

eMeasure Title	Pneumococcal Vaccination Status for Older Adults		
eMeasure Identifier (Measure Authoring Tool)	127	eMeasure Version number	5.1.000
NQF Number	0043	GUID	59657b9b-01bf-4979-a090-8534da1d0516
Measurement Period	January 1, 20XX through December 31, 20XX		
Measure Steward	National Committee for Quality Assurance		
Measure Developer	National Committee for Quality Assurance		
Endorsed By	National Quality Forum		
Description	Percentage of patients 65 years of age and older who have ever received a pneumococcal vaccine		
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Measure Scoring	Proportion		
Measure Type	Process		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	<p>Pneumonia is a common cause of illness and death in the elderly and persons with certain underlying conditions such as heart failure, diabetes, cystic fibrosis, asthma, sickle cell anemia, or chronic obstructive pulmonary disease (NHLBI, 2011). In 1998, an estimated 3,400 adults aged > 65 years died as a result of invasive pneumococcal disease (IPD) (CDC, 2003).</p> <p>Among the 91.5 million US adults aged > 50 years, 29,500 cases of IPD, 502,600 cases of nonbacteremic pneumococcal pneumonia and 25,400 pneumococcal-related deaths are estimated to occur yearly; annual direct and indirect costs are estimated to total \$3.7 billion and \$1.8 billion, respectively. Pneumococcal disease remains a substantial burden among older US adults, despite increased coverage with 23-valent pneumococcal polysaccharide vaccine, (PPV23) and indirect benefits afforded by PCV7 vaccination of young children (Weycker, et al., 2011).</p> <p>Vaccination has been found to be effective against bacteremic cases (OR: 0.34; 95% CI: 0.27-0.66) as well as nonbacteremic cases (OR: 0.58; 95% CI: 0.39-0.86). Vaccine effectiveness was highest against bacteremic infections caused by vaccine types (OR: 0.24; 95% CI: 0.09-0.66) (Vila-Corcoles, et al., 2009).</p>		
Clinical Recommendation Statement	<p>In 2014, the Advisory Committee on Immunization Practices (ACIP) began recommending a dose of 13-valent pneumococcal conjugate vaccine (PCV13) be followed by a dose of 23-valent pneumococcal polysaccharide vaccine (PPSV23) 6-12 months later in adults aged 65 and older who have not previously received a pneumococcal vaccination, and in persons over the age of two years who are considered to be at higher risk for pneumococcal disease due to an underlying condition. The two vaccines should not be coadministered and intervals for administration of the two vaccines vary slightly depending on the age, risk group, and history of vaccination</p>		

	(Kobayashi, 2015). In 2015, ACIP updated its recommendation and changed the interval between PCV13 and PPSV23, from 6-12 months to at least one year for immunocompetent adults aged ≥ 65 years who have not previously received pneumococcal vaccine. For immunocompromised vaccine-naïve adults, the minimum acceptable interval between PCV13 and PPSV23 is 8 weeks. Both immunocompetent and immunocompromised adults aged ≥ 65 years who have previously received a dose of PPSV23 when over the age of 65 should receive a dose of PCV13 at least one year after PPSV23 (≥ 1 year). Immunocompetent and immunocompromised adults aged ≥ 65 who have previously received a dose of PPSV23 when under the age of 65, should also receive a dose of PCV13 at least one year after PPSV23 (≥ 1 year) and then another dose of PPSV23 at least one year after PCV13. It is recommended that for those that have this alternative three-dose schedule (2 PPSV23 and 1 PCV13), the three doses should be spread over a time period of five or more years (Kobayashi, 2015).
Improvement Notation	Higher score indicates better quality
Reference	Kobayashi M, Bennett NM, Gierke R, et al. "Intervals between PCV13 and PPSV23 vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP)." MMWR. (2015);64(34):944-7.
Reference	National Heart, Lung and Blood Institute. 2011. "Pneumonia." http://www.nhlbi.nih.gov/health/dci/Diseases/pnu/pnu_what.html
Reference	Weycker, D., D. Strutton, J. Edelsberg, R. Sato, L.A. Jackson. 2011. "Clinical and Economic Burden of Pneumococcal Disease in Older US Adults." Vaccine 28(31): 4955-60.
Reference	Vila-Corcoles, A., E. Salsench, T. Rodriguez-Blanco, O. Ochoa-Gondar, C. de Diego, A. Valdivieso, I. Hospital, F. Gomez-Bertemeu, X. Raga. 2009. "Clinical effectiveness of 23-valent pneumococcal polysaccharide vaccine against pneumonia in middle-aged and older adults: A matched case-control study." Vaccine 27(10):1504-10.
Definition	None
Guidance	None
Transmission Format	TBD
Initial Population	Patients 65 years of age and older with a visit during the measurement period
Denominator	Equals Initial Population
Denominator Exclusions	None
Numerator	Patients who have ever received a pneumococcal vaccination
Numerator Exclusions	Not Applicable
Denominator Exceptions	None
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity and sex

Table of Contents

- [Population Criteria](#)
- [Data Criteria \(ODM Variables\)](#)
- [Data Criteria \(ODM Data Elements\)](#)
- [Supplemental Data Elements](#)
- [Risk Adjustment Variables](#)

Population Criteria

- **Initial Population =**
 - AND: Age ≥ 65 year(s) at: "Measurement Period"
 - AND: Union of:
 - "Encounter, Performed: Office Visit"
 - "Encounter, Performed: Face-to-Face Interaction"
 - "Encounter, Performed: Annual Wellness Visit"
 - "Encounter, Performed: Home Healthcare Services"
 - "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up"
 - "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up"
 - during "Measurement Period"
- **Denominator =**
 - AND: Initial Population
- **Denominator Exclusions =**
 - None
- **Numerator =**
 - AND: Union of:

- "Immunization, Administered: Pneumococcal Vaccine"
- "Procedure, Performed: Pneumococcal Vaccine Administered"
- "Risk Category Assessment: History of Pneumococcal Vaccine"
- starts before end of "Measurement Period"
- **Numerator Exclusions =**
 - None
- **Denominator Exceptions =**
 - None
- **Stratification =**
 - None

Data Criteria (QDM Variables)

- None

Data Criteria (QDM Data Elements)

- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit Grouping Value Set (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Face-to-Face Interaction" using "Face-to-Face Interaction Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1048)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Office Visit" using "Office Visit Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Immunization, Administered: Pneumococcal Vaccine" using "Pneumococcal Vaccine Grouping Value Set (2.16.840.1.113883.3.464.1003.110.12.1027)"
- "Procedure, Performed: Pneumococcal Vaccine Administered" using "Pneumococcal Vaccine Administered Grouping Value Set (2.16.840.1.113883.3.464.1003.110.12.1034)"
- "Risk Category Assessment: History of Pneumococcal Vaccine" using "History of Pneumococcal Vaccine Grouping Value Set (2.16.840.1.113883.3.464.1003.110.12.1028)"

Supplemental Data Elements

- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity CDCREC Value Set (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer SOP Value Set (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race CDCREC Value Set (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex AdministrativeGender Value Set (2.16.840.1.113762.1.4.1)"

Risk Adjustment Variables

- None

Measure Set	None
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