

26-ID-04

Committee: Infectious Disease

Title: Update to the Standardized Case Definition for Public Health Reporting and National Notification for Measles

☒ 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: 12-ID-07.

Synopsis:

This position statement updates the measles case definition and national notification criteria.

- Adds a problem statement and updates the background information to reflect changes in measles epidemiology since the prior case definition.
- Revises clinical reporting criteria to require cough, coryza, or conjunctivitis, allow subjective or self-reported fever, and include clinical suspicion of measles for reporting to public health.
- Recognizes the following as sufficient laboratory evidence for confirmation: Isolation of measles virus, PCR detection of measles virus nucleic acid, and IgG seroconversion or at least a 4-fold rise in titer, observed in paired acute and convalescent serum measles IgG antibody levels.
- Clarifies general timeframe of measles vaccine virus detection by PCR and detection of IgM after receipt of MMR vaccination.
- Revises epidemiologic linkage criteria to include contact with or known exposure to a laboratory-confirmed or an epidemiologically-linked confirmed measles case, or exposure to a defined population or setting where community transmission is occurring.
- Updates and expands the current case classifications:
 - Revises confirmed case classifications by removing the requirement for acute febrile rash illness to capture laboratory-confirmed measles cases with modified measles presentation and cases with unknown or missing symptom information.
 - Revises probable case classifications to require acute febrile rash illness plus serologic laboratory evidence or clinical evidence plus epidemiologic linkage when laboratory evidence is unavailable.
 - Adds a new suspect case category for illnesses meeting clinical criteria but lacks contributory laboratory testing or epidemiologic linkage.
- Adds probable cases to the CDC notification print criteria.

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I. Statement of the Problem

Measles was declared eliminated in the United States (U.S.) in 2000¹, with a median of 79 confirmed cases reported annually during 2001-2024. In 2025, a record number of post-elimination cases and outbreaks occurred, which revealed limitations with the previous CSTE measles position statement, 12-ID-07. This updated case definition addresses two main concerns:

1. The 2012 case definition did not account for patients who have unknown or unreported symptoms or those who have a modified measles presentation (e.g., low-grade or subjective fever, lack of visible rash), which is highly relevant for cases of congenital measles and cases of measles which occur despite pre-existing immunity (i.e., secondary vaccine failures). In this position statement, in the absence of clinically compatible signs, positive measles PCR, culture, or IgG seroconversion alone are reliable to confirm a case; however, a positive IgM result requires clinical criteria for confirmation.
2. In 2025, operational guidance was created to provide a broader, yet standardized, interpretation of the 2012 epidemiologic-linkage criteria that public health authorities could use to enumerate a confirmed case in the setting of community transmission of measles. This position statement incorporates this operational guidance into the probable case classification and adds probable cases to the print criteria; therefore, a separate operational guidance will no longer be needed for this position statement.

II. Background and Justification

Measles (rubeola) is a highly contagious respiratory virus disease spread through aerosolized droplets when a person breathes, coughs, or sneezes.² Measles illness is characterized by a prodrome of high fever (as high as 105°F), cough, coryza, and conjunctivitis (the three “C”s), and pathognomonic enanthem (Koplik spots) followed by a maculopapular rash.² The incubation period is typically 11-12 days from exposure to onset of symptoms, with a range of 7–21 days from exposure to rash onset.² Individuals are considered to be contagious from 4 days before to 4 days after the rash.² There is no specific treatment for measles. Complications of measles can include secondary bacterial infections, pneumonia, encephalitis, subacute sclerosing panencephalitis (SSPE), and even death.² People at highest risk for complications include infants and children aged <5 years, adults aged >20 years, pregnant women, and people with weakened immune systems.² Measles is preventable, with two doses of measles, mumps, and rubella (MMR) vaccine estimated to be 97% effective at preventing measles.³

