

Council of State and Territorial Epidemiologists Position Statement

03-ID-12

Committee: Infectious Disease

Title: Inclusion of Severe Acute Respiratory Syndrome (SARS) reports under investigation and SARS-associated coronavirus (SARS-CoV) disease in the National Public Health Surveillance System (NPHSS), and revision of the interim US surveillance case definition for SARS.

Statement of the problem:

The recent emergence of SARS in Asia, its subsequent importation into and spread within North America, its severe clinical manifestations, and its ease of transmission necessitate inclusion of SARS reports under investigation and cases of SARS-CoV as notifiable diseases in the NPHSS. In addition, revision of the interim U.S. case definition for SARS is required to distinguish between syndromes that require aggressive public health action (including diagnostic testing) because they could be SARS-CoV disease and syndromes that are highly likely to be due to SARS-CoV infection, and to specify the laboratory and epidemiologic criteria for diagnosis of SARS-CoV disease.

Statement of the desired action (s) to be taken:

CSTE recommends that:

- A sensitive, non-specific case definition for SARS reports under investigation and a more specific case definition for SARS-CoV disease be added to the list of conditions that are under surveillance as part of the NPHSS.
- The existing interim surveillance case definition for SARS be revised, and cases be reported according to the categories outlined in the revised definitions.
- To the extent possible, these case definitions should be consistent with the published guidelines for uniform criteria for surveillance case definitions in the United States and the case definitions for surveillance of SARS used by the World Health Organization.
- CDC maintain, on the CDC website for purposes of surveillance, information on the current criteria for laboratory diagnosis of SARS-CoV infection and a current list of areas with recent local transmission of SARS.
- CDC should work with states to identify resources needed to support the additional surveillance activities required.

Goals of surveillance:

1) Rapidly identify illness that could be SARS, to screen for SARS-CoV and monitor and contain the potential for transmission; 2) rapidly recognize SARS-CoV disease outbreaks and geographic areas with increased SARS activity; 3) identify areas of possible SARS transmission to implement appropriate infection control practices in health care settings; 4) identify imported cases that may serve as sentinels for SARS-CoV activity in other regions of the world; 5) improve our current understanding of the epidemiology of this emerging disease; 6) assess the national public health impact of SARS-CoV disease and monitor trends; and 7) demonstrate the need for public health intervention programs and federal resources, and provide data to allocate resources.

Methods for surveillance:

Clinician and laboratory reporting. Core surveillance data for cases meeting the SARS-CoV disease case definition will be reported to the Centers for Disease Control and Prevention's (CDC's) National Notifiable Disease Surveillance Systems (NNDSS, a component of the NPHSS), through the National Electronic Telecommunications System for Surveillance (NETSS). Selected additional clinical, epidemiologic, and laboratory data will be collected and linked to the core NNDSS data. All surveillance data from persons meeting the definitions for either SARS reports under investigation or SARS-CoV disease (i.e., core NNDSS and clinical, laboratory, and case investigation data) will be reported to CDC using electronic methods consistent with the NEDSS and PHIN architecture. In particular, CDC will assure that the following actions be implemented:

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- Establishment of a dedicated, secure Web-based data entry system for SARS.
- Inclusion of SARS modules in the NEDSS base system, including electronic transmission of laboratory test results.
- Establishment of an XML schema that states can use to transmit information related to SARS cases to CDC, using the CDC secure data network.

States should be offered the options to choose the reporting method that fits their information system best. CDC will work closely with the states to determine the method(s) and frequency of data reporting.

Case definitions: See below.

Period of surveillance: Indefinite.

Background and justification:

SARS is a recently recognized, contagious, febrile lower respiratory illness that is associated with infection by a novel coronavirus, called SARS-CoV. Manifestations are often severe, including death, and severe illnesses often occur in previously healthy persons, including many health care workers. While the illness can be highly contagious, its overall rate of spread is slow enough that it can often be contained with early recognition and aggressive implementation of containment activities. The ongoing pandemic of SARS-CoV disease appears to have originated in China in November 2002, and then spread rapidly globally through air travel. Although sustained local transmission has not occurred in the United States, it has occurred in several countries, most notably Canada, Hong Kong, Taiwan, Singapore, Vietnam, and China. Using a broad screening definition, as of June 4, 2003, a total of 8,402 persons with possible SARS-CoV disease, including 772 deaths, have been reported from 29 countries. In the United States, as of June 4, a total of 373 possible SARS-CoV disease cases have been reported from 41 states and Puerto Rico. Of these, 67 (18%) were classified as "probable" SARS cases and 306 (82%) cases were classified as "suspect" SARS cases, using the interim CDC case definition; no deaths have been reported in the United States. However, evidence of infection with SARS-CoV has been documented in only 8 persons (all probable SARS cases) and has been excluded in 28 of 35 other probable cases in whom testing has been completed and 116 suspect cases. Of these 8 cases, 7 were attributed to exposure during international travel in a country with SARS transmission and one was likely related to household transmission within the United States. Seven of the 8 cases of SARS-CoV disease were identified before early April and the number of new cases meeting the screening definition in the United States has been decreasing in recent weeks. However, vigilance is critical to ensure rapid recognition and appropriate management of persons with SARS-CoV disease so that transmission can be prevented.

