nephrology, gastroenterology, allergy, OBGYN, diabetic educators, and Coumadin nurse departments. In terms of scalability, Westmed is currently providing flu and Pneumovax vaccines in all departments where clinically appropriate. Going even further, the gastroenterology group has created a 2018 department quality goal of immunizing all patients who have a diagnosis of nonalcoholic steatohepatitis (NASH), cirrhosis, hepatitis C, or ETOH (alcohol abuse) with the hepatitis B vaccine. That 2018 goal is 80% and reflects both the group's and Westmed's overall commitment to taking immunization services to the next level.

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## References

1. Office of Disease Prevention and Health Promotion (ODPHP). Healthy People 2020. [healthypeople.gov/](https://www.healthypeople.gov/).

## Collaborative Goals

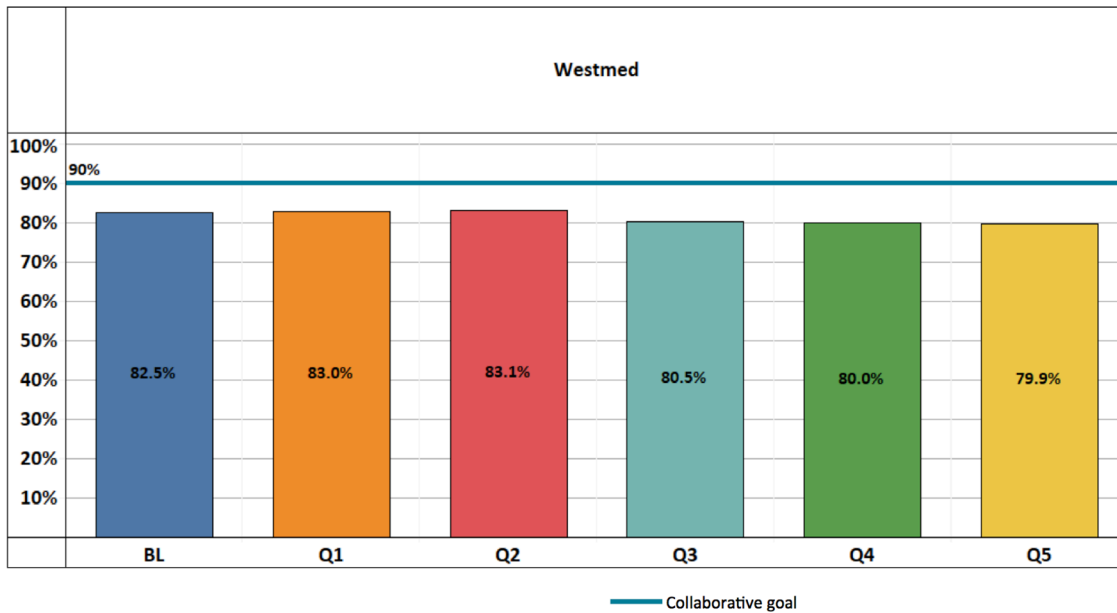
Measure	Healthy People 2020	Collaborative Goal
Measure 1 (65+) Any	90%	90%
Measure 1 (65+) Both PPSV and PCV*	90%	60%
Measure 2 (High-Risk)	60%	45%
Optional Measure 2a (At-Risk)**		
Measure 3 (Flu)	70%/90%***	45%

