



Advancing High Performance Health

AMGA Foundation

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

---

***ThedaCare***  
***Appleton, WI***



## Organizational Profile

ThedaCare is an integrated health system located in Northeast Wisconsin that serves over 300,000 patients and comprises over 7,000 employees, including 35 clinics with over 300 providers. The system has seven hospitals, five of which are critical access hospitals. ThedaCare strives to put patients and families first in every decision while providing empathy and kindness in every interaction.

ThedaCare has an inspiring legacy of over 100 years. Interesting historical fact: In 1903, Theda Clark Peters, daughter of Kimberly Clark and co-founder Charles B. Clark, gave birth to a daughter at home. Three days later, with no hospital nearby, Theda Clark Peters died from complications due to childbirth. In her will, she left money for a community project. Her family used the money to build a hospital in Neenah. In 1909, Theda Clark Memorial Hospital opened with 20 beds, one operating room, one emergency room, and one delivery room. In 1987, two hospitals (Appleton Medical Center and Theda Clark Medical Center) merged to form one organization. In 1999, the group's name became ThedaCare to pay tribute to Theda Clark Peters' vision.

## Executive Summary

One of ThedaCare's goals as an organization is to relentlessly pursue safety for patients and achieve zero defects. From this comes continued work on the safe and knowledgeable administration of immunizations to ThedaCare patients. Use of Epic EHR (electronic health record) is an integral part of the immunization process. With the use of Epic dashboard and QlikView reports, ThedaCare is able to access patient worklists and rates reports. ThedaCare reports adult immunizations both internally and externally to the Wisconsin Collaborative for Healthcare Quality (WCHQ). WCHQ is a voluntary membership organization: Key healthcare providers and stakeholders from across the state have joined together to prioritize and report meaningful performance measures for assessing the quality of healthcare in Wisconsin. Data is reported down to the clinic level with individual provider data coming in 2020. Additionally for ThedaCare, focus on the importance of flu vaccine has increased with the new employee policy of mandatory immunization.

## Acronym Legend

**AI Collaborative:** AMGA's Adult Immunization Best Practices Collaborative  
**AWV:** Annual Wellness Visits  
**EHR:** Electronic Health Record  
**HM:** Health Maintenance  
**HP2020:** Healthy People 2020  
**NQF:** National Quality Forum  
**PCP:** Primary Care Provider  
**PCV:** Pneumococcal Conjugate Vaccine  
**PPSV:** Pneumococcal Polysaccharide Vaccine  
**WCHQ:** Wisconsin Collaborative for Healthcare Quality  
**WIR:** Wisconsin Immunization Registry

## Program Goals and Measures of Success

### *AI Collaborative Goals*

Collaborative goals were set for the AMGA Adult Immunization Best Practices Learning Collaborative (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),<sup>1</sup> baseline data for each group, and with input from the AI Collaborative advisors (see Appendix).

### *ThedaCare Program Goals*

- Increase provider understanding of pneumococcal guidelines for high-risk patients
- Increase rates of pneumococcal vaccinations for eligible patients (both high-risk and age-related)
- Increase influenza vaccination rates in the adult population (ThedaCare maintains a focus on its entire patient population; for the purposes of the AI Collaborative, the system is measuring adults)

## 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 multiple locations in the EHR and data warehouse (e.g., claims, data from external sources, locally documented immunizations).

## Population Identification

ThedaCare has 29 Primary Care and Internal Medicine clinic sites where adult immunizations are administered. Specific to the AI Collaborative, ThedaCare identification tactics included:

- Identify any adult age 18 and older as an adult
- Worksheets were used to identify patients 65 and older in need of a pneumococcal vaccine
- Alerts were built in to the EHR to identify patients in need of a pneumococcal and/or influenza vaccine

## Intervention

A collaborative, team-based approach—from providers to medical assistants—was put into place. A close working relationship exists between Purchasing, Pharmacy, Clinic, and Support staff. Purchasing and medical assistants in the clinics work together to keep immunizations ordered and stocked to meet the needs of patients. Pharmacy oversees any guideline-based changes that need to occur across the system.

