

NQF-ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE**Measure Information Form****Collected For:****CMS Voluntary Only****The Joint Commission - Data Collection Suspended****Measure Set:** Immunization**Set Measure ID#:** IMM-1**Performance Measure Name:** Pneumococcal Immunization

Set Measure ID#	Stratified Measure Name
IMM-1a	Pneumococcal Immunization – Overall Rate
IMM-1b	Pneumococcal Immunization – Age 65 and Older
IMM-1c	Pneumococcal Immunization – High Risk Populations (Age 5 through 64 years)

Description: This prevention measure addresses acute care hospitalized inpatients 65 years of age and older (IMM-1b) AND inpatients aged between 5 and 64 years (IMM-1c) who are considered high risk and were screened for receipt of pneumococcal vaccine and were vaccinated prior to discharge if indicated. The numerator captures two activities; screening and the intervention of vaccine administration when indicated. As a result, patients who had documented contraindications to pneumococcal vaccine, patients who were offered and declined pneumococcal vaccine and patients who received pneumococcal vaccine anytime in the past are captured as numerator events.

Rationale: Pneumococcal infection causes an estimated 5,000 deaths from invasive disease annually in the United States (CDC). All pneumococcal infections, including invasive and non-invasive disease, result in approximately 2.4 million days of hospitalization. A sizable proportion of these cases and deaths are potentially preventable through vaccination. Case-fatality rates are highest for meningitis and bacteremia, and the highest mortality occurs among the elderly and patients who have underlying medical conditions. The overall case-fatality rate for invasive pneumococcal disease is 10-18% among adults (Pilishvili CID 2010;201:32-41). While there is limited evidence that pneumococcal vaccine can prevent pneumonia, multiple studies have demonstrated the effectiveness of that vaccine against pneumococcal bacteremia in vaccinated patients.

In the United States today, pneumococcal vaccine coverage is suboptimal. Although inpatient vaccine screening and administration are recommended, hospitalization is an underutilized opportunity for vaccination.

Type of Measure: Process

Improvement Noted As: An increase in the rate

Numerator Statement: Inpatient discharges who were screened for pneumococcal vaccine status and received pneumococcal vaccine prior to discharge, if indicated.

Included Populations:

- Patients who received pneumococcal vaccine during this inpatient hospitalization
- Patients who received pneumococcal vaccine anytime in the past
- Patients who were offered and declined pneumococcal vaccine
- Patients who have an allergy/sensitivity to the vaccine or the vaccine is not likely to be effective due to the following:
 - Hypersensitivity to component(s) of the vaccine
 - Bone marrow transplant within the past 12 months
 - Receipt of chemotherapy or radiation during this hospitalization or less than 2 weeks prior to this inpatient hospitalization
 - Received the shingles vaccine (Zostavax) within the last 4 weeks
 - Patients 5 -18 years of age who received a conjugate vaccine within the previous 8 weeks

Excluded Populations: None

Data Elements:

- *ICD-9-CM Principal Diagnosis Code*
- *ICD-9-CM Other Diagnosis Codes*
- *Pneumococcal Vaccination Status*

Denominator Statement: Inpatient discharges 65 years of age and older, and 5 through 64 years of age who have a high risk condition.

Included Populations:

- Inpatient discharges 65 years and older
- Inpatient discharges 5 - 64 years of age with an *ICD-9-CM Principal Diagnosis Code* or *ICD-9-CM Other Diagnosis Code* of diabetes, nephrotic syndrome, ESRD, CHF, COPD, HIV or asplenia as defined in Appendix A, Tables 12.1, 12.2, 12.5-12.8 and 2.1.
- Inpatient discharges 19-64 years of age with an *ICD-9-CM Principal Diagnosis Code* or *ICD-9-CM Other Diagnosis Code* of asthma as defined in Appendix A, Table 12.4.

