

**Improving Pneumococcal Immunization Rates through
Medicare Annual Wellness Visits: A Patient-Centered QIE Initiative**

A Regional CME & Quality Improvement Project for Primary Care Practices

Prepared by:

Theresa J. Barrett, PhD, CMP, CAE: VP Education, Communications, and Meetings
Angie Halaja-Henriques: Program Director
New Jersey Academy of Family Physicians
224 West State Street | Trenton, NJ 08608
Telephone 609/394-1711 | Fax 609/394-7712

Abstract

The New Jersey Academy of Family Physicians (NJAFP) proposes a CME/quality improvement project targeted at primary care practices in New Jersey to measurably improve Pneumococcal Vaccination rates for patients 65 and older. This project will leverage the Medicare Annual Wellness Visit (AWV) and a series of patient education videos to improve both recommendation and completion of pneumococcal immunization in this patient population.

NJAFP will recruit 15 primary care practices to participate in a quality improvement program to improve pneumococcal immunization rates for patients ≥ 65 years of age. The goal of the program is to improve pneumococcal vaccine rates by a minimum of 5% over baseline during the Project Period of Performance.

NJAFP will use a quality improvement education model, engaging primary care practices in live and virtual learning activities and hands-on practice coaching. At the conclusion of the program, participants will be able to:

1. Follow evidence-based guidelines for pneumococcal vaccination in older adults;
2. Identify older adult patients with gaps in care eligible for pneumococcal vaccination;
3. Use standing orders and electronic health record data to ensure patients are vaccinated against pneumococcal disease; and
4. Leverage patient education and employ shared decision-making to improve immunization rates among adult patients experiencing vaccine hesitancy.

Performance data collected from practices are national consensus quality measures for benchmarking and minimizing barriers to collection. Program assessment includes: baseline and project-end quality measure data analysis; test of change reports; and traditional pre/post-test and education evaluation data.

OVERALL GOAL AND OBJECTIVES

This goal aligns with the RFP's primary focus areas by leveraging both education *and* system-level process improvement to increase pneumococcal rates within the primary care practices participating in the program. This goal also aligns with NJAFP's vision to "transform the primary care practice environment" in New Jersey by offering new ideas for solving existing problems.

The key learning objectives for this program are as follows:

1. **Physicians will follow evidence-based guidelines for pneumococcal vaccination in adults.** This objective addresses the existing confusion among physicians about pneumococcal vaccine guidelines and evolving schedule and series completion.
2. **Physicians and their practice teams will identify adult patients with gaps in care who are eligible for pneumococcal vaccination through the Medicare Annual Wellness Visit and immunization registries.** This objective addresses the need for an established vehicle for identifying patients who are eligible for pneumococcal vaccination and have not yet been immunized.
3. **Physicians and their practice teams will ensure their patients are vaccinated against pneumococcal disease through the creation of standing orders and the use of electronic medical record tools.** This objective addresses the need for an improved systems-level approach to identification and adherence with recommended pneumococcal vaccine implementation.
4. **Physicians and their practice teams will leverage patient education and shared decision-making to improve immunization rates in older adult patients with vaccine hesitancy.** This objective addresses the need to better educate patients about the myths and facts related to vaccines *during the office visit*.

ASSESSMENT OF NEED

Despite the overwhelming evidence that immunization reduces the risk of contracting pneumococcal disease, a 2010 report showed that New Jersey ranked sixth in the nation for the number of eligible immunized adults (63.5%) of eligible adults.¹ New Jersey has not made much progress in the intervening years. According to *Health New Jersey 2020*, the state is not making adequate progress toward the goal of immunizing a minimum of 72.2% of eligible adult patients.²

Objective	2016
Increase adults 65+ who receive pneumonia vaccination	66.5%

Influenza and pneumonia combined are the tenth leading cause of death among New Jersey residents and eighth among all US residents, however, Medicare patients do not adequately utilize Annual Wellness Visits and free preventive services.^{1,3}

Table 1 below details the utilization of free preventive services and Annual Wellness Visits in New Jersey:

Table 1. Beneficiaries Utilizing Free Preventive Services, YTD 2015 through July 2015³