Endemic circulation of measles was declared eliminated in the U.S. in 2000.^{1,4} During 2001–2012, preceding the last update to the measles case definition, a median of 60 confirmed cases (range: 37–55) and no large outbreaks of ≥50 cases were reported annually. The first post-elimination outbreak of ≥50 cases was recorded during 2013. During 2013–2024, a median of 154 confirmed cases (range: 13–1,274) were reported annually, and 10 large outbreaks of ≥50 cases, occurring primarily within tight-knit, under-vaccinated communities, were reported.¹ In 2025 at least 2,289 cases and four large outbreaks of ≥50 cases were recorded. These outbreaks were at times characterized by limited public health engagement among communities experiencing measles outbreaks, which challenged the ability to confirm measles cases through laboratory confirmation or direct epidemiologic linkage.⁵ In response, CSTE published operational guidance to provide a broader standard to epidemiologically link cases within geographic areas experiencing ongoing community-based measles transmission.⁶ While this position statement maintains the need for direct epidemiologic linkage to define confirmed measles cases, the expanded operational guidance is incorporated to define probable cases, which are additionally included in the print criteria. The previous probable case definition, which is likely to capture other causes of a viral exanthem in the absence of epidemiologic evidence of measles infection, is reclassified as a suspect case definition and is not included in the print criteria.

This position statement also improves the sensitivity of the case definition in instances where a highly sensitive and specific laboratory test confirms measles infection, but clinical criteria may not be met. Among certain groups, measles may present with modified symptoms such that a febrile rash syndrome may not be present. These populations include severely immunocompromised people, those with pre-existing immunity from prior vaccination, and persons who develop measles despite postexposure prophylaxis with either MMR vaccine or immune globulin.⁷ Additionally, congenital measles, which results from in utero exposure to measles through vertical transmission during acute maternal measles infection, may lead to asymptomatic or modified measles infection of the

neonate.^{8,9,10} While acute measles is not generally recognized to have an asymptomatic clinical course, the available literature suggests that congenital measles may occur without overt measles-like symptoms, particularly after receipt of immune globulin at birth. In persons who present without a febrile rash syndrome, measles can be confirmed by viral isolation, reverse transcriptase polymerase chain reaction (RT-PCR), or acute and convalescent serology.

Although IgM testing has long been used to confirm measles, false-positive results may occur in low-prevalence settings or in the presence of other viral infections that can mimic measles, including human herpesvirus 6 (cause of roseola) and parvovirus B-19.^{10,11} False positive IgM testing is particularly common among people who have been vaccinated with MMR and consequently have a low pre-test probability of experiencing measles due to high vaccine effectiveness. This update maintains IgM serology in the laboratory criteria for classification because it provides the ability to detect cases across a broader timeframe than RT-PCR, however, given the lower specificity of measles IgM relative to other modes of laboratory confirmation, more stringent clinical criteria will also be required to classify a case as confirmed based on a positive IgM.¹²

To enhance the accuracy of measles surveillance in the U.S., this updated position statement aims to increase the sensitivity in the reporting and classification criteria for measles while maintaining high specificity.

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

CSTE recommends the following actions:

1. Implement a standardized surveillance case definition for measles.
 - A. Utilize recommended reporting* sources for case ascertainment for **measles**. Surveillance for **measles** should use the recommended sources of data to the extent of coverage presented in Section V.
 - B. Utilize standardized criteria for case ascertainment for **measles** presented in Section VI and Table VI in Technical Supplement.
 - C. Utilize standardized criteria for case classification for **measles** 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 **measles** and **update measles** 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. 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.
5. Expectations for Message Mapping Guide (MMG) development for a newly notifiable condition: the National Notifiable Diseases Surveillance System (NNDSS) is transitioning to 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 MMGs.

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

** 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 goals of surveillance for measles are to:

1. Provide information on the temporal, geographic, and demographic occurrence of measles to facilitate its prevention and control.
2. Detect and respond to transmission of measles and measles outbreaks in the U.S.
3. Rapidly identify and contain imported cases of measles.
4. Characterize and understand changes in the epidemiology of the disease.
5. Maintain a sensitive and timely surveillance system for measles.

V. Recommended Data Sources and Methods for Surveillance

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

Surveillance for measles relies on the reporting of potential measles cases to public health jurisdictions by providers, hospitals, laboratories, schools, and other institutions or facilities. Death certificates, hospital discharge or outpatient records, and data from electronic medical records may be used as supplementary data sources for case finding.

