18-ID-06

Committee: Infectious Disease

Title: Revisions to the Surveillance Case Definition, Case Classification, Public Health Reporting, and National Notification for Listeriosis

☒Check this box if this position statement is an update to an existing standardized surveillance case definition.

I. Statement of the Problem

CSTE position statement 09-ID-46 defines a confirmed listeriosis case as a clinically compatible case that is laboratory-confirmed, i.e., *Listeria monocytogenes* is isolated from a normally sterile site, or from placental or fetal tissue in the setting of miscarriage or stillbirth. Only confirmed cases are nationally notifiable. Issues regarding this case definition have been identified that affect the accuracy of surveillance, including:

- Classification of cases has been inconsistent when *L. monocytogenes* is isolated from maternal and neonatal sources. Case-counting of maternal and neonatal cases has been variable between national surveillance programs and across state and local reporting jurisdictions.
- Culture-independent diagnostic testing (CIDT) results are not accounted for, despite adoption by some clinical laboratories.
- Persons with isolates from non-sterile sites are not included in the case classification. However, in certain situations, such as *Listeria* febrile gastroenteritis associated with contaminated product, public health follow-up is warranted.

To improve reporting consistency across jurisdictions, decrease underreporting, and enhance surveillance of persons with specimens from non-sterile sites whose exposure history may help identify a common source, this position statement proposes that:

- The **confirmed** case classification is expanded to include *L. monocytogenes* isolated from products of conception at the time of delivery and non-sterile sites of neonates obtained within 48 hours of delivery.
- A **probable** case classification is created to:
    - Include the mother of a neonate with confirmed or probable listeriosis, as a separate case, even if laboratory criteria are not met for the mother; and
    - Include a neonate born to a mother with a confirmed or probable listeriosis as a separate case, even if laboratory criteria are not met for the neonate.
    - Classify a case with detection of *L. monocytogenes* only by CIDT.
- A **suspect** case classification is created to classify *L. monocytogenes* isolated from a non-invasive specimens (e.g. stool, urine, and wound).

II. Background and Justification

Background
Invasive listeriosis has a mortality rate of about 20%, making it the third leading cause of death from foodborne illness in the U.S. Listeriosis disproportionately affects immunosuppressed patients and persons in the extremes of age; the most common clinical manifestations are bacteremia and central nervous system infections. Approximately 15% of listeriosis is pregnancy-associated. Maternal infections are usually mild for the woman, but may have devastating sequelae, including miscarriage, stillbirth, preterm labor, and serious neonatal illness. Previously healthy persons may develop non-invasive disease such as febrile gastroenteritis after ingesting food heavily contaminated by *L. monocytogenes.*

Justification
Reporting of maternal and neonatal cases has differed for the Nationally Notifiable Disease Surveillance System and the national enteric disease case surveillance program (*Listeria* Initiative [LI]), resulting in inconsistent reporting in national data systems and across reporting jurisdictions.

To improve listeriosis surveillance, we recommend updating the case definitions to clarify classification of maternal and neonatal cases; include CIDT in the laboratory criteria; and account for *L. monocytogenes* isolated from non-sterile sites. We propose the following:

1. Update the confirmed case definition to include L. monocytogenes isolated from products of conception at time of delivery and from neonatal non-sterile sites within 48 hours of birth.

- Based on 09-ID-46 laboratory criteria, a mother or symptomatic neonate whose only positive culture is from a non-sterile source is not counted as a case, likely resulting in misclassification and potentially improper follow up of these patients.
    - Of the 776 maternal and neonatal cases reported to the LI through 2016, 10% did not meet the CSTE case definition due to isolation from a non-sterile specimen source in the setting of live birth.

2. Create a probable case definition to account for mother-infant pairs with discordant laboratory results and for CIDT-positive specimens.

