

PREVENTION NATIONAL HOSPITAL QUALITY CORE MEASURES**Collected For: Informational Only**

Set Measure ID #	Measure Short Name
Prev-Imm-1a	Pneumococcal Immunization – Overall Rate
Prev-Imm-1b	Pneumococcal Immunization – Age 65 and greater
Prev-Imm-1c	Pneumococcal Immunization – High Risk Populations (Age 5 through 64 years)
Prev-Imm-1d	Pneumococcal Immunization – Received During Hospitalization
Prev-Imm-1e	Pneumococcal Immunization – Received in Past
Prev-Imm-1f	Pneumococcal Immunization – Patient Refused
Prev-Imm-1g	Pneumococcal Immunization – Medical Contraindications
Prev-Imm-2a	Influenza Immunization – Overall Rate
Prev-Imm-2b	Influenza Immunization – Age 6 months to 18 years and greater than 50 years
Prev-Imm-2c	Influenza Immunization – High Risk Populations (Age 19 through 49 years)
Prev-Imm-2d	Influenza Immunization – Received During Hospitalization
Prev-Imm-2e	Influenza Immunization – Received in Past
Prev-Imm-2f	Influenza Immunization – Patient Refused
Prev-Imm 2g	Influenza Immunization – Medical Contraindications

PREV DATA ELEMENT LIST

General Data Element Name	Collected For:
<i>Admission Date</i>	All Records
<i>Birthdate</i>	All Records
<i>Discharge Date</i>	All Records
<i>Discharge Status</i>	All
<i>ICD-9-CM Other Diagnosis Codes</i>	All Records (Used in Algorithm for Prev-Imm-01, 02)
<i>ICD-9-CM Other Procedure Codes</i>	All Records (Used in Algorithm for Prev-Imm-01, 02)
<i>ICD-9-CM Other Procedure Dates</i>	All Records
<i>ICD-9-CM Principal Diagnosis Code</i>	All Records (Used in Algorithm for Prev-Imm-01, 02)
<i>ICD-9-CM Principal Procedure Code</i>	All Records (Used in Algorithm for Prev-Imm-01, 02)
<i>ICD-9-CM Principal Procedure Date</i>	All Records
<i>Payment Source</i>	All Records
<i>Sample</i>	Used in transmission of the Joint Commission's aggregate data file and the Hospital Clinical Data file
<i>Sex</i>	All Records

Algorithm Output Data Element Name	Collected For:
<i>Measure Category Assignment</i>	Used in the calculation of the Joint Commission's aggregate data and in the transmission of the Hospital Clinical Data file

Prev Data Element Name	Collected For:
Pneumococcal Immunization Status	Prev- Imm-1
Influenza Immunization Status	Prev- Imm 2

Prevention (Prev) Initial Patient Population

The Prevention measure set is unique in that there are two overlapping Initial Patient Population sampling groups within the measure set, each identified by criteria of age and high risk diagnosis for certain disease conditions.

Prev-Imm-AGE Sampling Group

The sampling group for the Prev-Imm-AGE measures (Prev-Imm-1b and Prev-Imm-2b) are identified using 3 data elements:

- *Admission Date*
- *Birthdate*
- *Discharge Date*

Patients 50 years and older (*Discharge Date* minus *Admission Date*) at admission, and 6 months through 18 years (*Discharge Date* minus *Admission Date*) at admission with Length of Stay (*Discharge Date* minus *Admission Date*) less than or equal to 120 days are included in this population.