Following the initial reports of SARS, a preliminary national surveillance case definition for suspected SARS cases was developed to identify persons with fever (temperature >100.4 F [>38 C]), respiratory symptoms, and an epidemiologic link within 10 days of illness onset of either travel to an area with possible transmission of SARS or close contact with a person with SARS. In recognition of the importance of developing a common international system for reporting SARS cases to the World Health Organization, this definition was updated and reporting of cases was expanded to include two categories: suspect and probable (more severe illnesses characterized by the presence of pneumonia or acute respiratory distress syndrome) cases. Later, criteria for defining laboratory infection with SARS-CoV and for excluding new or previously reported suspect or probable cases of SARS for whom an alternative diagnosis could fully explain the patient's illness were added to the definition. Because of the rapid evolution of the SARS pandemic, the improved understanding of the characteristics of SARS-CoV disease, and the recognition that few illnesses meeting the interim case definition are SARS-CoV infection, the current case definition needs revision. Revision is needed to distinguish between common illnesses that may require aggressive public health action (including diagnostic testing) because a small proportion of these could be due to SARS-CoV, and illnesses that are highly likely to be due

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to SARS-CoV. Revision is also needed to improve the laboratory and epidemiologic criteria for diagnosis.

In the United States, public health officials at state and territorial health departments and CDC collaborate in determining which diseases should be nationally notifiable. CSTE, in conjunction with CDC, makes recommendations annually for additions and deletions to the list of nationally notifiable diseases. As knowledge increases and diagnostic technology improves, some definitions will change to reflect those trends. Thus, future revisions of surveillance case definitions can be expected. In addition, surveillance case definitions are to be used for identifying and classifying cases, both of which are often done retrospectively, for national reporting purposes. For many conditions of public health importance, action to contain disease should be initiated as soon as a problem is identified; in many circumstances, appropriate public health action should be undertaken even though insufficient information is available to determine whether cases meet the case definition. Thus, surveillance case definitions should not be used as sole criteria for public health action.

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References:

1. CDC. Case definitions for infectious conditions under public health surveillance. MMWR 1997;46(No.RR-10).
2. Ksiazek TG, Erdman D, Goldsmith C, et al. A novel coronavirus associated with severe acute respiratory syndrome. N Eng J Med 2003;348:1953-66.
3. Drosten C, Gunther S, Preiser W, et al. Identification of a novel coronavirus in patients with severe acute respiratory syndrome. New Eng J Med 2003;348:1967-76.
4. CDC. Update: Outbreak of Severe Acute Respiratory Syndrome ---Worldwide, 2003. MMWR 2003;52:226-8.
5. CDC. Updated Interim Surveillance Case Definition for Severe Acute Respiratory Syndrome (SARS) --- United States, April 29, 2003. MMWR 2003;52:391-3.
6. CDC. Update: Severe Acute Respiratory Syndrome --- United States, May 21, 2003. MMWR 2003;52:466-8.

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7. Peiris JS, Chu CM, Cheng VC, et al. Clinical progression and viral load in a community outbreak of coronavirus-associated SARS pneumonia. Lancet 2003. Available at <http://image.thelancet.com/extras/03art4432web.pdf>.

Clinical description:

SARS-CoV disease typically begins with a prodrome, often with fever, chills and rigors, headache, malaise, and myalgias. After 3--7 days, a lower respiratory illness develops in most cases with a dry, nonproductive cough or dyspnea, sometimes with hypoxemia. Diarrhea has been described in ~20% of SARS patients, and has been an early and prominent feature in some. Chest radiographs show evidence of focal or generalized interstitial infiltrates in most patients; cavitation, lymphadenopathy, and pleural effusion are generally absent. Lymphopenia, thrombocytopenia, and elevated lactate dehydrogenase levels are common.