- The mother is almost always the source of early-onset neonatal infections (diagnosed between birth and 6 days) and the most likely source of late-onset neonatal listeriosis (diagnosed between 7–28 days). However, maternal specimens may not be collected, or may be culture-negative.
    - Counting the mother's infection as a case will assure these infections are recognized, and ensure that exposure history from the mother is collected.
    - *L. monocytogenes* detected from products of conception should be considered presumptive evidence for listeriosis in the neonate.
    - *L. monocytogenes* detected from a normally sterile maternal site should be considered presumptive evidence for neonatal listeriosis if the neonate is clinically compatible.
    - *L. monocytogenes* detected from a neonatal specimen within 28 days of birth should be considered presumptive evidence for listeriosis in the mother.
- Clinical laboratories increasingly use CIDT to detect *L. monocytogenes* directly from clinical specimens, and sometimes do not obtain an isolate.
    - The current case definition does not address CIDT, resulting in an underestimate of listeriosis.

3. *Create a suspect case definition for L. monocytogenes isolated from a non-invasive specimen,*

- Outbreaks of gastroenteritis due to *L. monocytogenes* have been well described.
- Investigation of some cases of non-invasive *Listeria* infections may provide epidemiologically relevant data.

4. *Remove the requirement for clinically compatible symptoms from the existing case definition*

- Qualifying specimens (e.g., blood, placenta) are unlikely to be tested in an asymptomatic person.
- Removing the requirement to report symptoms reduces a potential barrier to reporting.
- Requirement for clinically compatible symptoms is still necessary for the case classification of a probable neonatal case whose mother had *L. monocytogenes* isolated or detected from a normally sterile site. (See sections VI and VII for clarification)

III. Statement of the desired action(s) to be taken

CSTE recommends the following actions:

1. Utilize standard sources (e.g. reporting*) for case ascertainment for listeriosis. Surveillance for listeriosis should use the following recommended sources of data to the extent of coverage presented in Table III.

Table III. Recommended sources of data and extent of coverage for ascertainment of cases of listeriosis.

Source of data for case ascertainment	Coverage	
	Population-wide	Sentinel sites
Clinician reporting	X	
Laboratory reporting	X	
Reporting by other entities (e.g., hospitals, veterinarians, pharmacies, poison centers), specify:	X	
Death certificates	X	
Hospital discharge or outpatient records	X	
Extracts from electronic medical records	X	
Telephone survey		
School-based survey		
Other, specify:		
2018 Template		

*Reporting: process of a healthcare provider or other entity submitting a report (case information) of a condition under public health surveillance TO local or state public health. Note: notification is addressed in a Nationally Notifiable Conditions Recommendation Statement and is the process of a local or state public health authority submitting a report (case information) of a condition on the *Nationally Notifiable Conditions List* TO CDC.

2. Utilize standardized criteria for case ascertainment and classification (Sections VI and VII and Technical Supplement) for listeriosis.

3. Please see accompanying NNC Recommendation Statement for additional Desired Actions to be Taken (page 15).

IV. Goals of Surveillance

Ongoing surveillance of listeriosis infections is essential to detect and control outbreaks, to determine sources, to determine public health priorities, to monitor trends in illness, and to assess effectiveness of public health interventions.

V. Methods for Surveillance: Surveillance for listeriosis should use the recommended sources of data and the extent of coverage listed in Table III.

The primary data source is the microbiology laboratory. The laboratory should report laboratory evidence for *L. monocytogenes* as described in Section VI to public health authorities and submit isolates for further characterization. Healthcare facilities and clinicians should report listeriosis to public health authorities. Other data sources (e.g., death certificates or medical records) may be used as supplementary sources; their yield is unknown. Compared with other foodborne illnesses, fewer listeriosis cases are underdiagnosed from variations in accessing

medical care, specimen submission, and laboratory testing; CDC estimates one invasive listeria infection is reported for every two illnesses.

VI. Criteria for case ascertainment

A. Narrative: A description of suggested criteria for case ascertainment of a specific condition.

Report any illness to public health authorities that meets any of the following criteria:

Clinical Evidence

- Any person whose healthcare record contains a diagnosis of listeriosis.

Laboratory Evidence

- Any person with *L. monocytogenes* isolated or detected from a normally sterile site, reflective of an invasive infection, by culture or CIDT.
- Any person with *L. monocytogenes* isolated or detected in a specimen from products of conception (e.g., placenta, amniotic fluid, umbilical cord blood) by culture or CIDT at the time of delivery.
- Any person with *L. monocytogenes* isolated or detected from a non-sterile neonatal site (e.g., meconium, tracheal aspirate) by culture or CIDT collected within 48 hours of delivery.
- Any person with *L. monocytogenes* isolated from a non-invasive clinical specimen (e.g., stool, urine, wound) other than those specified for maternal and neonatal specimens.
- Any person with isolation of *Listeria* species other than *L. monocytogenes* (such as *L. ivanovii* and *L. grayi)* from a normally sterile site that reflects invasive disease.