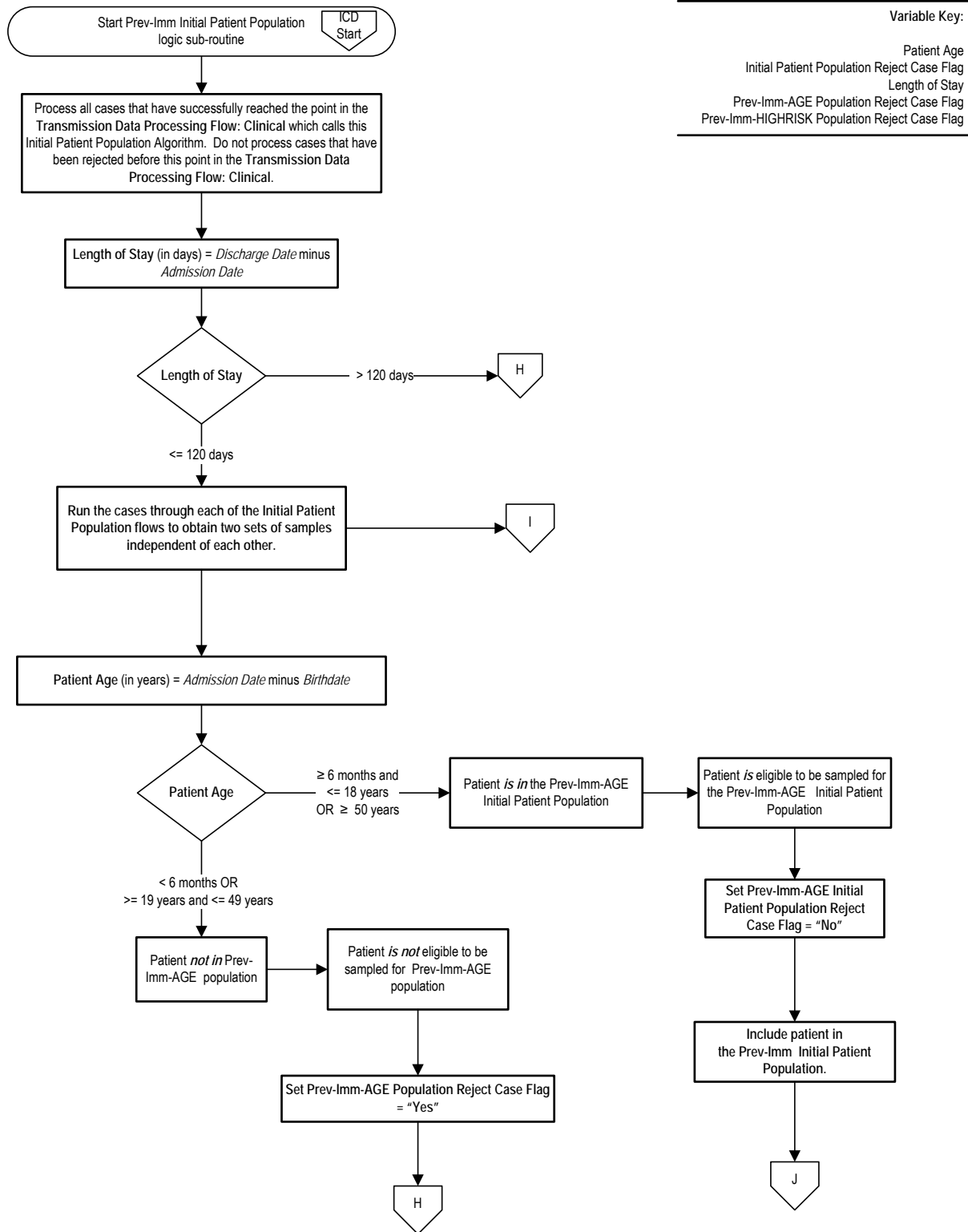
Prev-Imm-High Risk Sampling Group

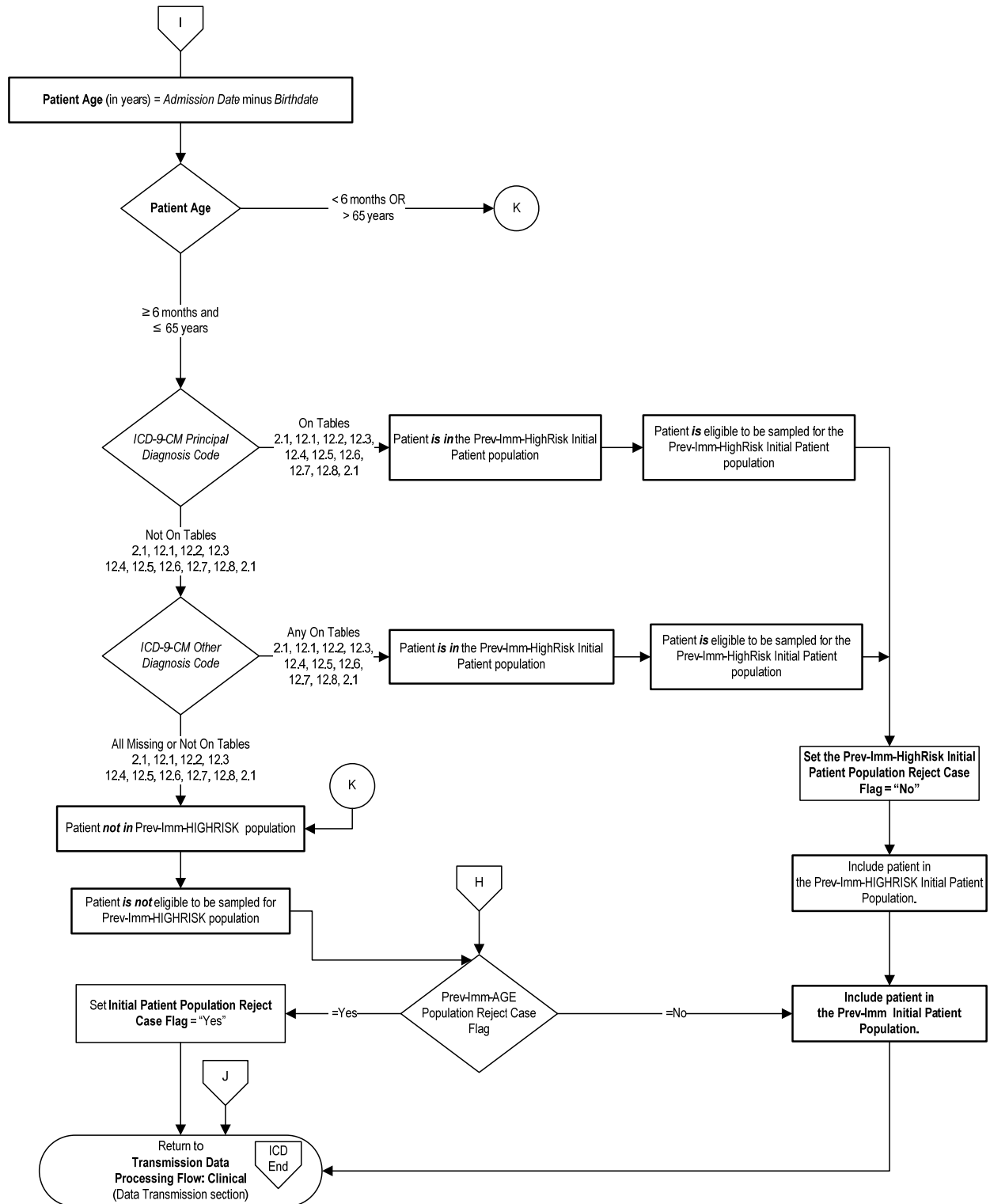
The sampling group for the Prev-Imm-High Risk measures (Prev-Imm-1c and Prev-Imm-2c) are identified using 5 data elements:

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

Patients 6 months through 65 years of age (*Discharge Date* minus *Admission Date*) at admission with Length of Stay (*Discharge Date* minus *Admission Date*) less than or equal 120 days and an *ICD-9-CM Principal* or *Other Diagnosis Code* of diabetes, end stage renal disease (ESRD), congestive heart failure (CHF), asthma, chronic obstructive pulmonary disease (COPD), nephrotic syndrome, asplenia, human immunodeficiency virus (HIV), or pregnancy as defined in Appendix A, Tables 12.1-12.9, and Table 2.1.

Prev-Imm Measures Initial Population Algorithm





Prevention Immunization Measures Initial Population Algorithm

Variable Key: Patient Age, Initial Patient Population Reject Case Flag, Length of Stay, Prev-Imm-AGE Population Reject Case Flag, Prev-Imm-HIGHRISK Population Reject Case Flag

1. Start Prev-Imm Initial Patient Population logic sub-routine. Process all cases that have successfully reached the point in the Transmission Data Processing Flow: Clinical which calls this Initial Patient Population Algorithm. Do not process cases that have been rejected before this point in the Transmission Data Processing Flow: Clinical.
2. Calculate the Length of Stay. Length of Stay, in days, is equal to the Discharge Date minus the Admission Date.
3. Check Length of Stay
 - a. If the Length of Stay is greater than 120 days, the patient is not in the PREV Measure Set Population and is not eligible to be sampled for any PREV measure. Set the Initial Patient Population Reject Case Flag to equal Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
 - b. If the Length of Stay is less than or equal to 120 days, continue processing.
4. Run the cases through each of the Initial Patient Population flows to obtain two sets of samples independent of each other.
5. Begin processing cases to obtain sample for the Patient Age population.
6. 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.
7. Check Patient Age
 - a. If the Patient Age is greater than or equal to 6 months and less than or equal to 18 years, OR Patient Age greater than or equal to 50 years the patient is in the Prev-Imm AGE Initial Patient Population and is eligible to be sampled for the Prev-Imm AGE. Set the Prev-Imm AGE Initial Patient Population Reject Case Flag to equal No. Include patient in the Prev-Imm Initial Patient Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

- b. If the Patient Age is less than 6 months OR is greater than or equal to 19 years and less than or equal to 49 years the patient is not in the Prev-Imm AGE Initial Patient Population and is not eligible to be sampled for the Prev-Imm AGE. Set the Prev-Imm AGE Initial Patient Population Reject Case Flag to equal Yes. Do not include patient in the Prev-Imm Initial Patient Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
8. Begin processing cases to obtain sample for the High Risk population.
9. 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.
10. Check Patient Age
 - a. If the Patient Age is greater than or equal to 6 months and less than or equal to 65 years proceed to check ICD-9-CM Principal Diagnosis Code.
 - b. If the Patient Age is less than 6 months or greater than 65 years the patient is NOT in the Prev-Imm HIGHRISK Initial Patient Population and is not eligible to be sampled for the Prev-Imm HIGHRISK. Proceed to check for Prev-Imm-AGE Population Reject Case Flag in step 13.
11. Check ICD-9-CM Principal Diagnosis Code
 - a. If the ICD-9-CM Principal Diagnosis Code is on Tables 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8 or 2.1 patient is in the Prev-Imm HIGHRISK Initial Patient Population and is eligible to be sampled for the Prev-Imm HIGHRISK. Set the Prev-Imm HIGHRISK Initial Patient Population Reject Case Flag to equal No. Include patient in the Prev-Imm Initial Patient Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
 - b. If the ICD-9-CM Principal Diagnosis Code is not on Tables 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8 or 2.1 proceed to check ICD-9-CM Other Diagnosis Code.
12. Check ICD-9-CM Other Diagnosis Code
 - a. If the ICD-9-CM Other Diagnosis Code is on Tables 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8 or 2.1 patient is in the Prev-Imm HIGHRISK Initial Patient Population and is eligible to be sampled for the Prev-Imm HIGHRISK. Set the Prev-Imm HIGHRISK Initial Patient Population Reject Case Flag to equal No. Include patient in the Prev-Imm Initial Patient Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

- b. If the ICD-9-CM Other Diagnosis Code is not on Tables 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8 or 2.1 or all missing patient is not in the Prev-Imm HIGHRISK Initial Patient Population and is not eligible to be sampled for the Prev-Imm HIGHRISK. Set the Prev-Imm HIGHRISK Initial Patient Population Reject Case Flag to equal Yes. Include patient in the Prev-Imm Initial Patient Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
13. Check Prev-Imm-AGE Population Reject Case Flag
- a. If Prev-Imm-AGE Population Reject Case Flag equals No patient is in the Prev-Imm AGE Initial Patient Population. Include patient in the Prev-Imm Initial Patient Population. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.
 - b. If Prev-Imm-AGE Population Reject Case Flag equals Yes patient is in not in the Prev-Imm AGE Initial Patient Population. Do not include patient in the Prev-Imm Initial Patient Population. Set the Initial Patient Population Reject Case Flag to equal Yes. Return to Transmission Data Processing Flow: Clinical in the Data Transmission section.

Prevention Sample Size Requirements

The sampling requirements for the Prevention measures will be provided when these measures are finalized for implementation.

Measure Information Form
Collected For: Informational Only

Measure Set: Prevention

Set Measure ID#: Prev-Imm-1

Performance Measure Name: Pneumococcal Immunization

Set Measure ID #	Performance Measure Name	Patient Age	Pneumococcal Vaccination Status
Prev-Imm-1a	Pneumococcal Immunization – Overall Rate	Greater than or equal to 5 years	Screened for and/or given; status value equals 1, 2, 3, 4, or 5
Prev-Imm-1b	Pneumococcal Immunization – Age 65 and greater	Greater than or equal to 65 years	Screened for and/or given; status value equals 1, 2, 3, 4, or 5
Prev-Imm-1c	Pneumococcal Immunization – High Risk Populations (Age 5 through 64 years)	Greater than or equal to 5 to less than 65 years	Screened for and/or given; status value equals 1, 2, 3, 4, or 5
Prev-Imm-1d	Pneumococcal Immunization – Received During Hospitalization	Greater than or equal to 5 years	Given during hospitalization; status value equals 1
Prev-Imm-1e	Pneumococcal Immunization – Received in Past	Greater than or equal to 5 years	Received in the past; status value equals 2
Prev-Imm-1f	Pneumococcal Immunization – Patient Refused	Greater than or equal to 5 years	Patient refused; status value equals 3
Prev-Imm-1g	Pneumococcal Immunization – Medical Contraindications	Greater than or equal to 5 years	Medical contraindications; status value equals 4

For Pneumococcal vaccination population aged between 5 and 64 years must also meet the criteria of high risk based on a set of principal and/or secondary diagnosis (Appendix A, 12.1, 12.2, 12.4-12.8, 2.1).

