

**Michigan Guidance to Severe Acute Respiratory Syndrome  
(SARS)**

**Michigan Department of Community Health  
Bureau of Epidemiology  
Bureau of Laboratories  
Office of Public Health Preparedness**

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# Michigan Guidance to Severe Acute Respiratory Syndrome (SARS)

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## **SECTION A - COMMAND AND CONTROL**

### **Updated 1/10/04**

#### **I. Introduction**

Based upon the facts and experience of the emergence of SARS in 2003, preparation for and response to an outbreak of SARS requires a coordinated effort by public health authorities and possibly other emergency response entities at the local, state and federal levels of government. The Command and Control section of the Michigan SARS guidance document includes information regarding disease control laws and authorities as well as incident command and management system details.

#### **II. Laws and Authorities**

State and local governments have primary responsibility for responding to an outbreak of SARS within their jurisdictions. The federal government has authority to support and assist affected states or jurisdictions as necessary. Response plan activities must be coordinated, complementary and collaborative to minimize health risk to Michigan citizens.

##### **A. Federal Authority**

The U.S. Government Interagency SARS Concept of Operations Plan (CONPlan) describes plans for the federal response to a future outbreak of SARS. The Department of Health and Human Services (HHS) is the U.S. Government's lead agency for the preparation, planning and response to a SARS outbreak. As such, HHS will coordinate the U.S. Governments' response to the public health and medical requirement of a SARS outbreak. The HHS Secretary's Command Center (SCC) will serve as the national incident command center for all health and medical preparedness, response, and recovery activities. The national response is based on overall geographic risk levels in the United States, as delineated in the CONPlan.

The HHS Secretary has statutory responsibility for preventing the introduction, transmission, and spread of communicable diseases from foreign countries into the United States, e.g. at international ports of arrival, and from one state or possession into another. As a component of HHS responsibility for disease prevention and control, CDC will have primary responsibility for tracking a SARS outbreak and managing the operational aspects of the public health response. CDC will augment state and local resources for disease surveillance, epidemiological response, diagnostic laboratory services and reagents, education and communication, and disease containment and control.

In the United States, the President signed an executive order on April 4, 2003, adding SARS to the list of quarantinable communicable diseases (<http://www.cdc.gov/ncidod/sars/executiveorder040403.htm>). This executive order provides CDC with the legal authority to implement isolation and quarantine measures for SARS, as part of its transmissible disease-control measures. The CDC is empowered to detain, medically examine, or conditionally release individuals suspected

of carrying certain communicable diseases. This authority derives from section 361 of the Public Health Service Act (42 U.S.C. 264), as amended.

By statute, the HHS Secretary may accept state and local assistance in the enforcement of federal quarantine and other health regulations and may assist state and local officials in the control of communicable diseases. Knowledge of the interplay and applications of federal, state and local “police power” functions and authorities is essential as Michigan shares an international border with Canada and is home to a large-volume international airport in Detroit. It may also be necessary for public health officials to couple their “police power” authority with that of their respective law enforcement counterparts to enforce a public health order to control disease transmission.

## **B. State/Local/Jurisdictional Authority**

### **1. Governor**

Under the provisions of the Michigan Emergency Management Act, (Act 390 of 1976 as amended), the governor is responsible for coping with dangers to this state or people of this state presented by a disaster or emergency. Accordingly, the governor may issue executive orders, proclamations, and directives having the force and effect of law to implement this Act. Several components of Act 390 may pertain to a SARS outbreak.

- The governor shall, by executive order or proclamation, declare a state of disaster/emergency if he or she finds a disaster/an emergency has occurred or that the threat of a disaster/an emergency exists. (Ref: 30.403, Sec. 3)
- An executive order or proclamation of a state of disaster or state of emergency shall serve to authorize the deployment and use of any forces to which the plan or plans apply and the use or distribution of supplies, equipment, materials, or facilities assembled or stockpiled pursuant to this act. (Ref: 30.404, Sec. 4)
- Available resources of the state and its political subdivisions, and those of the federal government are to be made available to the state, as are reasonably necessary to cope with the disaster or emergency. (Ref: 30.405, Sec. 5)
- For the purpose of performing or facilitating emergency management, the direction, personnel, or functions of state departments, agencies, or units thereof may be transferred. (Same as above)
- Subject to appropriate compensation, as authorized by the legislature, private property necessary to cope with the disaster or emergency may be commandeered or utilized. (Same as above)
- Evacuation of all or part of the population from a stricken or threatened area within the state may be ordered for the preservation of life or other mitigation, response, or recovery activities. (Same as above)
- Routes, modes, and destination of transportation may be prescribed in connection with an evacuation. (Same as above)
- Ingress and egress to and from a stricken or threatened area, removal of persons within the area, and the occupancy within the premises within the area may be controlled. (Same as above)

- Temporary emergency housing must be provided. (Same as above)
- Other actions that are necessary and appropriate under the circumstances may be directed. (Same as above)
- Assets of the Strategic National Stockpile may be requested. In the event of a large-scale SARS outbreak, communities may quickly exhaust supplies of essential drugs, medical supplies and/or personal protective equipment (PPE) due to overwhelming need. The Governor may request emergency supplies of this nature through the Centers for Disease Control and Prevention (CDC) Strategic National Stockpile. A “push pack” of emergency material is available within 12 hours of request. Additional items are readily available through a system of Vendor Managed Inventory.

## **2. Health Officers - Michigan Department of Community Health (MDCH) and Local Public Health Departments (LPHD)**

The Michigan Public Health Code, MCL 333.1101 *et seq.*, and rules thereunder, 1999 ACS R 325.171 *et seq.*, establish the power and responsibilities of the MDCH and LPHDs to prevent and control the spread of disease. The MDCH Director/State Health Officer and LPHD officials have numerous powers that may be used to control SARS and protect the welfare of the general public.

**Note: These authorities are limited by jurisdiction.**

### **a. Issuance of Emergency Orders to Control an Epidemic or an Imminent Danger.**

The MDCH has authority to issue emergency orders to control an epidemic. In this regard, if the Director of MDCH or an LPHD official determines that control of an epidemic is necessary to protect the public health, the director, by emergency order, may prohibit the gathering of people for any purpose and may establish procedures to be followed during the epidemic to insure continuation of essential public health services and enforcement of health laws. (Section 2253 for MDCH and Section 2451(l) for LPHD).

- An “epidemic” means “any increase in the number of cases, above the number of expected cases, or any disease, infection, or other condition in a specific time period, area, or demographic segment of the population.” R325.171(g).

Under Section 2251, the MDCH or LPHD may issue orders to respond to an imminent danger to health or lives.

- “Imminent danger” means “a condition or practice which could reasonably be expected to cause death, disease, or serious physical harm immediately or before the imminence of the danger can be eliminated through enforcement procedures otherwise provided.” Sections 2251(4)(a).

Upon a determination that an imminent danger to the health or lives of individuals exists in this state, the director immediately shall inform the individuals affected by the imminent danger and issue an order which shall be delivered to a person authorized to avoid, correct, or remove the imminent danger or be posted at or near the imminent danger. The order shall incorporate the director’s findings and require immediate action necessary to avoid, correct, or remove the imminent

danger. The order may specify action to be taken or prohibit the presence of individuals in locations or under conditions where the imminent danger exists, except individuals whose presence is necessary to avoid, correct, or remove the imminent danger.

Under conditions of “imminent danger”, in addition to issuing orders, only the MDCH Director has extensive controlling powers to take full charge of the administration of state and local health laws, rules, regulations and ordinances. Section 2251(3). Upon the failure of a person to comply promptly with an order issued by the MDCH or LPHD official, the official may petition a court having jurisdiction to restrain a condition or practice causing the imminent danger or to require action to avoid, correct, or remove the imminent danger. Section 2251(2).

#### **b. Issuance of a Warning Notice.**

Sections 5201 to 5238 of the Public Health Code establish powers, responsibilities, and procedures concerning an individual who is a carrier and a health threat to others.

- A “carrier” means “[a]n individual who serves as a potential source of infection and who harbors or who the department reasonably believes to harbor a specific infectious agent or a serious communicable disease or infection, whether or not there is present discernible disease.” Section 5201(1)(a).

The MDCH has promulgated rules that designate and classify serious communicable disease. SARS falls under subsection (s) of this rule pertaining to the “unusual occurrence, outbreak, or epidemic of any condition, including nosocomial infections.” Rule 325.172(1)(s).<sup>1</sup>

- “Health threat to others” means “that an individual who is a carrier has demonstrated an inability or unwillingness to conduct himself or herself in such a manner as to not place other at risk of exposure to a serious communicable disease or infection.” Section 5201(b).

“Health threat to others” may be shown by the individual’s behavior, evidence of careless disregard for transmission or exposure of others, or misrepresentation about disease status before engaging in behavior that puts others at risk. *Id.* Under section 5203, MDCH or the LPHD shall issue a warning notice to such an individual requiring that the individual cooperate with MDCH or the LPHD in efforts to prevent or control transmission of serious communicable diseases or infections. The warning notice may require the individual to participate in education counseling, or treatment programs, and to undergo medical tests to verify the persons’ status as a carrier. The section specifies the form of the warning notice, requirements for service, and contents, including a statement that unless the individual takes the action requested in the warning notice, MDCH or the LPHD shall seek a court order. Absent an emergency, the individual has certain rights, including the right to a hearing, before a court can issue an order. These rights must be stated in the warning notice.

#### **c. Involuntary Detention and Treatment (Isolation/Quarantine)**

The MDCH and the LPHD has the authority to “provide for the involuntary detention and treatment of individuals with hazardous communicable disease in the manner prescribed in sections 5201 to 5238 [of the Public Health Code].”

