AMGA

Advancing High Performance Health

AMGA Foundation

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

Palo Alto Medical Foundation

Palo Alto, CA

Organizational Profile

Palo Alto Medical Foundation for Health Care Research and Education (PAMF) is a not-for-profit healthcare organization dedicated to enhancing the health of people in its communities. PAMF joined Sutter Health, a family of not-for-profit hospitals and physician organizations, in 1993.

PAMF provides patient care through contracts with the Palo Alto Foundation Medical Group (PAFMG). PAFMG is a large, integrated, multispecialty group made up of more than 1,500 physicians and 250 advanced practice providers (APP), 35% of whom are in primary care. PAFMG was created in 2008 by the merger of three medical groups—Palo Alto Medical Clinic, Camino Medical Group, and Santa Cruz Medical Clinic—and acquired Peninsula Medical Group in 2017. They take care of over one million patients at 58 sites across the San Francisco Bay Area, including Alameda, San Mateo, Santa Clara, and Santa Cruz counties.

Executive Summary

PAMF has experienced marked organizational change and reorganization over the past year. This has limited the size and scope of the workgroup assigned to the AMGA Adult Immunization Best Practices Collaborative (AI Collaborative) due to the lack of operational leader membership. Given the large size of PAMF in relation to the small size of this AI Collaborative workgroup, the decision was made early on to focus efforts on an actionable population.

The baseline immunization data was analyzed and tailored to identify patient populations that would benefit the most from intervention. Efforts have been directed at creating processes to identify and vaccinate these patients. First, the data set was refined to make it actionable. Populations were then identified based on disease specialty service line, which enabled collaboration with specialty service lines.

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).

Focus on AMGA Measure 2 Driven by Baseline Data

Based on clinical immunization data collection and analysis using the current electronic health record (EHR) system, the highest need for pneumococcal vaccination was found with adult patients with high-risk conditions. Additional analyses were performed to determine their currently prescribed medications, linked medical condition(s), the prescriber's medical specialty, and length of patient treating relationship with the prescribing specialist. The ultimate goal for the deeper data analysis was to focus on specific disease conditions and the clinical departments with the most patients who were currently unvaccinated while actively being seen by PAMF.

Data Documentation and Standardization

Custom queries were built to retrieve reportable data to AMGA from PAMF's EHR system. Primary data sources include immunization tables, health maintenance tables, encounter tables, and the code data sets for procedures and diagnoses. The resulting data sets were aggregated and further analyzed to identify target populations for interventions.

With the above in mind, PAMF set a goal to increase pneumococcal vaccination rates in high-risk patients to 45%. The above rate goal is based on AMGA Adult Immunization Collaborative (for Groups 2 and 3 participants) goals.

Acronym Legend

ACIP: Advisory Committee on Immunization Practices

AI Collaborative: AMGA's Adult Immunization Best Practices Collaborative

APP: Advanced Practice Provider

CDC: Centers for Disease Control and Prevention

EHR: Electronic Health Record

HP2020: Healthy People 2020

PAFMG: The Palo Alto Foundation Medical Group

PAMF: Palo Alto Medical Foundation for Health Care Research and Education

Population Identification

EHR data was collected and analyzed to identify opportunities within specific specialty patient populations. Additional data extractions were done to the high-risk population to identify their medical conditions down to the specific ICD-10 disease codes. The codes with the most patients in need of pneumococcal vaccine were collated by diagnosis and clinical department where they receive care (for example, see Appendix).