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

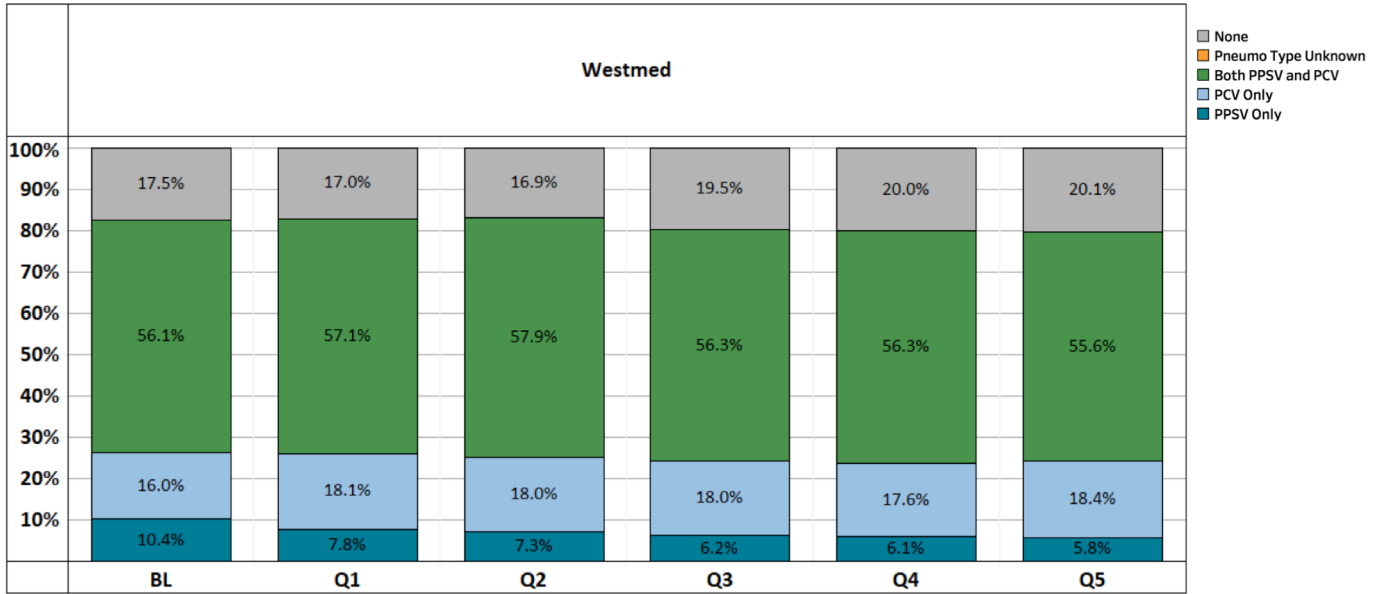
\*\* According to CDC guidelines, it is not currently recommended that the at-risk population receive PCV. Therefore, “PPSV” or “Unknown pneumococcal vaccination” are numerator options for Measure 2a.

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

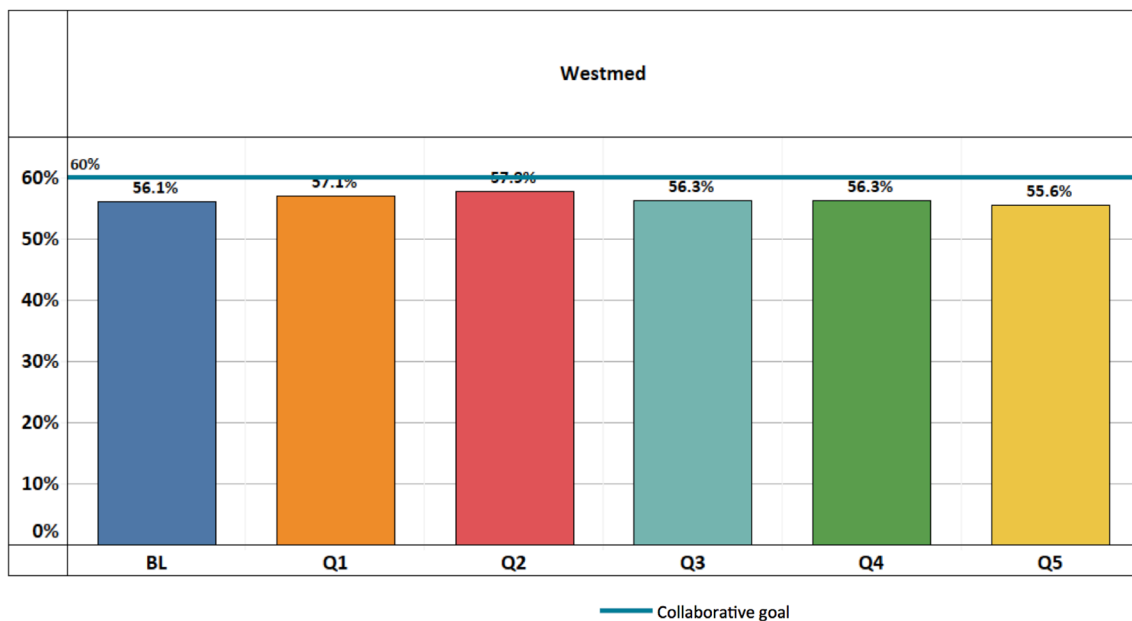
### Measure 1 – Pneumococcal (Any) Immunization for Adults Ages ≥ 65