If the MDCH or the LPHD knows, or has reasonable grounds to believe, that the individual has failed or refused to comply with a warning notice, then the MDCH or LPHD may petition the court for an order. Section 5205 sets out the procedural requirements and the individual’s rights, including the right to a hearing and the right to be represented by an attorney. An attorney is appointed for indigent individuals. The hearing must be set within 14 days of the date the petition was filed. If the court finds that the allegations in the petition are proven by clear and convincing evidence, the court may issue 1 or more of the following orders:

- The individual must participate in a designated education program.
- The individual must participate in a designated counseling program.
- The individual must participate in a designated treatment program.
- The individual must undergo medically accepted tests to verify the individual’s status as a carrier or for diagnosis.
- The individual must notify or appear before designated health officials for verification of status, testing, or other purposes consistent with monitoring.
- The individual must cease and desist conduct that constitutes a health threat to others.
- The individual must live part-time or full-time in a supervised setting for the period and under the conditions set by the circuit court.
- The individual must be committed to an appropriate facility for the period and under the conditions set by the circuit court. A commitment ordered under this subdivision shall not be for more than 6 months, unless the director of the facility, upon motion, shows good cause for continued commitment. (Section 2506(8))
- Any other order considered just by the circuit court.

An individual has the right to seek appellate review of an order, however, an order may not be stayed except upon motion for good cause.

The court can enter an order committing an individual to an appropriate facility only if the court considers the recommendation of a commitment review panel appointed by the court that consists of 3 physicians from a list submitted by MDCH or LPHD. The section sets out criteria for physicians on the review panel (e.g., at least two of the physicians shall have training and experience in the diagnosis and treatment of serious communicable diseases and infections). The commitment panel must

- Review the record of the proceeding
- Interview the individual or document the reasons the individual was not interviewed
- Recommend either commitment or an alternative or alternatives to commitment, and document the reasons for the recommendation.

There are also provisions for petition and review by a commitment panel as to whether or not the individual's commitment should be terminated.

The State Court Administrator's Office (SCAO) within the Michigan Supreme Court promulgates standard forms for use by attorneys and judges that can be found at:

<http://courts.michigan.gov/scao/courtforms/infectiousdisease/infindex.htm>. The following SCAO forms are for involuntary detention and treatment actions under section 5205 of the Public Health Code:

- Petition for Treatment of Infectious Disease
- Notice of Hearing on Petition for Treatment of Infectious Disease
- Order Following Hearing on Petition for Treatment of Infectious Disease
- Petition for Continued Commitment for Treatment of Infectious Disease
- Order to Reconvene Commitment Review Panel
- Order Following Hearing on Petition for Continued Commitment for Treatment of Infectious Disease

**d. Mass Immunization (MDCH only)**

No immunization or vaccine for SARS exists at the present time. However, should one be developed in the future, the MDCH maintains the authority to approve a mass immunization program, and provides limited liability protection for certain health professionals who participate in the program. (Ref. 333.9203)

**e. Investigations – Cause of Disease and Epidemics (MDCH only)**

The MDCH may “make investigations and inquiries as to “ the causes of disease and especially of epidemics, and the causes, prevention, and control of environmental health hazards, nuisances, and sources of illness. (Ref. 333.2221)

**f. Inspections and Investigations (MDCH only)**

The MDCH is authorized to “inspect, investigate, or authorize an inspection or investigation to be made of any matter, thing, premise, place, person, record, vehicle, incident, or event.” The public health statute also provides the MDCH with the authority to apply for a warrant to carryout this authority. (Ref. 333.2241)

**g. Ability to Exercise Authority to Safeguard Public Health (MDCH only)**

The MDCH may exercise authority to promulgate rules to safeguard the public health, to prevent the spread of diseases and the existence of sources of contamination, and to implement and carry out the powers and duties vested by law in the Department. (Ref. 333.2226)

**3. Judicial Authorities**

**a. Emergency Custody, Detention, and Treatment of the Individual**

Section 5207 of the Public Health Code covers emergency health threats of a carrier to others. To protect the public health in an emergency, upon the filing of an affidavit by MDCH or a LPHD officer, the circuit court may order an MDCH



representative, LPHD officer, or peace officer to take an individual, whom the court has reasonable cause to believe is a carrier and is a health threat to others, into custody. The order would authorize the transport of the individual to an appropriate emergency care or treatment facility for observation, examination, testing, diagnosis, or treatment and, if determined necessary by the court, temporary detention. If the individual is already institutionalized in a facility, the court may order the facility to temporarily detain the individual.

An order for emergency custody may be issued in an *ex parte* proceeding upon an affidavit of a department representative or a local health officer. An emergency order may be requested and executed on any day and at any time, and must be served upon the individual who is the subject of the order immediately upon apprehension or detention.

An individual temporarily detained under an emergency order shall not be detained longer than 72 hours, excluding Saturdays, Sundays, and legal holidays, without a court hearing to determine if the temporary detention should continue. Notice of a hearing must be served upon the individual not less than 24 hours before the hearing is held. The notice shall contain certain information, including the factual basis for the detention, the individual's due process rights at a hearing, and the right to counsel, including an indigent individual's right to appointed counsel.

At the hearing, if the court finds, by a preponderance of the evidence, that the individual would pose a health threat to others if released, it may order that the individual continue to be temporarily detained. However, the court's order for temporary detention cannot continue longer than 5 days, unless a petition is filed under section 5205, described above, for involuntary detention or treatment.

The following SCAO forms for emergency actions under section 5207 of the Public Health Code can be found at

<http://courts.michigan.gov/scao/courtforms/infectiousdisease/inindex.htm>

- Petition and Ex Parte Order for Transport and/or Temporary Detention
- Affidavit to Accompany Petition for Transport and/or Temporary Detention
- Notice of Hearing on Petition for Temporary Detention
- Order Following Hearing on Petition to Continue Temporary Detention.

#### **4. County And Municipality Authorities**

Each county or municipality that has an appointed Emergency Management Coordinator (EMC) pursuant to Section 9, Michigan Emergency Management Act (Public Act 390 of 1976, as amended) may do one or more of the following:

- Declare a local state of emergency or disaster if circumstances within the county or municipality indicate that the occurrence or threat of widespread or severe damage, injury, or loss of life or property from a natural or human-made cause exists, and under a declaration of local state of emergency, issue directives as to travel restrictions on county or local roads. (Only the chief

executive official of the county or municipality or the official designated by charter has this authority).

- Appropriate and expend funds, make contracts, and obtain and distribute equipment, materials, and supplies for disaster purposes.
- Provide for the health and safety of persons and property, including emergency assistance to victims of the disaster.
- Direct and coordinate local multi-agency response to emergencies within the county or municipality.
- Appoint, employ, remove, or provide, with or without compensation, rescue teams, auxiliary fire and police personnel, and other disaster workers.
- If a state of disaster or emergency is declared by the governor, assign and make available for duty the employees, property, or equipment of the county or municipality relating to fire fighting; engineering; rescue; health, medical and related services; police; transportation; construction; and similar items or service for disaster relief purposes within or without the physical limits of the county or municipality as ordered by the governor or director (i.e., Director, Emergency Management Division, Michigan Department of State Police).

## **5. Emergency Medical Personnel/Firefighters And Fire Departments Authorities**

The Public Health Code does **not** authorize licensed emergency medical services personnel to detain an individual suspected of carrying a communicable disease, such as SARS.

Neither the Public Health Code nor the Fire Prevention Code authorize the commanding officer of the fire department of a city, village, township, or county, or a firefighter in uniform acting under the orders and directions of the commanding officer, to detain an individual suspected of carrying a communicable disease, such as SARS.

## **III. Incident Command And Management System**

Sound leadership, effective communication and maintenance of the public welfare and trust are key to ensuring a well-coordinated SARS response. The authorities cited in the Public Health Code and the Emergency Management Act provide extensive authorities, which may require implementation to control an outbreak of SARS.

### **A. MDCH**

The MDCH is the lead state agency for managing and orchestrating SARS event planning and public health response operations. The State Epidemiologist (Director, Bureau of Epidemiology) serves as the response lead for exercise of the SARS plan. The MDCH Office of Public Health Preparedness (OPHP) will support the response lead by coordinating activities of the MDCH Public Health Emergency Operations Center. SARS response plans and protocols are coordinated with the Michigan Emergency Management Division (EMD), the Michigan State Police (MSP) and incorporated into the “all hazards” Michigan Emergency Management Plan (MEMP).

### **1. State Health Operations Center (SHOC)**

In the event of a SARS outbreak, the Director, MDCH or a designated representative will activate the SHOC. When fully activated, the SHOC will be staffed 24/7 by members of the State Executive Coordinating Committee (SECC), with the State Epidemiologist as the lead, and select members from MDCH bureaus/divisions. Technical consultants, CDC representatives, and other appropriate personnel may augment the SHOC. The SHOC will normally be under the operational control of the Director, Office of Public Health Preparedness, MDCH. Depending on the status of the outbreak, the Director, MDCH or a designated representative may convene at the State Emergency Operations Center (SEOC) where key decision making will be conducted in conjunction with other state and federal agencies. The primary mission of the SHOC is to:

- Coordinate the overall response to a SARS outbreak.
- Provide updated information to the Director, Michigan Department of Community Health, who will appraise the Governor's office.
- Support all activities of the public health Emergency Management Coordinator (EMC) in the SEOC.
- Provide technical assistance and consultation to public health, medical, and other health care professionals during the outbreak.
- Coordinate federal support and assistance with the CDC EOC and other HHS agencies, as appropriate.