Additionally, dyads were formed consisting of a provider and Clinic Practice Manager, with each team being responsible for leading division work on a quality measure. Provider and leadership involvement in quality metrics was exercised through designating Annual Wellness Visits (AWV) and immunizations (both a part of the 2018 ThedaCare Quality Plan) as priorities to focus on.

Both internal and external transparency were considered key to success. Monthly provider level rates were shared at provider and staff meetings, as were shared learnings on successful processes that were implemented. Visual rates and information were displayed in staff work areas. Monthly rates and action

plans are discussed at monthly Quality team meetings at clinic sites, and barriers to the administration of immunizations are addressed.

Clinic staff pulled patient lists from QlikView which showed those patients due for an immunization. The use of Health Maintenance (HM) notification in the EHR identified patients past due for immunizations, and ThedaCare staff continued the practice of addressing these as a part of the standard rooming process at every patient visit. Relatedly, high-risk pneumococcal diagnosis codes were cleaned up for immunization alert in HM notifications within the EHR.

When rooming a patient who requires an immunization, Wisconsin Immunization Registry (WIR) reconciliation is standard before administering to the patient. WIR is a computerized internet database application that was developed to record and track immunization dates of Wisconsin's children and adults. Bidirectional flow of data goes between the ThedaCare EHR and the WIR.

An immunization order set was developed to enhance patient safety in delivering immunizations to patients. Standard immunization refrigerators are set up in the same order across the system, and all information concerning immunizations (such as storage and handling, schedule, standard work, and more) is available to staff on the Quality website.

ThedaCare Influenza wraps, which promoted getting the flu vaccine, were installed on Appleton transit buses. These community service announcements were present on the busiest route through the Appleton area. I Champs, a group of clinic-level immunization champions with extra training and responsibilities within their local clinic, was established. The goal for I Champ members is to become site-based subject matter experts, and four-hour meetings are held quarterly to support the initiative.

ThedaCare clinics maintain a strong focus on AMVs. QlikView work lists are sent to each clinic to reach out to patients to schedule them. HM notifications are addressed at this visit and items those patients are due for are discussed with the patient by both the medical assistant and the provider.

# Outcomes and Results

## Measure 1

**Measure 1 Denominator:** Patient is age 65 or older and meets the outpatient visit/primary care provider (PCP) requirement.

**Numerator A:** Evidence of only pneumococcal polysaccharide vaccine (PPSV).

**Numerator B:** Evidence of only pneumococcal conjugate vaccine (PCV).

**Numerator C:** Evidence of only UNKNOWN pneumococcal vaccination. The immunization was for pneumococcal but was not able to be defined as PCV or PPSV.

**Numerator D:** Evidence of both PPSV and PCV.

### Measure 1

Period	Denominator	PPSV	PCV	Pneumo Unknown	Both PPSV/PSV	Numerator	Percentage
Baeline_g3	30367	2728	3003	12	21041	26874	88%
Qtr 1_g3	16373	1087	1875	5	11586	14553	89%
Qtr 2_g3	18308	953	2017	7	13360	16337	89%
Qtr 3_g3	17055	909	1900	3	12307	15119	89%
Qtr 4_g3	19244	993	2027	1	13994	17015	88%
Qtr 5_g3	17624	886	1783	2	12903	15574	88%

## Measure 2

**Measure 2 Denominator:** Patient is age 19–64, meets the outpatient visit/PCP requirement, and has at least one high-risk diagnosis (value set name = High-risk) on an outpatient visit or problem list prior to or during the Reporting Period.

**Numerator A:** Evidence of only PPSV.

**Numerator B:** Evidence of only PCV.

**Numerator C:** Evidence of only UNKNOWN pneumococcal vaccination. The immunization was for pneumococcal but was not able to be defined as PCV or PPSV.