Evidence for Epidemiologic Linkage

- A mother who gave birth to a neonate meeting laboratory criteria for diagnosis with a specimen collection date up to 28 days of birth.
- A neonate born to a mother meeting laboratory criteria for diagnosis with a specimen collected from products of conception at the time of delivery.
- A clinically compatible neonate born to a mother meeting laboratory criteria for diagnosis with a specimen collected from a normally sterile site.

Vital Records Evidence

- Any person whose death certificate lists listeriosis as a cause of death or a condition contributing to death.

Other recommended reporting procedures

- All cases of listeriosis should be reported.
- All clinical *L. monocytogenes* isolates should be referred to a public health laboratory for whole genome sequencing.
- Reporting of *L. monocytogenes* from a non-invasive clinical specimen, other than those specified for maternal and neonatal specimens, should follow the state health department's reporting requirements.
- Clinical isolates of *Listeria* species other than *L. monocytogenes* (such as *L. ivanovii* and *L. grayi)* should be reported to a public health department, and the isolate sent to a public health laboratory. Reporting should be ongoing and routine.
- Frequency of reporting should follow the state health department's routine schedule.

B. Disease-specific data elements to be included in the initial report

CSTE recommends that jurisdictions collect and report disease-specific data elements for all confirmed and probable cases, including those specified in the *Listeria* Initiative Case Report Form (https://www.cdc.gov/listeria/pdf/listeria-case-report-form.pdf) and additional data elements listed below.

For infants ≤28 days old, epidemiologic risk factors (e.g., food consumption) should be asked of the mother, except where otherwise specified.

In the context of an outbreak investigation, states should also consider collecting and transmitting disease-specific data elements for suspect cases.

Additional data elements

- Provide a data element to distinguish between probable cases classified by laboratory evidence (CIDT) vs. epidemiologic linkage (mother of neonate with listeriosis, or neonate whose mother has listeriosis)
- For maternal and neonatal cases, provide an identifier to enable linking case reports for mother and infant pairs (i.e., provide maternal case identifier with infant case notification; provide neonatal case identifier with the maternal case notification)
- Document methods of laboratory testing (e.g., culture or CIDT)
- Indicate if ever received *Listeria*-based immunotherapy, and if so, date of last *Listeria*-based immunotherapy infusion
- Indicate if blood or blood product recipient within 28 days before specimen obtained or symptoms began
- For infants, document any food or drink consumed other than breast milk

VII. Case Definition for Case Classification

A. Narrative: Description of criteria to determine how a case should be classified.

Clinical Criteria

Invasive listeriosis:

- Systemic illness caused by *L. monocytogenes* manifests most commonly as bacteremia or central nervous system infection. Other manifestations can include pneumonia, peritonitis, endocarditis, and focal infections of joints and bones.
- Pregnancy-associated listeriosis has generally been classified as illness occurring in a pregnant woman or in an infant aged ≤ 28 days. Listeriosis may result in pregnancy loss (fetal loss before 20 weeks gestation), intrauterine fetal demise (≥20 weeks gestation), pre-term labor, or neonatal infection, while causing minimal or no systemic symptoms in the mother. Pregnancy loss and intrauterine fetal demise are considered to be maternal outcomes.
- Neonatal listeriosis commonly manifests as bacteremia, central nervous system infection, and pneumonia, and is associated with high fatality rates. Transmission of *Listeria* from mother to baby transplacentally or during delivery is almost always the source of early-onset neonatal infections (diagnosed between birth and 6 days), and the most likely source of late-onset neonatal listeriosis (diagnosed between 7–28 days).

Non-invasive *Listeria* Infections: *Listeria* infection manifesting as an isolate from a non-invasive clinical specimen suggestive of a non-invasive infection; includes febrile gastroenteritis, urinary tract infection, and wound infection.