### **B. Michigan Department of State Police (MSP)**

The Director, MSP is also the Director, Emergency Management and Director, Homeland Security. Agencies within the MSP oversee or coordinate programs that directly impact several "first responder" disciplines – statewide. The MSP will support MDCH SARS response planning and will ensure SARS response plans are incorporated into the Michigan Emergency Management Plan (MEMP).

#### **1. State Director, Emergency Management**

Assigned responsibilities of the Deputy State Director of Emergency Management (acting as the State Director of Emergency Management's designee) are to:

- Mobilize and direct state disaster relief forces.
- Maintain liaison with affected local jurisdictions.
- Review and evaluate assessment data.
- Implement and administer federal and state disaster relief programs and funds.

#### **2. State Emergency Operations Center (SEOC)**

The SEOC is the primary point of command for coordinating state emergency response and recovery activities to emergency or disaster situations. It has sufficient staff and supplies to ensure 24/7 operations for an extended period. The Governor is kept informed of response and recovery activities from this facility. In the event of an emergency or disaster requiring a public health response, the Emergency Management Coordinator from the MDCH will serve as

a liaison to the SEOC to coordinate the public health response with other state agencies.

### **3. Emergency Management Division District Coordinators**

The Deputy State Director of Emergency Management commands the Emergency Management Division (EMD) within MSP, which consists of headquarters staff and a District Coordinator in each of the eight Emergency Management Districts.

*(Note: Emergency Management Districts coincide with the eight “Regional Medical Networks” that have been developed to manage a public health emergency. EMD District Coordinators assist local emergency management coordinators with preparing “all hazards” emergency operations CDC Guidelines and will also coordinate with Medical & Public Health Advisory Committees to ensure a concerted public health, medical, and first response planning effort.)*

## **C. Local Jurisdictions**

Local health departments, upon notification of a probable or confirmed SARS outbreak, may initiate 24/7 operations. Several of the many initial response requirements include:

- Immediate notification of the OPHP and other agencies
- Facilitation of the collection of laboratory specimens for analysis
- Investigation of the outbreak, coordinating treatment programs
- Assessment of the threat of an epidemic
- Enforcement of laws and regulations to protect public health
- Education of the community on health issues
- Coordination of support between state and local agencies.

### **1. Local Emergency Operations Centers**

When an incident occurs at the local level, and its scope is such that additional assistance may be required, the emergency management coordinator is contacted. If the situation escalates to the point where coordination with several agencies is required, and/or assistance from outside of the affected jurisdiction is needed, the emergency management coordinator activates the EOC and notifies appropriate agencies (e.g., Emergency Management District Coordinator, key elected officials, appropriate first response agencies) in accordance with established protocols.

## **D. Incident/Unified Command**

Michigan applies a standardized command and control structure in all public health emergency responses. Health department officials must understand the management structure under which their departments will operate and integrate their response activities with other responding partners. Federal, State, Regional, and Local public health and health care professionals must ensure that a unified system is specified in response plans and that staff are properly trained to ensure proficiencies during a period of emergency response.

## **SECTION B – SURVEILLANCE**

**Updated 1/10/04**

### **I. Introduction**

On June 26, 2003 SARS was added to the list of nationally notifiable diseases; the surveillance case definition for SARS can be found at. [www.cdc.gov/ncidod/sars](http://www.cdc.gov/ncidod/sars). Surveillance case definitions are used for identifying and classifying cases for national reporting purposes. For conditions of public health importance, such as SARS-CoV infections, disease-control activities should be initiated as soon as possible after a potential case is recognized. The most current case definition distinguishes 1) confirmed and probable cases, from 2) SARS reports that are under investigation. Please refer to the case definition for details. All potential cases of SARS-CoV infection must be reported to the state or local health department.

### **A. Goals**

- Ensure early detection of cases and clusters of respiratory infections that might signal the global re-emergence of SARS.
- Maintain prompt and complete identification and reporting of potential cases to facilitate control and management of the outbreak.
- Identify and monitor contacts of SARS cases to enable early detection of illness in persons at greatest risk for disease

### **B. Lessons Learned**

- The early clinical features of SARS are not specific enough to reliably distinguish SARS from other respiratory illnesses.
- Risk of exposure is key to considering the likelihood of a diagnosis of SARS.
- Most SARS patients have a clear history of exposure to another patient or to a specific setting with recognized SARS-CoV transmission.
- SARS-CoV transmission is usually localized and often limited to healthcare settings or households.
- A cluster of atypical pneumonia in healthcare workers may indicate undetected SARS-CoV transmission.
- Up-to-date information on the presence of SARS globally is needed to accurately assess exposure risks.
- Contact tracing is resource intensive yet critical to containment efforts since it allows early recognition of illness in persons at greatest risk.
- Frequent communication among public health officials and healthcare providers, real-time analysis of data, and timely dissemination of information are essential for outbreak management.
- In a setting of extensive SARS-CoV transmission, the possibility of SARS should be considered in all persons with a febrile, respiratory illness, even if an epidemiological link cannot be readily established.
- Swift action to contain disease should be initiated when a potential case status may be lacking.

### **C. Michigan Priority Activities**

- Educate clinicians and public health workers on features that can assist in early recognition of SARS and on guidelines for reporting SARS cases.
- Develop tools to identify, evaluate, and monitor contacts of SARS patients.
- Establish an efficient data management system that links clinical, epidemiological, and laboratory data on SARS cases and allows rapid sharing of information.
- Identify surge capacity for investigation of cases and identification, evaluation, and monitoring of contacts in the event of a large SARS outbreak.

## **II. Plan for Surveillance of SARS Cases in the ABSENCE of known SARS activity worldwide**

A. Screen all patients hospitalized for pneumonia for the three following characteristics that might indicate a higher index of suspicion for SARS-CoV infection:

- In the 10 days before illness onset, travel to or close contact with other ill persons who recently traveled to a previously affected SARS area, or
- Employment as a healthcare worker, or
- Close contact with person(s) recently found to have radiologic evidence of pneumonia without an alternative diagnosis

B. Use SARS-CoV testing judiciously and in consultation with local or state public health officials. Please refer to the laboratory section of this guidance for SARS-CoV testing information.

C. Infection control practitioners and other appropriate healthcare personnel should be alert for clusters of unexplained pneumonia among two or more healthcare workers in same facility.

D. Report any of the above situations to the local or state health department.

## **III. Plan for Surveillance of SARS Cases in the PRESENCE of known SARS activity**

### **A. Community-Based Surveillance**

1. Continue case detection and reporting efforts as above.
2. Consider screening all patients presenting to outpatient clinics with a fever or clinical findings of lower respiratory infection for SARS risk factors.
3. If a patient with a fever or evidence of lower respiratory infection has a SARS risk factor, begin SARS isolation precautions, notify local health department and initiate preliminary clinical assessment.
4. Please refer to the laboratory section of this guidance for SARS-CoV testing information.

### **B. Hospital-Based Surveillance**

1. Hospitals may consider screening patients for SARS risk factors.
  - In the 10 days before illness onset, travel to or close contact with other ill persons who recently traveled to a previously affected SARS area, or
  - Employment as a healthcare worker, or
  - Close contact with person(s) recently found to have radiologic evidence of pneumonia without an alternative diagnosis

2. Hospitals should be particularly aware of clusters of health care workers with fever, cough, or shortness of breath and facilities may consider screening visitors and patients where fever, or cough symptoms are present.
3. Hospitals fall into one of the following categories:
  - Healthcare facility with no SARS patients.
  - Healthcare facility providing care for SARS patients who acquired infection from the community or from other facilities: no evidence of hospital acquired SARS-CoV infection.
  - Healthcare facility treating a large number of SARS patient, or facilities with hospital acquired SARS cases with clearly identified sources of infection.
  - Healthcare facility in which nosocomial transmission of SARS-CoV infection has occurred and at least some transmission is unlinked to other SARS infections (source unclear)

### **C. Surveillance of Contacts of SARS Cases**

1. Prepare to conduct surveillance of contacts by ensuring the availability of personnel and other resources. Consider using HIV, STD, or TB staff who already have experience doing contact surveillance
2. Identify all contacts of all SARS cases.
3. Prioritize contacts on the basis of estimated risk of exposure. Consider the following:
  - Strength of evidence underlying the diagnosis of SARS in the case-patient to whom the person is a contact.
  - Duration and nature of the contact's exposure to the case-patient.
  - Host Factors.
4. Ensure adequate counseling, evaluation and monitoring of contacts.
5. Ensure the use of proper procedures to identify all contacts and to evaluate, monitor, and report contacts
6. Contacts should be monitored for 10 days after their last contact with a SARS case.

## **SECTION C - INFECTION CONTROL RECOMMENDATIONS FOR HEALTH CARE FACILITIES**

**Updated 1/10/04**

### **I. Introduction**

The emergence of Severe Acute Respiratory Syndrome (SARS) caused by SARS-associated coronavirus (SARS-CoV) presented in some ways a new challenge to healthcare facilities and personnel but also reinforced prior lessons learned from other more familiar infectious diseases such as tuberculosis (TB). Similarities to the latter included realization that healthcare facilities and personnel can serve as points of cross transmission of infection and that delayed recognition of suspect cases can result in acceleration of clusters of disease. New challenges include “personal protective equipment – fatigue” experienced by personnel who needed to wear such attire for prolonged periods, implementation of staffing strategies that allow prompt response to surges in patient volume, and timely collaboration between facilities and public health. Recommendations in this guide therefore point to these new observations but also acknowledge the efficacy of existing infection prevention and control programs that have demonstrated efficacy against prior, emergent, and re-emergent infectious agents.