Intervention

Once the target population was identified, specialty-specific reports were created by clinical service lines shown above. Initial engagement with clinical specialty service lines began with the goal to collaborate with these clinical departments to identify and immunize high-risk patients through:

- **Information Technology**
  - Specialty-specific reports were used that provide performance feedback as well as actionable patient outreach lists
  - Additionally, Clinical Decision Support in Epic is being created in collaboration with Pfizer, which will identify Measure 2 (high-risk) patients in the Health Maintenance section of Epic
- **Provider and Staff Education**
  - Laminated Advisory Committee on Immunization Practices (ACIP) guidelines were being distributed to clinical departments
  - Guidelines include pending orders from health maintenance
  - Staff training on adult immunizations was created
- **Patient Education**
  - Patient education handouts were identified and cobranded for patient distribution
  - Online content is being created and revised
  - PAMF promoted immunizations during National Immunization Awareness Month (August 2018) through the system's Community Health Resource Center Newsletter
- **Clinical Support**
  - Efforts were enacted with clinical department managers to reinforce standard work
  - Departments with opportunity to stock and administer vaccines were identified
  - In collaboration with specialty departments, outreach protocols for high-risk patients were created

Outcomes and Results

So far, PAMF has seen an almost 3% increase from the baseline of high-risk adult patients vaccinated within the AI Collaborative years. This increase corresponds to 677 patients, half of whom have current treatment relationships with a rheumatologist or dermatologist.

Lessons Learned and Ongoing Activities

For PAMF, the challenges found in the course of the AI Collaborative have included:

- **Organization size**
  - PAMF serves a large geographic spread, but has a small team in comparison.
- **Reorganization**
  - PAMF, as part of Sutter, underwent extensive restructuring which involved changes in leadership locally and broadly. This led to the designated operational team member being promoted up without a replacement. It is difficult to implement any experiments/interventions without operational leadership involvement in the project.
- **Added workload concerns from primary care leadership**
  - Much quality improvement and other patient care initiatives rest on the shoulders of primary care physicians. Primary care physician leadership expressed concern that, given competing priorities, it would be best not to engage primary care departments in this improvement work at this time.
- **Difficulty scheduling collaboration time with key stakeholders**
  - Partly due to the reorganization mentioned above and partly due to the complexity of the healthcare system, there are many opportunities for improvement work and much demand on leadership at any given time. While all agreed this work is important, it is difficult to get on agendas and get key stakeholders together for collaboration.

- Data
  - Initial data was too broad. It included patients with diagnoses that did not really put them at high risk for invasive pneumococcal disease based on the ACIP guidelines. Given the challenges of influencing physician practice behavior, it was decided that it would be counterproductive to move forward with a data set that would not be acceptable to the treating clinicians. Additionally, much work needed to be done to efficiently extract targeted data on an ongoing basis.
  - Employee and outside immunizations were not captured
- Time goes quickly, and progress slowly
- Creating tools in Epic was more complicated than anticipated
  - The AI Collaborative was extremely valuable in this endeavor, as information was shared at the last in-person meeting about Pfizer's program to help with this work. This included providing the diagnosis codes needed for the Epic build to identify patients at high risk for pneumococcal disease

Going forward, PAMF's main strategy involves sustainability and scalability planning to address the challenges found during the AI Collaborative. By focusing efforts early on to identify patients that would benefit most from interventions, there will be the opportunity to do some process improvement with those populations in certain clinical specialty departments. Using LEAN PDSA (plan, do, study, adjust) methodology these interventions can be scaled to these broader specialty service lines throughout PAMF.

It's also anticipated that by implementing clinical decision support in Epic, which will be visible to all providers within Sutter, there will be additional increase immunization rates throughout other clinical departments, including primary care. Patients eligible for pneumococcal vaccine who use the EHR portal will also see their Health Maintenance topics and request immunization.

