

Botulism 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 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: April 2026

Definition Description: Designed to capture emergency department visits with a diagnostic code or textual indicator of possible botulism.

Use-Cases for Definition:

Case-finding: Secondary

Trend monitoring: Not Intended as Use Case

Early outbreak detection: Primary

Emergent Condition: Not Intended as Use Case

Justification: No query definition exists for botulism infections. CDC wants to use emergency department data for case-finding or early outbreak detection.

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 botulism 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 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 botulism complaint free text terms:
 - The visit is included if it contains:
 1. A chief complaint related to disease name – (“botulism” OR “botchulism”) **OR**
 2. A chief complaint related to disease agent – (“clostridium botulinum” OR “c botulinum”) **OR**
- Inclusion based on ICD-10 discharge diagnosis codes related to botulism:
 - The visit is included if it contains:
 1. A discharge diagnosis code for Botulism food poisoning – (A05.1) **OR**
 2. A discharge diagnosis code for other forms of Botulism – (A48.5 OR A48.51 OR A48.52) **OR**
- Inclusion based on ICD-9 discharge diagnosis codes related to botulism:
 - The visit is included if it contains:
 1. A discharge diagnosis code for Botulism food poisoning – (005.1) **OR**
- Inclusion based on SNOMED discharge diagnosis codes related to botulism:
 - The visit is included if it contains:
 1. A discharge diagnosis for different variations of Botulism – (398530003 OR 414820001 OR 414488002 OR 398523009 OR 409563004 OR 409562009 OR 1285577000 OR 409564005 OR 409567003 OR 409566007 OR 409565006) **OR**
 2. A discharge diagnosis code for other conditions caused by *C. botulinum* – (398565003 OR 1156829005 OR 1259069009) **OR**
 3. A discharge diagnosis code for conditions related to botulism toxin – (840421000) **OR**
 4. A discharge diagnosis code for disease agent – (13080008)
- There are no exclusions in this query.

Detailed Definition Components

Table 1. Inclusion and exclusion terms.

Terms	Description
<i>Inclusion</i>	
International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM)	
A05.1	Botulism food poisoning
A48.5	Other specified botulism
A48.51	Infant botulism
A48.52	Wound botulism
International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)	
005.1	Botulism food poisoning
SNOMED Concepts	
398565003	Infection caused by <i>Clostridium botulinum</i> (disorder)
398530003	Wound botulism (disorder)
414820001	Neonatal botulism (disorder)
414488002	Infantile botulism (disorder)
398523009	Foodborne botulism (disorder)
409563004	Intestinal botulism (disorder)
1156829005	Iatrogenic infection caused by <i>Clostridium botulinum</i> (disorder)
409562009	Inhalational botulism (disorder)
1285577000	Adult intestinal botulism (disorder)
409564005	Foodborne botulism, type A (disorder)
409567003	Foodborne botulism, type F (disorder)
409566007	Foodborne botulism, type E (disorder)
409565006	Foodborne botulism, type B (disorder)
840421000	Disorder of neuromuscular junction caused by botulinum toxin (disorder)
1259069009	Disorder of autonomic nervous system due to infection caused by <i>Clostridium botulinum</i> (disorder)
13080008	<i>Clostridium botulinum</i> (organism)
Chief Complaint	
"botulism"	Disease name
"botchulism"	Misspelling of disease name
"clostridium botulinum"	Disease agent
"c botulinum"	Disease agent

Table 2. ESSENCE syntax for the CCDD parsed field

```
^botulism^,OR,^botchulism^,OR,^clostridium botulinum^,OR,^c
botulinum^,OR,^;A051^,OR,^;A485^,OR,^;0051^,OR,^;398565003;^,OR,^;398530003;^,OR,^;41482000
1;^,OR,^;414488002;^,OR,^;398523009;^,OR,^;409563004;^,OR,^;1156829005;^,OR,^;409562009;^,OR
,^;1285577000;^,OR,^;409564005;^,OR,^;409567003;^,OR,^;409566007;^,OR,^;409565006;^,OR,^;840
421000;^,OR,^;1259069009;^,OR,^;13080008;^
```

Use the following URL and click Configuration Options to see the query setup:

https://essence2.syndromicsurveillance.org/nssp_essence/servlet/TemporalTimeSeriesViewer?datasource=va_hosp&startDate=28Sep2025&medicalGroupingSystem=essencesyndromes&userId=5024&endDate=28Feb2026&percentParam=noPercent&agtTarget=TimeSeries&geographySystem=hospital&detector=nodetector&CCDDParsedFreeText=%5Ebotulism%5E,OR,%5Ebotchulism%5E,OR,%5Eclostridium%20botulinum%5E,OR,%5Ec%20botulinum%5E,OR,%5E;A051%5E,OR,%5E;A485%5E,OR,%5E;0051;%5E,OR,%5E;398565003;%5E,OR,%5E;398530003;%5E,OR,%5E;414820001;%5E,OR,%5E;414488002;%5E,OR,%5E;398523009;%5E,OR,%5E;409563004;%5E,OR,%5E;1156829005;%5E,OR,%5E;409562009;%5E,OR,%5E;1285577000;%5E,OR,%5E;409564005;%5E,OR,%5E;409567003;%5E,OR,%5E;409566007;%5E,OR,%5E;409565006;%5E,OR,%5E;840421000;%5E,OR,%5E;1259069009;%5E,OR,%5E;13080008;%5E&timeResolution=weekly

Syntax Plain Language Description: The definition uses discharge diagnosis codes and free-text chief complaint terms. The definition requires that an emergency department visit contains a reference to the disease by its discharge diagnosis code (in at least one of the following: ICD-10-CM, ICD-9-CM, SNOMED diagnostic codes), or by the disease or pathogen name listed in the chief complaint text. Therefore, the botulism syndromic surveillance definition includes ICD-10-CM, ICD-9-CM, and SNOMED diagnostic codes for botulism, along with direct mentions of botulism using “botulism” in chief complaint text or by using the pathogen name “clostridium botulinum” or “c botulinum”.