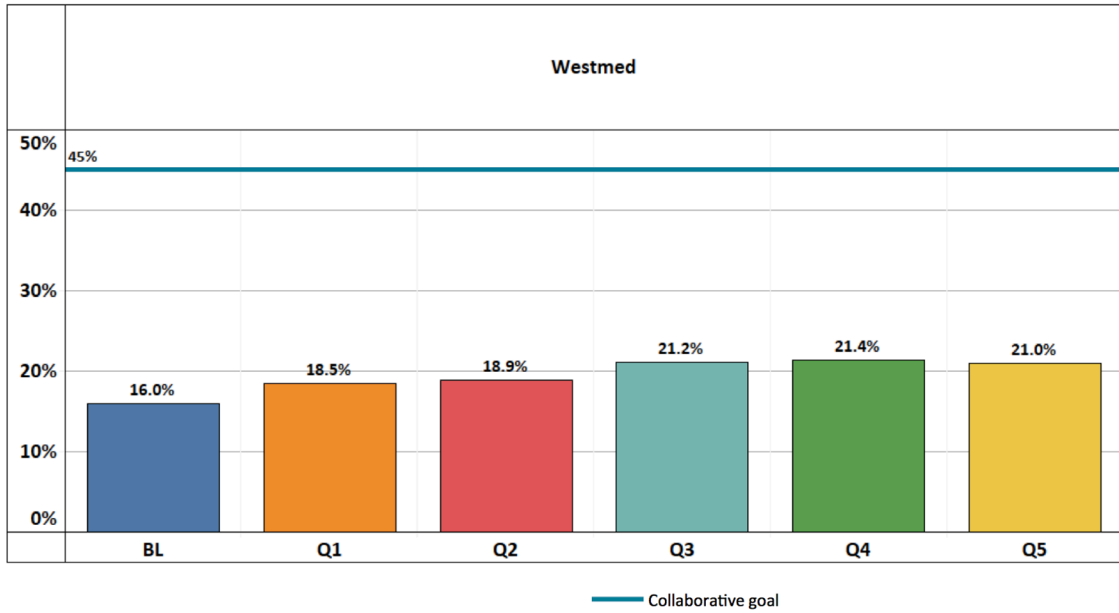
## Measure 1 – Pneumococcal (Any) Immunization for Adults Ages ≥ 65