References

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

Appendix

Collaborative Goals

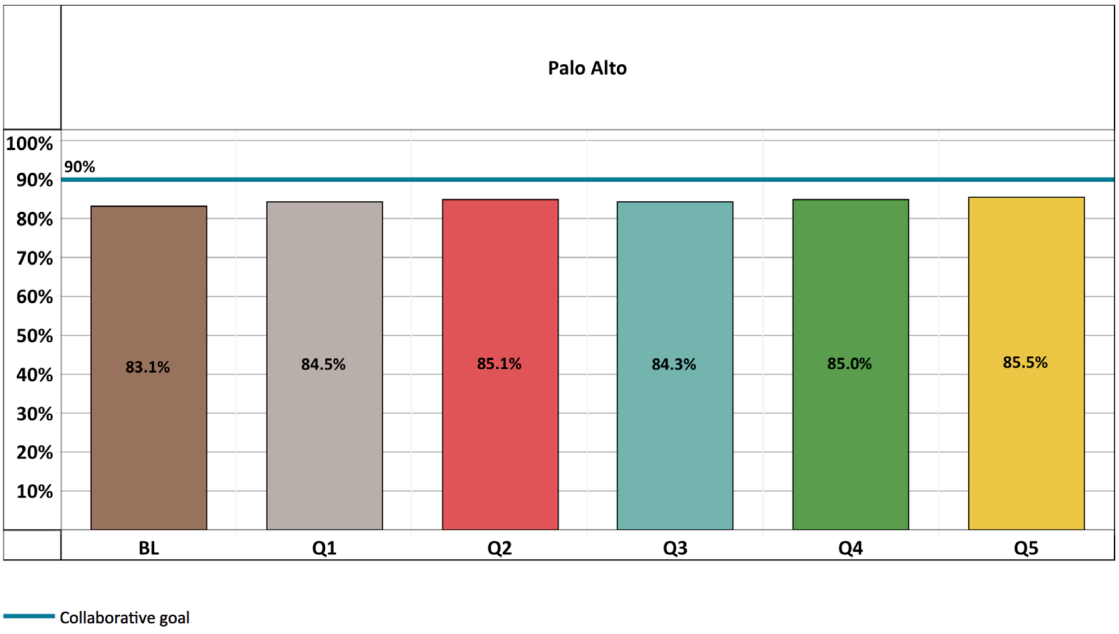
Measure	Healthy People 2020	Collaborative Goal
Measure 1 (65+) Any	90%	90%
Measure 1 (65+) Both PPSV and PCV*	90%	60%
Measure 2 (High-Risk)	60%	45%
Optional Measure 2a (At-Risk)**		
Measure 3 (Flu)	70%/90%***	45%

* 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.

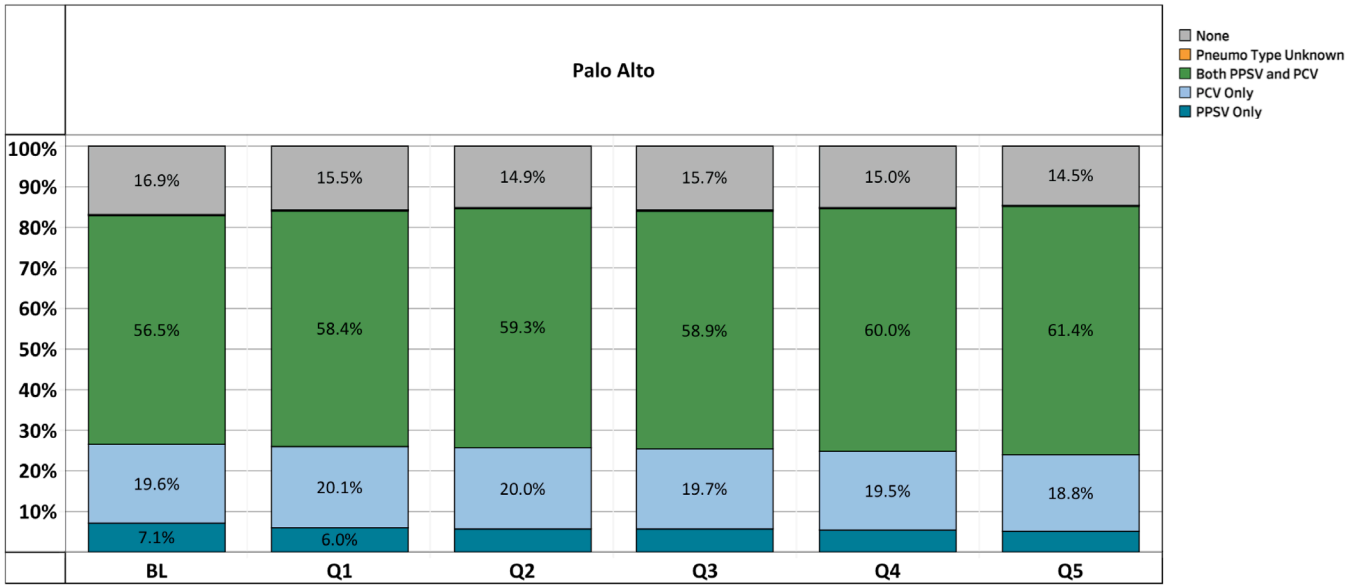
*** 70% for all patients, 90% for Medicare patients