**Numerator D:** Evidence of both PPSV and PCV.

### Measure 2

Period	Immunology	Nephrology Renal Condition	Oncology	Surgical Transplant	Denominator	PPSV	PCV	Pneumo Unknown	Both PPSV/PSV	Numerator	Percentage
Baeline_g3	Y	Y	Y	Y	10702	2241	344	6	1188	3709	35%
Qtr 1_g3	Y	Y	Y	Y	4780	1211	154	1	685	2051	43%
Qtr 2_g3	Y	Y	Y	Y	5363	1403	191	0	811	2405	45%
Qtr 3_g3	Y	Y	Y	Y	5292	1393	173	4	799	2369	45%
Qtr 4_g3	Y	Y	Y	Y	5366	1415	149	3	856	2423	45%
Qtr 5_g3	Y	Y	Y	Y	5126	1309	147	2	786	2244	44%

## Measure 2A

**Measure 2A (optional) Denominator:** Patient is age 19-64, meets the outpatient visit/PCP requirement, and has at least one at-risk diagnosis (value set name = at-risk) on an outpatient visit or problem list prior to or during the Reporting Period.

**Numerator A:** Evidence of PPSV.

**Numerator B:** Evidence of UNKNOWN pneumococcal vaccination.

### Measure 2 (Optional)

Period	Chronic Heart	Diabetes	Lung Cancer	Chronic Liver	Lifestyle	Denominator	PPSV	Pnemo Unknown	Numerator	Percentage
Baesline_g3	Y	Y	Y	Y	Y	25501	8902	14	8916	35%
Qtr 1_g3	Y	Y	Y	Y	Y	12383	5950	29	5979	48%
Qtr 2_g3	Y	Y	Y	Y	Y	13268	6643	33	6676	50%
Qtr 3_g3	Y	Y	Y	Y	Y	13548	6683	32	6715	50%
Qtr 4_g3	Y	Y	Y	Y	Y	13614	6895	30	6925	51%
Qtr 5_g3	N	N	N	N	N					N/A

## Measure 3

**Measure 3 Denominator:** Patient is age 18 or older and meets the outpatient visit/PCP requirement.

**Measure 3 Numerator:** Evidence of Influenza Immunization, anytime on or between the first and last date of the influenza season during which the reporting period falls.

### Measure 3

Period	Denominator	Numerator	Percentage
Baesline_g3	115950	52845	46%
Qtr 1_g3	51830	10680	21%
Qtr 2_g3	57458	32341	56%
Qtr 3_g3	55444	28914	52%
Qtr 4_g3	56390	28714	51%
Qtr 5_g3	54476	9759	18%

### WCHQ Pneumococcal Monitoring Measure for 2018

This measure assesses the percentage of adults greater than or equal to 65 years who had a pneumococcal vaccination. ThedaCare is currently ranked 10 out of 24 healthcare organizations in Wisconsin.

### Internal ThedaCare Measure

Percentage of patients greater than or equal to 65 years of age who received at least one pneumococcal vaccination after 65 or, if received prior to 65, a booster was given at least 5 years after initial vaccination. System-wide, ThedaCare achieved a rate of 90.2%

### High Performing Clinics

ThedaCare's high-performing Internal Medicine clinics experienced a rate of 94.4% of pneumococcal vaccinations according to internal measures. Processes were put in place to address immunizations due at every visit, and providers and staff worked as a team to address quality and any barriers to care they encountered.

### Medicare Annual Wellness Visits

ThedaCare saw significant increases in the rate of Medicare Annual Wellness Visits, which were an opportunity of improved vaccinations (see Appendix).