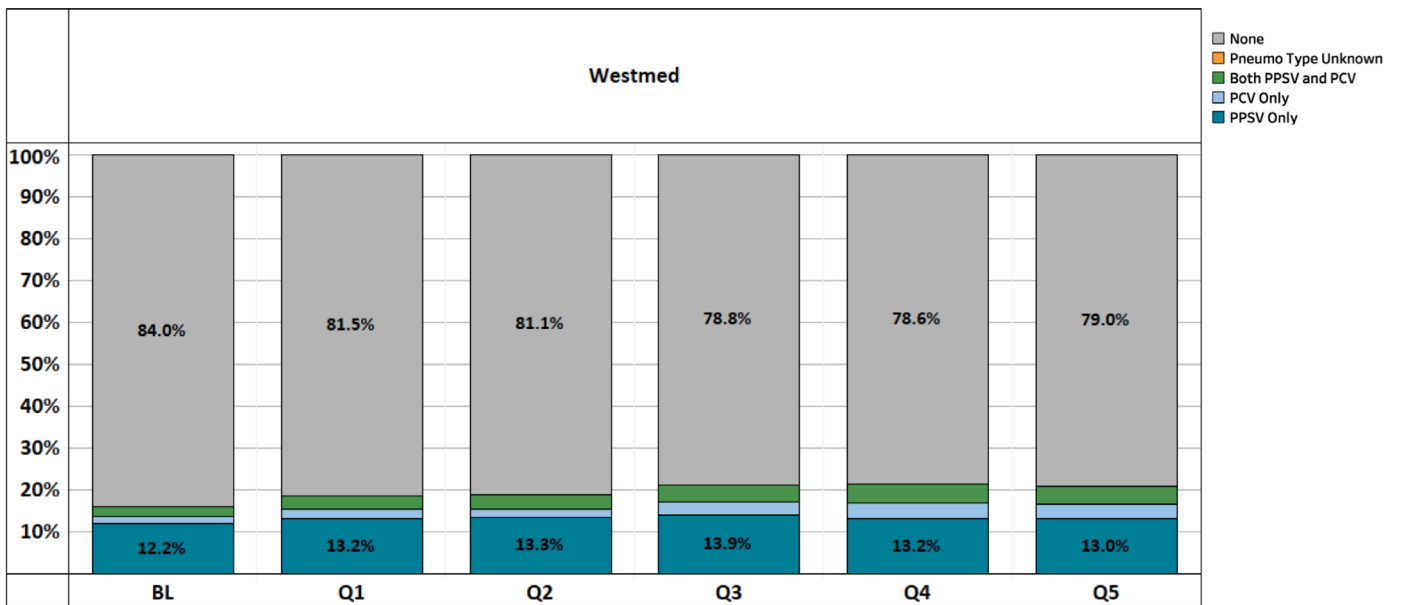
## Measure 1 – Both PPSV and PCV Immunization for Adults Ages ≥ 65



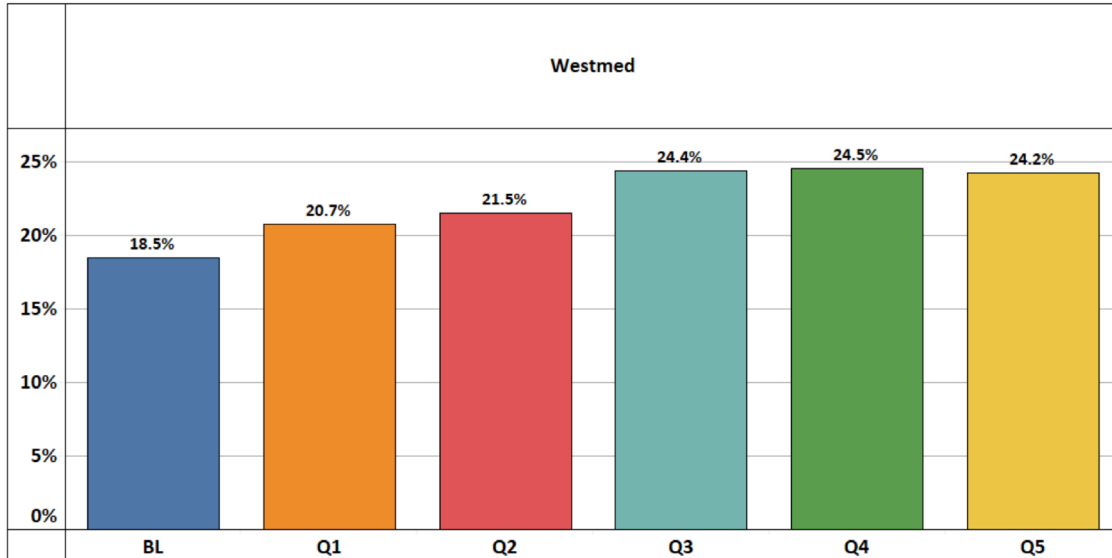
## Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions



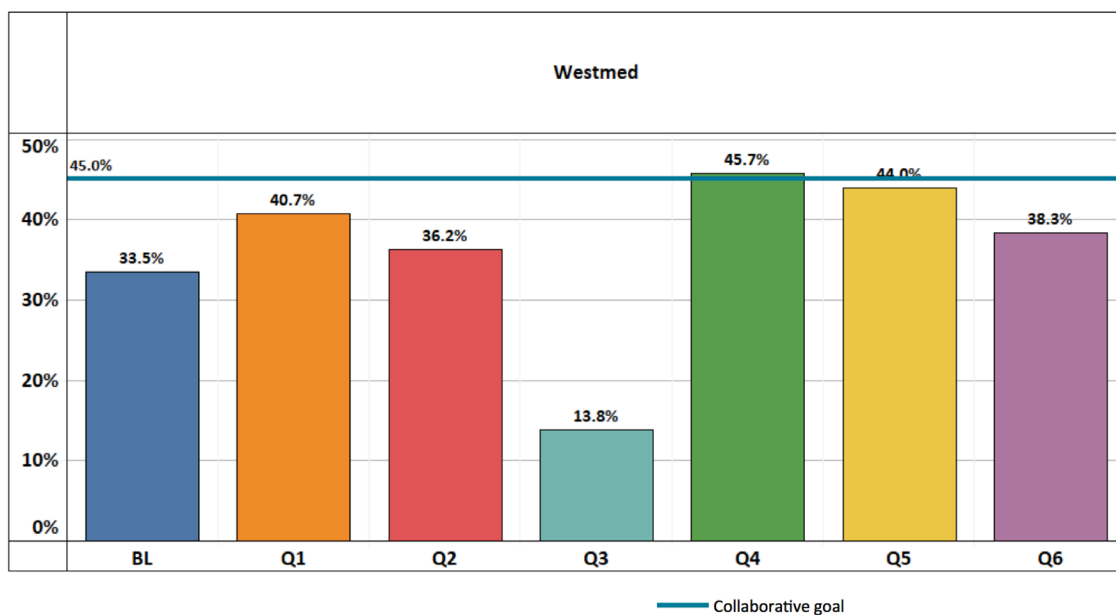
## Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions



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



## Measure 3 – Influenza Immunization, Age ≥ 18





# Appendix

IM Resources: AMY J TEST

<b>NY I-STOP</b>	<b>CT I-STOP</b>	<b>CCD Reconciliation</b>
<b>Advanced Care Planning</b>	<b>ACP Conversation</b>	
<b>ASCVD</b>	<b>Depression Assessment (PHQ 9)</b>	
<b>Epworth Sleepiness Scale</b>	<b>GAD-7 (Anxiety assessment)</b>	
<b>Medicare Wellness MMSE</b>	<b>Preop 2</b>	
<b>Pulmonary Nodule Tracking</b>	<b>Transitional Care</b>	
<b>Opioid Management Tool</b>	<b>Adult Vaccine Viewer</b>	
<b>Behavioral Health Pathway</b>	<b>STD Testing</b>	

Adult Vaccine Viewer: AMY J TEST

<b>Recommended Scheduled Vaccines</b>	<b>General Vaccines and Results 1</b>	<b>General Vaccines and Results 2</b>	<b>Record Immunizations</b>
18 - 26 years		27 - 55 years	56 - 59 years    60 - 64 years    >= 65 years
<b>Vaccine Recommended Schedules</b>			
1. HPV 2. 3.			
Zostavax		Date Given:	
Shingrix >= age 50		1. 2.	
Pneumococcal Polysaccharide 23 (Pneumovax)		Date Given:	
Pneumococcal Conjugate 13 (Prevnar)		Date Given:	
Meningitis < age 56 (Menactra, etc)	Date Given:		
Meningitis >= age 56 (Menomune)		Date Given:	
Meningitis B	1. 2. 3.		