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

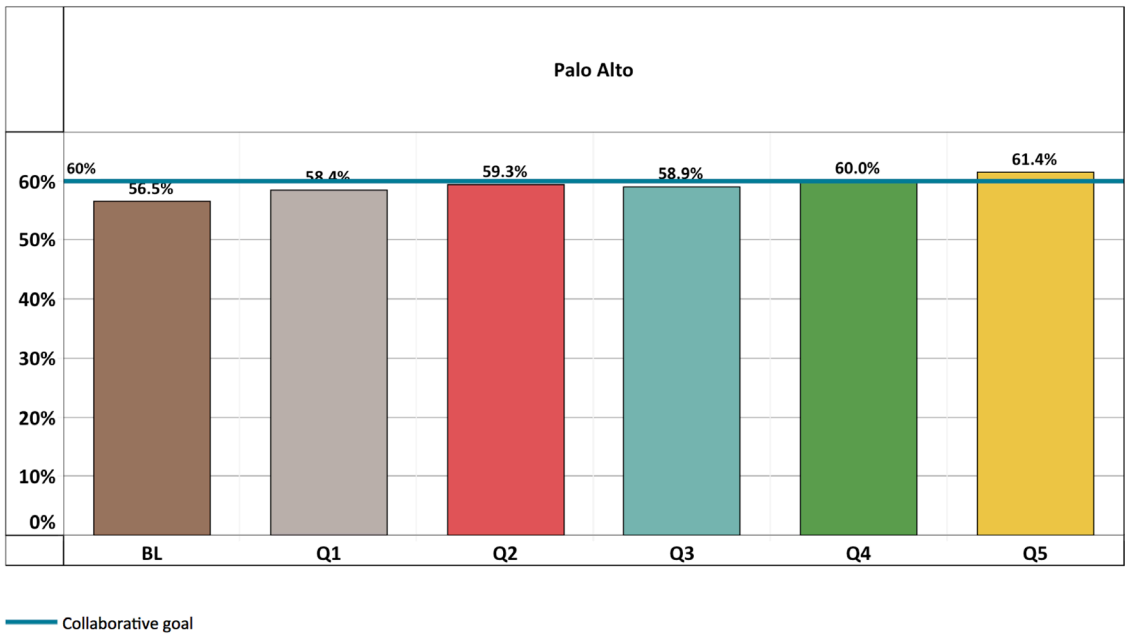


Appendix

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

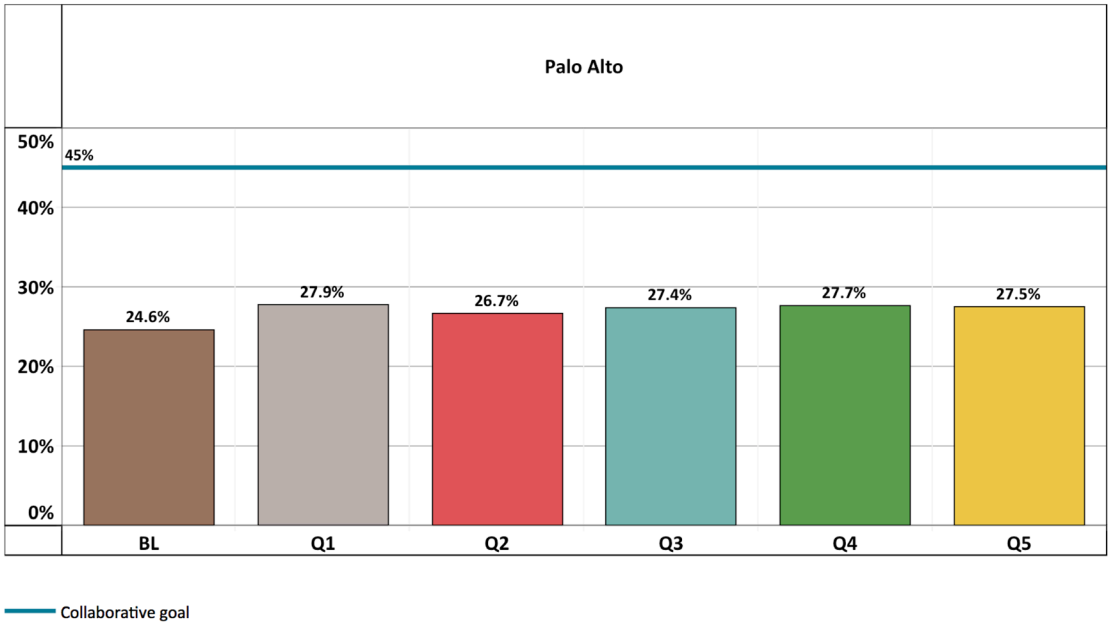