# Lessons Learned and Ongoing Activities

## Challenges

- Immunization errors: ThedaCare continues to monitor errors; standard work is in place which, when followed, eliminates most errors.
- Publicly reported measures, such as WCHQ and National Quality Forum (NQF) #1653, are not in line with the guidelines. Clinically correct guidelines should be the ones reported. Currently, ThedaCare reports one pneumococcal immunization given after age 65 or, if received prior to age 65, a booster was given at least five years prior.

## Lessons Learned

- Standard work is effective only when well communicated and understood by the staff using it. Medical assistants were incorporated into the development of these processes.

## Ongoing Activities

- I Champs was implemented to model the Sanford model, which was shared at the first AMGA in-person meeting; leaders support the I Champs program and do their best to ensure staff have the availability to attend the quarterly meetings.
- The pneumococcal measure will be on the ThedaCare 2019 Quality Plan, which is anticipated to bring more focus to this immunization.
- ThedaCare will continue to address flu as the season progresses; with more than 7,000 employees at ThedaCare, the mandatory vaccination brings more discussion around the table about flu.

---

## 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.

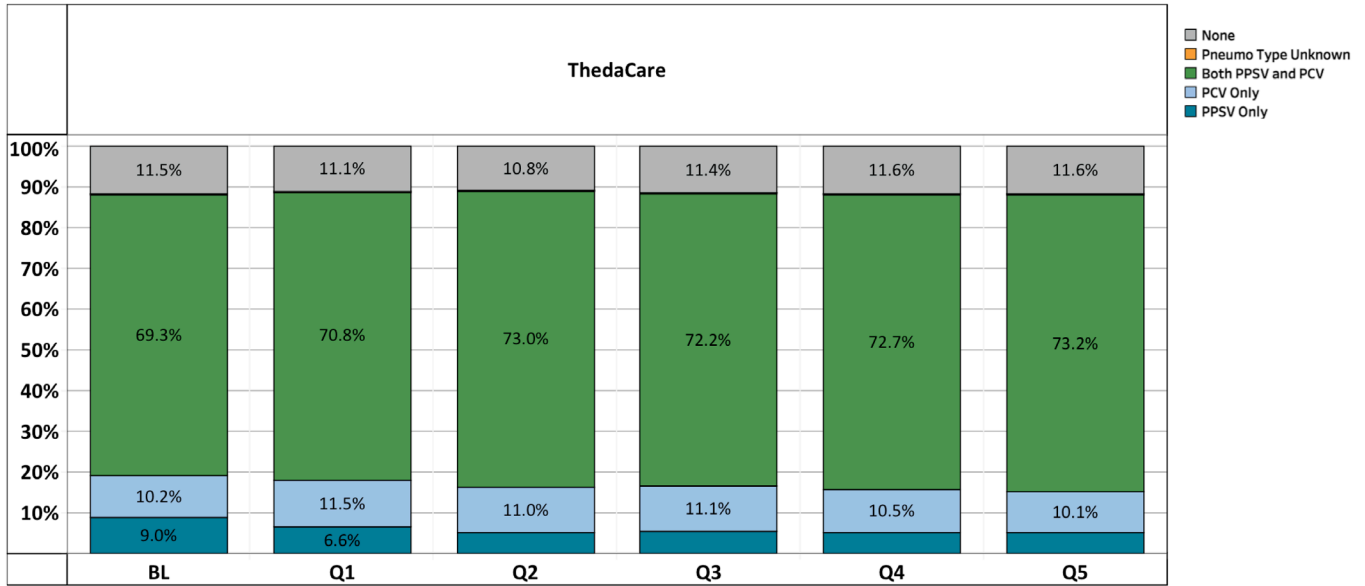
\*\*\* 70% for all patients, 90% for Medicare patients