Location	Enrolled in Medicare Part B	Enrolled in Medicare Part B, no longer in first 12 months	All Free Services		Annual Wellness Visit	
			#	%	#	%
National	34,292,906	31,666,432	18,230,657	53.2	2,711,860	8.6
New Jersey	1,160,134	1,075,735	653,158	56.3	100,746	9.4

- Number of beneficiaries that have received at least one preventive service in 2015 through July 2015

% - Share of beneficiaries with traditional Medicare that have received at least one preventive service in 2015 through July 2015

Note: Certain services are subject to additional eligibility criteria. For example, a beneficiary must be enrolled in Part B for more than 12 months to be eligible for an Annual Wellness exam. The data depicted here represents 2015 claims observed as of August 1, 2015.

Barriers to Adult Immunizations

There are barriers that contribute to lack of pneumococcal immunizations in adults. Some adults do not know they need to be vaccinated. Some are worried about vaccine safety. The strongest factor in whether older adults get their pneumococcal vaccination is the physician recommendation.⁴

According to Dr. William Schaffner, Vanderbilt University School of Medicine, Department of Preventive Medicine, physicians are not using opportunities to vaccinate adults and they need additional education to make sure every patient is immunized.¹ Public health experts have also recommended increased education about vaccinations as part of health professional educational curricula.^{1,5} Primary care providers cite the need to implement systems to remind both patients and providers when vaccines are due and to reach out to patients who are overdue for immunization.⁶

The healthcare system itself contributes to low immunization rates in adults. There is a lack of vaccine registries and/or flags in electronic health records (EHRs) to ensure adults receive the vaccines they need and there is a lack of standing orders for immunization.¹ Physicians do not always assess vaccination status at every visit or use immunization information systems and therefore miss opportunities to offer vaccines.⁷ A recommendation is the most critical element to successful immunization, yet studies have shown that physicians fail to recommend immunization to their patients.⁸ In the case of many Medicare-aged patients, other active medical problems take priority over immunization and other preventive services.^{3,8}

Physicians are missing opportunities to immunize patients

A study by Lu and Nuorti found that among people aged ≥65 years who reported never receiving pneumococcal vaccine, 90.6% reported at least one missed opportunity to receive it.⁹ There is inconsistent application of the Standards for Adult Immunization Practice, with

variations among providers regarding vaccine need, recommendations, and stocking vaccines for pneumococcal and other vaccines.¹⁰

Providers need to create standing orders and use immunization registries to improve immunization rates. The pneumococcal quality measure report from most EHRs only indicates if any pneumococcal vaccination was given. The approval of a second pneumococcal vaccination means physicians need to run a report that looks for both pneumococcal vaccines.

Evidence has shown that reminding people to get vaccinated increased the number of people who were vaccinated, whether or not the people were due or overdue for vaccinations.¹¹ In a NJAFP survey of primary care physicians on barriers to immunizations, 23.2% stated patient education would be the most effective option to improving vaccination rates.¹²

One tool to provide education to patients is through clinical decision aids (CDA). CDAs help both the physician and the patient work through all the options available for a particular clinical condition. In a review of CDAs, O'Connor, et al. found that, for physicians, the use of decision aids resulted in greater knowledge, lower decisional conflict related to feeling uninformed, and lower decisional conflict related to feeling unclear about personal values. For patients, clinical decision aids were found to reduce the proportion of people who were passive in decision making, and reduced the proportion of people who remained undecided post-intervention. In addition, O'Connor, et al. found that when simpler decision aids were used, compared to more detailed ones, there was significant improvement in physician knowledge and greater agreement between values and choice. Helping patients with chronic conditions understand their risk of contracting pneumococcal disease can help inform the discussion about the need for immunization.¹³

TARGET AUDIENCE

The primary audience for this project is primary care practices serving Medicare patients in northern, central and southern regions of New Jersey. The entire primary care team - physicians, nurses, nurse practitioners, medical assistants, etc. - are the target participants for this project. The overall health system will directly benefit from project outcomes through a reduction in costly hospital admissions and emergency department visits due to decreased pneumococcal-related emergencies. Most importantly, patients will be protected from the sometimes deadly consequences of pneumococcal disease.