Laboratory Criteria

Confirmatory laboratory evidence:

- Isolation of *L. monocytogenes* from a specimen collected from a normally sterile site reflective of an invasive infection (e.g., blood or cerebrospinal fluid or, less commonly: pleural, peritoneal, pericardial, hepatobiliary, or vitreous fluid; orthopedic site such as bone, bone marrow, or joint; or other sterile sites including organs such as spleen, liver, and heart, but not sources such as urine, stool, or external wounds);

  OR

- For maternal isolates: In the setting of pregnancy, pregnancy loss, intrauterine fetal demise, or birth, isolation of *L. monocytogenes* from products of conception (e.g. chorionic villi, placenta, fetal tissue, umbilical cord blood, amniotic fluid) collected at the time of delivery;

  OR

- For neonatal isolates: In the setting of live birth, isolation of *L. monocytogenes* from a non-sterile neonatal specimen (e.g., meconium, tracheal aspirate, but not products of conception) collected within 48 hours of delivery.

Presumptive laboratory evidence:

- Detection of *L. monocytogenes* by CIDT in a specimen collected from a normally sterile site (e.g., blood or cerebrospinal fluid or, less commonly: pleural, peritoneal, pericardial, hepatobiliary, or vitreous fluid; orthopedic site such as bone, bone marrow, or joint; or other sterile sites including organs such as spleen, liver, and heart, but not sources such as urine, stool, or external wounds);

  OR

- For maternal isolates: In the setting of pregnancy, pregnancy loss, intrauterine fetal demise, or birth, detection of *L. monocytogenes* by CIDT from products of conception (e.g. chorionic villi, placenta, fetal tissue, umbilical cord blood, amniotic fluid) collected at the time of delivery;

  OR

- For neonatal isolates: In the setting of live birth, detection of *L. monocytogenes* by CIDT from a non-sterile neonatal specimen (e.g., meconium, tracheal aspirate, but not products of conception) collected within 48 hours of delivery.

Supportive laboratory evidence:

- Isolation of *L. monocytogenes* from a non-invasive clinical specimen, e.g., stool, urine, wound, other than those specified under maternal and neonatal specimens in *Confirmatory laboratory evidence,* above.

Epidemiologic Linkage

For probable maternal cases:

- A mother who does not meet the confirmed case criteria, **BUT**
- Who gave birth to a neonate who meets confirmatory or presumptive laboratory evidence for diagnosis, **AND**
- Neonatal specimen was collected up to 28 days of birth.

OR

For probable neonatal cases:

- Neonate(s) who do not meet the confirmed case criteria, **AND**
  - Whose mother meets confirmatory or presumptive laboratory evidence for diagnosis from products of conception, **OR**
  - A clinically compatible neonate whose mother meets confirmatory or presumptive laboratory evidence for diagnosis from a normally sterile site.

Case Classifications

Confirmed:

- A person who meets confirmatory laboratory evidence.

Probable:

- A person who meets the presumptive laboratory evidence;

OR

- A mother or neonate who meets the epidemiologic linkage but who does not have confirmatory laboratory evidence.

Suspect:

- A person with supportive laboratory evidence.

Comments:

Pregnancy loss and intrauterine fetal demise are considered maternal outcomes and would be counted as a single case in the mother.

Cases in neonates and mothers should be reported separately when each meets the case definition. A case in a neonate is counted if live-born.

B. Criteria to distinguish a new case of this disease or condition from reports or notifications which should not be enumerated as a new case for surveillance

There is currently insufficient data available to support a routine recommendation for criteria to distinguish a new case of listeriosis from prior reports or notifications. Duplicate or recurring reports of listeriosis in an individual should be evaluated on a case by case basis.

VIII. Period of Surveillance

Surveillance should be on-going.

IX. Data sharing/release and print criteria

Notification to CDC for confirmed and probable cases of listeriosis is recommended.

- States will send core/generic and disease specific data elements to CDC.

- Data will be used to determine the burden of illness due to *L. monocytogenes*, facilitate outbreak investigations, assess the effectiveness over time of national control programs, and assess the progress toward national goals in listeriosis control. Data may also be used to compare case numbers with information from other foodborne disease surveillance systems.
- Electronic reports of listeriosis cases in NNDSS are also summarized weekly in the MMWR Tables. Annual case data on listeriosis is summarized in the yearly Summary of Notifiable Diseases and *Listeria* Initiative annual report. State-specific compiled data will continue to be published in the weekly and annual MMWR. All cases are verified with the states before publication.
- In addition to those reports, the frequency of reports/feedback to the states and territories will be dependent on the current epidemiologic situation in the country. Frequency of cases, epidemiologic distribution, importation status, transmission risk, and other factors will influence communications.