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

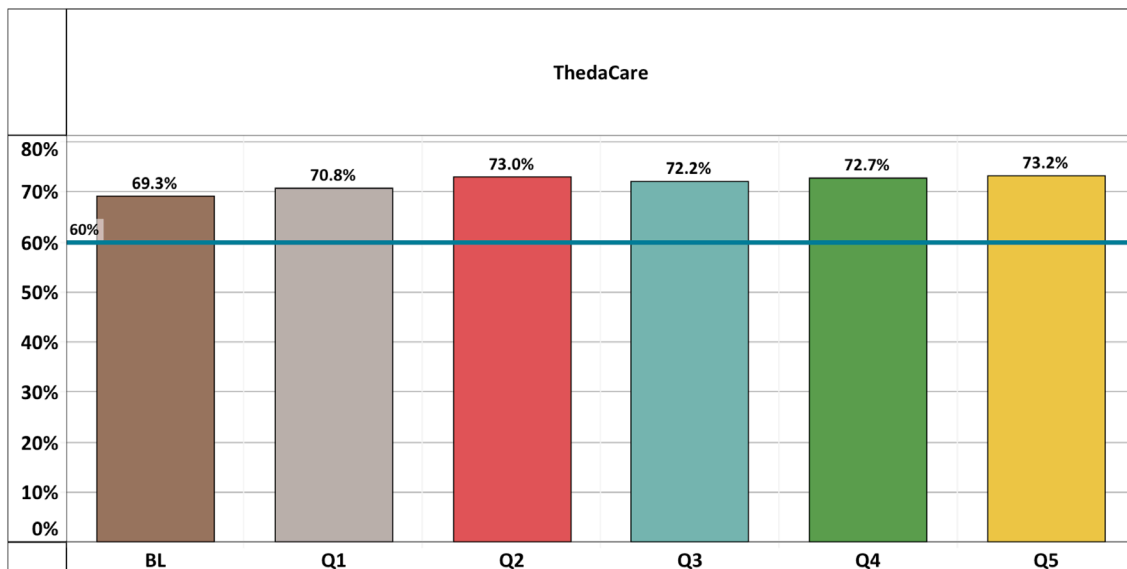


— Collaborative goal

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



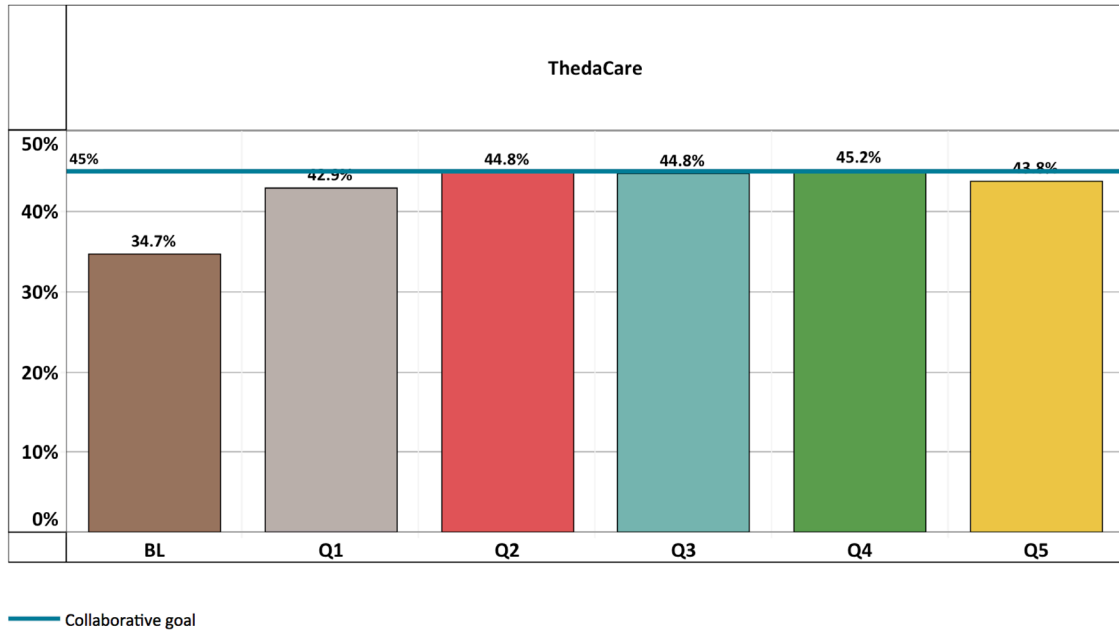
## Measure 1 – Both PPSV and PCV Immunization for Adults Ages ≥ 65



