

Brucellosis v1

Definition Factsheet & Technical Brief

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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 brucellosis infection.

Use-Cases for Definition:

- ☒ Case-finding
- ☒ Trend monitoring
- ☒ Early outbreak detection

Justification: No query definition exists for brucellosis infections. 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 brucellosis to identify diagnostic codes (International Classification of Diseases, 9th & 10th Revisions (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 by NSSP and by CDC subject matter experts as needed.

Validation Methods: 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.

Definition Fields and Structure:

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 brucellosis chief complaint free text terms:
 - The visit is included if it contains:
 1. A chief complaint related to disease name – (“brucello” or “brucella”) **OR**
 2. A chief complaint related to alternative names – (“undulant” or “malta fever” or “mediterranean fever” or “gastric fever” or “RB51”) **OR**
 3. A chief complaint related to disease agent – (“b abortus” or “b canis” or “b melitensis” or “b suis”) **OR**
- Inclusion based on ICD-10 discharge diagnosis codes related to brucellosis:
 - The visit is included if it contains:
 1. A discharge diagnosis code for Brucellosis – (A23) **OR**
- Inclusion based on SNOMED discharge diagnosis codes related to brucellosis:
 - The visit is included if it contains:
 1. A discharge diagnosis code for Brucellosis – (75702008) **OR**
 2. A discharge diagnosis code for different forms of Brucellosis – (413716003 or 402127008 or 406564009) **OR**
 3. A discharge diagnosis code for infection caused by a *Brucella* species – (427999003 or 429600003 or 427795000) **OR**
 4. A discharge diagnosis code related to suspected Brucellosis – (171129002 or 772163009 or 165827007 or 252413002)
- There are no exclusions in this query.

Detailed Definition Components

Table 1. Inclusion and exclusion terms.

Variable Type	Terms	Description
<i>Inclusions</i>		
Discharge Diagnosis: ICD-10-CM	A23	Brucellosis
Discharge Diagnosis: SNOMED concepts	75702008	Brucellosis (disorder)
	413716003	Brucellosis uveitis (disorder)
	402127008	Brucellosis of skin (disorder)
	171129002	Brucellosis screening (procedure)
	772163009	Brucellosis suspected (situation)
	165827007	<i>Brucella</i> agglutinin test (procedure)
	252413002	<i>Brucella</i> ring test (procedure)
	427999003	Infection caused by <i>Brucella melitensis</i> (disorder)
	429600003	Infection caused by <i>Brucella suis</i> (disorder)
	427795000	Infection caused by <i>Brucella abortus</i> (disorder)
	406564009	<i>Brucella</i> infection of the central nervous system (disorder)
Chief Complaint Terms	"brucello"	
	"undulant"	
	"malta fever"	
	"brucella"	
	"b abortus"	
	"b canis"	
	"b melitensis"	
	"b suis"	
	"mediterranean fever"	
	"gastric fever"	
	"RB51"	

Table 2. *ESSENCE* syntax

<p>^brucello^,OR,^undulant^,OR,^malta fever^,OR,^brucella^,OR,^b abortus^,OR,^b canis^,OR,^b melitensis^,OR,^b suis^,OR,^mediterranean fever,OR,^ gastric fever^,OR,^RB51^,OR,^;a23^,OR,^;75702008;^,OR,^;413716003;^,OR,^;402127008;^,OR,^;171129002;^,OR,^;772163009;^,OR,^;165827007;^,OR,^;252413002;^,OR,^;427999003;^,OR,^;429600003;^,OR,^;427795000;^,OR,^;406564009;^</p>
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