CSTE recommends the following case statuses be included in the CDC Print Criteria:

☒Confirmed
☒Probable
☐ Suspect
☐ Unknown

X. Revision History

Position Statement ID	Section of Document	Revision Description
09-ID-46	Section I and II: Statement of the Problem and Background	ADDED probable and suspect case definitions. ADDED classification of maternal and neonatal cases for consistent reporting on the federal, state and local levels ADDED detection of listeriosis using CIDT UPDATE confirmed case definition to include products of conception and non-sterile neonatal specimens ADDED probable case definition to account for mother/infant pairs with discordant or missing laboratory results AND for CIDT-positive specimens ADDED specimens from non-sterile sites classified as suspect cases CLARIFIED counting maternal and neonatal cases when only one specimen is positive or has been collected REMOVED clinical compatibility from the case definition except in probable neonate when maternal specimen is from a normally sterile-site
09-ID-46	Section III-Statement of the desired action(s) to be taken	MOVED Table V to Table III
09-ID-46	Section IV-Goals of Surveillance	EDITED “to provide information on temporal, geographic and demographic occurrence of listeriosis to facilitate its prevention and control” to “Ongoing surveillance of listeria infections is essential to detect and control outbreaks, to determine public health priorities, to monitor trends in illness, and to assess effectiveness of public health interventions.”
09-ID-46	Section V-Methods for surveillance	ADDED the following: -The laboratory should report *L. monocytogenes* identified through confirmatory, presumptive, and supportive laboratory

		evidence as described in Section VII to public health authorities and submit isolates for further characterization -Healthcare facilities and clinicians should report listeriosis to public health authorities -Compared with other foodborne illnesses, fewer listeriosis cases are underdiagnosed from variations in accessing medical care, specimen submission, and laboratory testing; CDC estimates one invasive listeria infection is reported for every two illnesses.
09-ID-46	Section VI-A: Criteria to report any illness to public health authorities	ADDED the following criteria in Laboratory Evidence: -CIDT -Products of conception and non-sterile neonatal site -Isolation of *L. monocytogenes* from non-invasive specimens -Isolation of other *Listeria* species ADDED Evidence for Epi-Linkage for mother and neonate(s)
	Section VI-A: Other recommended reporting procedures	ADDED the following: -All cases of listeriosis, should be reported -Reporting of *L. monocytogenes* from a non-invasive specimen should follow the state health department's reporting requirement -Clinical isolates of *Listeria* species other than *L. monocytogenes* should be reported to a public health department and isolate sent to public health laboratory EDITED Other recommended reporting procedures "subtyping by molecular methods" to "whole genome sequencing"
09-ID-46	Section VI-B: Disease specific data elements	MOVED Disease specific data elements from Section VI-C to Section VI-B ADDED the following: -CSTE recommends collect and report disease-specific data elements for confirmed and probable cases (*Listeria* Initiative Case Report Form) -Collect exposure information from the mother for infants <28 days -In the context of an outbreak investigation, states should consider collecting and reporting disease-specific data elements for suspect cases
09-ID-46	Section VI-B: Additional data elements	ADDED the following in case classification: -Provide a data element to distinguish probable cases (CIDT and mother/neonate in pregnancy-associated cases) ADDED the following in epidemiologic linkage: -Provide an identifier to enable linking case reports for mother and infant pairs ADDED the following in laboratory information: -Methods of laboratory testing (culture or CIDT) EDITED the following in Epidemiologic risk factors: "consumption of raw milk, raw milk cheese, uncooked luncheon meat, uncooked frankfurters" to "Epidemiologic risk factors (*Listeria*-based immunotherapy, Blood/blood product recipient within 28 days of symptom onset, food other than breast milk for infant)"