Practices	Est. Avg Medicare Patient Panel	Est. Total Patients
15	400	6,000

Partners

- **Aledade, Inc.** is a nationally-recognized Accountable Care Organization (ACO) led by Dr. Farzad Mostashari, a highly-respected physician and leader in healthcare. Aledade ACOs currently include more than 250 primary care practices across 16 states, with continued

growth expected. NJAFP is partnering with Aledade to provide practice transformation services to its New Jersey ACO, which launched in January 2018. The target practices for this project participate in the Aledade ACO, therefore, these practices are already dedicated and incentivized to measure and improve preventive services, such as immunization rates, for their patients. Aledade is committed to supporting this program as referenced in the attached Letter of Support.

- **Garden Practice Transformation Network (GPTN):** NJAFP is a subcontractor for the Garden Practice Transformation Network, a network of over 7,000 providers across New Jersey who are working through a federal grant to improve their systems of care in preparation for advanced payment models. NJAFP coaches over 40 primary care and specialty practices through this grant, and will leverage these practice relationships for this project. These practices have committed to improving their processes of care and to utilize tools and techniques to improve quality.
- **New Jersey Immunization Network (NJIN):** NJIN is a state-wide coalition of over 400 individuals representing 180 organizations across New Jersey. NJIN is funded by the New Jersey Department of Health, with a mission to improve immunization rates through education of healthcare providers and patients. NJAFP is a co-partner with the New Jersey Academy of Pediatrics in the management of NJIN, providing us with access to a broad spectrum of partners across the state. NJAFP will leverage the NJIN network to disseminate education and tools to a broad range of providers and thought leaders across New Jersey and beyond. NJIN leadership is committed to supporting this program as referenced in the attached Letter of Support.

PROJECT DESIGN AND METHODS:

This project closes stated gaps by providing education on ACIP-recommendations for pneumococcal vaccines, building workflows to identify and improve utilization of AWWs, implementing a digital patient education component, and training on documentation and coding to assure accurate data reporting. Our expert staff and faculty help practices use rapid cycle improvement methods to implement changes in their practices. Each practice submits performance data monthly to allow faculty and staff to monitor engagement and improvement. This CME/QI program will complement current improvement activities within primary care practices in New Jersey. Lessons learned will be implemented in practices using Plan-Do-Study-Act (PDSA) cycles – created by practice teams with guidance from experts – using a format that helps practices to systematically test changes and guide ongoing improvement work. PDSA reports are the story behind the data collected monthly.

Instructional Design

Using a collaborative and consultative model, NJAFP will engage primary care practices in a series of virtual learning and consultative visits with one live, face-to-face event about midway through to review progress, share challenges and celebrate success. This model engages practices in rapid cycle changes and provides opportunities for members of the primary care team to learn how to make identified improvements from topic experts in specific fields in addition to learning from each other. The consultative model supplements educational activities through on-site, hands-on, guidance and support from NJAFP practice coaches to foster activities that will reduce the gaps identified in the needs assessment. Based upon NJAFP's extensive experience working on QI and PCMH activities, consultative support has proven extremely beneficial in assisting members of primary care practices to mitigate the challenges experienced when implementing change in practice.

What Is	What Should Be
Primary care physicians do not always adhere to recommended guidelines for pneumococcal immunization	Primary care physicians adhere to evidence-based guidelines and create individualized treatment plans to ensure that patients receive the recommended pneumococcal vaccination
Primary care clinicians are not actively identifying all patients eligible for AWWs and performing proactive outreach to bring patients in for AWWs	Primary care clinicians identify and track Medicare patients eligible for AWWs and conduct active outreach to increase utilization of AWWs
Physician, patient, and systems barriers exist that prevent patients from receiving recommended preventive services	Physicians and the clinical team undertake systems changes, such as use of pre-visit planning and shared decision making to reduce barriers to utilization of preventive services

Learning Objectives and Curriculum

Objective	Clinical Education	Process Improvement
Follow evidence-based guidelines for utilization of pneumococcal vaccination in adults	Improve knowledge of ACIP guidelines related to pneumococcal vaccine	Implementation of standing orders and/or checklists for pneumococcal vaccine based on evidence-based recommendations
Identify adult patients with gaps in care who are eligible for pneumococcal vaccination	Improve knowledge of AWW scope of services, timeline, inclusion and exclusion criteria, and how to identify gaps in care for pneumococcal vaccine	Use of patient stratification tool to identify patients eligible for pneumococcal vaccine