Excluded Populations:

- Patients less than 5 years of age
- Patients who expire prior to hospital discharge
- Patients who are pregnant (Appendix A, Table 12.3)

- Patients with an organ transplant during the current hospitalization (Appendix A, Table 12.10)
- Patients less than 19 with asthma *and* that have no other high risk conditions
- Patients who have a Length of Stay greater than 120 days
- Patients who are transferred or discharged to another acute care hospital
- Patients who leave Against Medical Advice (AMA)

Data Elements:

- *Admission Date*
- *Birthdate*
- *Discharge Disposition*
- *ICD-9-CM Other Diagnosis Codes*
- *ICD-9-CM Principal Diagnosis Code*
- *ICD-9-CM Other Procedure Codes*
- *ICD-9-CM Principal Procedure Code*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical record documents. Some hospitals may prefer to gather data concurrently by identifying patients in the population of interest. This approach provides opportunities for improvement at the point of care/service. However, complete documentation includes the principal or other ICD-9-CM diagnosis and procedure codes, which require retrospective data entry.

Data Accuracy: Variation may exist in the assignment of ICD-9-CM codes; therefore, coding practices may require evaluation to ensure consistency.

Measure Analysis Suggestions: Hospitals may wish to analyze the measure data by individual high risk populations, for example, diabetes, COPD, etc., in order to determine if all defined high risk populations are equally vaccinated or if there are opportunities to improve care to a specific population of patients.

Sampling: Yes, please refer to the measure set specific sampling requirements and for additional information see the Population and Sampling Specifications section.

Data Reported As: Aggregate rate generated from count data reported as a proportion.

Selected References:

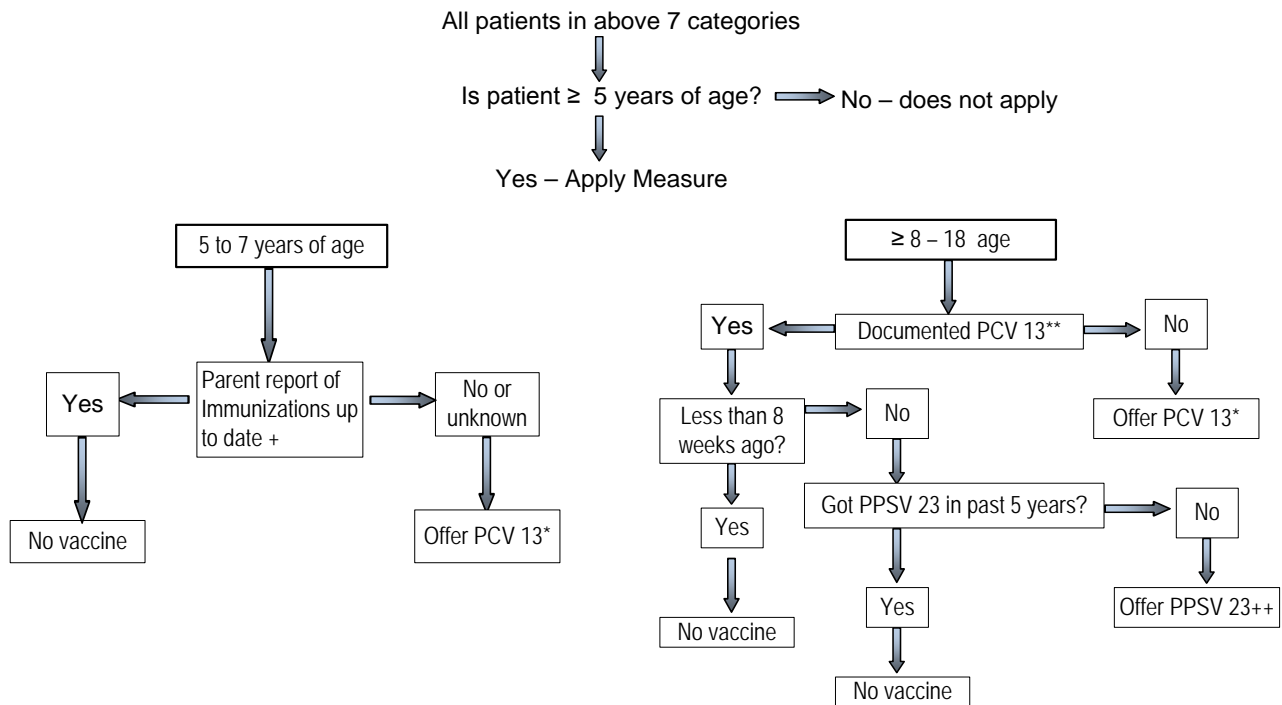
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Pediatric Infectious Diseases Society (PIDS) Flow Diagram for CMS Quality Measure on Pneumococcal Vaccine Assessment/Administration for High risk In-patients ≥ 5 – 18 years of age