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

Source of Data/Methodology for Case Ascertainment	Coverage	
	Population-Wide	Sentinel Sites
Clinician reporting	X	
Laboratory reporting	X	
Reporting by other entities, specify: • Hospitals • Schools • Daycares • Correctional and detention facilities • Homeless service sites • Migrant shelters • Congregate settings	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.

Recommended reporting procedures for measles:

- All suspected cases of measles should be reported.
- Reporting should be ongoing and immediate.

Report to public health any of the following:**A1. Clinical Criteria for Reporting**

- In the absence of a more likely alternative etiology,
 - Acute illness with fever (measured $\geq 101^{\circ}\text{F}$ or 38.3°C] or self-reported), **AND**
 - Generalized, maculopapular rash, **AND**
 - At least one of:
 - Cough,
 - Coryza, or
 - Conjunctivitis,**OR**
 - Acute febrile rash illness***OR**
 - Clinical suspicion of measles.

** To meet this criterion, a self-reported or measured fever is sufficient, and a rash of any duration is sufficient. This clinical criterion must be paired with epidemiologic linkage criteria for reporting to trigger a report to public health.*

A2. Laboratory Criteria for Reporting**

- Isolation of measles virus from a clinical specimen, **OR**
- Detection of measles virus-specific nucleic acid from a clinical specimen using polymerase chain reaction (PCR), **OR**
- Significant rise, defined as seroconversion*** or at least a 4-fold rise in titer, observed in paired acute and convalescent serum measles IgG antibody*** levels, **OR**
- A positive serologic test for measles IgM antibody.

*** A requisition or order for any diagnostic laboratory test specific to measles is sufficient to meet the reporting criteria.*

**** Not explained by an immune response to MMR or other measles-containing vaccine. IgM is most often detected for 6-45 days after vaccination, but more prolonged detection has been reported.*

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A3. Epidemiologic Linkage Criteria for Reporting[†]

During the likely incubation period:

- Contact¹³ with a confirmed or probable measles case, **OR**
- Belonging to a defined population experiencing community measles transmission[‡], **OR**
- Domestic or international travel, transit, or residence in a geographic area where community transmission[‡] is occurring

[†] *Epidemiologic linkage criteria for reporting must be paired with a febrile rash illness (see clinical criteria for reporting) to trigger a report to public health.*

[‡] *Community transmission, for the purpose of defining epidemiologic linkage criteria within this position statement, is deemed to be occurring when ALL of the following criteria are met:*

- 1) *≥3 related measles cases, with at least one case laboratory confirmed, within a defined population with suspected or known social connections as specified by public health authorities, **AND***
- 2) *ongoing measles transmission over multiple generations is occurring outside of the index household, **AND***
- 3) *ongoing measles transmission cannot be explained by exposure(s) from outside the aforementioned defined population.*

A4. Vital Records Criteria for Reporting

- A person whose death certificate lists measles as an underlying cause of death or a significant condition contributing to death.

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.

Additional disease-specific data elements to include when available:

- Clinical presentation
 - Fever (date of onset)
 - Rash (date of onset)
 - Cough, coryza, or conjunctivitis (if present)
 - Pregnancy status (including number of weeks of gestation at illness onset, if applicable)
 - Complications (including dehydration, diarrhea, otitis media, pneumonia)
 - Hospitalization status
 - Reason for hospitalization (if known and applicable)
- Epidemiological evidence
 - Reported contact with a measles case
 - Demographic information (including U.S. state of residence)
 - Recent travel (if any)
 - Date of return from travel (if applicable)
 - Transmission setting (e.g., household, school, healthcare setting, event)
- Immunization history
 - Number of doses of measles-containing vaccine received
 - Date(s) of dose(s) of measles-containing vaccine received
 - Reported history of measles, date of serologic immunity, or both
 - Date of postexposure prophylaxis (if applicable)

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 measles.

