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Update # 1: Outbreaks of Severe Acute Respiratory Syndrome (SARS) in Asia: Information and Recommendations for Health Care Providers

Please distribute to Emergency Department, Infectious Disease Physicians, Internists, Pulmonologists, Pediatricians, Family Practice Physicians, Infection Control Staff, Outpatient Clinic Staff, and Laboratory Director

The New York State Department of Health (NYSDOH) is providing this update to hospitals and local departments to provide current information on the outbreaks of respiratory disease recently recognized in Asia. All health care providers and facilities should immediately implement the following recommendations:

- **Patients presenting with fever and respiratory syndromes should immediately be asked about travel to affected areas (see below) in the 10 days* prior to illness.**

  (*Note that the suspect incubation period and affected areas have changed since the initial case definition distributed on March 16, 2003.)

- **Patients with recent travel to Asia or close contact with a SARS case who develop fever and acute respiratory disease syndrome should be rapidly isolated in an airborne infection isolation room with airborne and contact precautions.**

- **All patients who meet the Centers for Disease Control and Prevention (CDC) case definition (see below) should be immediately reported to the local health department.**

I. Current Situation

Since mid-February, the World Health Organization (WHO) has received 264 reports of patients with Severe Acute Respiratory Syndrome (SARS), including nine deaths, from China, Hong Kong Special Administrative Region of China, Taiwan, Singapore, Thailand, Viet Nam, Germany, Canada, Slovenia, Spain, the United States and the United Kingdom. The United States has 11 suspect cases under investigation. The vast majority of SARS

cases are concentrated in Hong Kong Special Administrative Region of China, China and Hanoi, Viet Nam. Reported cases from other areas have been linked to travel within the past 10 days to Hong Kong, China and Hanoi. Isolated cases continue to be reported. The overwhelming majority of SARS cases are occurring in health care workers and their families who have had direct contact with SARS patients.

No link so far has been established between the outbreaks of acute respiratory illness in Hanoi and Hong Kong and the outbreaks of 'bird flu' A (H5N1) reported previously from Hong Kong. Although there have been reports that a *Paramyxoviridae* family virus was identified by genetic sequencing from suspect SARS cases by investigators in Germany and China, the etiology of SARS has not been identified at this time.

II. Case Finding

In order to enhance surveillance for this illness and to detect its possible importation into New York State, we are requesting immediate reporting of any suspect or probable cases. The CDC has developed the following case definition for severe acute respiratory syndrome (SARS).

A person with onset of illness after February 1, 2003 with:

(a) high fever (> 38 ^{o}C or 100.4 ^{o}F) AND
(b) one or more respiratory signs or symptoms, including cough, shortness of breath, difficulty breathing, hypoxia, or radiographic findings of pneumonia or respiratory distress syndrome AND
(c) either
- recent travel to areas reporting transmission of SARS (including Hong Kong, Guangdong Province in the People's Republic of China, Singapore, Hanoi, Viet Nam, and Toronto, Canada) within 10 days of symptom onset (note this is a change from the previous case definition)
  OR
- close contact with a person who is under investigation or suspected of having SARS. Close contact includes having cared for, having lived with, or having had direct contact with respiratory secretions and body fluids of a person with suspected SARS.

Providers seeing patients in emergency rooms and outpatient facilities should ask patients presenting with fever and respiratory symptoms about recent travel to Asia or Toronto, Canada, *or* close contact with a person with suspected SARS.

Any suspected or probable cases should be reported immediately to the local health department. If there are difficulties reaching your local health department, please contact the NYSDOH. During business hours, call 518-473-4436; after hours, call the duty officer at 1-866-881-2809.

III. Diagnostic Evaluation

Clinicians should evaluate any patient suspected of meeting the above CDC case definition for SARS. Initial diagnostic testing should include chest radiograph, pulse oximetry, complete blood counts, blood cultures, sputum Gram stain and bacterial culture, and testing for viral respiratory pathogens (including influenza A and B and respiratory syncytial virus).