In-patient discharges beginning January 1, 2012

Applies to: Pediatric patients, ≥ 5 -18 years of age with ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Code of: 1) diabetes mellitus; 2) nephrotic syndrome; 3) End Stage Renal Disease (ESRD); 4) Congestive Heart Failure; 5) HIV; 6) asplenia; and 7) if applicable, COPD.



Rationale: If up to date at 8 years, unlikely to have received PCV 13 based on PCV 13's entry into routine use
 Caveat: **Do not use abbreviation "UTD" in documentation.** This could mean "unable to determine."

+ Presuming no readily available data to contradict the parent report.

* If no pneumococcal vaccine (PCV 13 or PPSV 23) received in prior 8 weeks

**Medical record or immunization record confirms prior receipt of PCV 13.

++ Offer PPSV 23 unless documented that patient has already received 2 prior doses of PPSV 23; if the patient has received 2 prior doses of PPSV 23, document in medical record and do not give a dose of PPSV 23.

Families can refuse vaccine. Regardless of whether child immunized in hospital or not, document in medical record that patient was screened, whether or not patient was offered vaccine, and whether or not patient was given vaccine (i.e. family refused, vaccine contraindicated, etc.).

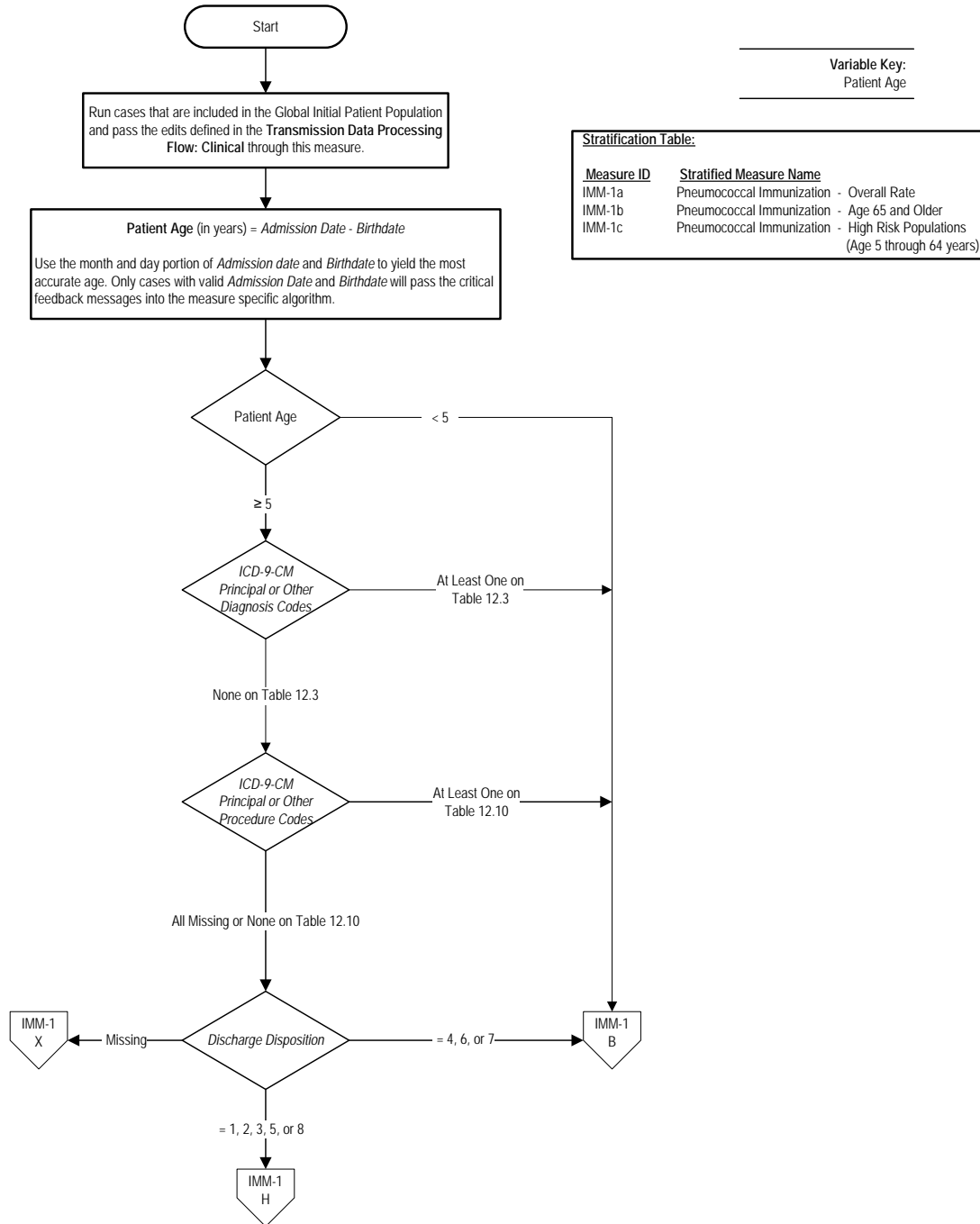
PIDS Diagram Statement – IMM -1

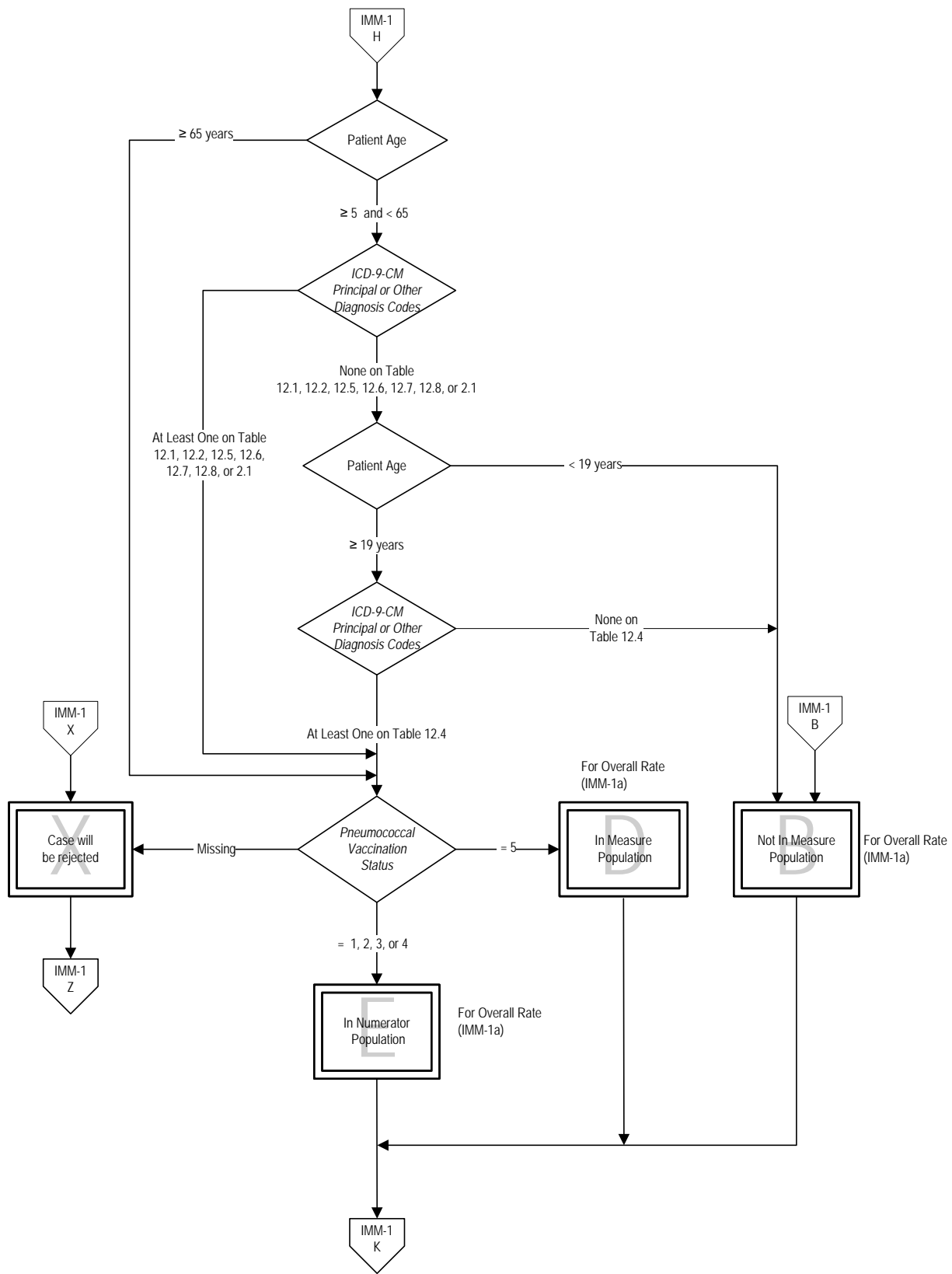
This flow diagram created by the Pediatric Infectious Diseases Society (PIDS) is to be used as an informational tool to assist hospital based healthcare personnel in deciding whether to administer PCV 13 to the hospitalized child. This flow diagram does not replace the Joint Commission/CMS calculation algorithm and should not be used for programming; it has been provided as an informational tool only.