Description: Acute care hospitalized inpatients who were screened for pneumococcal immunization status 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 the vaccine, patients who were offered and declined the vaccine and patients who received the

vaccine anytime in the past are captured as numerator events. These categories are computed and reported separately as indicated above in Prev-Imm-1e, f, g.

Rationale: Pneumococcal infection causes an estimated 40,000 deaths annually in the United States (CDC MMWR 1984, Williams WW), accounting for more deaths than any other vaccine-preventable bacterial disease (Gardner P). Approximately half of these deaths potentially could be prevented through the use of vaccine. Case-fatality rates are highest for meningitis and bacteremia, and the highest mortality occurs among the elderly and patients who have underlying medical conditions. Despite appropriate antimicrobial therapy and intensive medical care, the overall case-fatality rate for pneumococcal bacteremia is 15-20% among adults. (CDC MMWR 2006) Among elderly patients, this rate is approximately 30-40% (IstreGR;Breiman RF;Bennett NM;Wenter JD; Hook EW). While there is limited evidence that the pneumococcal polysaccharide vaccine can prevent pneumonia, multiple studies have demonstrated significant reductions in the incidence of pneumococcal bacteremia in vaccinated patients, and recent epidemiologic studies have demonstrated reductions in patient severity of illness, hospital length of stay, ICU care, respiratory failure, and death in patients who have received the pneumococcal vaccine if they are subsequently admitted to the hospital with pneumonia (Villa-Corcoles A; Fishman DN; Johnstone J).

In the United States today, vaccine coverage is suboptimal. Although inpatient vaccine screening and administration are recommended, hospitalization is an underutilized opportunity for adult 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 were vaccinated prior to discharge if indicated.

Included Populations:

- Patients who received the vaccine during this inpatient hospitalization
- Patients who received the pneumococcal vaccine anytime in the past
- Patients who were offered and declined the vaccine
- Patients who have a medical contraindication of 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

Excluded Populations: None

Data Elements:

- *Pneumococcal Vaccination Status*

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

Included Populations:

- Inpatient discharges 5-64 years of age with an *ICD-9-CM Principal Diagnosis Code* or *ICD-9-CM Other Diagnosis Code* of diabetes, nephritic 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 who expire prior to hospital discharge
- Patients who are pregnant (Appendix A, Table 12.3)

Data Elements:

- *Admission Date*
- *Birthdate*
- *Discharge Status*
- *ICD-9-CM Other Diagnosis Codes*
- *ICD-9-CM Principal Diagnosis 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 and other ICD-9-CM diagnosis 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:

- Centers for Disease Control. ACIP Provisional Recommendations for Use of Pneumococcal Vaccines, December 8, 2008
- Bennett NM, Buffington J, LaForce FM. Pneumococcal bacteremia in Monroe County, New York. *Am J Public Health*. 1992;82:1513-6.
- Bratzler DW, Houck PM, Jiang H, et al. Failure to vaccinate Medicare inpatients: a missed opportunity. *Arch Intern Med* 2002;162:2349-2356.
- Breiman RF, Spika JS, Navarro VJ, Darden PM, Darby CP. Pneumococcal bacteremia in Charleston County, South Carolina: a decade later. *Arch Intern Med*. 1990;150:1401-5.
- Centers for Disease Control. General Recommendations on Immunization. Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*. December 1, 2006 (RR-15);1-48.
- Centers for Disease Control. Pneumococcal polysaccharide vaccine usage, United States. *MMWR* 1984;33:273-6,281.
- Fedson DS, Houck PM, Bratzler DW. Hospital-based influenza and pneumococcal vaccination: Sutton's Law applied to prevention. *Infect Control Hosp Epi*. 2002;21:692-699.
- Fine MF, Smith MAA, Carson CA, Meffe P, Sankery SS, Weissfeld LA, Detsky AS, Kapoor WN. Efficacy of pneumococcal vaccination in adults: a meta-analysis of randomized controlled trials. *Arch Intern Med*. 1994 (December);154:2666-2677.
- Fisman DN, Abrutyn E, Spaude KA, Kim A, Kirchner C, Daley J. Prior pneumococcal vaccination is associated with reduced death, complications, and length of stay among hospitalized adults with community-acquired pneumonia. *Clin Infect Dis*. 2006;42:1093-101.
- Gardner P, Schaffner W. Immunization of adults. *N Engl J Med* 1993;328:1252-8.
- Hook EW, Horton CA, Schaberg DR. Failure of intensive care unit support to influence mortality from pneumococcal bacteremia. *JAMA*. 1983;249:1055-7.
- Istre GR, Tarpay M, Anderson M, Pryor A, Welch D, Pneumococcus Study Group. Invasive disease due to *Streptococcus pneumoniae* in an area with a high rate of relative penicillin resistance. *J Infect Dis*. 1987;156:732-5.
- Johnstone J, Marrie TJ, Eurich DT, Majumdar SR. Effects of pneumococcal vaccination in hospitalized adults with community-acquired pneumonia. *Arch Intern Med*. 2007;167(18):1938-1943.
- Kissam S, Gifford DR, Patry G, et al. Is signed consent for influenza or pneumococcal polysaccharide vaccination required? *Arch Intern Med* 2004;164:13-16.
- Sisk JE, Moskowitz AJ, Whang W, et al. Cost effectiveness of vaccination against pneumococcal bacteremia among elderly people. *JAMA*. 1997;278:1333-1339.
- Villa-Corcoles A, Ochoa-Gondar O, Llor C, Rodriguez T, Gomez A. Protective effect of pneumococcal vaccine against death by pneumonia in elderly subjects. *Eur Respir J*, 2005;26:1086-1091.

- Wenger JD, Hightower AW, Facklam RR, Gaventa S, Broome CV, Bacterial Meningitis Study Group. Bacterial meningitis in the United States, 1986: report of a multistate surveillance study. *J Infect Dis*. 1990;162:1316-23.
- Williams WW, Hickson MA, Kane MA, Kendal AP, Spika JS, Hinman AR. Immunization policies and vaccine coverage among adults: the risk for missed opportunities. *Ann Intern Med* 1988;108:616-25.