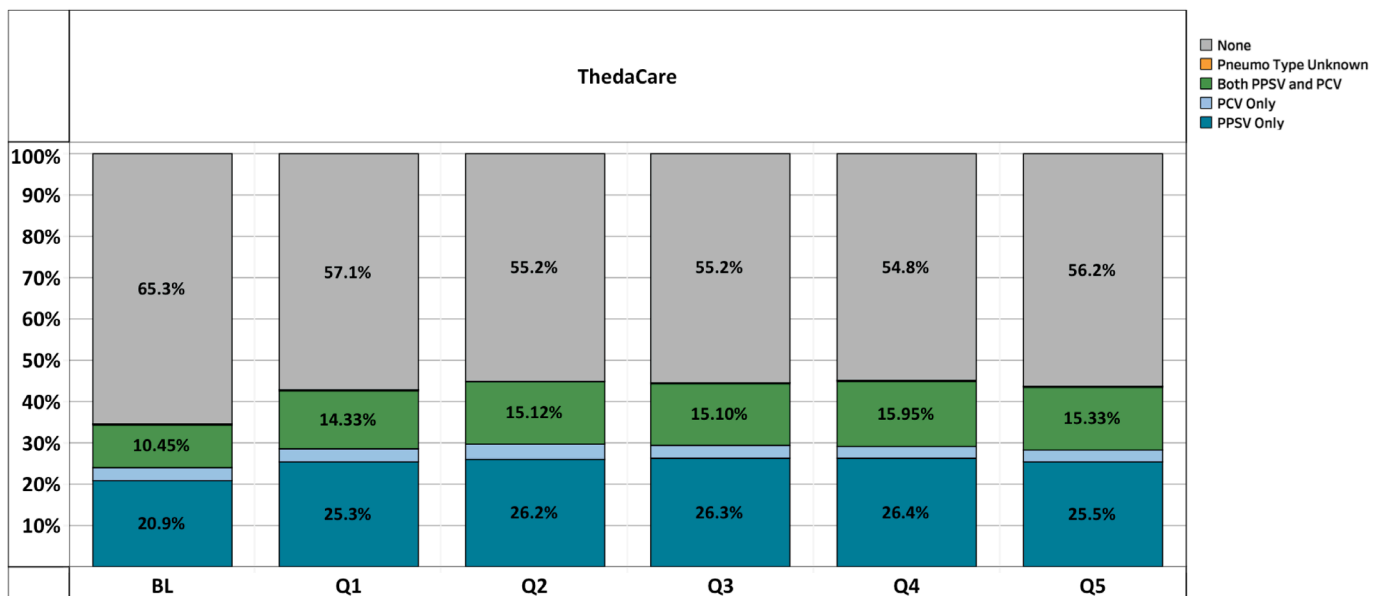
— Collaborative goal



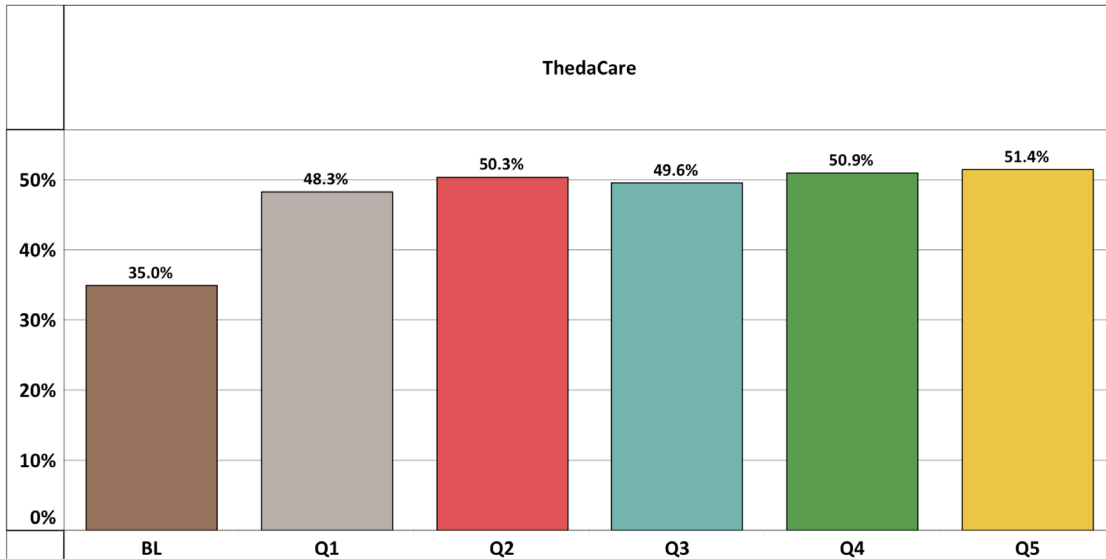
## Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions



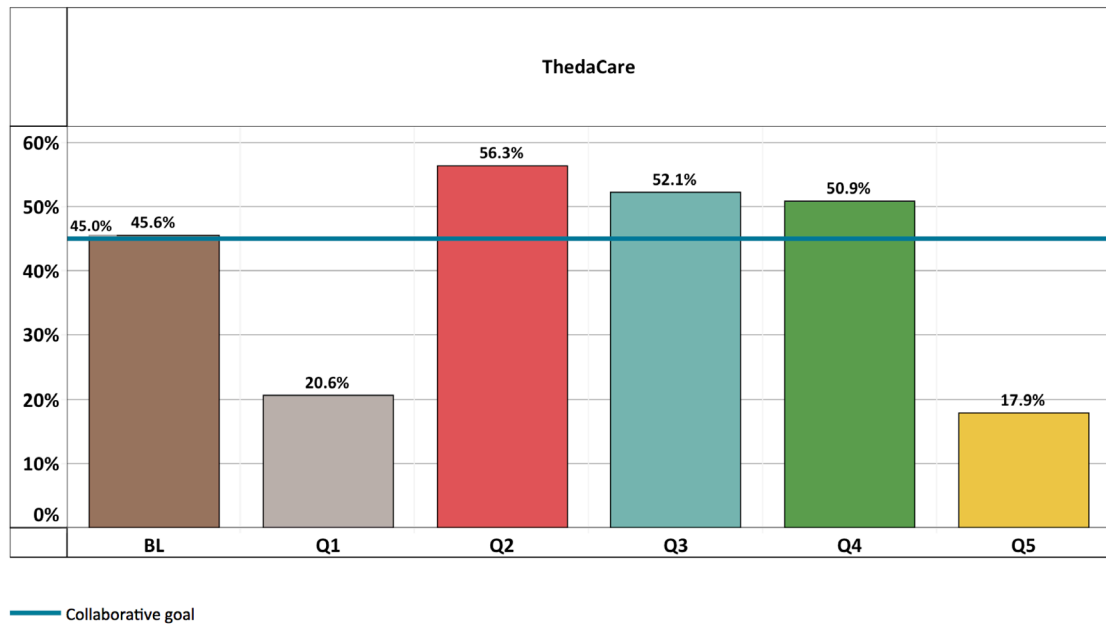
## Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions



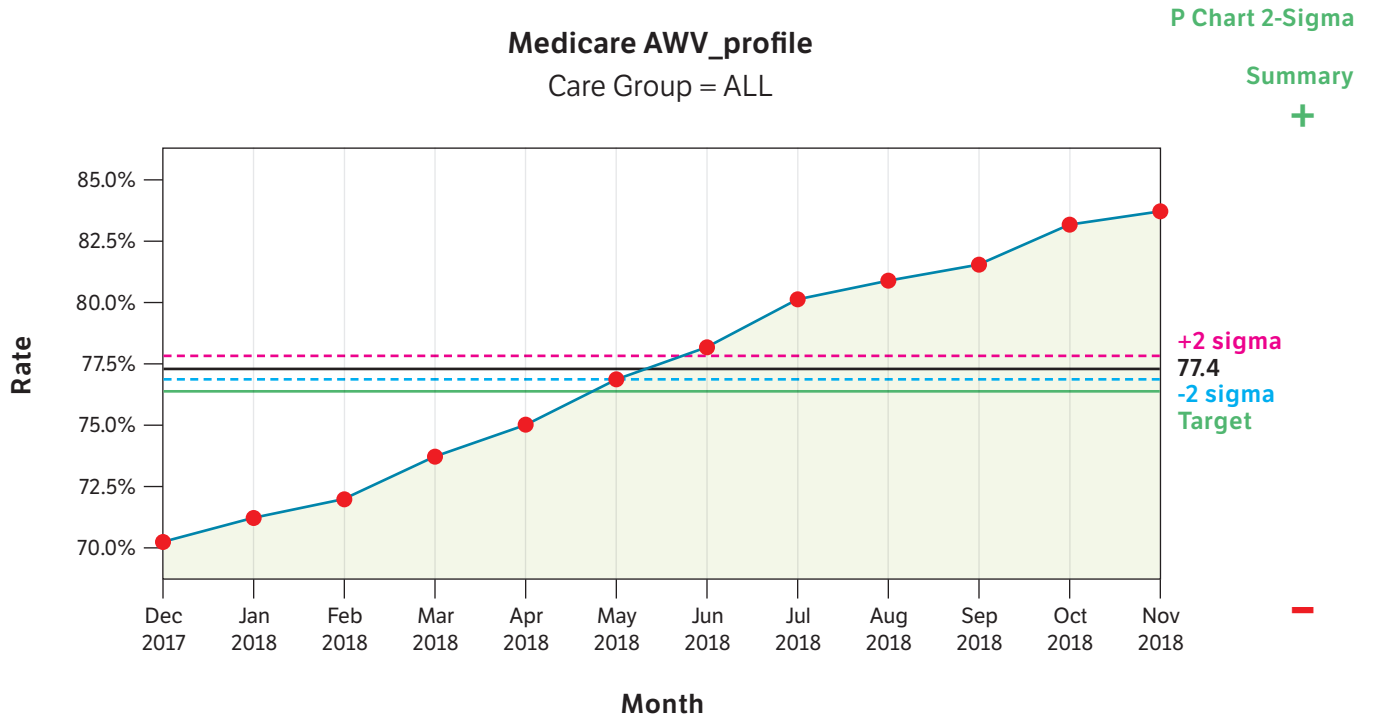
## Measure 2A – Pneumococcal (Any) Immunization for Adults Ages 19–64 with At-Risk Conditions



## Measure 3 – Influenza Immunization, Age ≥ 18



## Medicare Wellness Visits



## Project Team

**Lori Arnoldussen, R.N.**

Clinical Quality Coordinator, ThedaCare

**Kim Wildes, R.N., M.B.A., CPHQ**



### AMGA Foundation

One Prince Street  
Alexandria, VA 22314-3318

[amga.org/foundation](http://amga.org/foundation)



AMGA's Distinguished Data and  
Analytics Collaborator



This project was sponsored by Pfizer Inc.  
Pfizer was not involved in the development  
of content for this publication.