23-ID-01

Committee: Infectious Disease

Title: Update to Public Health Reporting and National Notification for Anaplasmosis

☒Check this box if this position statement is an update to an existing standardized surveillance case definition and include the most recent position statement number here: 09-ID-15.

Synopsis:
Overarching changes

- The *Anaplasma* case definition is now distinct from the *Ehrlichia* case definition.
- Undetermined human ehrlichiosis/anaplasmosis classification has been eliminated as a nationally notifiable condition as it does not further surveillance efforts on a national level.

Laboratory evidence updates

- IgM results have been removed as laboratory evidence (these antibodies alone are unreliable indicators of recent infection).
- ELISA tests have been removed as laboratory evidence (they are no longer widely available).
- Actionable antibody titer for national reporting purposes has been increased from 1:64 to ≥1:128 based on position statement workgroup member assessment of the cases with laboratory evidence of a single IgG serology at the 1:64 level that were investigated and classified as probable or confirmed.
- Flexibility in the timing of a convalescent sample has been increased from 2-4 weeks to 2-10 weeks from onset.
- To count as laboratory evidence for case classification, samples for serologic and smear testing (presumptive laboratory evidence) must be collected within 60 days of illness onset.

Clinical evidence updates

- Fever is no longer a required element for confirmed cases based on data gathered by the workgroup, which found that nearly 40% of cases that were PCR-positive for *Anaplasma* were afebrile.
- Fever remains required clinical evidence if laboratory evidence meets only presumptive criteria.
- Clinical evidence stratified into objective and subjective lists.
- Fatigue/malaise has been added as subjective clinical evidence criteria based on workgroup assessment of commonly reported symptoms in surveillance data.
- Reports with only presumptive laboratory evidence require stronger clinical evidence to be classified as a case, while reports with confirmatory lab evidence have less strict requirements.

I. Statement of the Problem

Anaplasma and *Ehrlichia* species are closely related pathogens in the family Anaplasmataceae. Ehrlichiosis was made nationally notifiable in 1999. Anaplasmosis became nationally notifiable in 2001 when multiple *Ehrlichia* species originally categorized as granulocytic *Ehrlichiae* were reclassified (1). Due to the close genetic relationship among *Anaplasma phagocytophilum* and the *Ehrlichia* species associated with human monocytic ehrlichiosis, one surveillance case definition with four subcategories has been used since 2008.

Changes to support surveillance of ehrlichiosis and anaplasmosis have lagged behind science, and a single definition for both conditions is problematic. The current case definition for anaplasmosis includes diagnostic tests that are either no longer commonly available or are unreliable indicators of acute infection. The definition also includes a category for “undetermined ehrlichiosis/anaplasmosis” infections, which does not further surveillance efforts or inform public health practice. Separate case definitions for anaplasmosis and ehrlichiosis would allow for more flexibility if clinical or laboratory criteria need to be updated and will better describe the epidemiology of these

infections. Finally, analysis of clinical data obtained from public health surveillance and current literature support expanding the required clinical elements of the anaplasmosis case definition to include fever as reported by patient or healthcare provider and subjective chills or sweats.

II. Background and Justification

Anaplasmosis is a tickborne disease caused by the bacterium *Anaplasma phagocytophilum*. *Ixodes scapularis*, or the blacklegged tick, is the primary vector in the northeastern and midwestern United States. The western blacklegged tick, *Ixodes pacificus*, is the principal vector along the West Coast (2). Anaplasmosis typically presents 5 to 14 days after a tick bite with a combination of nonspecific clinical symptoms, such as fever, fatigue, and headache. Illness is often accompanied by laboratory abnormalities including leukopenia, thrombocytopenia, and mildly elevated liver enzymes (2; 3; 4).

Diagnostic testing for anaplasmosis is complicated by the close genetic relationship between *Anaplasma* and *Ehrlichia* species. Blood smears may reveal morulae within the cytoplasm of infected cells, and while they cannot always conclusively distinguish between *Anaplasma* and some *Ehrlichia* species, smears are the only rapid diagnostic available, and in combination with surveillance data, the results can be informative. Serologic testing is commonly used to diagnose anaplasmosis, but as with other closely related species, antibodies to *Anaplasma* and *Ehrlichia* can cross-react. The previous case definition from position statement (09-ID-15) includes single positive immunoglobulin M (IgM) or immunoglobulin G (IgG) serologic assay results as laboratory evidence for probable cases, which is problematic.