Prev-Imm-1: Pneumococcal Immunization

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

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

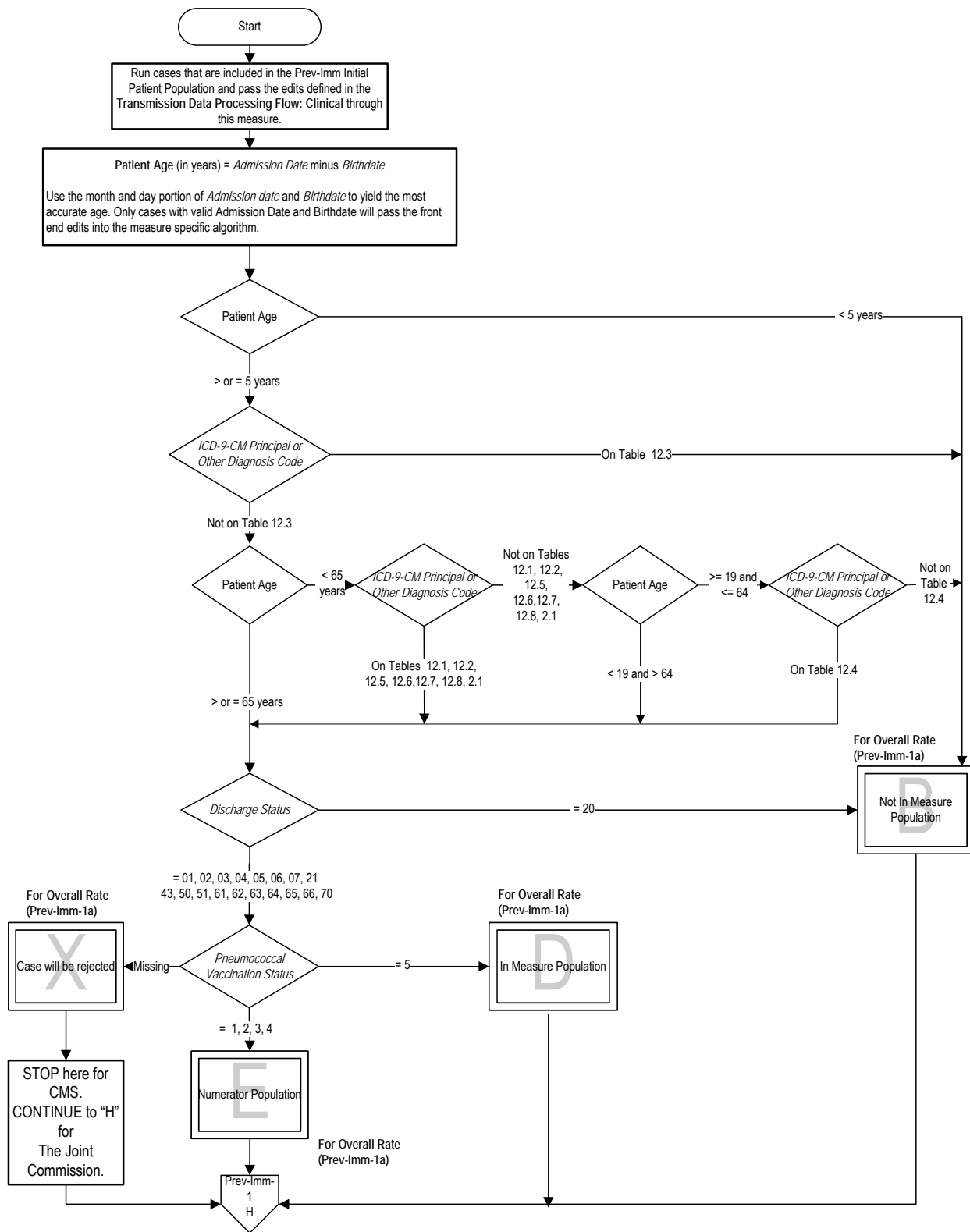
Variable Key:
Patient Age

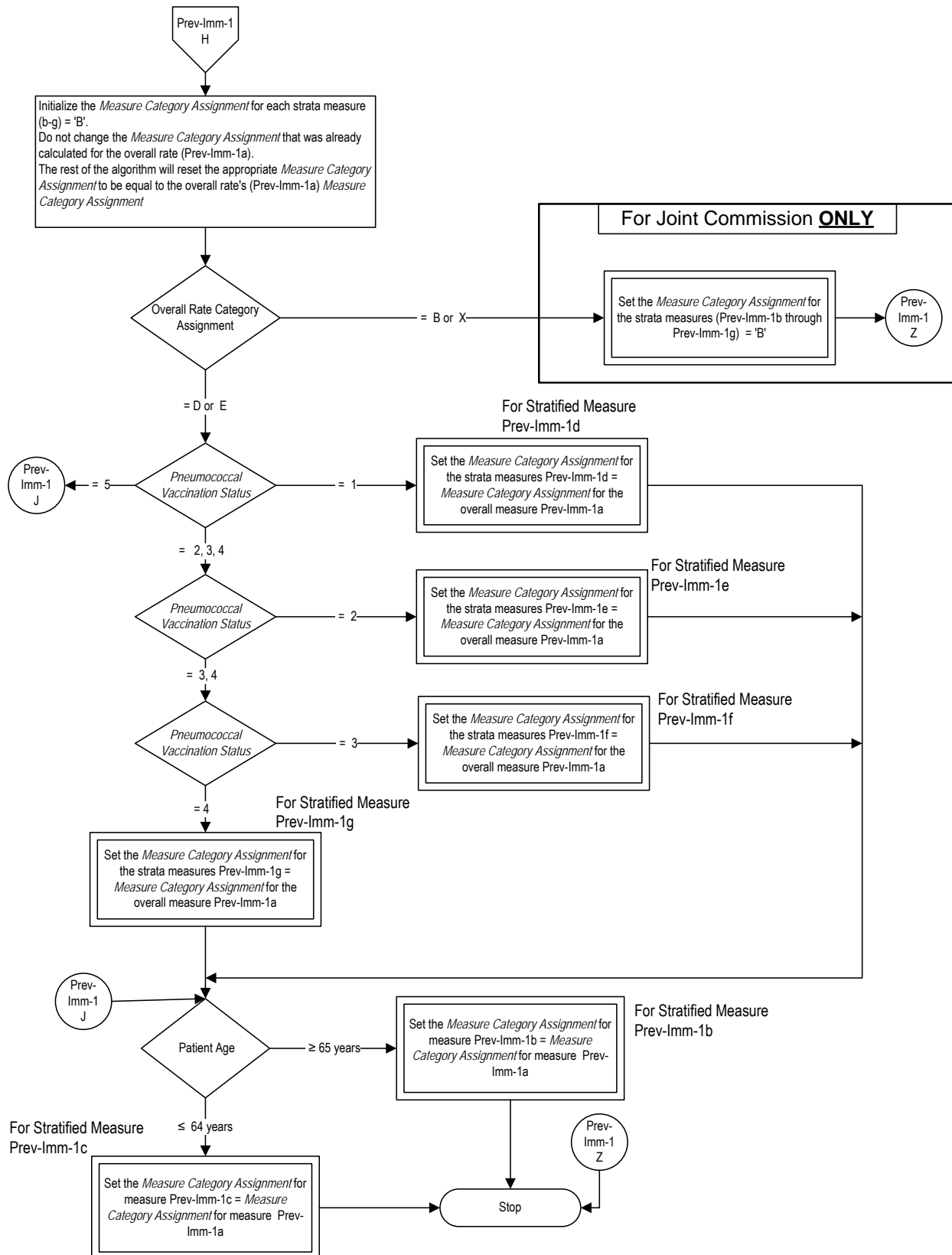
Stratification Table:			
<u>Measure ID</u>	<u>Stratified Measure Name</u>	<u>*Patient Age**</u>	<u>*Pneumococcal Vaccination Status</u>
Prev-Imm-1a	Pneumococcal Immunization-Overall Rate	≥ 5 years	1, 2, 3, 4, 5
Prev-Imm-1b	Pneumococcal Immunization-Age 65 and greater	≥ 65 years	1, 2, 3, 4, 5
Prev-Imm-1c	Pneumococcal Immunization-High Risk Populations < 65 years	≥ 5 years and < 65 years	1, 2, 3, 4, 5
Prev-Imm-1d	Pneumococcal Immunization-Received During Hospitalization	≥ 5 years	1
Prev-Imm-1e	Pneumococcal Immunization-Received in past	≥ 5 years	2
Prev-Imm-1f	Pneumococcal Immunization-Patient Refused	≥ 5 years	3
Prev-Imm-1g	Pneumococcal Immunization-Medical Contraindications	≥ 5 years	4

* This refers to the calculated variable Patient Age and the data element *Pneumococcal Vaccination Status*. Each case will be stratified according to the Patient Age for strata measures Prev-Imm-1b and 1c; and by *Pneumococcal Vaccination Status* for strata measures Prev-Imm-1d, Prev-Imm-1e, Prev-Imm-1f and Prev-Imm-1g after the Category Assignments are completed and the overall rate is calculated.

The overall rate includes all cases 65 years and older and high risk populations aged between 5 and 64 years old for *Pneumococcal Vaccination Status* of allowable values 1, 2, 3, 4, 5.

**For Pneumococcal vaccination population aged between 5 and 64 years must also meet the criteria of high risk based on a set of principal and/or secondary diagnosis (Tables 12.1, 12.2, 12.5, 12.6, 12.7, 12.8, 2.1).





Prev-Imm-1: Pneumococcal Immunization

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

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

Variable Key: Patient Age

The Stratification Table includes the Set Number, Measure Name, Patient Age and Pneumococcal Vaccination Status (Allowable Value). Each case will be stratified by Patient Age and Pneumococcal Vaccination Status allowable value, after the Category Assignments are completed and the overall rate is calculated.

Set Measure ID #	Stratified Measure Name	Patient Age	Pneumococcal Vaccination Status
Prev-Imm-1a	Pneumococcal Immunization – Overall Rate	Greater than or equal to 5 years	Screened for and/or given; status value equals 1, 2, 3, 4, or 5
Prev-Imm-1b	Pneumococcal Immunization – Age 65 and greater	Greater than or equal to 65 years	Screened for and/or given; status value equals 1, 2, 3, 4, or 5
Prev-Imm-1c	Pneumococcal Immunization – High Risk Populations (Age 5 through 64 years)	Greater than or equal to 5 to less than 65 years	Screened for and/or given; status value equals 1, 2, 3, 4, or 5
Prev-Imm-1d	Pneumococcal Immunization – Received During Hospitalization	Greater than or equal to 5 years	Given during hospitalization; status value equals 1
Prev-Imm-1e	Pneumococcal Immunization – Received in Past	Greater than or equal to 5 years	Received in the past; status value equals 2
Prev-Imm-1f	Pneumococcal Immunization – Patient Refused	Greater than or equal to 5 years	Patient refused; status value equals 3
Prev-Imm-1g	Pneumococcal Immunization – Medical Contraindications	Greater than or equal to 5 years	Medical contraindications; status value equals 4

The overall rate includes all cases 65 years and older and high risk populations aged between 5 and 64 years old for Pneumococcal Vaccination Status of allowable values 1, 2, 3, 4, 5.

For Pneumococcal vaccination population aged between 5 and 64 years must also meet the criteria of high risk based on a set of principal and/or secondary diagnosis (Tables 12.1, 12.2, 12.5, 12.6, 12.7, 12.8, 2.1).