09-ID-46	Table VI-B	MOVED reporting to public health table to the technical supplement EDITED to be consistent with Section VI
09-ID-46	Section VII-A-Clinical Criteria	ADDED the following clinical criteria: -Other manifestations for invasive listeriosis including pneumonia, peritonitis, endocarditis, and focal infections of joints and bones EDITED "infection during pregnancy may result in fetal loss through miscarriage or stillbirth or neonatal meningitis or bacteremia" to clarify pregnancy-associated listeriosis as pregnancy loss (<20 weeks), intrauterine fetal demise (>20 weeks) or neonatal listeriosis (within 28 days of birth) ADDED the following clinical criteria: -Pregnancy loss and intrauterine fetal demise are considered to be maternal outcomes. -Neonatal listeriosis commonly manifests as bacteremia, meningitis, and pneumonia, and are associated with high fatality rates. -Transmission of *Listeria* from mother to baby transplacentally or during delivery is almost always the source of early-onset neonatal infections (diagnosed between birth and 6 days) and the most likely source of late-onset neonatal listeriosis (diagnosed between 7–28 days). -Non-invasive *Listeria* infections
09-ID-46	Section VII-A – Laboratory Criteria	ADDED the following laboratory criteria: -Confirmatory laboratory evidence -Presumptive laboratory evidence -Supportive laboratory evidence EDITED the following confirmatory laboratory criteria: -"normally sterile site" to "include less commonly: pleural, peritoneal, pericardial, hepatobiliary, or vitreous fluid; orthopedic site such as bone, bone marrow, or joint; or other sterile sites including organs such as spleen, liver, and heart, but not urine, stool or external wounds". "in the setting of miscarriage or stillbirth" to include maternal isolates (products of conception) and non-sterile neonatal isolates in the setting of live birth (non-sterile e.g. meconium, tracheal aspirate) ADDED the following presumptive laboratory evidence: -Detection of *L. monocytogenes* by CIDT in a specimen collected from a normally sterile site -For maternal isolates: In the setting of pregnancy, pregnancy loss, intrauterine fetal demise, or birth, detection of *L. monocytogenes* by CIDT from products of conception (e.g. chorionic villi, placenta, fetal tissue, umbilical cord blood, amniotic fluid) collected at the time of delivery -For neonatal isolates: In the setting of live birth, detection of *L. monocytogenes* by CIDT from a non-sterile neonatal specimen (e.g., meconium, tracheal aspirate, but not products of conception) collected within 48 hours of delivery. ADDED the following supportive laboratory evidence:

		-Isolation of *L. monocytogenes* from a non-invasive clinical specimen (e.g. stool, urine, wound)
09-ID-46	Section VII-A – Epidemiologic-Linkage	ADDED the following: -Probable maternal: mother who does not meet confirmed case criteria but who gave birth to a neonate who meets confirmatory or presumptive laboratory evidence for diagnosis with a specimen collection date within 28 days of birth -Probable neonatal: neonate(s) who do not meet the confirmed case criteria **AND** whose mother meets the confirmatory or presumptive laboratory evidence for diagnosis from products of conception **OR** A clinically compatible neonate whose mother meets the confirmatory or presumptive laboratory evidence for diagnosis from a normally sterile site.
09-ID-46	Section VII-A – Case Classification	ADDED the following criteria: -Probable case- A person who meets presumptive laboratory evidence OR A mother or neonate who meets the epidemiologic linkage but who does not have confirmatory laboratory evidence -Suspect case- a person with supportive laboratory evidence REMOVED the following criteria: -Clinically compatible except: Requirement for clinically compatible symptoms is still necessary for the case classification of a probable neonatal case whose mother had *L. monocytogenes* isolated or detected from a normally sterile site ADDED the following comments: -Pregnancy loss and intrauterine fetal demise are considered maternal outcomes and would be counted as a single case in the mother. -Cases in neonates and mothers should be reported separately when each meets the case definition. A case in a neonate is counted if live-born.
09-ID-46	Section VII-B	ADDED There is currently insufficient data available to support a routine recommendation for criteria to distinguish a new case of listeriosis from prior reports or notifications. Duplicate or recurring reports of listeriosis in an individual should be evaluated on a case by case basis
09-ID-46	Table VII-B	MOVED Case classification table to the technical supplement EDITED to be consistent with Section VII

XI. References

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XII. Coordination

Subject Matter Expert (SME) Consultants:

(1) Amanda Conrad, MPH
Epidemiologist
Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta, GA 30333
Telephone: 404-639-4413
Email: vbx9@cdc.gov