Each hospital and healthcare facility has existing policies and procedures in place to address issues of initial triage/evaluation, patient placement, isolation precautions, personal protective equipment (PPE), post-exposure management and communicable disease reporting. Issues associated with the potential management of SARS patients and personnel should integrate into existing policies. Each facility should carefully review these policies for applicability and possible modification to fit the specific issues associated with SARS.

It is critical that each healthcare facility communicates and distributes current information on SARS as well as other infectious diseases, such as influenza, that will impact the ability to care for patients, personnel and the community. Revisions or amendments or the development of new policies and procedures should be distributed to all departments, services and medical specialties responsible for admitting, diagnosing and treating and discharging patients with suspected or confirmed SARS.

In addition, healthcare facilities will need to continue close collaboration with their partners in their Local Health Department (LHD) and Pre-Hospital Providers, such as EMS, private physicians, and their community to insure every effort is made to address the complex issues associated with this challenging emerging infection. Such a regional focus is increasingly important with emergence of SARS and an essential component of preparedness for intentional release of a biological agent.

The purpose of this section is to assist in the following:

- Enhance surveillance for return of SARS, other newly emergent infectious disease, or pandemic scope of well recognized infection such as influenza.
- Rapidly identify and isolate all potential SARS patients.



- Implement strict infection prevention and control practices to prevent transmission.
- Strengthen partnerships and communications among all healthcare providers (EMS, hospitals, licensed health professionals, LHDs, etc.), emergency/disaster response and public health.

**SARS provides a reminder of the risks of healthcare associated transmission of respiratory pathogens and an opportunity to improve overall infection prevention and control in healthcare facilities.**

## **II. Priority Activities**

This section describes the priority activities that should be implemented at varying stages of SARS activity worldwide. It is important to note, that at any time, these stages may, and most likely will, intersect. Therefore, activities that healthcare facilities can address and implement prior to the diagnosis of the first case of SARS worldwide will strengthen their ability to be prepared and respond effectively and efficiently. The following are important lessons learned from the 2003 SARS outbreak:

- Strict adherence to contact and droplet precautions, along with eye protection, appears to be instrumental in preventing SARS-CoV infection.
- Airborne precautions should be considered whenever possible and may provide additional protection.
- Optimal control measures require continuous analysis at the facility, local and state level.
- Undetected cases of SARS in personnel, patients, and visitors contribute to the rapid spread of SARS-CoV.
- As with all infectious diseases, the most effective system for controlling a healthcare facility associated outbreak or cluster are those that are developed and tested before the outbreak occurs. In addition, each healthcare facility should establish a mechanism to review the effectiveness of intervention strategies once the outbreak has been eliminated.
- Response to a SARS outbreak will push the capacity of a healthcare facility to its limits.
- The social and psychological impact of SARS will be substantial, both during and after the outbreak. Mechanism must be in place to address these issues.

## **III. Planning Activities – No Cases Identified Worldwide**

### **A. Facility Specific Planning Committee**

Each facility should designate an internal, multidisciplinary planning committee with responsibility for SARS preparedness and response. Identify a single point of contact to serve as the overall facility coordinator of SARS activity. This should be a person with authority and expertise to direct and speak on behalf of your facility.

Consider using an established committee, such as an Infection Control and/or Patient Safety Committee as long as individuals are present or readily available that have decision-making authority including viable support of the facility's leadership, possess technical expertise and include representatives from potentially affected facility

departments. Possible key stakeholders or examples of disciplines/areas that can be called upon should include but is not limited to:

- Senior Administration
- Infection Control/Hospital Epidemiology
- Infectious Disease (if available)
- Disaster/Emergency Preparedness Coordinator
- Engineering/Physical Plant Representative
- Nursing Administration
- Medical Staff (include reps from out-patient areas, if possible)
- Intensive Care Services & Intensivists (if available)
- Emergency Department
- Emergency Medical Services
- Ancillary Services such as Laboratory, Respiratory Therapy, Diagnostic Imaging, Pharmacy
- Environmental Services
- Public Relations
- Security
- Employee/Occupational Health
- Education/Training/Staff Development
- Additional members unique to services at the specific healthcare facility
- Consider incorporating a representative from your Local Health Department into the facility committee to provide critical community focused public health information.

#### **B. Develop a facility specific written SARS preparedness and response plan**

Each facility should develop a written plan. This plan should be integrated into established facility specific emergency response plans familiar to the employees and medical providers in the healthcare facility. The plan components (detailed below) need to outline the activities associated with all possible phases of SARS. These phases are: No Identified Cases Worldwide, Presence of Global SARS Activity and Community Presence of SARS. Suggested components of the SARS Preparedness and Response Plan should include at a minimum:

- Surveillance and Triage
- Clinical Evaluation of Patients
- Infection Prevention and Control
- Respiratory Hygiene Etiquette for patients, visitors, and personnel
- Patient Placement, Isolation, and Cohorting, if necessary
- Engineering and Environmental Controls
- Exposure Reporting within established structures
- Staffing Needs and Personnel Policies
- Hospital Access Controls
- Supplies and Equipment
- Communication and Reporting Requirements – internal and external
- Evidence of collaboration with other healthcare providers in a region as much as feasible

**1. Surveillance and Triage** - Each facility has mechanisms in place for healthcare associated and communicable disease surveillance. Surveillance for SARS is necessary for disease control. Surveillance case definitions may change over the course of the season; the individual with overall responsibility must remain alert for updates to the case definition (by the Centers for Disease Control and Prevention) and/or World Health Organization) and maintain responsibility to communicate within a facility to all partners.

No Cases Identified Worldwide - Establish surveillance mechanisms aimed at early detection of unusual cases or clusters of respiratory infections.

- Screen hospitalized patients and patients who present to the Emergency Department with pneumonia focusing on characteristics that may indicate a high level of suspicion for SARS Co-V infection.
- Post visual alerts at entrances to all points of entry (e.g., reception and registration) requesting patients to inform healthcare personnel of respiratory symptoms when registering for care and reinforcing good respiratory and hand hygiene practices.
- Be aware of the need of signage in additional languages based on populations served.
- Include information on respiratory hygiene etiquette; provide adequate tissues and waste receptacles in all areas and waterless alcohol-based handrub or direct patients/visitors to available handwashing stations.
- Educate clinicians on mechanisms of reporting possible SARS patients internally and externally.

Presence of Global SARS Activity - The healthcare facility should now increase education, surveillance, and additional efforts to promptly identify and report all possible or confirmed SARS cases that present for evaluation at the facility.

- Continue to review current national case definitions, detection and reporting efforts as established.
- Review current institutional screening mechanisms, establish threshold for passive (e.g., signs) to active (e.g., specific questioning) screening activities. Be sure to notify security personnel when active screening is initiated to institute mechanisms for facility access control.
- Develop mechanisms to give priority to both screen and spatially separate persons who present with respiratory symptoms from other patients and visitors.
- Develop a mechanism to regularly communicate with and update clinicians, triage staff and all personnel on the status of SARS locally, nationally and internationally.
- In collaboration with occupational health staff or those with assigned responsibility, institute a strategy to monitor the health of staff and patients that are potentially exposed to SARS.

Community Presence of SARS Activity - The healthcare facility should now consider reinforcing all previous activities noted above with an emphasis on the following.

- Consider deployment of a facility-specific, multidisciplinary care team trained to care for patients with infectious diseases that are transmitted by multiple routes. This could include a team that has received more extensive training related to intentional release of biological agents.
- Consider establishing triage stations outside the facility to screen patients before entering the facility.
- In collaboration with established mechanisms, activate local or regional response plans that include trigger points for pre-arranged designated care sites.
- Establish mechanisms to telephone screen any individuals presenting for appointments immediately prior to presenting to facility.
- Screen all patients presenting to the Emergency Department or facility clinics with a fever or symptoms of lower respiratory infection incorporating the current SARS risk factors.
- Report any potential SARS cases or clusters of febrile respiratory illness among healthcare workers consistent with current established guidelines.

**2. Clinical Evaluation of Patients** - Specific clinical or laboratory findings cannot distinguish SARS from other respiratory illness reliably and rapidly enough to assist in the management of patients soon after they present to the healthcare system. Therefore, early clinical recognition of SARS still relies on a combination of clinical and epidemiological features.

- It is critical that each healthcare facility be alert to the current case and clinical definitions and adapt those to the Clinical Evaluation of Patients.
- A healthcare facility must ensure that mechanisms are in place to provide for safe work practices for evaluation of potential SARS case-patients are evaluated using established safe work practices.
- Only trained personnel who have completed fit-testing for appropriate respiratory protection (e.g., greater than or equal to N95 respirator) are involved in initial evaluation and triage of possible SARS case-patients.
- Insure that adequate amounts of Personal Protective Equipment are available and all staff has been trained on the donning, removal, and disposal of necessary equipment.
- The level of precautions and applicable equipment (e.g. powered air purifying respirators – PAPRs for certain high hazard procedures such as intubation or bronchoscopy should be increased if needed for suspect or proven cases of SARS.
- Use appropriate isolation practices consistent with facility-established and/or state/national guidelines for the care, transportation and eventual room selection of possible or known SARS cases.
- In facilities with patients known or suspected to have SARS, clinicians and public health officials must be particularly vigilant about evaluating fever and respiratory illness among patients. This includes patients hospitalized for surgery or other issues that may exhibit symptoms post-hospitalization.

**3. Infection Prevention and Control** - SARS has provided an excellent reminder of the presence of emerging diseases and the risks of healthcare acquired respiratory

pathogens. This provides a unique opportunity to improve overall critical infection control strategies. All healthcare facilities need to reemphasize the importance of basic infection prevention and control measures for the control of SARS and any other infectious diseases that are transmitted by either airborne, droplet, or contact routes.