Laboratory criteria for diagnosis:

At present, no validated, widely and consistently available test for infection with SARS-CoV exists. Molecular assays must be performed using appropriate reagents and controls under strictly controlled conditions, and may not be positive in the early stages of illness using currently available reagents. Although many patients develop an antibody response by the second week of illness, the kinetics of the antibody response have not yet been determined. Preliminary data suggest that the antibody response may be delayed in immune-suppressed persons. Information on the current criteria for laboratory diagnosis of SARS-CoV infection is available at [website].

Example of information on the website:

Laboratory Criteria for Diagnosis

- o Detection of serum antibody to SARS-CoV by a validated test (e.g., enzyme-linked immunosorbent assay (ELISA) or indirect fluorescent-antibody (IFA) assay), or
- o Isolation of SARS-CoV from a clinical specimen, or
- o Detection of SARS-CoV RNA by a validated reverse transcription-polymerase chain reaction (RT-PCR) test (a positive test requires that 2 of 3 targets be positive, and the positive result be validated by re-testing using a second aliquot of the specimen using the original 3 primers plus an independent target defined by a 4th primer pair).

Case Criteria and Classification:

Clinical Criteria

- o Moderate respiratory illness
 - Temperature of >100.4° F (>38° C)*, and
 - One or more clinical findings of lower respiratory illness (e.g., cough, shortness of breath, difficulty breathing).
- o Severe respiratory illness
 - Meets clinical criteria of moderate respiratory illness, and
 - One or more of the following:
 - Radiographic evidence of pneumonia, or
 - Acute respiratory distress syndrome, or
 - Autopsy findings consistent with pneumonia or acute respiratory distress syndrome without an identifiable cause.

Epidemiologic Criteria

- o Close contact§ in the 10 days before onset of symptoms with a suspect or probable case of SARS-CoV, or
- o Foreign travel in the 10 days before onset of symptoms to a location with documented or suspected recent local transmission of SARS-CoV‡.
- o Domestic venue exposure in the 10 days before onset of fever or symptoms to a location with documented or suspected recent local transmission of SARS-CoV‡.

Exclusion Criteria

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- o A case may be excluded as suspect or probable SARS-CoV if:
- o An alternative diagnosis can fully explain the illness**
- o Antibody to SARS-CoV is undetectable in a serum specimen obtained >28 days after onset of illness.***
- o The case was reported on the basis of contact with a person who was subsequently excluded as a case of SARS, provided other epidemiologic criteria or laboratory criteria are not present.

Case Classification

SARS reports under investigation

- o Suspect case
 - Meets the clinical criteria for moderate respiratory illness and the epidemiologic criteria for exposure, but does not meet any of the laboratory criteria and exclusion criteria, or
 - Unexplained acute respiratory illness resulting in death in a person on whom an autopsy was not performed and who meets the epidemiologic criteria for exposure, but does not meet any of the laboratory criteria and exclusion criteria.
- o Probable case: meets the clinical criteria for severe respiratory illness and the epidemiologic criteria for exposure, but does not meet any of the laboratory criteria and exclusion criteria.

SARS-CoV Disease Classification

- o Probable case, epidemiologically linked to a confirmed case: meets the clinical criteria for severe respiratory illness and has close contact to a laboratory-confirmed case or an epidemiologically linked case of SARS-CoV in the 10 days before onset of symptoms. Epidemiologically linked is defined as close contact to a person with moderate or severe respiratory illness for whom a chain of transmission can be linked to a laboratory-confirmed case in the 10 days before onset of symptoms.
- o Confirmed case: a clinically compatible illness that is laboratory confirmed.

Notes

* A measured documented temperature of >100.4° F (>38° C) is expected. However, clinical judgment may allow a small proportion of patients without a documented fever to meet this criterion. Factors that might be considered include patient self-report of fever, use of antipyretics, presence of immunocompromising conditions or therapies, lack of access to health care, or inability to obtain a measured temperature. Initial case classification based on reported information may change and reclassification may be required.

‡ The surveillance periods for documented or suspected local transmission of SARS in specific locations are available at [website]. Types of locations specified will vary, e.g., country, city, building, or floor of building. The last date for illness onset is 10 days (one incubation period) after removal of a CDC travel alert. The case-patient's travel should have occurred on or before the last date the travel alert was in place. For assistance in determining appropriate dates, see [website]. Transit through a foreign airport may be considered to meet the epidemiologic criteria in a situation with documented community transmission of SARS in that location.