Objective	Clinical Education	Process Improvement
Ensure patients are vaccinated against pneumococcal disease through the creation of standing orders and the use of electronic medical record reports, immunization registries and pre-visit planning	Improve knowledge of tools and EMR reminders available to improve processes of care	Implementation of standing orders and/or checklists for pneumococcal vaccine based on evidence-based recommendations
Leverage patient education and shared decision-making to improve immunization rates in appropriate adult patients who are experiencing vaccine hesitancy	Leverage patient education videos to improve patient knowledge and adherence to pneumococcal vaccine Improve communication skills, such as motivational interviewing (MI), to address barriers to preventive services	Implementation of patient education videos and motivational interviewing techniques

The CME and QI project will leverage the following tools to drive improvement:

Healthcare Team Education

NJAFP will leverage its clinical and process improvement experts to provide live and virtual education (team meetings and webinars) to all appropriate care team members within the enrolled practices, focused on the following topics:

- Review of ACIP recommendations for pneumococcal immunization administration
- How to identify and track patients with care gaps and adherence to recommendations for pneumococcal vaccination
- Overview of Medicare Annual Wellness Visit, administering the Health Risk Assessment, and creating a Personalized Prevention Plan
- Use of process improvement tools (such as PDSA) to increase utilization of pneumococcal vaccination across applicable patient population

Patient Education

To set the stage for the physician recommendation, NJAFP will leverage its patient education video series, titled “Wheel of Misinformation: The Truth About Vaccines,” in waiting rooms and/or examination rooms of enrolled practices. This video series was developed through a grant from the New Jersey Department of Health, and focuses on the following common myths related to vaccines:

“I’m healthy, I don’t need vaccines”
“Vaccines have toxins that will make me sick”
“I’m not a kid anymore, I don’t need vaccines”
“If I get a flu shot, I’ll get the flu”
“Vaccines cause autism”

The vaccine videos can be found here: <https://www.njafp.org/content/waiting-room-videos>. These videos can be placed on a “loop” so they play continuously, and installed on waiting and exam room televisions either by downloading from the NJAFP website or through manual upload using a USB drive. NJAFP practice coaches will work with practices to determine placement and upload processes as part of this project.



INNOVATION

This program will leverage existing tools in a new way – i.e., the Medical Annual Wellness Visit (AWV) and patient education videos – to measurably improve the physician recommendation and patient completion of pneumococcal vaccine for patients 65 and older.

Medicare Annual Wellness Visit (AWV)

The Patient Protection and Affordable Care Act of 2010 (ACA) included several provisions intended to improve the health of Americans and prevent the onset of preventable chronic conditions. Section 4103 of the Affordable Care Act, the Medicare Coverage of Annual Wellness Visit Providing a Personalized Prevention Plan, establishes a Medicare Annual Wellness Visit beginning in 2011 that includes a Health Risk Assessment (HRA) and a customized wellness or personal prevention plan, without cost to beneficiaries (i.e., not subject to deductibles or co-pays). This new benefit supplements the “Welcome to Medicare” preventive visit, a one-time, comprehensive assessment offered to beneficiaries within the first 12 months of enrolling in Medicare. Medicare pays for only one first AWV per beneficiary per lifetime, and pays for one subsequent AWV per year thereafter, and includes several preventive screening tests.

Patient Education and Engagement

As we know, there are popular myths surrounding adult immunization—such as fear of toxins, natural immunity, cost, etc.—many of which can influence a patient’s willingness to even enter into a discussion about immunizations with their physician. Lack of patient knowledge regarding immunizations is also a contributing factor to low immunization rates.¹⁴ Educating patients on the myths and benefits of adult immunization would help facilitate the conversation between physician and patient and, we believe, help increase the immunization rate in New Jersey.

Ambulatory care—or office visits—is the largest segment of the U.S. healthcare system, accounting for 2% of U.S. healthcare expenditures.^{15,16} A study of community-based primary care practices showed that patients spend an average of 18.94 minutes in the office waiting room and an additional 12.15 minutes of wait time in the exam room.¹⁷ This wait time can be leveraged to educate patients about the myths and facts related to immunizations *immediately before* they meet with their provider.