- Educate and reinforce the need for strict adherence to and proper use of standard infection control measures.
- Focus on the principles of Standard (Universal) Precautions, including the appropriate implementation of airborne, contact, and droplet precautions.
- Reinforce strategies for good hand and environmental hygiene practices; provide alternate sources, such as waterless alcohol hand rubs where applicable. This includes attention to thorough cleaning/disinfection of the environment and patient care equipment.
- Educate and reinforce strategies related to the appropriate choice of Personal Protective Equipment. Include appropriate handling, which should include fit testing, donning, removal and disposal consistent with established facility guidelines.
- Develop educational material for patients, personnel and visitors.
- Should SARS be present in the population served by the facility, re-evaluation of these guidelines should be lead by the Infection Control/Hospital Epidemiology Department in collaboration with the previously established SARS Planning and Response or aforementioned facility-specific Committee.

**4. Respiratory Hygiene Etiquette** - Implementation of “respiratory etiquette” practices can decrease the risk of transmission from unrecognized SARS patients, contribute to maintaining the health of employees and families, and also control the spread of other, more common, respiratory pathogens. Initiate a “universal respiratory etiquette strategy” for the healthcare facility. This may include but is not limited to the following:

- Provide surgical masks to all patients with symptoms of respiratory illness. Include proper use instructions.
- For persons who are respiratory compromised, provide tissues and instructions on when and how to use them, how and where to dispose of them, and the importance of hand hygiene each time after coughing, sneezing or touching a potentially contaminated area.
- Provide additional hand hygiene resources in waiting rooms.
- If possible, designate an area in waiting rooms where patients with respiratory symptoms can be segregated from other patients.
- Encourage healthcare triage and admission personnel to wear a surgical mask during the evaluation of patients with respiratory symptoms.
- Use appropriate isolation precautions consistent with facility policy.

**5. Patient Placement, Isolation and Cohorting** - Appropriate patient placement is a significant component of effective SARS and infectious disease control. Each healthcare facility should utilize the expertise of the SARS Preparedness and Planning and/or Infection Prevention and Control Committee to develop a strategy

and procedures to quickly identify and separate potential SARS patients from other patients and implement appropriate isolation precautions. At all stages of SARS preparedness planning the following should occur:

- Develop strategies for triage and admission that minimize the risk of transmission to staff, patients and visitors. These strategies should be based on established facility policy and current guidelines established by national or expert state leadership.
- Develop an internal transportation plan to safely move proven or suspected SARS case-patients within the facility.
- Consider provision of additional personnel to monitor adherence with isolation precautions.
- Develop an external transportation plan, in collaboration with local Medical Control Authority and responding Emergency Services Agencies.

Although most SARS Co-V transmission appears to occur through droplets, close contact, and possibly fomite exposures, airborne transmission remains a consideration in planning, preparedness and response activities. Therefore, every effort must be made to admit hospitalized patients to a negative pressure airborne infection isolation room.

- Airborne Infection Isolation rooms, used for isolation of patients with suspected or proven TB disease, have specific requirements for controlled ventilation and monitoring. including air exchanges, pressurization, and dedicated or, if recirculated, HEPA filtered exhaust.
- Whenever possible, hospitalized SARS patients should have all procedures/tests performed in their negative pressure isolation room to avoid additional transportation and exposure potential for staff, other patients and visitors.

Should the facility run out of or lack negative pressure isolation rooms, cohorting may be necessary - ideally in a unit or patient care area with a HVAC system that directs return air directly outside or undergoes HEPA level filtration. Cohorting physically isolates SARS patients from non-SARS patients and allows appropriately trained staff to care for all SARS patients. In addition, specific resources are assigned to the cohorted patients and staff to assist in their care. Areas designated for cohorting would ideally have separate air handling to assure that possibly contaminated air does not recycle into other hospital departments. Support and review by facility engineering staff is critical in identifying and setting up areas of the facility to accomplish cohorting patients and staff.

**6. Engineering and Environmental Controls** - The optimal functioning of the facility's environment is always an important consideration. However, this is a critical component of the SARS Preparedness and Response Plan. Facilities that lack on-site engineering support for HVAC systems should seek support for contracted expertise to insure adequate isolation of cohorting facilities. Many of the following are well established engineering and administrative controls employed for control and prevention of transmission of tuberculosis in healthcare facilities.

- Ensure that mechanisms to measure the air-handling capacity of rooms and units housing SARS patients are adequate for isolation and infection control. These should be continually monitored when patients are present.
- Facility Administration should support activities to insure that the HVAC system is adequate and functioning appropriately.
- Environmental Services/Housekeeping staff should be trained on any special cleaning techniques while patients are present in the facility and terminal cleaning on discharge.
- Personnel must be trained in appropriate Personal Protective Equipment (PPE), including donning, removal and disposal of equipment.

**7. Exposure Reporting and Evaluation** - Unrecognized patients were a significant source of transmission during previous SARS outbreaks. Thus, strategies for rapid reporting and evaluation of persons exposed to SARS are critical. Seek the assistance of Occupation Health/Employee Health Professionals to provide guidance in designing a reporting system that is redundant and integrates into existing reporting mechanisms familiar to the employees.

- Ensure personnel understand the risks of SARS exposure, importance of reporting exposure AND illness. This should be done consistent with existing mechanism to avoid new protocols, which may lead to under reporting and confusion.
- Establish specific facility procedures to manage personnel and patients that are involved in unprotected high-risk exposures and/or unprotected exposures that are not high risk.
- Establish procedures for managing symptomatic healthcare workers.

**8. Staffing Needs and Personnel Policies** - As was evident in Toronto, outbreaks of any size challenge existing staffing shortages and will be amplified if the facilities healthcare providers become ill or are absent from work due to fear and concern. During the preparedness period, it is important to plan for how staffing shortages will be addressed and develop strategies for intervention to maintain services and protect personnel.

- Review existing emergency preparedness plans to identify strategies and mechanisms to flex or adapt personnel based on event.
- Consider establishing a “team or teams” approach for care, include ancillary and support staff. These may serve as the initial care staff that have received specialty training and serve as a facility resource.
- Consider the role, if any, of students, fellows, residents and other individuals present in the facility associated with a healthcare teaching program.
- Ensure that adequate infection control resources are available. If the facility has one or less full time equivalent dedicated to infection control, consider identifying and training additional staff or identify local consultative support.
- Develop policies for exposure management of healthcare workers including strategies to assist in complying with possible work restrictions.

***This is a complicated issue that deserves a great deal of attention from a facility to insure smooth transition should a case present.***

**9. Hospital Access Controls** - When the community has identified SARS cases, facility access will be important to protect and maintain the integrity of this healthcare resource. In addition, restricting access to the facility will assist in implementing effective screening, surveillance and isolation of possible or known patients. Each facility must develop criteria and plans to protect and limit access to the facility. This should be done in collaboration with existing facility security mechanisms.

**10. Supplies and Equipment** - Infectious disease patients and outbreaks often stress the already restricted supplies and equipment present in a healthcare facility. In addition, outbreaks in multiple areas may affect availability of specific respiratory protection equipment and hand hygiene products to name a few. Each facility needs to determine the current availability, anticipated need and vendor resources for supplies and equipment that may be needed in a SARS outbreak. This may include but is not limited to:

- Hand hygiene products including the new alcohol-based waterless products
- Personal Protective Equipment of all types
- Disposable isolation equipment and supplies
- Respiratory equipment such as ventilators

It should be noted that facilities should review existing Memorandums of Understanding within their facility system or geographic area as it relates to issues of equipment and supplies.

**11. Communication and Reporting** - The timely identification and reporting of facility specific SARS activity cannot be underestimated. Reporting to local and state public health officials, while not a legal requirement, is important. The Michigan Department of Community Health is required to report SARS cases to the Centers for Disease Control and Prevention. SARS reporting to local and state public health officials is an important step in communicating status and activities within Michigan.

- Review current mechanisms of communication with local health department. Ensure key facility persons have access to the local 24/7 contact.
- When SARS activity is local, establish a mechanism for regular contact with key local health department personnel.
- Develop plans to communicate with other healthcare facilities.
- Develop plans to communicate with the community. Seek assistance with established Risk Communication mechanisms to ensure consistent messages.
- Maintain local and state hotline numbers in a visible location for patients, personnel and visitors.

It is clear that the healthcare facility will need to establish facility specific policies, procedure, algorithms and communication plans. These should all be done in collaboration with local, regional and state partners. Facilities should have



relationships established that will provide the necessary support should SARS impact their facility.

### **III. Additional Resources/References**

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**Web sites**

CDC: <http://www.cdc.gov/ncidod/sars/>

WHO: <http://www.who.int/csr/sars/en/>

CIDRAP: <http://www.cidrap.umn.edu/cidrap/content/hot/sars/index.html>

Health Canada: [http://www.hc-sc.gc.ca/pphb-dgspss/sars-sras/prof\\_e.html](http://www.hc-sc.gc.ca/pphb-dgspss/sars-sras/prof_e.html)

Cover your cough:

<http://www.health.state.mn.us/divs/idepc/dtopics/infectioncontrol/cover/>

## SECTION D - COMMUNITY CONTAINMENT MEASURES, INCLUDING NON-HOSPITAL ISOLATION AND QUARANTINE

Updated 1/10/04

### I. Introduction

Community containment strategies, including isolation and quarantine, are fundamental measures that have been used for decades to control the spread of communicable diseases. **Isolation** of SARS patients separates them from healthy persons and restricts their movement to prevent transmission to others. It allows for the focused delivery of specialized health care to ill persons and protects healthy persons from becoming ill. **Quarantine** of persons who may have been exposed to SARS but are not ill is intended to identify those at greatest risks for developing SARS and to prevent transmission in the event that they develop SARS. SARS patients should be admitted to a healthcare facility for isolation **only if clinically indicated** or if isolation at home or other community facility cannot be achieved safely and effectively.