In addition to the relatively low specificity of single positive serologic assay results, antibodies can persist for months or years following infection and may be detected in individuals with no clinical evidence of disease; overall, a single, mildly elevated titer is a poor indicator of current infection. The presence of IgG antibodies may reflect past exposures, and data suggest that IgG antibodies reactive to *A. phagocytophilum* in asymptomatic individuals may be more common than previously thought (5; 6; 7). While accurately interpreting a single IgG test result is challenging, IgM antibodies have also proven to be unreliable indicators of infection (8). Organism-specific IgM tests are typically only reactive during the first 40 days after infection and are less sensitive than tests that detect IgG antibodies (9; 10).

Some of the tests included in the previous case definition (position statement 09-ID-15; specifically ELISA and dot-ELISA [11; 12]) are no longer widely available and lack reliability, especially when compared to species-specific molecular methods. A national analysis of surveillance data for anaplasmosis from 2008-2017 shows a clear shift toward molecular testing in recent years. As of 2017, molecular methods were the diagnostic used in 75% of reported anaplasmosis cases. Other methods, such as antigen detection by immunohistochemistry, isolation in cell culture, or serological evidence of a four-fold change in IgG-specific antibody titer by indirect immunofluorescence assay (IFA) in paired serum samples, while definitive, are rarely reported. In addition, when acute and convalescent serum samples documenting a four-fold change in IgG-specific antibody titer are reported, many are rejected as laboratory evidence as samples were collected outside of the previous case definition's time parameters.

Supplemental surveillance data from several jurisdictions were examined, and 0%-38% of reports that met confirmatory laboratory criteria were categorized as "Suspect" or "Not a Case" so were not included in national anaplasmosis data. The most common reason for exclusion was that patients lacked a reported fever, but most did have other clinically compatible symptoms. Approximately 13% of these laboratory-confirmed "Not a Case" patients were reported as hospitalized.

Finally, this position statement proposes that anaplasmosis case numbers be included in NNDSS annual tables rather than the weekly tables. Anaplasmosis cases are complex to classify, and reporting of reliable case numbers is often delayed, making weekly case numbers of limited utility. Initial reports may be deleted after subsequent case review, meaning weekly numbers may not reflect trends and are inconsistent with final data.

III. Statement of the Desired Action(s) to be Taken

CSTE recommends the following actions:

1. Implement a standardized surveillance case definition for **anaplasmosis** distinct from ehrlichiosis.

   A. Utilize standard sources (e.g., reporting*) for case ascertainment for **anaplasmosis**. Surveillance for **anaplasmosis** should use the recommended sources of data to the extent of coverage presented in Section V.

   B. Utilize standardized criteria for case ascertainment for **anaplasmosis** presented in Section VI and Table VI in Technical Supplement.

   C. Utilize standardized criteria for case classification for **anaplasmosis** presented in Section VII and Table VII in Technical Supplement.

2. Utilize standardized criteria for case ascertainment and classification (based on Sections VI and VII and Technical Supplement) for **anaplasmosis** and **update** anaplasmosis on the *Nationally Notifiable Condition List* using the following notification* timeframe:
   - ☐ Immediately notifiable, extremely urgent (within 4 hours)
   - ☐ Immediately notifiable, urgent (within 24 hours)
   - ☒ Routinely notifiable
   - ☐ No longer notifiable

3. CSTE recommends that all States and Territories enact laws (statute 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.

4. Expectations for Message Mapping Guide (MMG) development for a newly notifiable condition: the National Notifiable Diseases Surveillance System (NNDSS) can receive HL7-based messages for case notifications; the specifications for these messages are presented in MMGs. When CSTE recommends a new condition be made nationally notifiable, CDC must obtain Office of Management and Budget Paperwork Reduction Act (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 MMG development.