Measure 1 – Both PPSV and PCV Immunization for Adults Ages ≥ 65

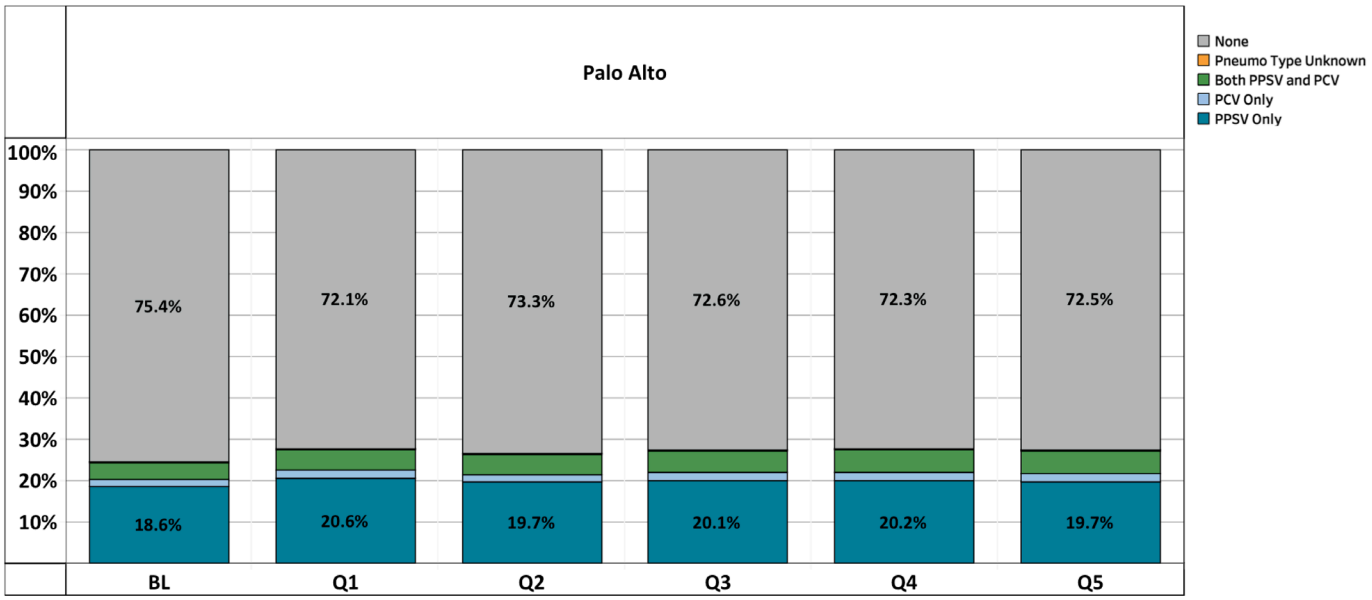


Appendix

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

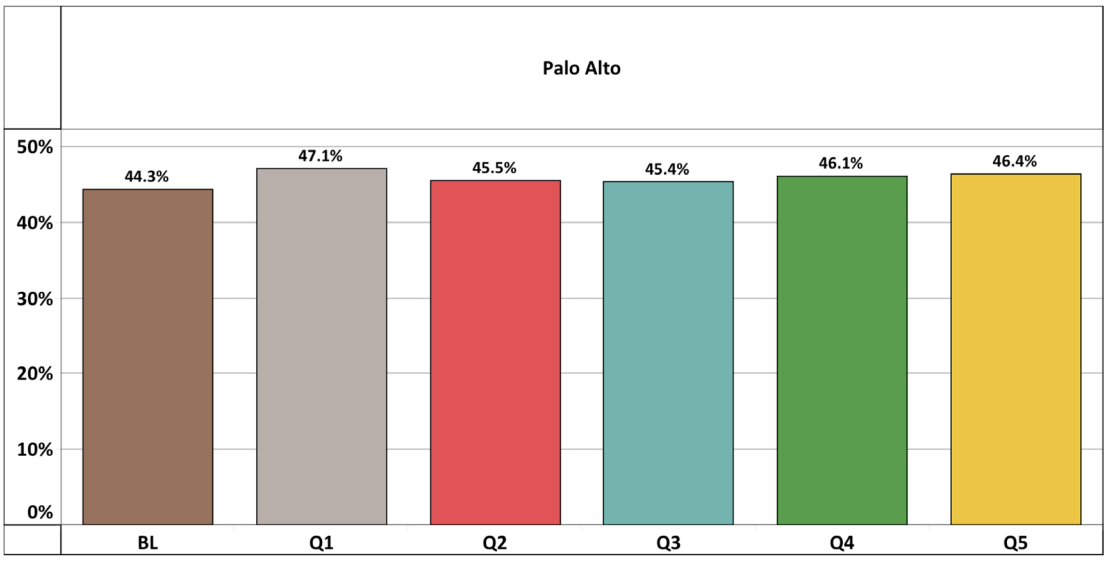


Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions

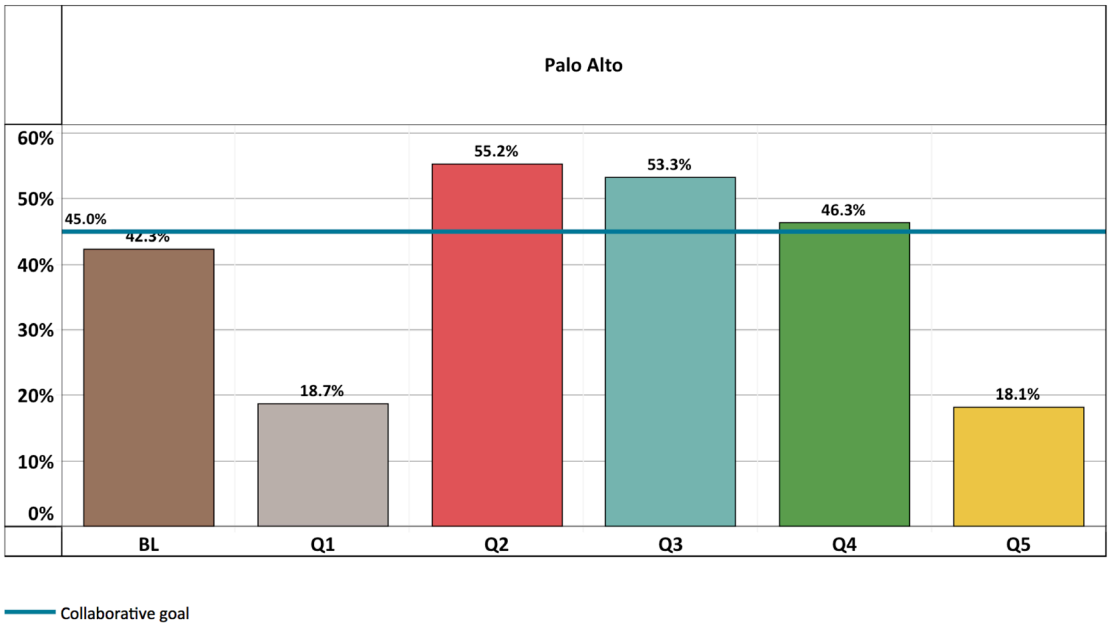


Appendix

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