#### A. Goals

- Reduce the risk of transmission of infection at the Michigan community level from SARS patients and from persons who have been exposed to infectious SARS patients but are not yet ill.
- Reduce the overall risk of transmission of SARS-CoV at the Michigan population level when transmission is occurring in the community.

#### B. Michigan Priority Activities

- Isolate SARS patients and suspects in homes, hospitals, or designated community-based settings.
- Monitor contacts of SARS cases, and consider quarantine of contacts if needed.
- Implement community-based control measures, such as cancellation of public events and closure of schools, depending on the extent of the outbreak and the availability of resources.
- Establish the infrastructure to deliver essential goods and services to persons in quarantine and isolation.

#### C. Isolation and Quarantine Defined

**Isolation** is the separation and restriction of movement or activities of ill infected persons who have a contagious disease, for the purpose of preventing transmission to others.

- Isolation allows for the focused delivery of specialized health care to persons who are ill, and it protects healthy persons from becoming ill.
- Ill persons are usually isolated in a hospital, but they may also be isolated at home or in a designated community-based facility, depending on their medical needs.
- "Isolation" is typically used to refer to actions performed at the level of the individual patient.

**Quarantine** is the separation and restriction of movement or activities of persons who are not ill but who are believed to have been exposed to infection, for the purpose of preventing transmission of diseases.

- Persons are usually quarantined in their homes, but they may also be quarantined in community-based facilities.
- Quarantine can be applied to an individual or to a group of persons who are exposed at a large public gathering or to persons believed exposed on a conveyance during international travel.
- Quarantine can also be applied on a wider population- or geographic-level basis. Examples of this application include the closing of local or community borders or erection of a barrier around a geographic area (“cordon sanitaire”) with strict enforcement to prohibit movement into and out of the area.

**Isolation and quarantine are optimally performed on a voluntary basis, per instructions of healthcare providers and health officials. However, many levels of government (local, state, federal) have the basic legal authority to compel mandatory isolation and quarantine of individuals and communities when necessary to protect the public’s health.**

#### **D. Michigan Laws and Regulations pertaining to Isolation and Quarantine**

Michigan’s Public Health Code provides sufficient power for community isolation and quarantine so that public health officials can assure the safety of the public and prevent outbreaks once the existence of a SARS case or contact has been identified. For more information regarding specific authorities please see ‘Section A – Command and Control’ of this document.

The Michigan Public Health Code, MCL 333.1101 et seq., and rules thereunder, 1999 ACS R 325.171 et seq., establishes the power and responsibilities of the Michigan Department of Community Health (MDCH) and local public health departments (LPHD) to prevent and control the spread of disease. Isolation and quarantine can be necessary measures to cease SARS transmission.

**1. Community Quarantine:** Section 2253 allows the Director of MDCH to issue an emergency order, prohibiting the gathering of people for any purpose, to protect the public health and control an epidemic. Similarly, section 2453(1) establishes that a local public health officer may issue an emergency order prohibiting the gatherings of people if necessary to protect the public health. An “epidemic” means “any increase in the number of cases, above the number of expected cases, of any disease, infection, or other condition in a specific time period, area, or demographic segment of population.” R325.171(g).

**2. Involuntary Detention:** Both MDCH and an LPHD are authorized to “provide for the involuntary detention and treatment of individuals with hazardous communicable disease in the manner prescribed in sections 5201 to 5238 [of the Michigan Public Health Code]”. Section 2453(2). If the case or contact fails to remain in **isolation or quarantine**, the public health official may petition the court

for an order (following the procedures established in section 5205) which would direct and control the activities of a SARS case or contact.

## **II. Community Containment Measures**

### **A. Isolation of SARS patients**

Objective: Ensure appropriate separation and confinement of patients with SARS during the period of communicability.

#### **1. Basic Activities: Isolation of SARS patients at home**

- a. Before a SARS patient occupies a residence for home isolation, the residence should be inspected by the primary caregiver for the following minimum requirements:
  - Availability of a primary caregiver to assist patient with basic needs
  - Functioning utilities (telephone, electricity, etc.)
  - Separate bathroom and bedroom for the SARS patient only, with floor-to-ceiling wall, a door to remain closed, and a central air-conditioning unit serving this room

*An attempt should be made to relocate household members (especially those with risk of developing serious SARS complications (e.g., persons with chronic lung or heart disease, diabetics, elderly persons) so only the primary caregiver and SARS patient resides in the residence. If this is not possible, only the primary caregiver can have contact with the SARS patient.*

- b. Michigan Local Health Jurisdiction Responsibilities:
  - Ensure the primary caregiver has inspected the residence for home isolation.
  - Provide persons in contact with patients with adequate PPE and instructions for use, recommendations for proper hand hygiene, and a supply of surgical masks to be worn by all household members in close contact with patient.
  - Instructions on discarding household waste (may be discarded as normal waste), and the importance of household members to be vigilant for fever (measure twice daily) and respiratory symptoms in self. If these develop, medical attention should be sought immediately.

**2. Enhanced Activities: Isolation of SARS patients in designated facilities in the community.** If a surge in patients overwhelms existing healthcare capacity or if home isolation is not feasible for individual patients, jurisdictions might need to use alternative facilities in the community for isolation of SARS patients.

- a. Assemble a team to identify appropriate locations and resources for community SARS isolation facilities, establish procedures for activating them, and coordinate activities related to patient management.
- b. Consider use of both existing and temporary structures

- c. Determine priorities among available facilities
- d. Michigan Local Health Jurisdiction Responsibilities:
  - Assemble a team to determine facilities for community isolation. Team may be composed of LHJ personnel, first responders, law enforcement, hospital personnel, etc.
  - See attached “Factors to consider when choosing alternative facilities in the community for isolation of SARS patients” for more specific information about choosing community isolation locations.

## B. Management of Contacts of SARS Cases

Objective: To monitor and evaluate contacts of SARS cases to ensure early identification of illness and rapid institution of infection control precautions to prevent further spread.

### **1. Basic Activities: Monitor contacts of SARS patients**

- a. Actively or passively monitor contacts of SARS cases with or without any restriction of movement unless symptoms develop. Consideration should be given to confining and/or restricting the movement of contacts with high-risk exposures (e.g., healthcare workers involved in an aerosol-generating procedures on a SARS patient) even in the absence of symptoms (see Enhanced Activities below).
- b. Michigan Local Health Jurisdiction Responsibilities:
  - Contact tracing
  - Monitor contacts **regularly**. Advise contacts of the following:
    - Be vigilant of fever (measure twice daily) or respiratory symptoms for a 10-day period after exposure.
    - If symptoms develop, notify healthcare provider in advance of presenting at a healthcare facility that they may have been exposed to SARS
    - Seek healthcare evaluation immediately.

**2. Enhanced Activities: Quarantine.** In the event of a large SARS outbreak or high-risk exposure, application of quarantine should be considered as a means of interrupting transmission. The purpose of quarantine of contacts is to reduce transmission by separating them from others, monitoring them for signs and symptoms, and instituting appropriate infection control precautions as soon as symptoms are detected. Quarantine is usually used for individuals with close contact, small groups with close contact, larger groups with unspecified extent of exposures and communities in which the level of exposure is not known but interventions are needed to control potential population exposure.

- a. Types of quarantine: There are three main types of quarantine (home, work, and quarantine in designated facilities).
  - *Quarantine at home* is most suitable for contacts who have a home environment in which their basic needs will be met. The minimum

criteria that must be met to enable optimal implementation of home quarantine are listed below.

- *Work quarantine* applies to healthcare workers or other essential personnel who have been exposed to SARS patients and who may need to continue working (with appropriate infection control precautions) but who are quarantined either at home or in a designated facility during off-duty hours.
- *Quarantine in designated facilities* is used for contacts who do not have an appropriate home environment for quarantine or contacts who do not wish to be quarantined at home may be quarantined in specific facilities designated for this purpose.

b. Criteria for Home Quarantine: Certain minimum criteria must be met to enable optimal implementation of home quarantine

- Access to educational materials about SARS and quarantine, food, supplies (thermometer, fever logs etc.)
- Ability to monitor one's own symptoms
- Mechanisms for addressing special needs (e.g., filling prescriptions) and communication
- Access to healthcare workers, ambulance personnel, mental health and other psychological support services

c. Management of Household Members of Contacts in Home Quarantine

- As long as the person under quarantine remains asymptomatic, no specific precautions are needed for household members (e.g., may go to work, school, etc. without restrictions). If contact develops symptoms, s/he should immediately notify medical/public health authorities and standard precautions described for SARS patients in home isolation should be followed.
- Household members can provide valuable support to quarantined person by helping them feel less isolated and ensuring that needs are met.

d. Monitoring and Support of Persons under Quarantine

- Monitor at least daily for fever and any respiratory symptoms
- If a quarantined person develops symptoms suggestive of SARS, arrangements should be made for immediate medical evaluation of the patient. The patient should be asked to follow standard precautions for SARS patients in home isolation until an evaluation is performed.
- Quarantined persons may need a variety of support services. These might include psychological support, essential services (food, supplies etc.), care for family members, economic assistance

e. Michigan Local Health Jurisdiction Responsibilities:

- Determine type of quarantine needed for each situation (home, work, designated facilities)
- Ensure minimum criteria are met when utilizing home quarantine.
- Monitor compliance with quarantine through daily visits or telephone calls.