§ Close contact is defined as having cared for or lived with a person with SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a person with SARS (during encounters with the patient or through contact with materials contaminated by the patient), either during the period the person was clinically ill or within 10 days of resolution of fever. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, close conversation (<3 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or sitting across a waiting room or office for a brief time.

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** Factors that may be considered in assigning alternate diagnoses include the strength of the epidemiologic exposure criteria for SARS, the specificity of the alternate diagnostic test, and the compatibility of the clinical presentation and course of illness for the alternative diagnosis.

*** Current data indicate that more than 95% of SARS patients mount an antibody response to SARS-CoV. However, health officials may choose not to exclude a case based on lack of a serologic response if reasonable concern exists that an antibody response could not be mounted.

Comment:

1. Surveillance case definitions are to be used for identifying and classifying cases, both of which are often done retrospectively, for national reporting purposes. For many conditions of public health importance, such as SARS-CoV disease, action to contain disease should be initiated as soon as a problem is identified; in many circumstances, appropriate public health action should be undertaken even though insufficient information is available to determine whether cases meet the case definition. The surveillance case definitions outlined above should not be used for clinical management or as the only criterion for identifying or testing patients who might have SARS-CoV disease or for instituting infection-control precautions.
2. Of note, asymptomatic SARS-CoV infection might be identified through ongoing epidemiologic studies. Caution must be exercised in interpreting results from persons who are asymptomatic and in whom the only laboratory evidence is a positive RT-PCR result. In the absence of compatible symptoms, such persons are not counted as cases of SARS-CoV infection.

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Statement of the problem:

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Statement of the desired action (s) to be taken:

CSTE recommends that:

- A sensitive, non-specific case definition for SARS reports under investigation and a more specific case definition for SARS-CoV disease be added to the list of conditions that are under surveillance as part of the NPHSS.
- The existing interim surveillance case definition for SARS be revised, and cases be reported according to the categories outlined in the revised definitions.
- To the extent possible, these case definitions should be consistent with the published guidelines for uniform criteria for surveillance case definitions in the United States and the case definitions for surveillance of SARS used by the World Health Organization.
- CDC maintain, on the CDC website for purposes of surveillance, information on the current criteria for laboratory diagnosis of SARS-CoV infection and a current list of areas with recent local transmission of SARS.
- CDC should work with states to identify resources needed to support the additional surveillance activities required.

Goals of surveillance:

1) Rapidly identify illness that could be SARS, to screen for SARS-CoV and monitor and contain the potential for transmission; 2) rapidly recognize SARS-CoV disease outbreaks and geographic areas with increased SARS activity; 3) identify areas of possible SARS transmission to implement appropriate infection control practices in health care settings; 4) identify imported cases that may serve as sentinels for SARS-CoV activity in other regions of the world; 5) improve our current understanding of the epidemiology of this emerging disease; 6) assess the national public health impact of SARS-CoV disease and monitor trends; and 7) demonstrate the need for public health intervention programs and federal resources, and provide data to allocate resources.

Methods for surveillance:

Clinician and laboratory reporting. Core surveillance data for cases meeting the SARS-CoV disease case definition will be reported to the Centers for Disease Control and Prevention's (CDC's) National Notifiable Disease Surveillance Systems (NNDSS, a component of the NPHSS), through the National Electronic Telecommunications System for Surveillance (NETSS). Selected additional clinical, epidemiologic, and laboratory data will be collected and linked to the core NNDSS data. All surveillance data from persons meeting the definitions for either SARS reports under investigation or SARS-CoV disease (i.e., core NNDSS and clinical, laboratory, and case investigation data) will be reported to CDC using electronic methods consistent with the NEDSS and PHIN architecture. In particular, CDC will assure that the following actions be implemented:

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States should be offered the options to choose the reporting method that fits their information system best. CDC will work closely with the states to determine the method(s) and frequency of data reporting.

Case definitions: See below.

Period of surveillance: Indefinite.