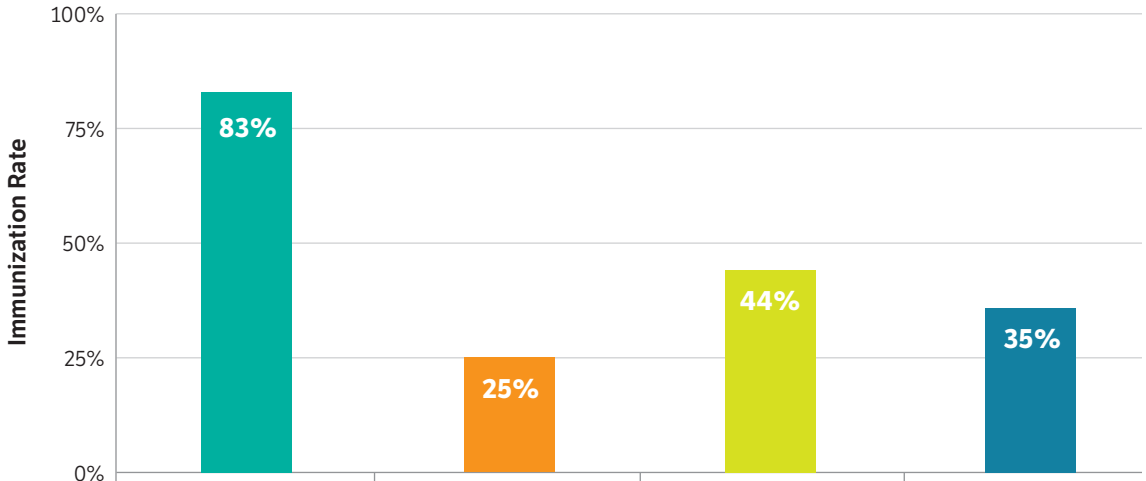
Measure 3 – Influenza Immunization, Age ≥ 18



Appendix

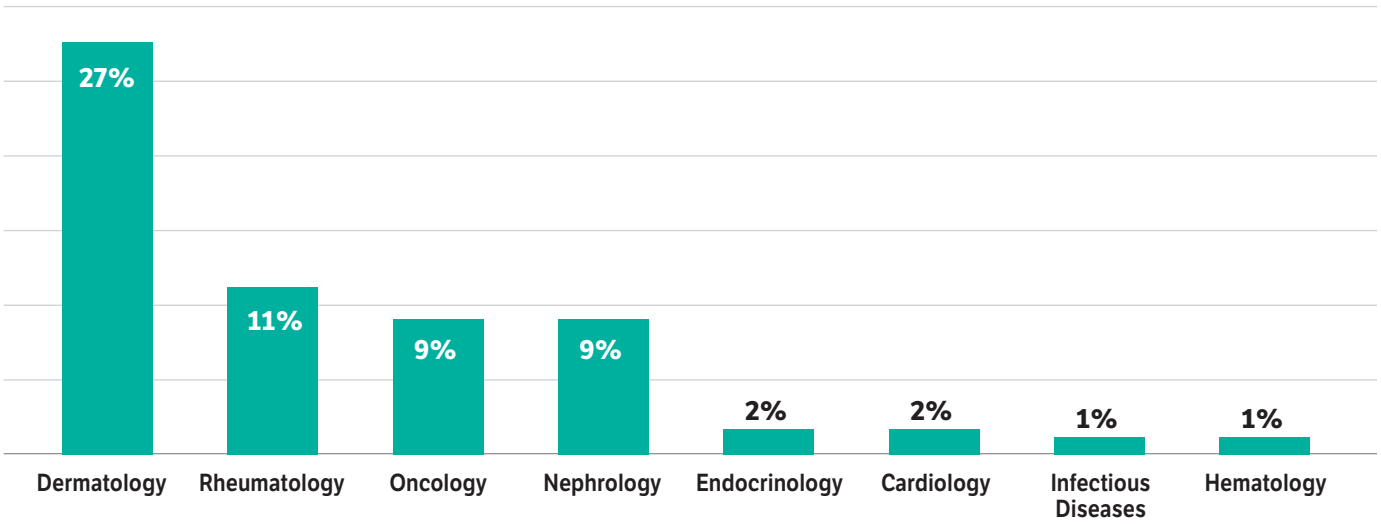
Baseline Rates for Pneumococcal and Influenza Immunization Among Adults