- Provide a hotline number for quarantined persons to call if they develop symptoms or have other immediate needs.
- Provide SARS and quarantine information for people under quarantine.
- As necessary and as resources allow, provide essential services, economic assistance, and psychological support as needed by quarantined individuals.

### **C. Community-Based Control Measures**

Objective: Reduce the risk of transmission of SARS-CoV at the population level by limiting social interactions or preventing inadvertent exposures.

Community based control measures are designed to reduce the risk of SARS at the population level by either decreasing social interactions or by implementing mass measures that might prevent inadvertent SARS exposures. It should be noted, however, that the effectiveness of these mass measures has not been completely evaluated.

#### **1. Basic Activities**

- a. Provide community information and education about SARS, its spread, and how to prevent spread.
- b. Promote “respiratory hygiene” and hand washing.
- c. Michigan Local Health Jurisdiction Responsibilities:
  - Create and gather materials about SARS and proper “respiratory hygiene” for the community and distribute as needed.
  - Know Michigan laws regarding community containment and the protocols to follow for instituting these measures.
  - Continually monitor SARS activity in the local health jurisdiction, US and worldwide.

#### **2. Enhanced Activities**

- a. Institution of community containment measures may include the following:
  - “Snow days” or “shelter in place”
  - Suspension of public gatherings, closing of public buildings, cancellation of events, closing of non-essential government functions, closing or scaling back mass transit
  - Temperature monitoring in public buildings and places, recommended or mandatory mask use.
  - Curfews, restrictions on travel.
  - Geographic or population-based movement restrictions.
- b. Michigan Local Health Jurisdiction Responsibilities:
  - Based on the extent of the outbreak and the availability of resources, decide when to institute community containment measures.
  - Determine thresholds for community action. Factors to consider are:
    - Number of cases and contacts, characteristics of local transmission, exposure categories for cases and contacts, morbidity and mortality, movement into or out of the community, local healthcare and public health resources, level of public cooperation and trust vs. risk of public panic.



- Attention to logistical considerations as listed below.

**3. Logistical Considerations:** Implementation of community containment measures on a large scale requires jurisdictions to address enormous logistic, economic, ethical, and psychological challenges. These challenges include:

- Provision of essential services and support-food, supplies, medical attention, care-taking, continuation of work/school, financial issues
- Mental Health-stigma management, psychological support
- Enforcement-closure of borders, border surveillance/monitoring (SARS checkpoints)
- Travel permits and credentialing

### **III. Factors to Consider When Choosing Alternative Facilities for Isolation of SARS Patients**

**A. Consider these criteria in selecting a location for the facility:**

- Sufficient space to house a temporary structure (e.g., section of a hospital parking lot) and access for vehicles
- Sufficient potable water and electricity
- Space for ancillary equipment and services (e.g., exhaust fans, support housing, security)

**B. Consider the use of both existing and temporary structures.** Options for existing structures include: community health centers, nursing homes, apartments, schools, dormitories, and hotels. Options for temporary structures include: trailers, barracks, tents, or “bubble systems.”

**C. To determine priorities among available facilities, consider these features:**

- Separate rooms for patients, or areas amenable to isolation of patients with minimal construction
- Independent ventilation for each room or isolation area
- Feasibility of modifying existing infrastructure as needed for engineering controls
- Feasibility of controlling access to the facility and to each room
- Availability of potable water, bathroom, and shower facilities
- Facilities for patient evaluation, treatment, and monitoring
- Capacity for providing basic needs to patients
- Rooms and corridors that are amenable to disinfection
- Facilities for accommodating staff
- Facilities for collecting, disinfecting, and disposing of infectious waste
- Facilities for collecting and laundering infectious linens and clothing
- Ease of access for delivery of patients and supplies
- Legal/property considerations

**D. Additional considerations include:**

- Staffing and administrative support
- Training required to use the facility
- Ventilation and other engineering controls
- Ability to support appropriate infection control measures
- Availability of food services and supplies
- Ability to provide an environment that supports the social and psychological well-being of patients
- Ability to provide appropriate security and access control
- Ability to support appropriate medical care, including emergency procedures
- Access to communication systems that allow for dependable communication within and outside the facility
- Ability to adequately monitor the health status of facility staff

## **SECTION E - INTERNATIONAL TRAVEL RELATED RISK OF SARS**

**Updated 1/10/04**

### **I. Introduction**

As we learned from the 2003 SARS outbreak, the potential for a rapid global spread of SARS is facilitated by international travel. Because of the significant impact of travel across Michigan's many international entry points (including airports, bridges, and the Detroit-Windsor tunnel) on the spread of SARS, these must be monitored to prevent the import/export of serious communicable diseases. There is legal authority to control the movement of persons within the state and across our borders.

Travel, which includes transit in an international airport or across an international border in an area with documented or suspected community transmission of SARS, may put Michigan residents at risk for infection with SARS-CoV. These travelers may in turn bring the virus home and transmit infection to their close contacts in Michigan. This section discusses strategies to minimize travel related disease transmission.

### **A. Lessons Learned**

1. SARS can spread rapidly on a global scale through international travel if control measures at international entry points are not implemented.
2. SARS-CoV transmission is usually localized and often limited to healthcare settings and households; therefore, the risk of SARS to travelers visiting an affected area is low unless they are exposed to these settings.
3. Patients with SARS can transmit infection to other passengers on conveyances (e.g., long flights) and should postpone travel until they are no longer infectious.
4. SARS-CoV transmission can occur within the close confines of conveyances. Resulting infections usually represent a failure to recognize symptomatic index cases and their high-risk contacts that should have been prevented from traveling.
5. Active follow-up of passengers on conveyances with SARS cases can help promptly identify infected passengers and prevent further spread of disease.
6. Persons with respiratory symptoms, fever, and any of the exposures listed below should call their health care provider before going to the clinic or doctor's office.
  - In the 10 days before illness onset, travel to or close contact with other ill persons who recently traveled to a previously affected SARS area, or
  - Employment as a healthcare worker, or
  - Close contact with person(s) recently found to have radiologic evidence of pneumonia without an alternative diagnosis

### **II. Travel Alerts and Advisories**

During a SARS outbreak, the federal government (via the U. S. Centers of Disease Control and Prevention (CDC)) will issue appropriate international travel restrictions, MDCH and local health departments should take a proactive approach to protecting citizens against disease transmission.

Travel alerts and advisories are notifications of an outbreak of disease occurring in a geographic area. A **travel alert**, a lower-level notice, provides information about the disease outbreak and informs travelers as to how to reduce their risk of acquiring infection. An alert does not include a recommendation against nonessential travel to the area. When the health risk for travelers is thought to be high, a **travel advisory** recommending against nonessential travel to the area is issued. Travel advisories are intended to reduce the number of travelers to high-risk areas and the risk for spreading disease to other areas.

The CDC issues travel alerts and advisories based on evidence of transmission, spread of disease, and effectiveness of local prevention efforts. The quality of local disease surveillance and the accessibility of medical care are additional considerations.

### **III. Traveler Screening**

When a person arrives at one of Michigan's international entry points exhibiting symptoms of infectious disease (fever, rash, severe diarrhea, jaundice, stiff neck, difficulty breathing), health officials are to then determine if the person may have a disease on the Presidential List of Quarantinable Diseases. These diseases are:

- Cholera
- Diphtheria
- Infectious TB
- Plague
- Smallpox
- Yellow Fever
- SARS
- Viral Hemorrhagic Fever

If one or more of these diseases is suspected, the person must be transported to a medical facility and isolated until such time as a diagnosis is made. To assist in making this decision, physicians may be contacted at the CDC Quarantine division headquarters (tel: 404-498-1600) for consultation.

#### **A. SARS Case-Patient Identification**

##### **1. Prior to Departure**

Conveyances leaving areas with active SARS outbreaks should screen patients prior to departure. Persons suspected of having SARS should not be allowed to travel until symptoms have abated and risk of transmission of SARS CoV is minimized.

##### **2. In Route**

Federal law requires that international air carriers report any illness that fits the serious infectious disease criteria to the closest quarantine station. Any death that happens in route to the United States must also be reported. Many carriers have contracted with medical facilities so that advice may be attained prior to landing.

If SARS is suspected in flight, once on the ground, local paramedics will meet the aircraft and the ill person will be evaluated while inspectors from Customs and Border Protection stand by to relay information to the Chicago Quarantine office (the closest federal quarantine office to Michigan). If needed, the person will then be transported to the hospital and the rest of the travelers will be allowed to disembark. If SARS is suspected, the other travelers will be required to fill out a "surveillance form" which includes personal contact information so that if SARS is diagnosed post-travel contact by state and local health departments will be possible.

### **3. Upon Arrival**

During the 2003 outbreak, when cases of SARS were occurring in China and other Asian countries, CDC increased the level of surveillance on international flights. Similar surveillance activities will be activated in any future outbreaks of SARS.

- CDC staff will meet arriving flights from SARS affected areas.
- Any persons with suspicious symptoms should be identified to the health official by the flight crew for evaluation.
- Health official will watch all deplaning passengers and evaluate any who appear to be unwell for signs and symptoms of SARS
  - Fever
  - Cough
  - Travel itinerary that includes areas where SARS outbreaks are occurring
- Passengers suspected of having SARS CoV infection will be transported to appropriate medical facilities for testing and treatment.
- The receiving health care facility and the state and local health departments will be alerted to the situation
- Health alert notices will be given to all passengers and crew. These include symptoms to watch for and instructions to follow in the event that symptoms develop.
- Health staff are expected to monitor themselves daily for fever and self-isolate for 3 days if any increase in temperature is noted (in consultation with CDC).