(2) Dana Meany-Delman, MD
Medical Officer
Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta, GA 30333
Telephone: 404-639-2115
Email: vmo0@cdc.gov

(3) Kasey Diebold, MS
Epidemiologist
Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta, GA 30333
Telephone: 404-718-5931
Email: ykl4@cdc.gov

Agencies for Response

(1) Centers for Disease Control and Prevention
Robert R. Redfield, MD
Director
1600 Clifton Rd
Atlanta, GA 30333
404-639-7000
olx1@cdc.gov

XIII. Author Information

Submitting Author:

(1) Akiko C Kimura, MD
Public Health Medical Officer
Disease Investigations Section
California Department of Public Health
320 W. 4th St., Ste 570
Los Angeles, CA 90013
213-620-2857
Akiko.kimura@cdph.ca.gov

Presenting Author:

(1) Venessa Cantu, MPH
Epidemiologist
Texas Department of State Health Services
1100 West 49th Street
Austin, Texas 78756-3199
512-776-6648
venessa.cantu@dshs.state.tx.us

Co-Author:

(1) Associate Member
Jennifer C. Hunter, DrPH, MPH
Epidemiologist
Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta, GA 30333
404-639-7252
xdd9@cdc.gov

(2) Active Member

Beth Melius, RN, MN, MPH
Foodborne and Enteric Disease Epidemiologist
Washington State Department of Health
1610 NE 150th St.
Shoreline, WA 98155
206-418-5432
beth.melius@doh.wa.gov

(3) Active Member
Hilary Rosen, MPH
Research Scientist III
California Department of Public Health
320 W. 4th St., Ste 570
Los Angeles, CA 90013
213-620-2855
Hilary.Rosen@cdph.ca.gov

Nationally Notifiable Conditions (NNC) Recommendation Statement

Position Statement Title**: Revisions to the Surveillance Case Definition, Case Classification, Public Health Reporting, and National Notification for Listeriosis**

Disease/Condition: Listeriosis

☒ This statement updates a disease/condition already on the *Nationally Notifiable Conditions List*.
- ☒ No change to the CDC notification timeframe is recommended.
- ☒ New subtype(s) or additional disease/condition categories are added to the accompanying position statement.

This NNC Recommendation Statement recommends the following:

1. Utilize standardized criteria for case ascertainment and classification (based on Sections VI and VII and Technical Supplement of accompanying position statement) for listeriosis and add listeriosis to the *Nationally Notifiable Condition List*
   - ☐ Immediately notifiable, extremely urgent (within 4 hours)
   - ☐ Immediately notifiable, urgent (within 24 hours)
   - ☒ Routinely notifiable
   - ☐ No longer notifiable

2. CSTE recommends that all States and Territories enact laws (statue or rule/regulation as appropriate) to make this disease or condition reportable in their jurisdiction. Jurisdictions (e.g. States and Territories) conducting surveillance (according to these methods) should submit case notifications* to CDC.

3. Expectations for Message Mapping Guide (MMG) development for a newly notifiable condition: NNDSS is transitioning to HL7-based messages for case notifications; the specifications for these messages are presented in MMGs. When CSTE recommends that a new condition be made nationally notifiable, CDC must obtain OMB PRA approval prior to accepting case notifications for the new condition. Under anticipated timelines, notification using the Generic V2 MMG would support transmission of the basic demographic and epidemiologic information common to all cases and could begin with the new MMWR year following the CSTE annual conference. Input from CDC programs and CSTE would prioritize development of a disease-specific MMG for the new condition among other conditions waiting for MMGs.

4. CDC should publish data on listeriosis as appropriate (see Section IX of corresponding position statement).

5. CSTE recommends that all jurisdictions (e.g. States or Territories) with legal authority to conduct public health surveillance follow the recommended methods as outlined here and in the accompanying standardized surveillance position statement.

*Notification: process of a local or state public health authority submitting a report (case information) of a condition on the *Nationally Notifiable Conditions List* TO CDC.

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Table VI. Table of criteria to determine whether a case should be reported to public health authorities.