1. Start processing. Run cases that are included in the Prevention 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 front end edits into the measure specific algorithms.
3. Check Patient Age
 - a. If the Patient Age is less than 5 years, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. Proceed to step 11 and check the Stratified Measures for Overall Rate (Prev-Imm-1a).
 - b. If the Patient Age is greater than or equal to 5 years, continue processing and proceed to ICD-9-CM Principal or Other Diagnosis Code
4. Check ICD-9-CM Principal or Other Diagnosis Code
 - a. If ICD-9-CM Principal or Other Diagnosis Code is on Table 12.3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. Proceed to step 11 and check the Stratified Measures for Overall Rate (Prev-Imm-1a).
 - b. If ICD-9-CM Principal or Other Diagnosis Code is not on Table 12.3, continue processing and proceed to recheck Patient Age.
5. Recheck Patient Age
 - a. If the Patient Age is less than 65 years, the case will proceed to ICD-9-CM Principal or Other Diagnosis Code. Continue processing and proceed to recheck ICD-9-CM Principal or Other Diagnosis Code.
 - b. If the Patient Age is greater than or equal to 65 years, continue processing and proceed to step 9 and check Discharge Status.
6. Recheck ICD-9-CM Principal or Other Diagnosis Code only if the patient age is less than 65 years
 - a. If the ICD-9-CM Principal or Other Diagnosis Code is on not on Tables 12.1, 12.2, 12.5, 12.6, 12.7, 12.8, or 2.1, continue processing and recheck Patient Age.
 - b. If the ICD-9-CM Principal or Other Diagnosis Code is on Tables 12.1, 12.2, 12.5, 12.6, 12.7, 12.8, or 2.1, continue processing and proceed to step 9 and check Discharge Status.

7. Recheck Patient Age only if the ICD-9-CM Principal or Other Diagnosis Code is not on Tables 12.1, 12.2, 12.5, 12.6, 12.7, 12.8, or 2.1
 - a. If the Patient Age greater than or equal to 19 years and less than or equal to 64 years, continue processing and proceed to recheck ICD-9-CM Principal or Other Diagnosis Code
 - b. If the Patient Age is less than 19 years or greater than 64 years, continue processing and proceed to step 9 and check Discharge Status.

8. Recheck ICD-9-CM Principal or Other Diagnosis Code only if the patient age is greater than or equal to 19 and less than or equal to 64 years
 - a. If the ICD-9-CM Principal or Other Diagnosis Code is on not on Table 12.4 the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. Proceed to step 11 and check the Stratified Measure for Overall Rate (Prev-Imm-1a).
 - b. If Principal or Other Diagnosis Code is on Table 12.4, continue processing and proceed to Discharge Status.

9. Check Discharge Status
 - a. If Discharge Status equals 20, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. Proceed to step 11 and check the Stratified Measure for Overall Rate (Prev-Imm-1a).
 - b. If Discharge Status equals 01, 02, 03, 04, 05, 06, 07, 21, 43, 50, 51, 61, 62, 63, 64, 65, 66, or 70, continue processing and proceed to Pneumococcal Vaccination Status.

10. 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 for CMS. Proceed to step 11 and check the Stratified Measures for Overall Rate (Prev-Imm-1a) for The Joint Commission.
 - 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. Proceed to check the Stratified Measures for Overall Rate (Prev-Imm-1a).
 - 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. Proceed to check the Stratified Measures for Overall Rate (Prev-Imm-1a).

11. Continue processing for the Stratified Measures. Note: Initialize the Measure Category Assignment for each strata measure (b-g) to equal B, not in the Measure Population. Do not change the Measure Category Assignment that was already calculated for the overall rate (Prev-Imm-1a). The rest of the algorithm will reset the appropriate Measure Category Assignment to be equal to the overall rate's (Prev-Imm-1a) Measure Category Assignment.
12. Check Overall Rate Category Assignment
 - a. If the Overall Rate Category Assignment is equal to B or X, for Joint Commission ONLY, set the Measure Category Assignment for the strata measures (Prev-Imm-1b through Prev-Imm-1h) to equal B, not in the Measure Population. Stop processing.
 - b. If the Overall Rate Category Assignment is equal to D or E, continue processing and check the Pneumococcal Vaccination Status.
13. Check Pneumococcal Vaccination Status
 - a. If the Pneumococcal Vaccination Status is equal to 1, for Stratified Measure Prev-Imm-1d, set the Measure Category Assignment for the strata measures Prev-Imm-1d to equal the Measure Category Assignment for the overall measure Prev-Imm-1a. Proceed to step 16 and check Patient Age.
 - b. If the Pneumococcal Vaccination Status is equal to 2, 3, or 4, continue processing and recheck the Pneumococcal Vaccination Status.
14. Recheck Pneumococcal Vaccination Status
 - a. If the Pneumococcal Vaccination Status is equal to 2, for Stratified Measure Prev-Imm-1e, set the Measure Category Assignment for the strata measures Prev-Imm-1e to equal the Measure Category Assignment for the overall measure Prev-Imm-1a. Proceed to step 16 and check Patient Age.
 - b. If the Pneumococcal Vaccination Status is equal to 3 or 4, continue processing and recheck the Pneumococcal Vaccination Status.
15. Recheck Pneumococcal Vaccination Status
 - a. If the Pneumococcal Vaccination Status is equal to 3, for Stratified Measure Prev-Imm-1f, set the Measure Category Assignment for the strata measures Prev-Imm-1f to equal the Measure Category Assignment for the overall measure Prev-Imm-1a. Proceed to recheck Patient Age.
 - b. If the Pneumococcal Vaccination Status is equal to 4 set the Measure Category Assignment for the Strata Measures for Prev-Imm-1g to equal

the Measure Category Assignment for the overall measure Prev-Imm-1a. Continue processing and proceed to recheck the Patient Age.

16. Recheck Patient Age
 - a. If the Patient Age is greater than or equal to 65 years, set the Measure Category Assignment for measure Prev-Imm-1b to equal the Measure Category Assignment for measure Prev-Imm-1a. Stop processing.
 - b. If the Patient Age is less than or equal to 64 years, for the stratified measure Prev-Imm-1c, set the Measure Category Assignment for measure Prev-Imm-1c to equal the Measure Category Assignment for measure Prev-Imm-1a. Stop processing.

Measure Information Form
Collected For: Informational Only

Measure Set: Prevention

Set Measure ID #: Prev-Imm-2

Performance Measure Name: Influenza Immunization

Set Measure ID #	Performance Measure Name	Patient Age	Influenza Vaccination Status
Prev-Imm-2a	Influenza Immunization – Overall Rate	Greater than or equal to 6 months	Screened for and/or given; status value equals 1, 2, 3, 4, or 5
Prev-Imm-2b	Influenza Immunization – Age 6 months to 18 years and greater than or equal to 50 years	Greater than or equal to 6 months to less than or equal to 18 years and greater than or equal to 50 years	Screened for and/or given; status value equals 1, 2, 3, 4, or 5
Prev-Imm-2c	Influenza Immunization – High Risk Populations (Age 19 through 49 years)	Greater than or equal to 19 to less than or equal to 49 years	Screened for and/or given; status value equals 1, 2, 3, 4, or 5
Prev-Imm-2d	Influenza Immunization – Received During Hospitalization	Greater than or equal to 6 months	Given during hospitalization; status value equals 1
Prev-Imm-2e	Influenza Immunization – Received in Past	Greater than or equal to 6 months	Received in the past; status value equals 2
Prev-Imm-2f	Influenza Immunization – Patient Refused	Greater than or equal to 6 months	Patient refused; status value equals 3
Prev-Imm-2g	Influenza Immunization – Medical Contraindications	Greater than or equal to 6 months	Medical contraindications; status value equals 4

For influenza, vaccination population aged between 19 and 49 years must also meet the criteria of high risk based on a set of principal and/or secondary diagnosis (Appendix A, Tables 12.1-12.5, 12.8 and 2.1.)

Description: Acute care hospitalized inpatients who were screened for seasonal influenza immunization status 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 the vaccine, patients who were offered and declined the vaccine and patients who received the vaccine during the current year's flu season but prior to the current hospitalization are captured as numerator events. These categories are computed and reported separately as indicated above in Prev-Imm-1e, f, g.

Influenza (flu) is an acute contagious viral infection of the nose, throat and lungs (respiratory illness) caused by influenza viruses. Outbreaks of seasonal flu follow predictable seasonal patterns and occur annually during autumn and winter. Persons usually demonstrate some immunity built up from previous exposure. Because the seasonal flu season is characterized by a regularly re-occurring time period, health systems can usually meet public and patient needs as vaccine is developed based on known virus strains and is available for the annual flu season.

Rationale: Up to 1 in 5 people in the United States gets influenza every season (CDC, Key Facts). Each year approximately 226,000 people in the US are hospitalized with complications from influenza and an average of 36,000 die from the disease and its complications (CDC, ACIP 2007). Combined with pneumonia, influenza is the nations 8th leading cause of death (Minino, 2004 National Center for Health Statistics). Up to two-thirds of all deaths attributable to pneumonia and influenza occur in the population of patients that have been hospitalized during flu season regardless of age (Fedson). Rates of serious illness and death are highest among persons age 65 or older, children less than 2 years of age, and persons of any age who have a medical condition that place them at increased risk for complications from influenza (ACIP 2007 Cover Story). Influenza vaccination is the most effective method for preventing influenza virus infection and its potentially severe complications. Virtually every study that has compared vaccinated to unvaccinated patients has shown a 50% relative reduction in patient mortality. Screening and vaccination of inpatients is recommended, but hospitalization is an underutilized opportunity to provide vaccination to adults.