(Baseline period from July 2016 thru June 2017. Rate calculation based on unique patient count in the denominator and numerator.)

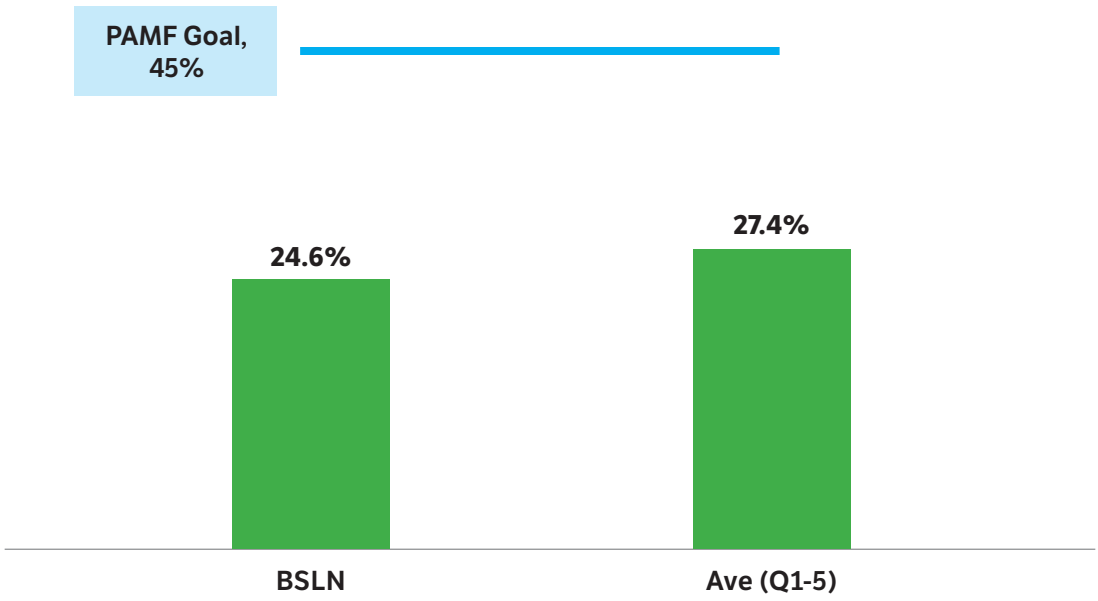


	Measure(1) PV Age 65+	Measure(2) PV High-Risk, Age 19-64	Measure(2A) PV At-Risk, Age 19-64	Measure(3) Flu Age 18+
RATE	83%	25%	44%	35%
NUMER_PT_COUNT	66,678	9,963	29,327	153,774
DENOM_PT_COUNT	80,323	40,592	66,236	441,029

High-Risk Adults (Age 19-64) with No Pneumococcal Immunization Seen by Specialty (n=8,798)



Pneumococcal Immunization Rates for High-Risk Adults (Age 19-64)



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AMGA's Distinguished Data and Analytics Collaborator

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