Criterion	Listeriosis/*Listeria* Infection	
Clinical Evidence		
Person whose healthcare record contains diagnosis of listeriosis	S	
Evidence of illness compatible with listeriosis in neonate (e.g. bacteremia, CNS infection, pneumonia, etc.)		N
Laboratory Evidence		
Isolation or detection of *L. monocytogenes* by culture or CIDT from a normally sterile site	S	
Isolation or detection of *L. monocytogenes* by culture or CIDT from products of conception (e.g. placenta, amniotic fluid, umbilical cord blood) collected at the time of delivery	S	
Isolation or detection of *L. monocytogenes* by culture or CIDT from a non-sterile neonatal site (e.g., meconium, tracheal aspirate) collected within 48 hours of delivery	S	
Isolation of *L. monocytogenes* from a non-invasive clinical specimen (e.g., stool, urine, wound)	S	
Isolation of *Listeria* species other than *L. monocytogenes* (such as *L. ivanovii* and *L. grayi*) from a normally sterile site	S	
Epidemiological Evidence		
Mother who gave birth to a neonate meeting confirmatory or presumptive laboratory evidence for diagnosis with a specimen collection date up to 28 days of birth	S	
Neonate born to a mother meeting confirmatory or presumptive laboratory evidence for diagnosis with a specimen collected from products of conception	S	
Clinically compatible neonate born to a mother meeting confirmatory or presumptive laboratory evidence for diagnosis from a normally sterile site		N
Vital Records Evidence		
Person whose death certificate lists listeriosis as a cause of death or a condition contributing to death	S	

Notes:
S = This criterion alone is SUFFICIENT to report a case.
N = All “N” criteria in the same column are NECESSARY to report a case.

Table VII. Classification Table: Criteria for defining a case of Listeriosis

Criterion	Suspect	Probable		Confirmed		
Clinical Evidence						
Neonatal illness consistent with listeriosis (e.g. bacteremia, CNS infection, pneumonia, etc.)			O			
Pregnancy					O	
Pregnancy loss					O	
Intrauterine fetal demise					O	
Live birth					O	N
Laboratory Evidence						
Isolation of *L. monocytogenes* from a normally sterile site (e.g., blood or cerebrospinal fluid, pleural, peritoneal, pericardial, hepatobiliary, or vitreous fluid; orthopedic site such as bone, bone marrow, or joint; or other sterile sites including organs such as spleen, liver, and heart)				S		
Isolation of *L. monocytogenes* from products of conception (e.g., chorionic villi, placenta, fetal tissue, umbilical cord blood, amniotic fluid) collected at the time of delivery					N	
Isolation of *L. monocytogenes* from a non-sterile neonatal specimen (e.g., meconium, tracheal aspirate) collected within 48 hours of delivery						N
Detection of *L. monocytogenes* by CIDT from a normally sterile site (e.g., blood or cerebrospinal fluid, pleural, peritoneal, pericardial, hepatobiliary, or vitreous fluid; orthopedic site such as bone, bone marrow, or joint; or other sterile sites including organs such as spleen, liver, and heart)		S				
Detection of *L. monocytogenes* by CIDT in products of conception (e.g. chorionic villi, placenta, fetal tissue, umbilical cord blood, amniotic fluid) collected at the time of delivery		S				
Detection of *L. monocytogenes* by CIDT in a non-sterile neonatal specimen (e.g., meconium, tracheal aspirate, but not products of conception) collected within 48 hours of delivery		S				
Isolation of *L. monocytogenes* from a non-invasive clinical specimen (e.g., stool, urine, wound other than those specified under products of conception or non-sterile neonatal specimen)	S					
Epidemiological Linkage Evidence						
Mother who gave birth to a neonate who meets the confirmatory or presumptive laboratory evidence from a neonatal specimen collected within 28 days of birth		S				

Neonate whose mother meets the confirmatory or presumptive laboratory evidence for diagnosis from products of conception		S				
Neonate whose mother meets confirmatory or presumptive laboratory evidence for diagnosis from a normally sterile site			N			

Notes:
S = This criterion alone is SUFFICIENT to report a case.
N = All "N" criteria in the same column are NECESSARY to report a case.
O = At least one of these "O" (ONE OR MORE) criteria in **each category** (categories=clinical evidence, laboratory evidence, and epidemiological evidence) **in the same column**—in conjunction with all "N" criteria in the same column—is required to report a case.