In addition, the following clinical specimens should be collected in consultation with public health officials:

- Frozen and formalin fixed tissues from an autopsy
- Transbronchial or pleural biopsy specimens fixed in formalin
- Bronchoalveolar lavage (BAL) specimens, spun with supernatant frozen and cell pellet fixed in formalin
- Acute and convalescent serum samples, either at room temperature, iced, or frozen
- Peripheral blood smear, dried, at room temperature
- Nasopharyngeal wash or throat swab in viral transport medium, frozen

Clinicians should save any available clinical specimens (respiratory, blood and serum) for additional testing until a specific diagnosis is made. The local health department and NYSDOH will provide additional information on appropriate specimen collection at the time of consultation. We will also arrange for testing of these specimens at NYSDOH's Wadsworth Center, the CDC and other reference laboratories, as needed.

IV. Isolation Precautions

For the outpatient setting:

If possible, suspect SARS patients, on arrival to the outpatient or ambulatory setting (e.g., clinic or Emergency Department [ED]), should be evaluated in a separate assessment area to determine if they meet the case definition for suspected SARS and require isolation. A surgical mask should be placed on the patient if possible.

All health care personnel should wear N-95 respirators while taking care of patients with suspected SARS. Precautions should be used when evaluating or transporting patients (e.g., emergency medical technicians), or in any ambulatory healthcare setting (e.g., ED or clinic personnel). If N-95 respirators are not available, surgical masks should be worn by personnel.

For the inpatient setting:

If a suspect SARS patient is admitted to the hospital, infection control personnel should be notified immediately. Infection control measures for inpatients (http://www.cdc.gov/ncidod/hip/ISOLAT/Isolat.htm) should include:

- Standard precautions (e.g., hand hygiene); in addition to routine standard precautions, health care personnel should wear eye protection for all patient contact.
- Contact precautions (e.g., use of gown and gloves for contact with the patient or their environment)
- Airborne precautions (e.g., an isolation room with negative pressure relative to the surrounding area and use of an N-95 filtering disposable respirator for persons entering the room)

If airborne precautions cannot be fully implemented, patients should be placed in a private room, and all persons entering the room should wear N-95 respirators. Where possible, a qualitative fit test should be conducted for N-95 respirators; detailed information on fit testing can be accessed at http://www.osha.gov/SLTC/etools/respiratory/oshafiles/fittesting1.html. If N-95 respirators are not available for health care personnel, then surgical masks should be worn. Regardless of the availability of facilities for airborne precautions, standard and contact precautions should be implemented for all suspected SARS patients.

For home or residential setting:

Placing a surgical mask on suspect SARS patients during contact with others at home is recommended. If the patient is unable to wear a surgical mask, it may be prudent for household members to wear surgical masks when in close contact with the patient.

V. Treatment

Because the etiology of these illnesses has not yet been determined, no specific treatment recommendations can be made at this time. Empiric therapy should include coverage for organisms associated with any community-acquired pneumonia of unclear etiology, including agents with activity against both typical and atypical respiratory pathogens (*See Bartlett, et al reference below*). Treatment choices may be influenced by severity of the illness and an infectious disease consultation is recommended.

VI. Additional Information

For additional information on this evolving outbreak, please check the following sites:

Centers for Disease Control and Prevention: http://www.cdc.gov

World Health Organization http://www.who.int/en/

Updates on this outbreak, as well as the CDC and WHO alerts, will be posted on the NYSDOH's Health Alert Network (HAN): https://commerce.health.state.ny.us/hpn

References on infection control precautions and the treatment of community-acquired pneumonia include:

1. Garner JS, Hospital Infection Control Practices Advisory Committee. Guideline for isolation precautions in hospitals. Infect Control Hosp Epidemiol 1996;17:53-80, and Am J Infect Control 1996;24:24-52. http://www.cdc.gov/ncidod/hip/ISOLAT/Isolat.htm

2. Bartlett JG, Dowell SF, Mandell LA, File Jr, TM, Musher DM, and Fine MJ. Practice Guidelines for the Management of Community-Acquired Pneumonia in Adults. Clin Infect Dis 2000;31:347-82. http://www.journals.uchicago.edu/CID/journal/issues/v31n2/000441/000441.web.pdf

Information in this alert was adapted from the CDC's Health Alerts (CDCHAN-000118; CDCHAN-00019),CDC's Updated Interim Domestic Infection Control Guidance in the Health Care and Community Setting for Patients with Suspected SARS, the World Health Organization Severe Acute Respiratory Syndrome (SARS) multi-country outbreak – Update,3, and the New York City Department of Health and Mental Hygiene's 2003 Health Alert #8.