A1. Clinical Criteria

In the absence of a more likely alternative etiology,

Tier I

- An acute illness characterized by:
 - Generalized, maculopapular rash lasting ≥ 3 days; **AND**
 - Fever ($\geq 101^\circ\text{F}$ or 38.3°C); **AND**
 - Cough, **OR**
 - Coryza, **OR**
 - Conjunctivitis

Tier II

- Acute febrile rash illness*

**To meet this criterion, a self-reported or measured fever is sufficient, and a rash of any duration is sufficient.*

A2. Laboratory Criteria**

Confirmatory Laboratory Evidence:

- Isolation of measles virus*** from a clinical specimen, **OR**
- Detection of measles virus-specific nucleic acid*** from a clinical specimen using polymerase chain reaction (PCR), **OR**
- Significant rise, defined as seroconversion† or at least a 4-fold rise in titer, observed in paired acute and convalescent serum measles IgG antibody† levels

Presumptive Laboratory Evidence:

- A positive serologic test for measles IgM antibody†, ‡

Supportive Laboratory Evidence:

- N/A

**** 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.

******* Not otherwise explained by detection of measles vaccine strain virus. Measles vaccine strain virus is most often detected during the 6-28 days after receipt of MMR or other measles-containing vaccines. If measles infection is not clinically suspected but is detected by syndromic PCR testing, public health agencies should consider the likelihood of incidental measles vaccine virus detection by assessing measles vaccination history and risk factors.¹⁴

† Not explained by an immune response to MMR or other measles-containing vaccine. IgM is most often detected for 6-45 days after vaccination, but more prolonged detection has been reported.

‡ Not ruled out by confirmatory testing or more specific measles testing in a public health laboratory and not suspected of being the result of cross-reactivity with other causes of viral exanthems.

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A3. Epidemiologic Linkage Criteria

During the likely incubation period:

Tier I

- Contact¹³ with a case that meets the Confirmed, Laboratory-Confirmed case classification (see Section VII.A4).

Tier II

- Contact¹³ with a case that meets the Confirmed, Epidemiologically-Linked case classification (see Section VII.A4), **OR**
- Contact¹³ with a defined population or setting where community transmission[^] is occurring.

[^] Community transmission, for the purpose of defining epidemiologic linkage criteria within this position statement, is deemed to be occurring when ALL of the following criteria are met:

1) ≥3 related measles cases, with at least one case laboratory confirmed, within a defined population with suspected or known social connections as specified by public health authorities, **AND**

2) ongoing measles transmission over multiple generations is occurring outside of the index household, **AND**

3) ongoing measles transmission cannot be explained by exposure(s) from outside the aforementioned defined population.

Note: Whenever possible, potential cases should receive laboratory testing for confirmation.

A4. Case Classifications*Confirmed**Laboratory-Confirmed:*

- Meets confirmatory laboratory evidence, **OR**
- Meets Tier I clinical criteria **AND** meets presumptive laboratory evidence.

Epidemiologically-Linked:

- Meets Tier I or Tier II clinical criteria **AND** meets Tier I epidemiologic linkage criteria.

Probable:

- Meets Tier II clinical criteria **AND** meets presumptive laboratory evidence, **OR**
- Meets Tier I or Tier II clinical criteria **AND** meets Tier II epidemiologic linkage criteria **AND** contributory¹⁵ laboratory evidence is unavailable.

Suspect:

- Meets Tier I clinical evidence **AND**
 - no laboratory testing performed, **OR**
 - noncontributory measles lab testing¹⁵ performed.

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

The following should be enumerated as a new case:

- Person newly meets the criteria for a confirmed or probable case, **OR**
- Person who was previously reported but not enumerated as a confirmed or probable case, but due to subsequently available information now meets the criteria for a confirmed or probable case.

VIII. Period of Surveillance

Surveillance for measles should be ongoing.

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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.

X. Revision History

Position Statement ID	Section of Document	Revision Description
26-ID-04	Section 1: Statement of the Problem	• Detailed rationale for updating position statement ○ Added criteria that will allow for the case definition to account for patients who have unknown or unreported symptoms and those with modified measles presentation ○ Cited recent operational guidance from CSTE which informs classification of confirmed and probable cases in this position statement
26-ID-04	Section 2: Background and Justification	Added information about measles cases and outbreaks that occurred after the establishment of the previous case definition
26-ID-04	Section 4: Goals of surveillance	Revised to include 3 additional goals: 1) Provide information on the temporal, geographic, and demographic occurrence of measles to facilitate its prevention and control. 2) Detect and respond to transmission of measles and measles outbreaks in the U.S. 3) Rapidly identify and contain imported cases of measles
26-ID-04	Section V: Recommended Data Sources and Methods for Surveillance	Included an additional paragraph specifying that death certificates, hospital records, and electronic medical record data are supplementary sources.
26-ID-04	Section VI: Criteria for Case Ascertainment, Section A	• Revised the clinical criteria for reporting to: 1) Include a requirement of cough, coryza, or conjunctivitis; 2) Allow for a subjective temperature of fever; 3) Include clinical suspicion of measles • Revised the epidemiological linkage criteria for reporting to include: 1) Contact of a probable measles case; 2) Belonging to a defined population experiencing community-based transmission (and defined community-based transmission) • Addition of vital records reporting using death certificates