5. CDC should publish data on anaplasmosis as appropriate (see Section IX). CSTE recommends the following case statuses be included in the CDC Print Criteria:
   - ☒Confirmed
   - ☒Probable
   - ☐Suspect
   - ☐Unknown

   To support national notification for anaplasmosis, the intent of this position statement is for CDC to continue using the individual event code for *Anaplasma phagocytophilum* and retire the event code for Ehrlichiosis/Anaplasmosis, undetermined. The intent of this position statement is not for CDC to create a new event code for the umbrella condition of Anaplasmosis.

6. CSTE recommends that all jurisdictions (e.g., States, Localities, or Territories) with legal authority should conduct public health surveillance and use the case classifications included in this standardized surveillance position statement.

** Reporting: process of a healthcare provider, laboratory, or other entity submitting a report (case information) of a condition under public health surveillance to local, state, or territorial public health.*

***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.*

IV. Goals of Surveillance

The updated anaplasmosis case definition will help jurisdictions gather useful clinical and laboratory data to better describe the epidemiology of anaplasmosis as distinct from ehrlichiosis and place an emphasis on excluding disease reports that may not reflect current anaplasmosis infections. Surveillance data will continue to provide information on the temporal, geographic, and demographic occurrence of anaplasmosis to facilitate its prevention and control.

V. Recommended Data Sources and Methods for Surveillance

Surveillance for anaplasmosis should use the following recommended sources of data and/or methodologies and the extent of coverage listed in Table V.

Laboratory reporting will continue to be the most common source of data. A provisional review of data from 2016-2021 from several states showed that laboratory reporting was by far the largest source of data and is the starting point for most case investigations. Electronically generated (or paper, when applicable) reports for positive tests should be reported, and laboratories should report all tests meeting the criteria listed in Section VI subsection A to public health authorities.

Additionally, healthcare providers and facilities who diagnose or become aware of anaplasmosis cases should report them to public health authorities. Other data sources (e.g., hospital discharge data, diagnosis codes, or death certificates) may be used as supplementary case finding methods.

Table V. Recommended Sources of Data, Surveillance Methods, and Extent of Coverage for Ascertainment of Cases of Anaplasmosis.

Source of Data/Methodology for Case Ascertainment	Coverage	
	Population-Wide	Sentinel Sites
Clinician reporting	X	
Laboratory reporting	X	
Reporting by other entities, specify: hospitals	X	
Death certificates	X	
Hospital discharge or outpatient records	X	
Data from electronic medical records	X	
Telephone or online survey		
School-based survey		
Other, specify: N/A		

VI. Criteria for Case Ascertainment

Case ascertainment is the process through which public health identifies potential cases of a disease or condition using data reported or provided to public health by healthcare, laboratories, and other reporting entities. This public health reporting is triggered by the case ascertainment criteria (a single criterion or a combination of criteria) included in this position statement, and each initial report sent to public health should include common data elements and disease-specific data elements. Case ascertainment criteria are not intended to be used for clinical diagnosis purposes.

A. Narrative: A description of suggested criteria for case ascertainment of a specific condition and recommended reporting procedures.
Anaplasmosis surveillance should be routine, ongoing, and reported to public health authorities using standard case reporting timeframes.

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

A1. Clinical Criteria for Reporting
- N/A

A2. Laboratory Criteria for Reporting
- Detection of *A. phagocytophilum* DNA in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR) assay, nucleic acid amplification tests (NAAT), or other molecular testing, **OR**
- Serological evidence of elevated IgG antibody reactive with *A. phagocytophilum* antigen by indirect immunofluorescence assay (IFA) at a titer ≥1:128, **OR**
- Microscopic identification of intracytoplasmic morulae in leukocytes, **OR**
- Demonstration of anaplasmal antigen in a biopsy or autopsy sample by immunohistochemical methods, **OR**
- Isolation of *A. phagocytophilum* from a clinical specimen in cell culture with molecular confirmation (e.g., PCR or sequencing)

A3. Epidemiologic Linkage Criteria for Reporting
- N/A

A4. Vital Records Criteria for Reporting
- A person whose death certificate lists anaplasmosis as an underlying cause of death or a significant condition contributing to death.

A5. Healthcare Record Criteria for Reporting
- A person whose healthcare record contains a diagnosis of anaplasmosis.