CTM: DELTA 24 TEST

Task List | Flowsheet

**Task List:**

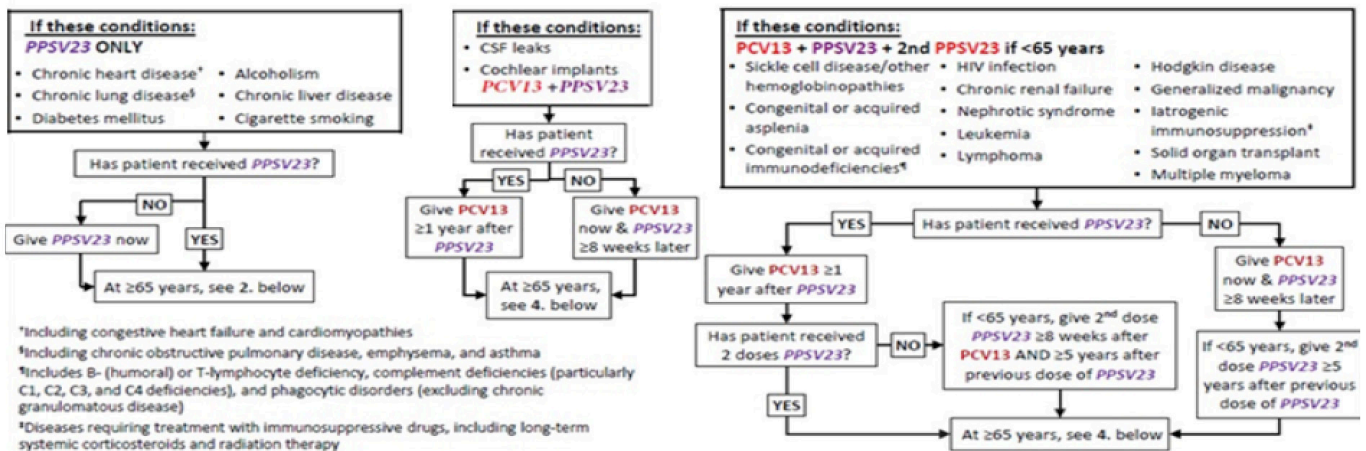
1.  Order Mammogram  Already completed **Print Mammo Release Form**
2.  Order IFOB  GI Referral  Already completed
3.  Schedule Medicare Wellness Visit
4.  Administer Prevnar  Patient already received  Patient Refuses

Prev Form (Ctrl+PgUp) | Next Form (Ctrl+PgDn) | Close

## PNEUMOCOCCAL VACCINE RECOMMENDATIONS FOR ADULTS

PCV13 (Prevnar13, Pfizer), PPSV23 (Pneumovax 23, Merck) 8/2016

### High Risk Conditions in Adults age 19 THROUGH 64 YEARS



### Adults 65 YEARS OF AGE AND OLDER

Vaccine History	Recommendations
1. Neither vaccine or unknown history	Both vaccines   PCV13 now, PPSV23 12 months later
2. PPSV23 before age 65, no PCV13	Both vaccines   PCV13 ≥1 year after PPSV23, 2nd PPSV23 12 months after PCV13 and ≥5 years after previous PPSV23
3. PPSV23 after age 65, no PCV13	PCV13 only   ≥1 year after PPSV23
4. PCV13 and/or PPSV23 before age 65	PPSV23 only   12 months after PCV13 and ≥5 years after previous PPSV23
5. PCV13 and PPSV23 after age 65	Additional doses not recommended

## AMGA Foundation Adult Immunization Collaborative

### Group 2 Reporting Template

#### Measure 2a (Optional) – Pneumococcal Immunization for adults ages 19–64 with At-Risk Conditions

Please enter the requested data in the cells shaded blue.