26-ID-04	Section VI. Criteria for Case Ascertainment, Section B	Added disease-specific elements to be included in the initial report, including pregnancy status and additional clinical and immunization history elements
26-ID-04	Section VII: Case Definition for Case Classification	- Defined laboratory criteria. Confirmatory laboratory criteria include 1) Isolation of measles virus from a clinical specimen; 2) Detection of measles virus-specific nucleic acid from a clinical specimen using polymerase chain reaction; 3) Significant rise, defined as seroconversion or at least a 4-fold rise in titer, observed in paired acute and convalescent serum measles IgG antibody levels. - Defines Tier I and Tier II epidemiologic criteria. Tier I epidemiologic criteria is defined as contact with a Confirmed, Laboratory-Confirmed measles case. Tier II epidemiologic criteria include: 1) contact with a Confirmed, Epidemiologically-Linked measles case; 2) exposure to a defined population or setting where community transmission is occurring. - Defines community transmission for the purpose of defining epidemiologic linkage criteria within the position statement. - Revised IgM as presumptive laboratory criteria and updates use of IgM in context of confirmed and probable cases. Tier I clinical criteria are required to consider a case confirmed by IgM, and Tier II clinical criteria (acute febrile rash syndrome) is required and to classify a case as probable if IgM positive. - Clarified the expected time frames for detection of measles virus-specific nucleic acid and IgM after receipt of MMR or other measles-containing vaccine - Revised probable case criteria to require any clinical criteria and Tier II epidemiologic linkage criteria. - Addition of suspect case category which includes an illness that meets clinical criteria with either noncontributory or no measles lab testing
26-ID-04	Section IX	Updated print criteria to newly include probable cases, in addition to confirmed cases.
06-ID-16	Epidemiologic Classification – Measles	Removed previously included epidemiologic definitions of imported and U.S.-acquired cases; these are considered outside the scope of this position statement, and are maintained by the Centers for Disease Control and Prevention

XI. References

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Technical Supplement

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

Criterion	Measles		
<i>Clinical Criteria for Reporting</i>			
Absence of a more likely alternative etiology		N	N
Acute illness		N	
Fever (measured $\geq 101^{\circ}\text{F}$ or 38.3°C) or self-reported)		N	
Generalized, maculopapular rash		N	
Cough		O	
Coryza		O	
Conjunctivitis		O	
Acute febrile rash illness [^]			N
Clinical suspicion of measles	S		
<i>Laboratory Criteria for Reporting</i>			
Isolation of measles virus from a clinical specimen	S*		
Detection of measles virus-specific nucleic acid from a clinical specimen using polymerase chain reaction (PCR)	S*		
Significant rise, defined as seroconversion** or at least a 4-fold rise in titer, observed in paired acute and convalescent serum measles IgG antibody** levels	S*		
A positive serologic test for measles IgM antibody	S*		
<i>Epidemiologic Linkage Criteria for Reporting</i>			
Contact with a confirmed or probable measles case during the likely incubation period			O
Belonging to a defined population experiencing community measles transmission*** during the likely incubation period			O
Domestic or international travel, transit, or residence in a geographic area where community transmission*** is occurring			O
<i>Vital Record Criteria for Reporting</i>			
A person whose death certificate lists measles as an underlying cause of death or a significant 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.

O = At least one of these "O" (ONE OR MORE) criteria in each category (categories=clinical, laboratory, epidemiologic linkage, vital records, etc.) in the same column—in conjunction with all "N" criteria in the same column—is required to report a case.

[^] To meet this criterion, a self-reported or measured fever is sufficient, and a rash of any duration is sufficient.