Type of Measure: Process

Improvement Noted As: An increase in the rate

Numerator Statement: Inpatient discharges who were screened for influenza vaccine status and were vaccinated prior to discharge if indicated.

Included Populations:

- Patients who received the influenza vaccine during this inpatient hospitalization
- Patients who have an ICD-9-CM Principal Procedure Code or Other Procedure Codes from Table 12.9 for Prophylactic Vaccination against Influenza during this inpatient hospitalization.
- Patients who received the influenza vaccine during the current year's flu season but prior to the current hospitalization
- Patients who were offered and declined the influenza vaccine

- Patients who have a medical contraindication of the following:
 - Hypersensitivity to eggs or other component(s) of the vaccine
 - History of Guillain-Barre Syndrome within 6 weeks after a previous influenza vaccination
 - Bone Marrow transplant within the past 6 months

Excluded Populations: None

Data Elements:

- *Influenza Vaccination Status*
- *ICD-9-CM Other Procedure Codes*
- *ICD-9-CM Principal Procedure Code*

Denominator Statement: Acute care hospitalized inpatients age

- 50 years and older, and 6 months through 18 years
- 19 to 49 years who have a high risk conditions discharged during October, November, December, January, February or March.

Included Populations: Inpatient discharges 19 to 49 years of age with an *ICD-9-CM Principal Diagnosis Code* or *ICD-9-CM Other Diagnosis Code* of pregnancy, diabetes, end stage renal disease (ESRD), congestive heart failure (CHF), asthma, chronic obstructive pulmonary disease (COPD), or human immunodeficiency virus (HIV) as defined in Appendix A, Tables 12.1-12.5, 12.8 and 2.1

Excluded Populations:

- Patients who expire prior to hospital discharge
- Patients with hospital discharges Oct 1 through March 31 when the provider's vaccine supply is on order but provider has not yet received

Data Elements:

- *Admission Date*
- *Birthdate*
- *Discharge Date*
- *Discharge Status*
- *ICD-9-CM Other Diagnosis Codes*
- *ICD-9-CM Principal Diagnosis 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 and other ICD-9-CM diagnosis 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:

- CDC. Prevention and control of seasonal Influenza with vaccines. Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2009 :55 (RR 08); 1-52. Available at <http://www.cdc.gov/flu>.
- Centers for Disease Control. Prevention of Influenza. Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*. April 2002;51(NoRR-02):1-36.
- Centers for Disease Control and Prevention (CDC). Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP). 2007. *MMWR*. 2007;56(RR6):1-60.
- CDC. Key facts about influenza and the influenza vaccine, August 2006. Available at: <http://www.cdc.gov/flu/keyfacts.htm> Accessed August 11, 2007.
- Fedson DS, Houck PM, Bratzler DW. Hospital-based influenza and pneumococcal vaccination: Sutton's Law applied to prevention. *Infect Control Hosp Epi*. 2000;21:692-699.
- Mandell LA, Wunderink RG, Anzueta A, Bartlett JG, Infectious Diseases Society of America; American Thoracic Society. Infectious Diseases Society of America/American Thoracic Society consensus guidelines on the management of community-acquired pneumonia in adults. *Clin Infect Dis*. 2007 March 1;44 Suppl 2:S27-72.
- Minino Am, Heron MP, Smith BL. Deaths: Preliminary Data for 2004. National vital statistics reports; vol 54 no 19. Hyattsville, MD: National Center for Health Statistics. 2006.
- Nichol KL, Wourenma J, von Sternberg T. Benefits of Influenza Vaccination for Low-, Intermediate-, and High-Risk Senior Citizens. *Arch Intern Med*. 1998;158:1769.
- Nichol KL, Nordin J, Mullooly J, et al. Influenza Vaccination and Reduction in Hospitalizations for Cardiac Disease and Stroke among the Elderly. *N Engl J Med*. 2003;348:1322-1332.

Prev-Imm-2: Influenza Immunization

Numerator Statement: Inpatient discharges who were screened for Influenza vaccine status and were vaccinated prior to discharge if indicated.

Denominator Statement: Acute care hospitalized inpatients age
 -50 years and older, and 6 months through 18 years
 -19 to 49 years who have a high risk conditions discharged during October, November, December, January, February or March.

Variable Key:
 Patient Age

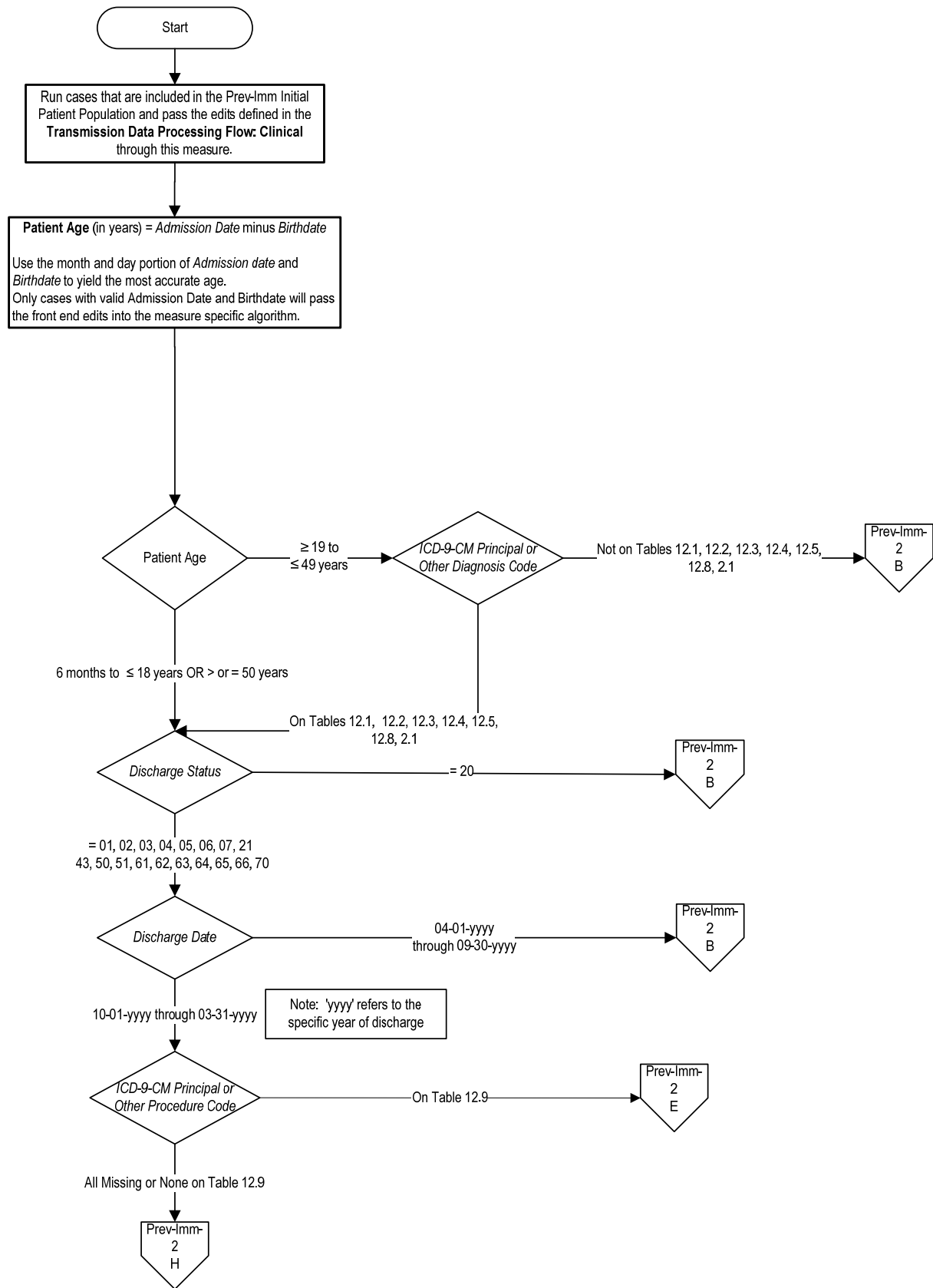
Stratification Table:

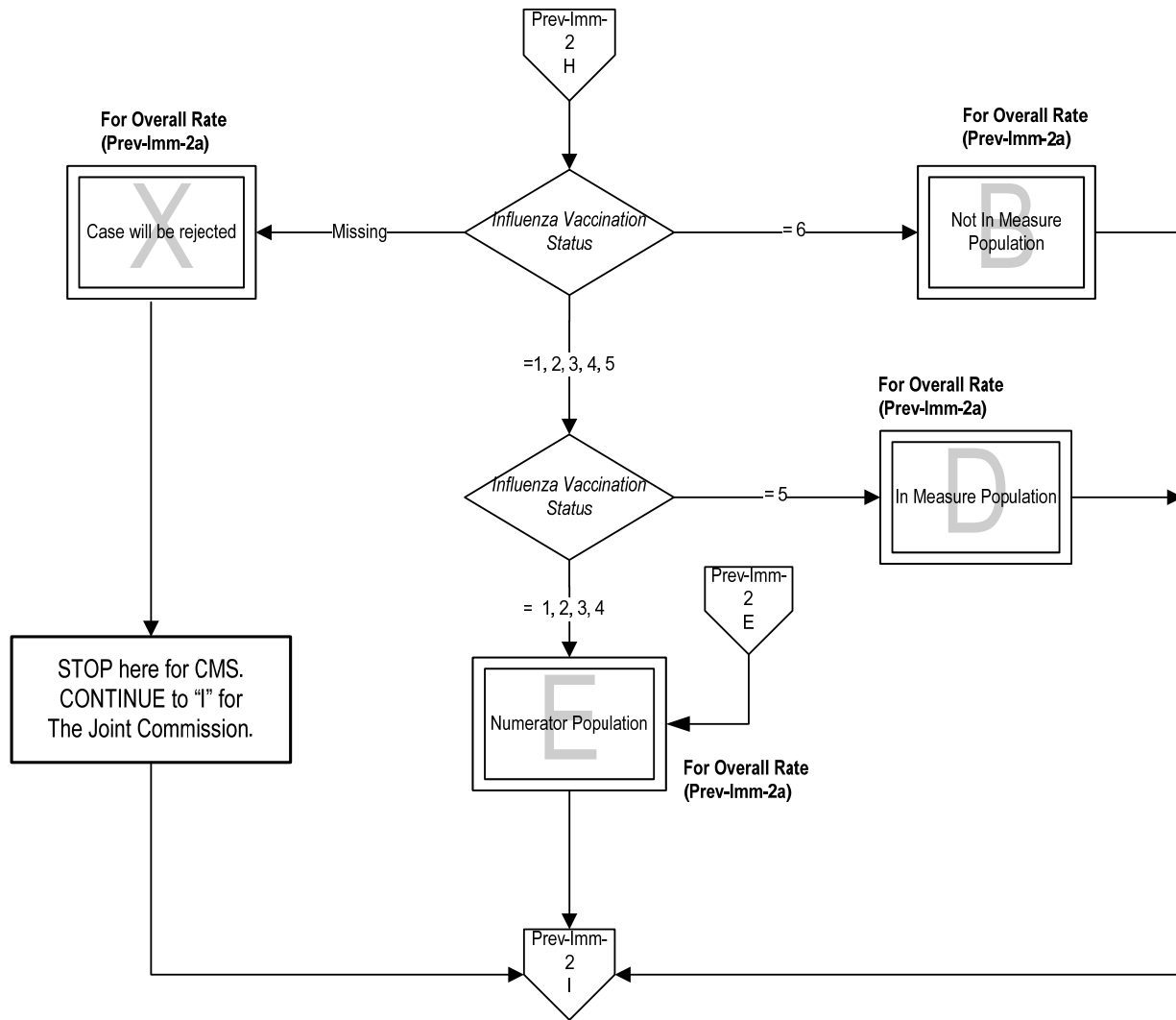
Measure ID	Stratified Measure Name	*Patient Age **	*Influenza Vaccination Status	ICD-9-CM Principal Or Other Procedure Code
Prev-Imm-2a	Influenza Immunization-Overall Rate	≥ 6 months	1, 2, 3, 4, 5	
Prev-Imm-2b	Influenza Immunization-Age 6 months through 18 years; and 50 and greater	6 months to ≤ 18 years and ≥ 50 and greater	1, 2, 3, 4, 5	
Prev-Imm-2c	Influenza Immunization-High Risk Populations (Age 19 through 49 years)	≥ 19 to ≤ 49 years	1, 2, 3, 4, 5	
Prev-Imm-2d	Influenza Immunization-Received During Hospitalization		1	On Table 12.9
Prev-Imm-2e	Influenza Immunization-Received during this flu season prior to hospitalization	≥ 6 months	2	
Prev-Imm-2f	Influenza Immunization-Patient Refused	≥ 6 months	3	
Prev-Imm-2g	Influenza Immunization- Medical Contraindications	≥ 6 months	4	

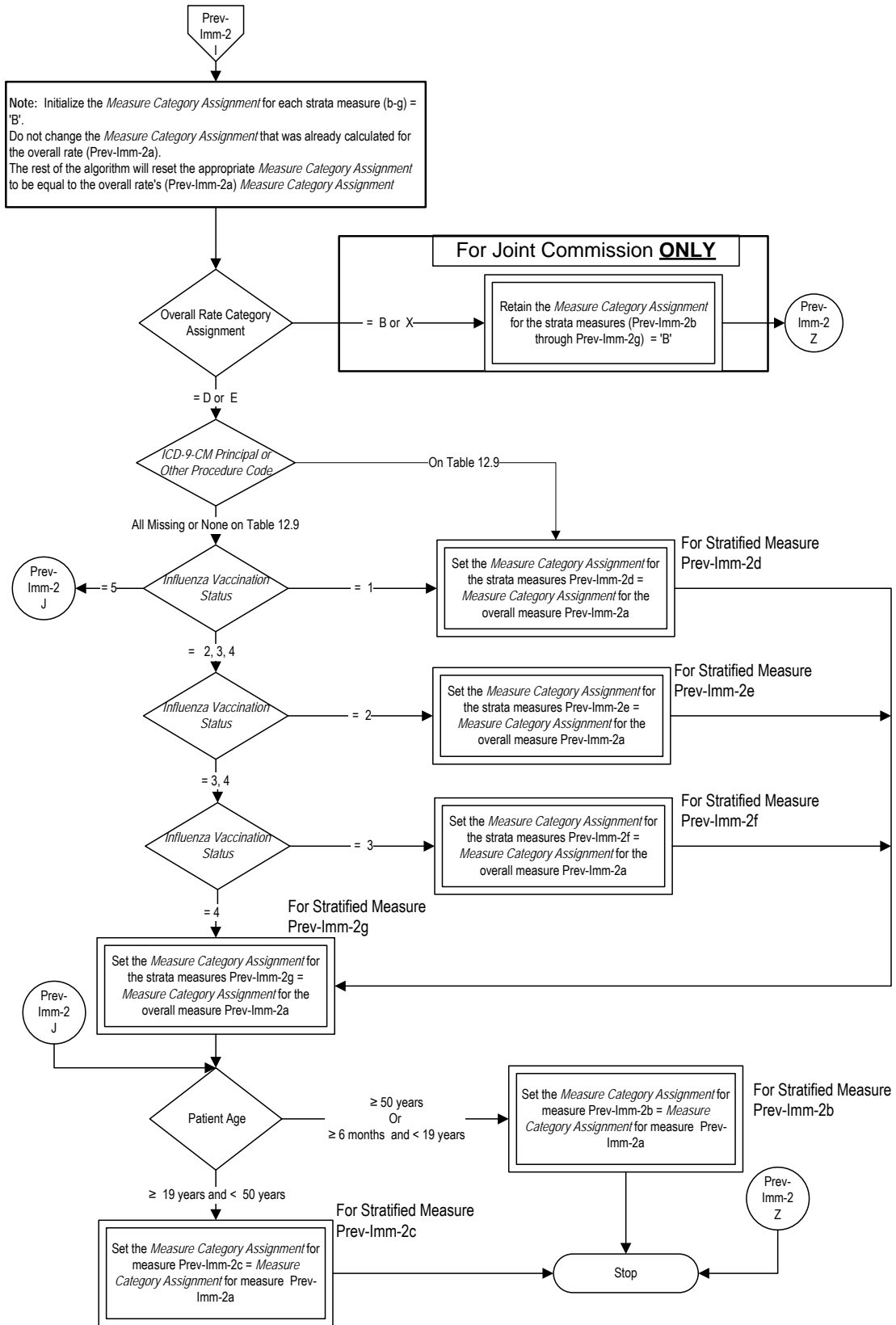
* This refers to the calculated variable Patient Age and the data element *Influenza Vaccination Status*. Each case will be stratified according to the Patient Age for strata measures Prev-Imm-2b and 2c; and by Influenza Vaccination Status or ICD-9-CM Principal or Other Procedure Code for strata measures Prev-Imm-2d, Prev-Imm-2e, Prev-Imm-2f and Prev-Imm-2g after the Category Assignments are completed and the overall rate is calculated.

The overall rate includes all cases between 6 months to 18 years and 50 years and older and high risk populations aged between 19 and 49 years old, for Influenza Vaccination Status of allowable values 1, 2, 3, 4, 5.

**For influenza vaccination population aged between 19 and 49 years must also meet the criteria of high risk based on a set of principal and /or secondary diagnosis (Tables 12.1-12.5, 12.8 and 2.1).







Prev-Imm-2: Influenza Immunization

Numerator: Inpatient discharges who were screened for Influenza vaccine status and were vaccinated prior to discharge if indicated.

Denominator: Acute care hospitalized inpatients age

- 50 years and older, and 6 months through 18 years
- 19 to 49 years who have a high risk conditions discharged during October, November, December, January, February or March.