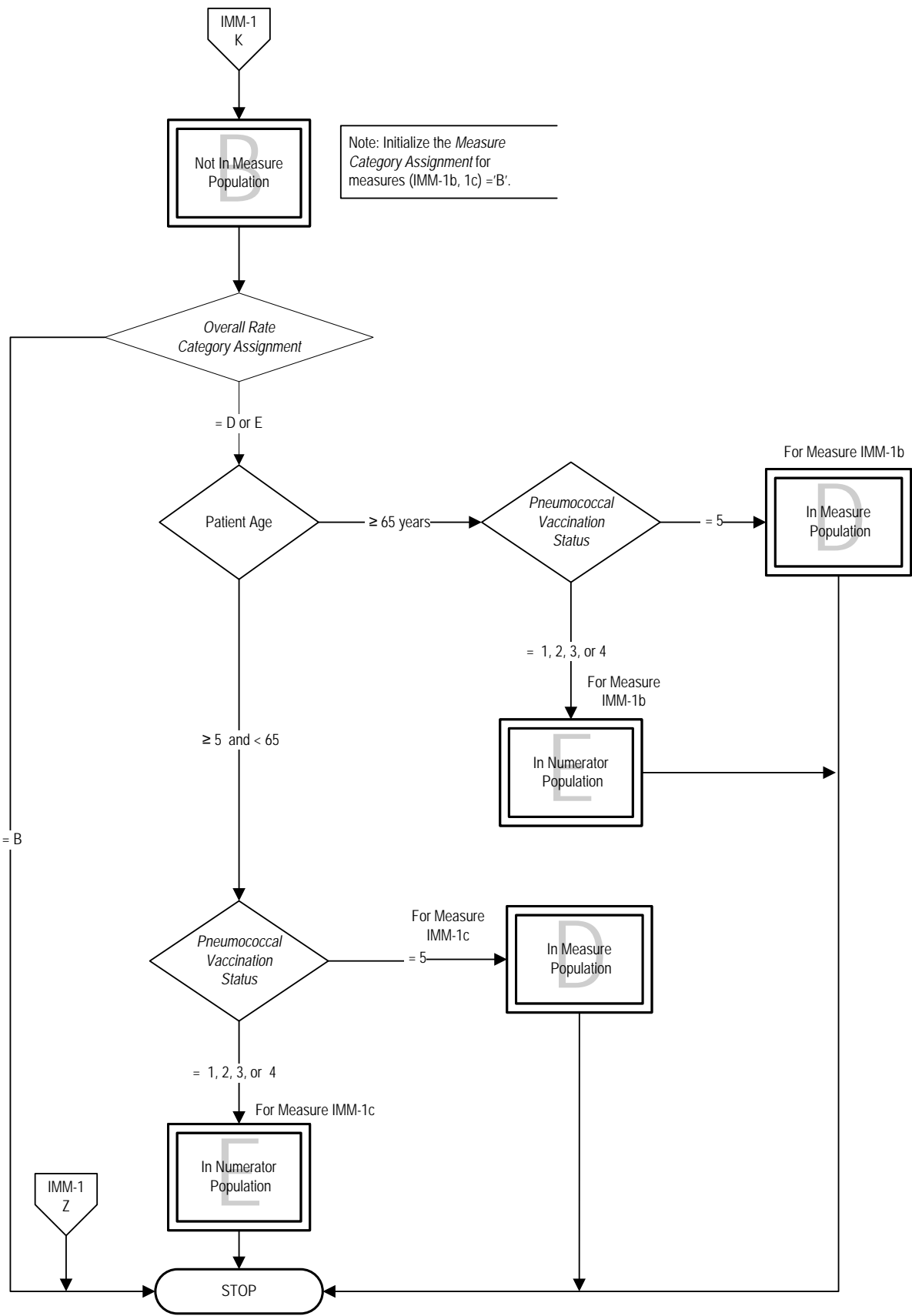
IMM-1: Pneumococcal Immunization.

Numerator Statement: Inpatient discharges who were screened for pneumococcal vaccine status and received pneumococcal vaccine prior to discharge, if indicated.

Denominator Statement: Inpatient discharges 65 years of age and older, and 5 through 64 years of age who have a high risk condition.







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Numerator: Inpatient discharges who were screened for pneumococcal vaccine status and received pneumococcal vaccine prior to discharge, if indicated.

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Variable Key: Patient Age

Stratification Table:

Set Measure ID#	Stratified Measure Name
IMM-1a	Pneumococcal Immunization – Overall Rate
IMM-1b	Pneumococcal Immunization – Age 65 and Older
IMM-1c	Pneumococcal Immunization – High Risk Populations (Age 5 through 64 years)

1. Start processing. Run cases that are included in the Global Initial Patient Population and pass the edits defined in the Transmission Data Processing Flow: Clinical through this measure.
2. Calculate Patient Age. Patient Age, in years, is equal to the Admission Date minus the Birthdate. Use the month and day portion of Admission Date and Birthdate to yield the most accurate age. Only cases with valid Admission Date and Birthdate will pass the critical feedback messages into the measure specific algorithms.
3. Check Patient Age
 - a. If the Patient Age is less than 5 years old, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Assign the Measure Category to B for IMM-1a and proceed to step 12.
 - b. If the Patient Age is greater than or equal to 5 years old, continue processing and proceed to ICD-9-CM Principal or Other Diagnosis Codes.
4. Check ICD-9-CM Principal or Other Diagnosis Codes
 - a. If at least one of ICD-9-CM Principal or Other Diagnosis Codes is on Table 12.3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Assign the Measure Category to B for IMM-1a and proceed to step 12.
 - b. If none of ICD-9-CM Principal or Other Diagnosis Codes is on Table 12.3, continue processing and proceed to check ICD-9-CM Principal or Other Procedure Codes.