* A requisition or order for any of the "S" laboratory tests is sufficient to meet the reporting criteria.

** Not explained by an immune response to MMR or other measles-containing vaccine. IgM is most often detected for 6-45 days after vaccination, but more prolonged detection has been reported.

*** Community transmission, for the purpose of defining epidemiologic linkage criteria within this position statement, is deemed to be occurring when ALL of the following criteria are met:

- 1) ≥ 3 related measles cases, with at least one case laboratory confirmed, within a defined population with suspected or known social connections as specified by public health authorities, **AND**
- 2) ongoing measles transmission over multiple generations is occurring outside of the index household, **AND**
- 3) ongoing measles transmission cannot be explained by exposure(s) from outside the aforementioned defined population

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

T I E R	Criterion	Confirmed		Probable		Suspect
		Laboratory-Confirmed	Epidemiologically-Linked			
	<i>Clinical Evidence</i>					
-	Absence of a more likely etiology		N	N	N	N
I	Acute illness		N			N
I	Generalized, maculopapular rash lasting ≥3 days		N			N
I	Fever (≥101°F or 38.3°C)		N			N
I	Cough		O			O
I	Coryza		O			O
I	Conjunctivitis		O			O
II	Acute febrile rash illness [^]			N ^{^^}	N	N ^{^^}
	<i>Laboratory Evidence</i>					
-	Isolation of measles virus ^{^^^} from a clinical specimen	S				
-	Detection of measles virus-specific nucleic acid ^{^^^} from a clinical specimen using polymerase chain reaction (PCR)	S				
-	Significant rise, defined as seroconversion [†] or at least a 4-fold rise in titer, observed in paired acute and convalescent serum measles IgG antibody [†] levels	S				
-	A positive serologic test for measles IgM antibody ^{†, ‡}		N		N	
-	Contributory ¹⁵ laboratory evidence is unavailable				N	
-	No laboratory testing performed					O
-	Noncontributory measles lab testing ¹⁵ performed					O
	<i>Epidemiologic Linkage Evidence</i>					
I	Contact ¹³ with a case that meets the Confirmed, Laboratory-Confirmed case classification			N		
II	Contact ¹³ with a case that meets the Confirmed, Epidemiologically-Linked case classification				O	
II	Contact ¹³ with a defined population or setting where community transmission* is occurring				O	

Notes:

S = This criterion alone is SUFFICIENT to classify a case.

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.

[^] To meet this criteria, a self-reported or measured fever is sufficient, and a rash of any duration is sufficient.

^{^^} A person meeting Tier I clinical criteria would also meet this criterion for classification.

^{^^^} Not otherwise explained by detection of measles vaccine strain virus. Measles vaccine strain virus is most often detected during the 6-28 days after receipt of MMR or other measles-containing vaccines. If measles infection is not clinically suspected but is detected by syndromic PCR testing, public health agencies should consider the likelihood of incidental measles vaccine virus detection by assessing measles vaccination history and risk factors.¹¹

[†] Not explained by an immune response to MMR or other measles-containing vaccine. IgM is most often detected for 6-45 days after vaccination, but more prolonged detection has been reported.

[‡] Not ruled out by confirmatory testing or more specific measles testing in a public health laboratory and not suspected of being the result of cross-reactivity with other causes of viral exanthems.

* Community transmission, for the purpose of defining epidemiologic linkage criteria within this position statement, is deemed to be occurring when ALL of the following criteria are met:

- 1) ≥3 related measles cases, with at least one case laboratory confirmed, within a defined population with suspected or known social connections as specified by public health authorities, **AND**
- 2) ongoing measles transmission over multiple generations is occurring outside of the index household, **AND**
- 3) ongoing measles transmission cannot be explained by exposure(s) from outside the aforementioned defined population.

Note: Whenever possible, potential cases should receive laboratory testing for confirmation.

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

Criterion	Confirmed	Probable	Suspect
<i>Criteria to distinguish a new case</i>			
Person newly meets the criteria for a confirmed or probable case.	S	S	
Person who was previously reported but not enumerated as a confirmed or probable case, but due to subsequently available information now meets the criteria for a confirmed or probable case.	S	S	

S = This criterion alone is SUFFICIENT to enumerate as a new case.