B. Disease-Specific Data Elements to be Included in the Initial Report
Disease-specific data elements should be included in addition to the common data elements that are to be reported for all initial individual case reports (see CSTE Position Statement 09-SI-01 "Common Core Data Elements for Case Reporting and Laboratory Result Reporting" https://cdn.ymaws.com/www.cste.org/resource/resmgr/PS/09-SI-01.pdf). Public health authorities do not expect that an initial report will contain all the information necessary for case investigation and case classification.

No additional disease-specific data elements are needed for initial individual case reports of anaplasmosis.

VII. Case Definition for Case Classification

This case definition for case classification is intended solely for public health surveillance purposes and does not recommend criteria for clinical diagnosis purposes. Once a public health agency has ascertained data on potential cases of a disease or condition from reporting entities, the public health agency assigns case statuses based on the case classifications included within this position statement.

A. Narrative: A description of criteria to determine how public health should classify a case of anaplasmosis.
A. phagocytophilum is closely related to *Ehrlichia* spp. bacteria, and many patients are tested using serologic panels that include targets for both species. As a result, it is not uncommon for jurisdictions to receive positive antibody results for both *Anaplasma* and *Ehrlichia* spp. with the same collection date for a single patient. Public health agencies should use a combination of titer levels, information about the location of possible exposures, clinical manifestations, and the incidence of a particular disease in the geographic areas of exposure to help determine the appropriate disease type for individual patients. Patients should not be classified as cases for both anaplasmosis and ehrlichiosis based on serologic evidence alone.

A1. Clinical Criteria

- Objective clinical evidence: fever as reported by patient or healthcare provider, anemia, leukopenia, thrombocytopenia, any hepatic transaminase elevation, or elevated C-reactive protein
- Subjective clinical evidence: chills/sweats, headache, myalgia, or fatigue/malaise

A2. Laboratory Criteria*

Confirmatory laboratory evidence:

- Detection of *A. phagocytophilum* DNA in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR) assay, nucleic acid amplification tests (NAAT), or other molecular testing, **OR**
- Serological evidence of a four-fold change[1] in IgG-specific antibody titer to *A. phagocytophilum* antigen by indirect immunofluorescence assay (IFA) in paired serum samples (one taken in the first two weeks after illness onset and a second taken two to ten weeks after acute specimen collection)[2], **OR**
- Demonstration of anaplasmal antigen in a biopsy or autopsy sample by immunohistochemical methods, **OR**
- Isolation of *A. phagocytophilum* from a clinical specimen in cell culture with molecular confirmation (e.g., PCR or sequencing)

Presumptive laboratory evidence:

- Serological evidence of elevated IgG antibody reactive with *A. phagocytophilum* antigen by IFA at a titer ≥1:128 in a sample taken within 60 days of illness onset, **OR**
- Microscopic identification of intracytoplasmic morulae in leukocytes in a sample taken within 60 days of illness onset.

** Note: The categorical labels used here to stratify laboratory evidence are intended to support the standardization of case classifications for public health surveillance. The categorical labels should not be used to interpret the utility or validity of any laboratory test methodology.*

A3. Epidemiologic Linkage Criteria

N/A

A4. Case Classifications

*Confirmed**:*

- Meets confirmatory laboratory evidence AND at least one of the objective or subjective clinical evidence criteria.

*Probable**:*

- Meets presumptive laboratory evidence with fever as reported by patient or healthcare provider **AND** at least one other objective or subjective clinical evidence criterion (excluding chills/sweats), **OR**
- Meets presumptive laboratory evidence without a reported fever but with chills/sweats **AND**
    - at least one objective clinical evidence criterion, **OR**
    - two other subjective clinical evidence criteria.

*Suspect**:*

- Meets confirmatory or presumptive laboratory evidence with no or insufficient clinical information to classify as a confirmed or probable case (e.g., a laboratory report only).

*** Patients should not be classified as cases for both anaplasmosis and ehrlichiosis based on serologic evidence alone (see section VII, part A).*

B. Criteria to Distinguish a New Case of Anaplasmosis from Reports or Notifications which Should Not be Enumerated as a New Case for Surveillance

A person previously reported as a probable or confirmed case-patient may be counted as a new case-patient when there is an episode of new clinically compatible illness with confirmatory laboratory evidence.