Organization Name	WESTMED
-------------------	---------

Measurement Period		Measure 2a: Pneumococcal Immunization for adults age 19–64 with At-Risk Conditions <sup>1</sup>									
Phase	Report Period	At-risk Conditions <sup>2,3</sup>					Denominator <sup>4</sup>	Numerator <sup>5</sup>			Percentage
		Chronic Heart Conditions (Y or N)	Diabetes (Y or N)	Lung Disease (Y or N)	Chronic Liver Disease (Y or N)	Lifestyle (Y or N)		PPSV	Pneumo-Unknown	Total Numerator	
PV Baseline Year	1/1/16 - 12/31/16	Y	Y	Y	Y	Y	14,786	2,736	0	2736	19%
PV Qtr 1	1/1/17 - 3/31/17	Y	Y	Y	Y	Y	8,684	1,799	0	1799	21%
PV Qtr 2	4/1/17 - 6/30/17	Y	Y	Y	Y	Y	8,791	1,891	0	1891	22%
PV Qtr 3	7/1/17 - 9/30/17	Y	Y	Y	Y	Y	8,637	2,104	0	2104	24%
PV Qtr 4	10/1/17 - 12/31/17	Y	Y	Y	Y	Y	9,457	2,318	0	2318	25%
PV Qtr 5	1/1/18 - 3/31/18	Y	Y	Y	Y	Y	9,339	2,259	0	2259	24%

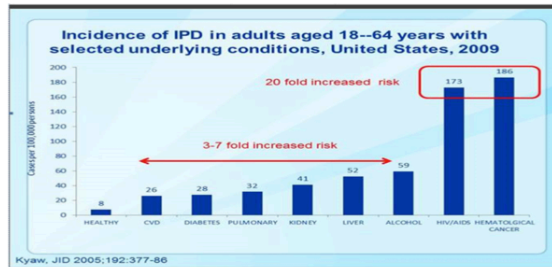
PV = Pneumococcal Vaccine

# Provider and Staff Education

- Internal Medicine Provider education: June 2017

### Burden of pneumococcal disease among adults ≥65 years of age

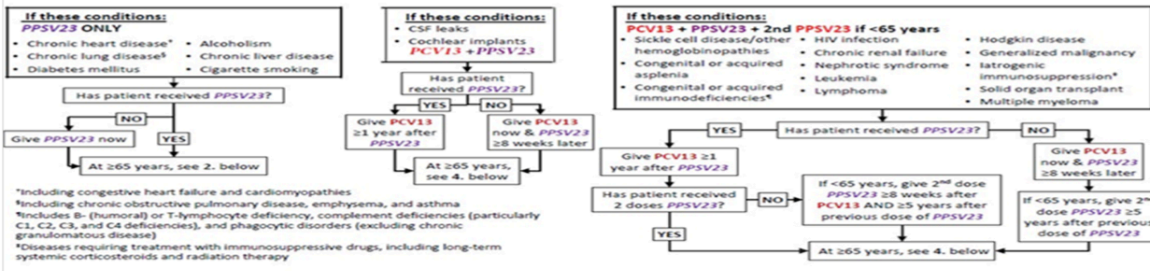
- Adults ≥65 years at increased risk for pneumococcal disease and serious illness from the major clinical syndromes associated with it
- Case-fatality rate for pneumococcal bacteremia is ~15% overall, but as high as 60% among adults ≥65 years
- ~18,000 fatal cases of pneumococcal disease among adults ≥65 years each year in the United States



### PNEUMOCOCCAL VACCINE RECOMMENDATIONS FOR ADULTS

PCV13 (Prevnar13, Pfizer), PPSV23 (Pneumovax 23, Merck) 8/2016

#### High Risk Conditions in Adults age 19 THROUGH 64 YEARS



#### Adults 65 YEARS OF AGE AND OLDER

Vaccine History	Recommendations
1. Neither vaccine or unknown history	Both vaccines PCV13 now, PPSV23 12 months later
2. PPSV23 before age 65, no PCV13	Both vaccines PCV13 ≥1 year after PPSV23, 2nd PPSV23 12 months after PCV13 and ≥5 years after previous PPSV23
3. PPSV23 after age 65, no PCV13	PCV13 only ≥1 year after PPSV23
4. PCV13 and/or PPSV23 before age 65	PPSV23 only 12 months after PCV13 and ≥5 years after previous PPSV23
5. PCV13 and PPSV23 after age 65	Additional doses not recommended



# Appendix

## Winning Employee Vaccine Logo



## Immunization Awareness Day



## Project Team



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