Background and justification:

SARS is a recently recognized, contagious, febrile lower respiratory illness that is associated with infection by a novel coronavirus, called SARS-CoV. Manifestations are often severe, including death, and severe illnesses often occur in previously healthy persons, including many health care workers. While the illness can be highly contagious, its overall rate of spread is slow enough that it can often be contained with early recognition and aggressive implementation of containment activities. The ongoing pandemic of SARS-CoV disease appears to have originated in China in November 2002, and then spread rapidly globally through air travel. Although sustained local transmission has not occurred in the United States, it has occurred in several countries, most notably Canada, Hong Kong, Taiwan, Singapore, Vietnam, and China. Using a broad screening definition, as of June 4, 2003, a total of 8,402 persons with possible SARS-CoV disease, including 772 deaths, have been reported from 29 countries. In the United States, as of June 4, a total of 373 possible SARS-CoV disease cases have been reported from 41 states and Puerto Rico. Of these, 67 (18%) were classified as "probable" SARS cases and 306 (82%) cases were classified as "suspect" SARS cases, using the interim CDC case definition; no deaths have been reported in the United States. However, evidence of infection with SARS-CoV has been documented in only 8 persons (all probable SARS cases) and has been excluded in 28 of 35 other probable cases in whom testing has been completed and 116 suspect cases. Of these 8 cases, 7 were attributed to exposure during international travel in a country with SARS transmission and one was likely related to household transmission within the United States. Seven of the 8 cases of SARS-CoV disease were identified before early April and the number of new cases meeting the screening definition in the United States has been decreasing in recent weeks. However, vigilance is critical to ensure rapid recognition and appropriate management of persons with SARS-CoV disease so that transmission can be prevented.

Following the initial reports of SARS, a preliminary national surveillance case definition for suspected SARS cases was developed to identify persons with fever (temperature >100.4 F [>38 C]), respiratory symptoms, and an epidemiologic link within 10 days of illness onset of either travel to an area with possible transmission of SARS or close contact with a person with SARS. In recognition of the importance of developing a common international system for reporting SARS cases to the World Health Organization, this definition was updated and reporting of cases was expanded to include two categories: suspect and probable (more severe illnesses characterized by the presence of pneumonia or acute respiratory distress syndrome) cases. Later, criteria for defining laboratory infection with SARS-CoV and for excluding new or previously reported suspect or probable cases of SARS for whom an alternative diagnosis could fully explain the patient's illness were added to the definition. Because of the rapid evolution of the SARS pandemic, the improved understanding of the characteristics of SARS-CoV disease, and the recognition that few illnesses meeting the interim case definition are SARS-CoV infection, the current case definition needs revision. Revision is needed to distinguish between common illnesses that may require aggressive public health action (including diagnostic testing) because a small proportion of these could be due to SARS-CoV, and illnesses that are highly likely to be due

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to SARS-CoV. Revision is also needed to improve the laboratory and epidemiologic criteria for diagnosis.

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Clinical description:

SARS-CoV disease typically begins with a prodrome, often with fever, chills and rigors, headache, malaise, and myalgias. After 3--7 days, a lower respiratory illness develops in most cases with a dry, nonproductive cough or dyspnea, sometimes with hypoxemia. Diarrhea has been described in ~20% of SARS patients, and has been an early and prominent feature in some. Chest radiographs show evidence of focal or generalized interstitial infiltrates in most patients; cavitation, lymphadenopathy, and pleural effusion are generally absent. Lymphopenia, thrombocytopenia, and elevated lactate dehydrogenase levels are common.

Laboratory criteria for diagnosis:

At present, no validated, widely and consistently available test for infection with SARS-CoV exists. Molecular assays must be performed using appropriate reagents and controls under strictly controlled conditions, and may not be positive in the early stages of illness using currently available reagents. Although many patients develop an antibody response by the second week of illness, the kinetics of the antibody response have not yet been determined. Preliminary data suggest that the antibody response may be delayed in immune-suppressed persons. Information on the current criteria for laboratory diagnosis of SARS-CoV infection is available at [website].

Example of information on the website:

Laboratory Criteria for Diagnosis

- o Detection of serum antibody to SARS-CoV by a validated test (e.g., enzyme-linked immunosorbent assay (ELISA) or indirect fluorescent-antibody (IFA) assay), or
- o Isolation of SARS-CoV from a clinical specimen, or
- o Detection of SARS-CoV RNA by a validated reverse transcription-polymerase chain reaction (RT-PCR) test (a positive test requires that 2 of 3 targets be positive, and the positive result be validated by re-testing using a second aliquot of the specimen using the original 3 primers plus an independent target defined by a 4th primer pair).

Case Criteria and Classification:

Clinical Criteria

- o Moderate respiratory illness
 - Temperature of >100.4° F (>38° C)*, and
 - One or more clinical findings of lower respiratory illness (e.g., cough, shortness of breath, difficulty breathing).
- o Severe respiratory illness
 - Meets clinical criteria of moderate respiratory illness, and
 - One or more of the following:
 - Radiographic evidence of pneumonia, or
 - Acute respiratory distress syndrome, or
 - Autopsy findings consistent with pneumonia or acute respiratory distress syndrome without an identifiable cause.