A systematic review of twenty-eight (28) studies examining the effects of videos in modifying health behaviors showed effectiveness in the areas of prevention (e.g., screening, sunscreen adherence, etc.) and self-care. This review was performed to prove that patient education using video has the potential of improving patients’ well-being by removing inconsistencies in the delivery of education and being more effective to patients with low literacy or health literacy. In addition, video education has shown to be a cost-effective way to distribute patient education. A study assessing the cost savings of a video-based HIV education program resulted in \$5,544,408 of savings by averting HIV infections in 10,000 patients.¹⁸

By increasing awareness for the need for adult immunization among patients and dispelling the myths associated with it, Family Physicians and other primary care providers will be better prepared to discuss specific questions related to vaccinations with their patients during the examination period.

EVALUATION DESIGN

	Q4/Q1	Q2	Q3	Q4	Q1	Outcomes Level*
	Dec–March	April–June	July–Sept	Oct–Dec	Jan–March	
QI Data Collection	Baseline	Monthly Submission			Project End	6
Virtual CME		Eval/Post-Test	Eval/Post-Test	Eval/Post-Test		4
PDSA Reports	Monthly Submission					5

* Moore, Green, & Gallis, 2009b

Quantitative Design

EHR Data

Practices will submit monthly data from EHRs and claims, so NJAFP can report patient level outcomes. See the table below for the ACO-specific measures we intend to collect. Practices run the reports from their ACO population health management tool and submit a numerator and denominator for each measure in NJAFP’s data management system, which immediately produces a run chart and updates the project dashboard so each practice can track their improvement and see how their improvement compares with other participating practices. NJAFP can see individual practice-level results and aggregated project-level results. NJAFP will track the data monthly over the project life cycle, looking for trends (defined as 5 or more data

points all moving in the same direction). This analysis will confirm that participants have extended the educational impact into their practice and network. NJAFP selects quality measures based on relevance to project goals and alignment with high priority measures, such as those being tracked by the ACO.

Measure	Description	NQF#	ACO (MSSP)
Pneumococcal vaccination status for older adults	Percentage of Medicare members 65 years of age and older who have ever received a pneumococcal vaccination	0043	ACO-15

CME Sessions

NJAFP will use traditional evaluation and pre/post-test methods to measure the impact of each CME event. We use an ARS to deliver the pre-/post-test to measure baseline knowledge, predispose learners to primary messages, inform faculty of gaps in knowledge and get accurate post-activity test results. The ARS collects data instantly and provides detailed post-activity reports for analysis. The evaluation picks up degrees of learner satisfaction plus intent to change.

WORK PLAN AND DELIVERABLES

Timeline begins upon receipt of the signed Letter of Agreement representing full support of the initiative. If a change in scope is required based on the final funding level, we will submit a written request describing the proposed amendment for approval.

Project Scope

Funding Request	Education/QI	Attendee Type
	6 live CME webinars (online) 6 enduring CME (webinars) 1 in-person session Monthly coaching sessions	Primary care physicians NPs/PAs Medical Assistants Front Desk Staff Other members of the care team

Schedule and Deliverables

Q4-2018	Q1-2019	Q2-2019	Q3-2019	Q4-2019	Q1-2020
Project Initiation and Curriculum Development	Action Period #1	Action Period #2	Action Period #3	Action Period #4	Analysis, Distribution Reporting
Education curriculum development	2 Education Webinars	In-person meeting at NJAFP Annual Conference	2 Education Webinars	Education Webinar	Education Webinar
Practice enrollment	Virtual/on-site practice coaching	Virtual/on-site practice coaching	Virtual/on-site practice coaching	Virtual/on-site practice coaching	Virtual/on-site practice coaching
Patient video installment	PDSA cycles	PDSA cycles	PDSA cycles	PDSA cycles	PDSA cycles
Data platform setup	Data reporting & analysis	Data reporting & analysis	Data reporting & analysis	Data reporting & analysis	Data reporting & analysis
Project kickoff conference call w/practices					Final Analysis Final Report

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