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DEPARTMENT OF HEALTH

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March 16, 2003

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

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

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

- **Patients with recent travel to Asia who develop fever and acute respiratory disease syndromes 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. Background

Since mid-February, the World Health Organization (WHO) and CDC have received reports of patients with severe acute respiratory disease from China, Hong Kong Special Administrative Region of China, Indonesia, Philippines, Singapore, Thailand and Vietnam. In addition, six cases have been reported from Toronto, Canada among one family, in which one family member had recently traveled to Hong Kong. The cause of these illnesses, which has been termed severe acute respiratory syndrome (SARS), is unknown and is being investigated. Early manifestations in these patients have included influenza-like symptoms such as fever, myalgias, headache, sore throat, dry cough, shortness of breath, or difficulty breathing. In some cases these symptoms are followed by hypoxia, pneumonia, and occasionally acute respiratory distress requiring mechanical ventilation and death. Laboratory findings may include thrombocytopenia and leukopenia. Some close contacts, including health care workers, have developed similar illnesses.

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 were reports that the outbreak in China's Guangdong Province may be due to *Chlamydia pneumoniae,* this has not yet been confirmed. Chlamydia has not been identified as the etiology in the recent cases from Viet Nam, Hong Kong and Singapore according to preliminary reports.

Currently the outbreaks appear to be mostly confined to the hospital environment. Those at highest risk appear to be family members and health care workers who have had direct contact with these patients.

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 101.4 ^{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 cases of SARS within 7 days of symptom onset OR
    - close contact with a person with respiratory illness having the above travel history. Close contact includes having cared for, having lived with, or having had direct contact with respiratory secretions and body fluids of a person with 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's 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
- Bronchioaveolar 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

If the patient is first seen in an emergency department or clinic, a surgical mask should be placed immediately on the patient and s/he should be escorted directly to the airborne infection isolation room. Ensure that the airflow is negative pressure. Infection control personnel should be immediately notified regarding the suspect case. If not already involved, consultations should be requested from an infectious disease specialist.

As secondary spread to healthcare workers has occurred in the outbreaks in Asia, all suspect case-patients should be isolated in an airborne infection isolation room. All staff and visitors entering the room should adhere to both airborne and contact precautions.

Standardized isolation signs noting the need for airborne and contact precautions should be displayed outside the case-patient's room. Ensure that all staff and visitors entering the room are instructed in the meaning of contact, airborne and standard precautions. All hospital staff (including transport personnel) and visitors must don contact and airborne personal protection equipment prior to entering a suspected patient's room (i.e., disposable gloves and gowns and an N-95 or higher respirator). When caring for patients, health care providers should wear eye protection for all patient contact. Standard precautions include careful attention to hand hygiene. **These precautions should be maintained until the etiology and route of transmission for this illness are known.**

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. Travel Advisory

The CDC will be issuing the following health alert to travelers returning from Asia:

Health Alert Notice
For International Travelers Arriving in or Returning to the USA from Hong Kong and Guangdong Province, People's Republic of China, and Hanoi, Vietnam

To the Traveler: During your recent travel, you may have been exposed to cases of severe acute respiratory disease syndrome. You should monitor your health for at least 7 days. If you become ill with fever accompanied by cough or difficulty breathing, you should consult a physician. To help your physician make a diagnosis, tell him or her about your recent travel to these regions and whether you were in contact with someone who had these symptoms. Please save this card and give it to your physician if you become ill.

To the Physician: The patient presenting this card may have recently traveled to Hong Kong of Guangdong Province in the People's Republic of China or Hanoi, Vietnam, where cases of atypical pneumonia have been identified. If you suspect atypical pneumonia (also being called severe acute respiratory disease syndrome [SARS]), please contact your city, county, or state health officer (see http://www.cdc.gov or call the CDC Emergency Operations Center 770-488-7100).

VII. 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), and the New York City Department of Health and Mental Hygiene's 2003 Health Alert #7.