[1] A four-fold change in titer is equivalent to a change of two dilutions (e.g., 1:64 to 1:256).
[2] A four-fold rise in titer should not be excluded as confirmatory laboratory criteria if the acute and convalescent specimens are collected within two weeks of one another.

VIII. Period of Surveillance

Surveillance should be ongoing.

IX. Data Sharing/Release and Print Criteria

CSTE recommends the following case statuses* be included in the 'case' count released outside of the public health agency:

☒Confirmed
☒Probable
☐Suspect
☐Unknown
**Which case statuses are included in case counts constitute the "print criteria."*

Jurisdictions (e.g., States and Territories) conducting surveillance under this case definition can voluntarily submit de-identified case information to CDC, if requested and in a mutually agreed upon format.
Production of national data summaries and national data re-release for non-NNCs:

- Prior to release of national data summaries CDC should follow the CDC/ATSDR Policy on Releasing & Sharing Data, issued on April 16, 2003 and referenced in 11-SI-01 and custodians of such data should consult the CDC-CSTE Intergovernmental Data Release Guidelines Working Group report (www.cste2.org/webpdfs/drgwgreport.pdf) which contains data release guidelines and procedures for CDC programs re-releasing state, local, or territorial-provided data.
- CDC programs have a responsibility, in collaboration with states, localities, and territories, to ensure that CDC program-specific data re-release procedures meet the needs of those responsible for protecting data in the states and territories.

Additional Guidance:

- Notification to CDC of probable and confirmed cases of anaplasmosis is recommended.
- Finalized data should be published in the annual NNDSS tables. Summaries and analyses of reported cases of anaplasmosis are compiled and published periodically dependent upon accumulation of data and changes in disease activity and regional incidence.
- State-specific compiled data should continue to be published in the annual NNDSS tables.
- CDC may re-release finalized data on an ad hoc basis for research of public health activities in accordance with the Data Release Guidelines for NNDSS.

X. Revision History

Position Statement ID	Section of Document	Revision Description
23-ID-01	Section I	Separates anaplasmosis and ehrlichiosis case definitions into two separate position statements.
23-ID-01	Section I	Removes 'Undetermined' option from case definition.
23-ID-01	Section VI, A4 and A5	Added vital records and healthcare diagnosis criteria for reporting.
23-ID-01	Section VII, A	Added language to offer guidance on classifying cases with serology only reports for both *Ehrlichia* and *Anaplasma* spp.
23-ID-01	Section VII, A1	• Separates clinical evidence criteria into objective and subjective categories. • Added fatigue/malaise as subjective clinical evidence.
23-ID-01	Section VII, A2	• Removes ELISA, dot-ELISA, and single IgM test results from laboratory evidence for case classification. • Added language to specify that specimens for serology and microscopy be collected within 60 days of illness onset. • Extended window for collecting convalescent specimen to up to 10 weeks. • Raised actionable titer level to ≥1:128 from 1:64.
23-ID-01	Section VII, A4	Removes the requirement for fever as a clinical evidence criterion from confirmed cases.
23-ID-01	Section VII, B	Establish criteria for identifying new cases for surveillance purposes.
23-ID-01	Section IX	Updates NNDSS print criteria to publish data on annual basis instead of weekly basis.
09-ID-15	Transfer to new template format	Added tables needed for electronic disease reporting.

07-ID-03	Clinical presentation	Establishes four sub-categories of ehrlichiosis/anaplasmosis: (i) human ehrlichiosis caused by *Ehrlichia chaffeensis*, (ii) human ehrlichiosis caused by *E. ewingii*, and (iii) human anaplasmosis caused by *Anaplasma phagocytophilum*, as well as introducing an undetermined category.
07-ID-03	Laboratory evidence	Reintroduces a recommended minimum titer for a single IgG measurement by IFA and cautions against using IgM test results independently as diagnostic support criteria.
00-ID-03	Laboratory criteria for diagnosis	Updates the laboratory criteria for diagnosis in light of advances in diagnostics and addresses distinctions among *Ehrlichia* spp. *ewingii, phagocytophilum* and *chaffeensis* as well as maintaining an unspecified *Ehrlichia* category.
00-ID-03	Case classification	Removes the minimum single positive IFA IgG titer requirement in favor of the language "based on cutoff titers established by the laboratory performing the test."
98-ID-06	Position to be adopted	Adds ehrlichiosis to the list of nationally notifiable diseases.
N/A	96-ID-17	Creates a standardized case definition for ehrlichiosis.

XI. References

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

Criterion	Anaplasmosis
Clinical Criteria for Reporting	
N/A	
Laboratory Criteria for Reporting	
Detection of *A. phagocytophilum* DNA in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR) assay, nucleic acid amplification tests (NAAT), or other molecular testing	S
Serological evidence of elevated IgG antibody reactive with *A. phagocytophilum* antigen by indirect immunofluorescence assay (IFA) at a titer ≥1:128	S
Microscopic identification of intracytoplasmic morulae in leukocytes	S
Demonstration of anaplasmal antigen in a biopsy or autopsy sample by immunohistochemical methods	S
Isolation of *A. phagocytophilum* from a clinical specimen in cell culture with molecular confirmation (e.g., PCR or sequencing)	S
Epidemiologic Linkage Criteria for Reporting	
N/A	
Vital Record Criteria for Reporting	
A person whose death certificate lists anaplasmosis as an underlying cause of death or a significant condition contributing to death	S
Healthcare Record Criteria for Reporting	
A person whose healthcare record contains a diagnosis of anaplasmosis	S

Notes:
S = This criterion alone is SUFFICIENT to report a case.

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Table VII.A. Classification Table: Criteria for defining a case of anaplasmosis.

Criterion	Confirmed	Probable			Suspect
Clinical Evidence					
Objective Clinical Evidence					
Fever as reported by patient or healthcare provider	O	N			
Anemia	O	O	O		
Leukopenia	O	O	O		
Thrombocytopenia	O	O	O		
Hepatic transaminase elevation	O	O	O		
Elevated C-reactive protein	O	O	O		
Subjective Clinical Evidence					
Chills/sweats	O		N	N	
Headache	O	O			
Myalgia	O	O			
Fatigue or malaise	O	O			
At least two of the following *Subjective Clinical Evidence* criteria: - Headache - Myalgia - Fatigue or malaise				N	
No or insufficient clinical information to classify as a confirmed or probable case					N
Laboratory Evidence					
Detection of *A. phagocytophilum* DNA in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR) assay or nucleic acid amplification test (NAAT), or other molecular testing	O				O
Serological evidence of a four-fold change[1] in IgG-specific antibody titer to *A. phagocytophilum* antigen by indirect immunofluorescence assay (IFA) in paired serum samples (one taken in the first two weeks after illness onset and a second taken two to ten weeks after acute specimen collection)[2]	O				O
Demonstration of anaplasmal antigen in a biopsy or autopsy sample by immunohistochemical methods	O				O
Isolation of *A. phagocytophilum* from a clinical specimen in cell culture with molecular confirmation (e.g., PCR or sequencing)	O				O
Serological evidence of elevated IgG-specific antibody reactive with *A. phagocytophilum* antigen by IFA at a titer ≥1:128 in a sample taken within 60 days of illness onset		O	O	O	O
Microscopic identification of intracytoplasmic morulae in leukocytes in a sample taken within 60 days of illness onset		O	O	O	O
Epidemiologic Linkage Evidence					
N/A					

Notes:
N = All "N" criteria in the same column are NECESSARY to classify a case.
O = At least one of these "O" (ONE OR MORE) criteria in each category (categories=clinical evidence, laboratory evidence, and epidemiologic evidence) in the same column—in conjunction with all "N" criteria in the same column—is required to classify a case.
[1] A four-fold change in titer is equivalent to a change of two dilutions (e.g., 1:64 to 1:256).
[2] A four-fold rise in titer should not be excluded as confirmatory laboratory criteria if the acute and convalescent specimens are collected within two weeks of one another.

Table VII.B. Classification Table: Criteria to distinguish a new case of anaplasmosis from reports or notifications which should not be enumerated as a new case for surveillance.

Criterion	Confirmed	Probable	Suspect
Criteria to distinguish a new case			
A person previously reported as a probable or confirmed case-patient may be counted as a new case-patient when there is an episode of new clinically compatible illness with confirmatory laboratory evidence.	N		

N = All "N" criteria in the same column are NECESSARY to enumerate as a new case.

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