5. Check ICD-9-CM Principal or Other Procedure Codes
 - a. If at least one of ICD-9-CM Principal or Other Procedure Codes is on Table 12.10, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Assign the Measure Category to B for IMM-1a and proceed to step 12.
 - b. If all missing or none of ICD-9-CM Principal or Other Procedure Codes is on Table 12.10, continue processing and check Discharge Disposition.
6. Check Discharge Disposition
 - a. If Discharge Disposition is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Discharge Disposition equals 4, 6 or 7 the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Assign the Measure Category to B for IMM-1a and proceed to step 12.
 - c. If Discharge Disposition equals 1, 2, 3, 5 or 8, proceed to recheck Patient Age.
7. Recheck Patient Age
 - a. If the Patient Age is greater than or equal to 65 years, proceed to step 11 and check Pneumococcal Vaccination Status.
 - b. If the Patient Age is greater than or equal to 5 years and less than 65 years, proceed to recheck ICD-9-CM Principal or Other Diagnosis Codes.
8. Recheck ICD-9-CM Principal or Other Diagnosis Codes
 - a. If at least one of ICD-9-CM Principal or Other Diagnosis Codes is on Table 12.1, 12.2, 12.5, 12.6, 12.7, 12.8, or 2.1, proceed to step 11 and check Pneumococcal Vaccination Status.
 - b. If none of ICD-9-CM Principal or Other Diagnosis Codes is on Table 12.1, 12.2, 12.5, 12.6, 12.7, 12.8, or 2.1, proceed to recheck Patient Age.
9. Recheck Patient Age
 - a. If the Patient Age is less than 19 years, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Assign the Measure Category to B for IMM-1a and proceed to step 12.
 - b. If the Patient Age is greater than or equal to 19 years old, proceed to recheck ICD-9-CM Principal or Other Diagnosis Codes.
10. Recheck ICD-9-CM Principal or Other Diagnosis Codes
 - a. If none of ICD-9-CM Principal or Other Diagnosis Codes is on Table 12.4, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Assign the Measure Category to B for IMM-1a and proceed to step 12.

- b. If at least one of ICD-9-CM Principal or Other Diagnosis Codes is on Table 12.4, proceed to check Pneumococcal Vaccination Status.
11. Check Pneumococcal Vaccination Status
- a. If Pneumococcal Vaccination Status is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Pneumococcal Vaccination Status equals 5, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Assign the Measure Category to D for IMM-1a and proceed to step 12.
 - c. If Pneumococcal Vaccination Status equals 1, 2, 3, or 4, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Assign the Measure Category to E for IMM-1a and proceed to step 12.
12. Initialize the Measure Category Assignment for measure IMM-1b and IMM-1c to a Measure Category Assignment of B and proceed to check Overall Rate Category Assignment.
13. Check Overall Rate Category Assignment
- a. If Overall Rate Category Assignment equals B, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population for IMM-1b and IMM-1c. Stop processing.
 - b. If Overall Rate Category Assignment equals D or E, continue processing and proceed to recheck Patient Age.
14. Recheck Patient Age
- a. If the Patient Age is greater than or equal to 65 years, proceed to check Pneumococcal Vaccination Status.
 - 1. If Pneumococcal Vaccination Status equals 5, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population for IMM-1b. Stop Processing.
 - 2. If Pneumococcal Vaccination Status equals 1, 2, 3, or 4, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population for IMM-1b. Stop processing.
 - b. If the Patient Age is greater than or equal to 5 years and less than 65 years, proceed to check Pneumococcal Vaccination Status.
 - 1. If Pneumococcal Vaccination Status equals 5, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population for IMM-1c. Stop Processing.
 - 2. If Pneumococcal Vaccination Status equals 1, 2, 3, or 4, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population for IMM-1c. Stop Processing.