Variable Key: Patient Age

The Stratification Table includes the Set Number, Measure Name, Patient Age and Influenza Vaccination Status (Allowable Value). Each case will be stratified by Patient Age and Influenza Vaccination Status allowable value, after the Category Assignments are completed and the overall rate is calculated.

Set Measure ID Number	Performance Measure Name	Patient Age	Influenza Vaccination Status	ICD-9-CM Principal or Other Procedure Code
Prev-Imm-2a	Influenza Immunization – Overall Rate	Greater than or equal to 6 months	Screened for and/or given; status value equals 1, 2, 3, 4, or 5	
Prev-Imm-2b	Influenza Immunization – Age 6 months to 18 years and greater than or equal to 50 years	Greater than or equal to 6 months to less than or equal to 18 years and greater than or equal to 50 years	Screened for and/or given; status value equals 1, 2, 3, 4, or 5	
Prev-Imm-2c	Influenza Immunization – High Risk Populations (Age 19 through 49 years)	Greater than or equal to 19 to less than or equal to 49 years	Screened for and/or given; status value equals 1, 2, 3, 4, or 5	
Prev-Imm-2d	Influenza Immunization – Received During Hospitalization	Greater than or equal to 6 months	Given during hospitalization; status value equals 1	Table 12.9

Set Measure ID Number	Performance Measure Name	Patient Age	Influenza Vaccination Status	ICD-9-CM Principal or Other Procedure Code
Prev-Imm-2e	Influenza Immunization – Received in Past	Greater than or equal to 6 months	Received in the past; status value equals 2	
Prev-Imm-2f	Influenza Immunization – Patient Refused	Greater than or equal to 6 months	Patient refused; status value equals 3	
Prev-Imm-2g	Influenza Immunization – Medical Contraindications	Greater than or equal to 6 months	Medical contraindications; status value equals 4	

The overall rate includes all cases between 6 months to 18 years and 50 years and older and high risk populations aged between 19 and 49 years old, for Influenza Vaccination Status of allowable values 1, 2, 3, 4, 5 OR or ICD-9-CM Principal or Other Procedure Code on Table 12.9.

For Influenza vaccination population aged between 5 and 64 years must also meet the criteria of high risk based on a set of principal and/or secondary diagnosis (Tables 12.1, 12.2, 12.3, 12.4, 12.5, 12.8, and 2.1).

1. Start processing. Run cases that are included in the Prevention Imm 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 front end edits into the measure specific algorithm.
3. Check Patient Age
 - a. If the Patient Age is greater than or equal to 19 years to less than or equal to 49 years, continue processing and proceed to ICD-9-CM Principal or Other Diagnosis Code.
 - b. If the Patient Age is greater than or equal to 6 months and less than or equal to 18 years OR greater than or equal to 50 years continue processing and proceed to step 5 and check Discharge Status.

4. Check ICD-9-CM Principal or Other Diagnosis Code
 - a. If ICD-9-CM Principal or Other Diagnosis Code is on not on Tables 12.1, 12.2, 12.3, 12.4, 12.5, 12.8, or 2.1 the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. Proceed to step 10 and check the Stratified Measure for Overall Rate (Prev-Imm-2a).
 - b. If ICD-9-CM Principal or Other Diagnosis Code is on Tables 12.1, 12.2, 12.3, 12.4, 12.5, 12.8, or 2.1, continue processing and proceed to Discharge Status.

5. Check Discharge Status
 - a. If Discharge Status equals 20, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. Proceed to step 10 and check the Stratified Measure for Overall Rate (Prev-Imm-2a).
 - b. If Discharge Status equals 01, 02, 03, 04, 05, 06, 07, 21, 43, 50, 51, 61, 62, 63, 64, 65, 66, or 70, continue processing and proceed to Discharge Date.

6. Check Discharge Date. Note: 'yyyy' refers to the specific year of discharge.
 - a. If the Discharge Date is 04-01-yyyy through 09-03-yyyy, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. Proceed to step 10 and check the Stratified Measure for Overall Rate (Prev-Imm-2a).
 - b. If the Discharge Date is 10-01-yyyy through 03-31-yyyy, continue processing and proceed to ICD-9-CM Principal or Other Procedure Code.

7. Check ICD-9-CM Principal or Other Procedure Codes
 - a. If the ICD-9-CM Principal or Other Procedure Codes is on Table 12. 9 the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing. Proceed to step 10 and check the Stratified Measures for Overall Rate (Prev-Imm-2a).
 - b. If ALL of the ICD-9-CM Principal or Other Procedure Codes are Missing or None are on Table 12.9, continue processing and check Influenza Vaccination Status.

8. Check Influenza Vaccination Status
 - a. If Influenza Vaccination Status is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing

- for CMS. Proceed to step 10 and check the Stratified Measures for the Overall Rate (Prev-Imm-2a) for The Joint Commission.
- b. If Influenza Vaccination Status equals 6, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing. Proceed to step 10 and check the Stratified Measures for Overall Rate (Prev-Imm-2a).
 - c. If Influenza Vaccination Status equals 1, 2, 3, 4, or 5, continue processing and recheck Influenza Vaccination Status.
9. Recheck Influenza Vaccination Status
- a. If Influenza Vaccination Status equals 5, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing. Proceed to check the Stratified Measures for Overall Rate (Prev-Imm-2a).
 - b. If Influenza 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. Stop processing. Proceed to check the Stratified Measures for Overall Rate (Prev-Imm-2a).
10. Continue processing for the Stratified Measures. Note: Initialize the Measure Category Assignment for each strata measure (b through g) to equal B, not in the Measure Population. Do not change the Measure Category Assignment that was already calculated for the overall rate (Prev-Imm-2a). The rest of the algorithm will reset the appropriate Measure Category Assignment to be equal to the overall rate's (Prev-Imm-2a) Measure Category Assignment.
11. Check Overall Rate Category Assignment
- a. If the Overall Rate Category Assignment is equal to B or X, for The Joint Commission ONLY, retain the Measure Category Assignment for the strata measures (Prev-Imm-2b through Prev-Imm-2g) to equal B, not in the Measure Population. Stop processing.
 - b. If the Overall Rate Category Assignment is equal to D or E, continue processing and check ICD-9-CM Principal or Other Procedure Codes.
12. Check ICD-9-CM Principal or Other Procedure Codes
- a. If the ICD-9-CM Principal or Other Procedure Codes is on Table 12. 9 for Stratified Measure Prev-Imm-2d, set the Measure Category Assignment for the strata measure Prev-Imm-2d to equal the Measure Category Assignment for the overall measure Prev-Imm-2a. Continue processing and proceed to step 16 to check Stratified Measure for Prev-Imm-2g..

- b. If All of the ICD-9-CM Principal or Other Procedure Codes are Missing or None are on Table 12.9, continue processing and check Influenza Vaccination Status
13. Check Influenza Vaccination Status
 - a. If the Influenza Vaccination Status is equal to 1, for Stratified Measure Prev-Imm-2d, set the Measure Category Assignment for the strata measure Prev-Imm-2d to equal the Measure Category Assignment for the overall measure Prev-Imm-2a. Continue processing and proceed to step 16 to check Stratified Measure for Prev-Imm-2g.
 - b. If the Influenza Vaccination Status is equal to 2, 3, or 4, continue processing and recheck the Influenza Vaccination Status.
 - c. If the Influenza Vaccination Status is equal to 4, continue processing. Proceed to step 17 and check Patient Age.
14. Recheck Influenza Vaccination Status
 - a. If the Influenza Vaccination Status is equal to 2, for Stratified Measure Prev-Imm-2e, set the Measure Category Assignment for the strata measures Prev-Imm-2e to equal the Measure Category Assignment for the overall measure Prev-Imm-2a. Continue processing and proceed to step 16 to check Stratified Measure for Prev-Imm-2g.
 - b. If the Influenza Vaccination Status is equal to 3 or 4, continue processing and recheck the Influenza Vaccination Status.
15. Recheck Influenza Vaccination Status
 - a. If the Influenza Vaccination Status is equal to 3, for Stratified Measure Prev-Imm-2f, set the Measure Category Assignment for the strata measure Prev-Imm-2f to equal the Measure Category Assignment for the overall measure Prev-Imm-2a. Continue processing and check the Stratified Measure for Prev-Imm-2g.
 - b. If the Influenza Vaccination Status is equal to 4, continue processing and proceed to check the Stratified Measure for Prev-Imm-2g.
16. Set the Measure Category Assignment for the strata measures Prev-Imm-2g to equal the Measure Category Assignment for the overall measure Prev-Imm-2a. Continue processing and check Patient Age.
17. Check Patient Age
 - a. If the Patient Age is greater than or equal to 50 years OR greater than or equal to 6 months and less than 19 years, for Stratified Measure Prev-

Imm-2b, set the Measure Category Assignment for measure Prev-Imm-2b to equal the Measure Category Assignment for measure Prev-Imm-2a. Stop processing.

- b. If the Patient Age is greater than or equal to 19 years and less than 50 years, for Stratified Measure Prev-Imm-2c, set the Measure Category Assignment for measure Prev-Imm-2c to equal the Measure Category Assignment for measure Prev-Imm-2a. Stop processing.