Rabies PEP Administered v1
Definition Factsheet & Technical Brief

Authors: Andzelika Rzucidlo, MPH[1,2], Dylan Johns, MS[1,3], David Atrubin, MPH[4], Caleb Wiedeman, MPH[5], Brittany Eziam, MPH[5], Jessica Schultz, MPH[5], Katharina L. van Santen, MSPH[1,3]

[1] CDC Office of Public Health Data, Surveillance, and Technology (OPHDST), Division of Health Informatics and Surveillance (DHIS), Integrated Monitoring Branch
[2] InductiveHealth
[3] ICF
[4] Florida Department of Health
[5] Tennessee Department of Health

Points of contact:
nssp@cdc.gov

Definition Purpose: Created by the CDC National Syndromic Surveillance Program (NSSP) for use with emergency department data to develop queries for all National Notifiable Diseases defined by the National Notifiable Diseases Surveillance System (NNDSS). Please note that while the disease queries are developed using the NNDSS case definition as the basis for identifying patient visits of interest, the queried patient visits themselves may or may not represent a case patient in NNDSS and further public health investigation will most often be required. This query is intended to be a version 1 and may be further improved upon by the NSSP community of practice in the future. This query is intended to be narrow and capture visits with specific terms to support greater monitoring and actionable public health data. More complex and/or broader queries may exist that more broadly capture symptoms or travel-based terms.

New or Revised Definition: New Definition.

Date Added to ESSENCE: February 2025

Definition Description: Designed to capture emergency department visits with a diagnostic code or textual indicator of administration of rabies post-exposure prophylaxis (PEP). Rabies PEP Administered v1 is designed to capture any visit for PEP, including first and subsequent visits. To look at only first visits for Rabies PEP, see the Rabies PEP Administered (First Visit) v1 definition.

Use-Cases for Definition:
☒ Case-finding
☒ Trend monitoring
☒ Early outbreak detection

Justification: There is no previously existing query definition for administration of Rabies PEP. CDC wants to use emergency department data to monitor trends.

Data Source During Development: Emergency Department Visits. Chief Complaint Query Validation dataset (CCQV) in ESSENCE.

Development Methods:
1. The CDC team used the NNDSS case definition of Animal Rabies to identify diagnostic codes (International Classification of Diseases, 9th & 10th Revision (ICD-9-CM, ICD-10-CM), SNOMED Clinical Terms (CT)) and chief complaint free-text for syndrome development.
2. The codes and free text were then categorized as inclusion or exclusion terms. These terms were formatted for querying in ESSENCE.
3. Text analysis was conducted on the initial query to find additional inclusion or exclusion terms.
4. The query was cross-checked internally as NSSP and by CDC subject matter experts as needed.

<u>Validation Methods</u>: This definition is part of the collection of definitions created by CDC NSSP for the rapid reportables project. The rapid reportables project is led by the CDC NSSP team to create definitions for all nationally reportable diseases. These definitions focus on chief complaint text and diagnostic codes of the disease or its causative agents with no mention of symptoms. Select members of the Community of Practice were then asked to review line-level results for their jurisdictions and provide feedback to ensure the intended results of the definitions were met.

<u>Definition Fields and Structure</u>:
The Chief Complaint Discharge Diagnosis (CCDD) parsed field is used to query both the discharge diagnosis codes and chief complaint free text.

- Inclusion based on rabies related chief complaint free text terms:
  - The visit is included if it contains:
    1. Chief complaints related to the disease name – ("rabi[de]", "rabbie", "rabes") **OR**
- Inclusion based on ICD-10 discharge diagnosis codes related to Rabies:
  - The visit is included if it contains:
    1. A discharge diagnosis code of Rabies (A82) **OR**
    2. A discharge diagnosis code of Contact with and (suspected) exposure to rabies (Z20.3) **OR**
    3. A discharge diagnosis code of Encounter for prophylactic rabies immune globin (Z29.14) **OR**
- Inclusion based on ICD-9 discharge diagnosis codes related to rabies:
  - The visit is included if it contains:
    1. A discharge diagnosis code of Rabies (071) **OR**
    2. A discharge diagnosis code of Contact with or exposure to rabies (V01.5) **OR**
    3. A discharge diagnosis code of Need for prophylactic vaccination and inoculation against rabies (V04.5) **OR**
- Inclusion based on SNOWMED discharge diagnosis codes related to rabies:
  - The visit is included if it contains:
    1. A discharge diagnosis code of Exposure to Rabies virus (444459008) **OR**
    2. A discharge diagnosis code of Administration of vaccine product containing only Rabies lyssavirus antigen (34631000) **ANDNOT**
- All of the above must exclude:
  - SNOMED discharge diagnosis codes related to adverse effects of Rabies vaccination:
    1. A discharge diagnosis code of Adverse reaction to component of vaccine product containing Rabies lyssavirus antigen (293118001) **OR**
    2. A discharge diagnosis code of Post rabies vaccination encephalitis (192714000)

Detailed Definition Components

Table 1. *Inclusion and exclusion terms.*

Variable Type	Terms	Description
Inclusions		
Discharge Diagnosis: ICD-10-CM	A82	Rabies
	Z20.3	Contact with and (suspected) exposure to rabies
	Z29.14	Encounter for prophylactic rabies immune globin
Discharge Diagnosis: ICD-9-CM	071	Rabies
	V01.5	Contact with or exposure to rabies
	V04.5	Need for prophylactic vaccination and inoculation against rabies
Discharge Diagnosis: SNOMED concepts	444459008	Exposure to Rabies virus
	34631000	Administration of vaccine product containing only Rabies lyssavirus antigen
Chief Complaint Terms	rabid	
	rabie	
	rabbie	
	rabes	
Exclusions		
Discharge Diagnosis: SNOMED concepts	293118001	Adverse reaction to component of vaccine product containing Rabies lyssavirus antigen
	192714000	Post rabies vaccination encephalitis

Table 2. *ESSENCE syntax in CCDD parsed field*

```
(,^rabi[de]^,OR,^rabbie^,OR,^rabes^,OR,^;A82^,OR,^;Z203^,OR,^;Z2914^,OR,^;071;^,OR,^;V0[14]5^,OR,^;444459008;^,OR,^;34631000;^,),ANDNOT,(,^;293118001;^,OR,^;192714000;^,)
```