Epidemiologic Criteria

- o Close contact§ in the 10 days before onset of symptoms with a suspect or probable case of SARS-CoV, or
- o Foreign travel in the 10 days before onset of symptoms to a location with documented or suspected recent local transmission of SARS-CoV‡.
- o Domestic venue exposure in the 10 days before onset of fever or symptoms to a location with documented or suspected recent local transmission of SARS-CoV‡.

Exclusion Criteria

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- o A case may be excluded as suspect or probable SARS-CoV if:
- o An alternative diagnosis can fully explain the illness**
- o Antibody to SARS-CoV is undetectable in a serum specimen obtained >28 days after onset of illness.***
- o The case was reported on the basis of contact with a person who was subsequently excluded as a case of SARS, provided other epidemiologic criteria or laboratory criteria are not present.

Case Classification

SARS reports under investigation

- o Suspect case
 - Meets the clinical criteria for moderate respiratory illness and the epidemiologic criteria for exposure, but does not meet any of the laboratory criteria and exclusion criteria, or
 - Unexplained acute respiratory illness resulting in death in a person on whom an autopsy was not performed and who meets the epidemiologic criteria for exposure, but does not meet any of the laboratory criteria and exclusion criteria.
- o Probable case: meets the clinical criteria for severe respiratory illness and the epidemiologic criteria for exposure, but does not meet any of the laboratory criteria and exclusion criteria.

SARS-CoV Disease Classification

- o Probable case, epidemiologically linked to a confirmed case: meets the clinical criteria for severe respiratory illness and has close contact to a laboratory-confirmed case or an epidemiologically linked case of SARS-CoV in the 10 days before onset of symptoms. Epidemiologically linked is defined as close contact to a person with moderate or severe respiratory illness for whom a chain of transmission can be linked to a laboratory-confirmed case in the 10 days before onset of symptoms.
- o Confirmed case: a clinically compatible illness that is laboratory confirmed.

Notes

* A measured documented temperature of >100.4° F (>38° C) is expected. However, clinical judgment may allow a small proportion of patients without a documented fever to meet this criterion. Factors that might be considered include patient self-report of fever, use of antipyretics, presence of immunocompromising conditions or therapies, lack of access to health care, or inability to obtain a measured temperature. Initial case classification based on reported information may change and reclassification may be required.

‡ The surveillance periods for documented or suspected local transmission of SARS in specific locations are available at [website]. Types of locations specified will vary, e.g., country, city, building, or floor of building. The last date for illness onset is 10 days (one incubation period) after removal of a CDC travel alert. The case-patient's travel should have occurred on or before the last date the travel alert was in place. For assistance in determining appropriate dates, see [website]. Transit through a foreign airport may be considered to meet the epidemiologic criteria in a situation with documented community transmission of SARS in that location.

§ Close contact is defined as having cared for or lived with a person with SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a person with SARS (during encounters with the patient or through contact with materials contaminated by the patient), either during the period the person was clinically ill or within 10 days of resolution of fever. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, close conversation (<3 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or sitting across a waiting room or office for a brief time.

Council of State and Territorial Epidemiologists Position Statement

** Factors that may be considered in assigning alternate diagnoses include the strength of the epidemiologic exposure criteria for SARS, the specificity of the alternate diagnostic test, and the compatibility of the clinical presentation and course of illness for the alternative diagnosis.

*** Current data indicate that more than 95% of SARS patients mount an antibody response to SARS-CoV. However, health officials may choose not to exclude a case based on lack of a serologic response if reasonable concern exists that an antibody response could not be mounted.

Comment:

1. Surveillance case definitions are to be used for identifying and classifying cases, both of which are often done retrospectively, for national reporting purposes. For many conditions of public health importance, such as SARS-CoV disease, action to contain disease should be initiated as soon as a problem is identified; in many circumstances, appropriate public health action should be undertaken even though insufficient information is available to determine whether cases meet the case definition. The surveillance case definitions outlined above should not be used for clinical management or as the only criterion for identifying or testing patients who might have SARS-CoV disease or for instituting infection-control precautions.
2. Of note, asymptomatic SARS-CoV infection might be identified through ongoing epidemiologic studies. Caution must be exercised in interpreting results from persons who are asymptomatic and in whom the only laboratory evidence is a positive RT-PCR result. In the absence of compatible symptoms, such persons are not counted as cases of SARS-CoV infection.