## Coccidioidomycosis v1
## Definition Factsheet & Technical Brief

Authors: Andzelika Rzucidlo, MPH[1,2], Dylan Johns, MS[1,3], Brittany Yarnell[4], Brittany Eziam, MPH[5], Jessica Scultz, MPH[5], Caleb Wiedeman, MPH[5], Chelsi White, MPH CIC[6], Rachel Berg[7], Cesar Pacheco[7], Katharina L. van Santen, MSPH[1,3]

[1] CDC Office of Public Health Data, Surveillance, and Technology (OPHDST), Immediate Office of the Director (IOD), Integrated Monitoring Branch
[2] InductiveHealth
[3] ICF
[4] Nebraska Department of Health and Human Services
[5] Tennessee Department of Health
[6] Maricopa County Department of Public Health
[7] Arizona Department of Health Services

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 Disease 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 possible coccidioidomycosis.

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

Justification: No query definition exists for coccidioidomycosis. 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 coccidioidomycosis 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, and exclusions are incorporated as necessary.
- Inclusion based on coccidioidomycosis chief complaint free text terms:
  - The visit is included if it contains:
    1. A chief complaint related to disease name – ("coccidio") **OR**
    2. A chief complaint related to alternative names – ("valley fever") **OR**
    3. A chief complaint related to disease agent – ("c immitis" or "c posadasii") **OR**
- Inclusion based on ICD-10 discharge diagnosis codes related to coccidioidomycosis:
  - The visit is included if it contains:
    1. A discharge diagnosis code for coccidioidomycosis – (B38) **OR**
- Inclusion based on ICD-9 discharge diagnosis codes related to coccidioidomycosis:
  - The visit is included if it contains:
    1. A discharge diagnosis code for all forms of coccidioidomycosis – (114.0 or 114.1 or 114.2 or 114.3 or 114.4 or 114.5 or 114.6) **OR**
- Inclusion based on SNOMED discharge diagnosis codes related to coccidioidomycosis:
  - The visit is included if it contains:
    1. A discharge diagnosis code for coccidioidomycosis – (60826002) **OR**
    2. A discharge diagnosis code for other forms of coccidioidomycosis – (3071000119108 or 240727006 or 417018008 or 240728001 or 85055004 or 187027001 or 79949009 or 23247008 or 41030002 or 46303000 or 445880000 or 422337001) **OR**
    3. A discharge diagnosis code for conditions caused by coccidioidomycosis – (1163139006 or 1163138003 or 195904005 or 78223000 or 184431000119108)
- All of the above must exclude:
  - A chief complaint related to history of coccidioidomycosis – ("history of coccidioido", "history coccidioido", "history of valley fever", "history valley fever")

Detailed Definition Components
**Table 1.** *Inclusion and exclusion terms.*

| Variable Type | Terms | Description |
|---|---|---|
| | | **Inclusions** |
| Discharge Diagnosis: ICD-10-CM | B38 | Coccidioidomycosis |
| | | |
| | | |
| | | |
| Discharge Diagnosis: ICD-9-CM | 114.0 | Primary coccidioidomycosis (pulmonary) |
| | 114.1 | Primary extrapulmonary coccidioidomycosis |
| | 114.2 | Coccidioidal meningitis |
| | 114.3 | Other forms of progressive coccidioidomycosis |
| | 114.4 | Chronic pulmonary coccidioidomycosis |
| | 114.5 | Pulmonary coccidioidomycosis, unspecified |
| | 114.9 | Coccidioidomycosis, unspecified |
| | | |
| | | |
| Discharge Diagnosis: SNOMED concepts | 60826002 | Coccidioidomycosis (disorder) |
| | 3071000119108 | Acute coccidioidomycosis (disorder) |
| | 1163139006 | Infection of bone caused by *Coccidioides* (disorder) |
| | 1163138003 | Infection of joint caused by *Coccidioides* (disorder) |
| | 240727006 | Cutaneous coccidioidomycosis (disorder) |
| | 417018008 | Pulmonary coccidioidomycosis (disorder) |
| | 240728001 | Subcutaneous coccidioidomycosis (disorder) |
| | 85055004 | Disseminated coccidioidomycosis (disorder) |
| | 195904005 | Pneumonia with coccidioidomycosis (disorder) |
| | 187027001 | Acute pulmonary coccidioidomycosis (disorder) |
| | 79949009 | Primary cutaneous coccidioidomycosis (disorder) |
| | 78223000 | Erythema nodosum due to coccidioidomycosis (disorder) |
| | 23247008 | Primary extrapulmonary coccidioidomycosis (disorder) |
| | 184431000119108 | Acute pneumonia caused by coccidioidomycosis (disorder) |
| | 41030002 | Coccidioidomycosis with erythema multiforme (disorder) |
| | 46303000 | Coccidioidal meningitis (disorder) |
| | 445880000 | Progressive coccidioidomycosis (disorder) |
| | 422337001 | Coccidioidomycosis with acquired immunodeficiency syndrome (disorder) |
| | | |
| Chief Complaint Terms | "coccidio" | |
| | "valley fever" | |
| | "c immitis" | |
| | "c posadasii" | |
| | | |
| | | **Exclusions** |
| Chief Complaint Terms | "history of coccidioido" | |
| | "history coccidioido" | |
| | "history of valley fever" | |
| | "history valley fever" | |
| | | |
| | | |

**Table 2.** *ESSENCE syntax*

(,^coccidio^,OR,^valley fever^,OR,^c immitis^,OR,^c posadasii^,OR,^;B38^,OR,^;114[0-59];^,OR,^;60826002;^,OR,^;3071000119108;^,OR,^;1163139006;^,OR,^;1163138003;^,OR,^;240727006;^,OR,^;417018008;^,OR,^;240728001;^,OR,^;85055004;^,OR,^;195904005;^,OR,^;187027001;^,OR,^;79949009;^,OR,^;78223000;^,OR,^;23247008;^,OR,^;184431000119108;^,OR,^;41030002;^,OR,^;46303000;^,OR,^;445880000;^,OR,^;422337001;^,),ANDNOT,(,^history of coccidioido^,OR,^history coccidioido^,OR,^history of valley fever^,OR,^history valley fever^,)