### **B. Medical Facility Identification**

Before transporting a potential SARS case-patient, a hospital with isolation capacity and Memoranda of Agreement (MOA's) with CDC is necessary.

- An MOA is a written agreement between a health care facility and the CDC in which the hospital agrees to provide isolation and evaluation (including lab tests) and the CDC agrees to pay the costs incurred if the following are true:
  1. Transportation to the medical facility is authorized by CDC staff
  2. No other health insurance is applicable
- Currently, in Michigan, there are MOA's established with the Port Huron Hospital and the Oakwood Annapolis Hospital (Wayne/Detroit). In January 2004, more MOA's are expected to be established, with a goal to have MOA's with medical

facilities near transportation centers (bus and train stations, seaports and airports) that have isolation capacity.

### **C. Screening Activity Staff**

CDC will provide staff for SARS screening purposes. If CDC does not have sufficient staff to cover all the areas needing increased surveillance, Customs and Border Protection will provide inspectors.

CDC has signed a contract with Constella Group and who will provide public health specialists in Detroit should the need arise. Public health specialists will be dispatched to the Detroit Metro Airport (where a public health office is currently not staffed by CDC).

For more information, the nearest CDC Division of Global Migration and Quarantine office is in Chicago.

Center for Disease Control and Prevention  
National Center for Infectious Diseases  
O'Hare International Airport  
MNF O'Hare, POB 66012  
Chicago, IL 60666-0012  
Phone: (773) 894-2960  
Fax: (773) 894-2970  
Normal Hours: 12 pm – 8 pm daily

## **III. Suggested Activities for Travelers**

### **A. No Known SARS Activity Worldwide**

#### **1. Outbound Travelers**

- No special recommendations

#### **2. Inbound Travelers**

- No special recommendations

### **B. SARS activity known, no local transmission**

#### **1. Outbound Travelers**

- Issue Travel Alerts for countries with transmission.
- Issue Travel Advisories for countries with extensive transmission.
- Prohibit non-essential travel to countries where control is inadequate.
- Consider medical screening at all exit points for departing travelers.
- Consider travel prohibition for all persons meeting case definition with epidemiological link to transmission setting.
- Consider medical assessment for all with signs/symptoms without EPI link.

#### **2. Inbound Travelers**

- Limited transmission in location of origin
  - Collect contact information on all arriving passengers.
  - Distribute health alert notices to all passengers arriving from areas with local SARS-CoV transmission, this includes information to have any arriving passengers who develop symptoms contact their health care provider and inform him/her of the potential exposure to SARS-CoV.

Persons who develop symptoms should call before presentation to provider.

- Follow quarantine procedures for ill passengers.
- Collect enhanced surveillance information for ill passengers.
- Extensive transmission/effective control measures in location of origin
  - Active surveillance for ill passengers as detailed above.
  - Symptom screening for all arriving passengers and medical evaluation for all passengers with symptoms.
  - Consider 10-day quarantine for asymptomatic arrivals.
- Extensive transmission/ineffective control measures in location of origin.
  - Prohibit all non-essential travel.
  - Implement medical screening upon arrival.
  - Implement mandatory 10-day quarantine for all asymptomatic arrivals.
  - Collect contact information on all arriving passengers.

**C. SARS activity known in the U.S. and Michigan, with extensive transmission and effective control measures**

**1. Outbound travelers**

- Issue international travel alerts/advisories/prohibitions as above.
- Issue alerts/advisories/prohibitions for domestic destinations.
- Initiate medical screening of departing passengers at all exit points.
- Prohibit all travel for persons meeting case definition.
- Require health certificate for exit.

**2. Inbound travelers**

- Limited transmission in location of origin or extensive transmission/effective control measures
  - Minimize non-essential travel.
  - Consider restricting travel within jurisdictions
  - Arriving passengers should follow procedures based on situation in location of origin
- Extensive transmission/ineffective control measures
  - Prohibit all non-essential arrivals.
  - Implement medical screening upon arrival.
  - Implement mandatory 10-day quarantine for all asymptomatic arrivals
  - Collect contact information on all arriving passengers.

**D. SARS activity in the Michigan, with extensive transmission and ineffective control measures**

**1. Outbound travelers**

- Issue international and domestic travel alerts/advisories/prohibitions as above
- Prohibit nonessential outbound travel
- Require health certificate for essential travel
- Implement medical screening at all exit points
- Prohibit travel for all persons meeting case definition
- Prohibit travel for all persons under quarantine.

**2. Inbound travelers**

- Limited transmission in location of origin or Extensive transmission/effective control measures

- Prohibit all non-essential arrivals.
- Arrivals should follow procedures based on situation in location of origin.
- Extensive transmission/ineffective control measures
  - Prohibit all non-essential arrivals.
  - Implement medical screening upon arrival
  - Implement mandatory 10-day quarantine for all asymptomatic persons
  - Collect contact information on all arriving passengers

#### **IV. Michigan International Points of Entry**

- A. Detroit-Metro Airport, Wayne County, Region 2 South
- B. Detroit Windsor Tunnel, Detroit, Region 2 South
- C. Ambassador Bridge, Detroit, Region 2 South
- D. Blue Water Bridge (Port Huron), Huron County, Region 3
- E. International Bridge (Sault Ste Marie), Chippewa County, Region 8
- F. Bishop International Airport (Flint), Genesee County, Region 3
- G. Lansing International Airport, Ingham County, Region 1
- H. Grand Rapids International Airport, Kent County, Region 4



## SECTION F - LABORATORY GUIDELINES

Updated 1/10/04

### I. Level 0\* Guidelines for Collection of Specimens from Potential Cases of SARS in Michigan

#### A. Key Messages

- **These guidelines may change when a new SARS case is documented anywhere in the world. Please continue to check this website for the latest recommendations.**
- Consult your state or local health department to determine the appropriateness and details of SARS testing before submitting samples for testing.
- It is preferable to collect multiple specimens from different sites and at different times during illness.
- Please contact the MDCH Bureau of Epidemiology (BOE) at 517-335-8165 (517-335-9030 after hours/weekends) for consultation to determine whether patients potentially meet the SARS case definition before collecting and shipping specimens for SARS testing. Specimens will not be tested by MDCH Bureau of Laboratories (BOL) without approval by BOE. When possible, collect multiple specimens for testing. For example, collect specimens from two different body sites on the same day (e.g. one nasopharyngeal swab and a stool specimen or another respiratory specimen and serum) and additional specimens later during the illness. (See table that follows for details.)
- **NOTE: Positive results from testing at laboratories outside of the public health system will not be used to determine if the patient meets the epidemiological case definition and will not be included in the state and national disease statistics. In the absence of SARS cases worldwide, positive results are most likely to be false-positives. Clinical laboratories should save an aliquot of samples sent to commercial or reference laboratories or alternatively collect multiple new samples from the patient to submit to MDCH BOL. Preliminary positive results received from non-public health labs must be retested at MDCH BOL, which uses reagents and methods validated at the U. S. Centers for Disease Control and Prevention (CDC).**

**II. Priority specimens to collect during the course of illness for evaluation of potential cases of SARS\* in Michigan**

| Specimen   | Submit Using | < 1 week post symptom onset | 1-3 weeks post symptom onset | > 3 weeks post symptom onset |
|--|--------------|-----------------------------|------------------------------|------------------------------|
| Serum ** EIA for antibody detection (collect in serum separator tube)        | MDCH Unit 45 | ++                          | ++                           | ++                           |
| <b>Specimens for RT-PCR#</b>   |              |                             |                              |                              |
| Sputum (deep cough sputum preferred sample in patient with productive cough) | MDCH Unit 45 | +                           | ++                           | +                            |
| Bronchoalveolar lavage (BAL), tracheal aspirate, pleural tap fluid ##        | MDCH Unit 45 | +                           | ++                           | +                            |
| Nasopharyngeal wash/aspirate   | MDCH Unit 45 | +                           | ++                           | +                            |
| Nasopharyngeal AND oro-Pharyngeal swabs                                      | MDCH Unit 45 | +                           | ++                           | +                            |
| Serum (collect in serum separator tube)                                      | MDCH Unit 45 | ++                          | +                            | <b>Not recommended</b>       |
| Stool (minimum 10 cc)  | MDCH Unit 45 | +                           | ++                           | ++                           |

\*Priority is based on the likelihood that the specimen will be positive in a SARS-CoV-infected person.

\*\*To rule out SARS serologically, it is important to collect serum > 28 days post onset.

++Priority specimen(s)

# Investigational nature of SARS-CoV RT\_PCR requires an informed consent be signed by the patient.

## Consider these specimens if sputum unavailable.

**In the absence of SARS worldwide (Level 0), patients hospitalized with radiographic evidence of pneumonia should be evaluated for the most likely alternative diagnoses. Agents/tests which might be included in this process:**

- CBC with differential
- Pulse oximetry
- Blood cultures
- Sputum culture and Gram's stain
- Viral respiratory pathogens (Influenza A and B, RSV, adenovirus, parainfluenza virus, Picornavirus, and rhinovirus)
- *Mycoplasma pneumoniae*
- *Chlamydia pneumoniae*
- Legionella and pneumococcal urinary antigen
- Human metapneumovirus (MDCH is implementing this CDC-developed test)

### III. Laboratory Biosafety Guidelines for Michigan Laboratories Handling And Processing Specimens Associated with SARS

#### A. Key Messages

- Laboratories performing routine hematology and clinical chemistry studies may handle potential SARS specimens similarly to specimens containing other blood borne pathogens (e.g. hepatitis or HIV, see specific biosafety guidelines at [www.cdc.cio/od/ohs/biosftv/bmbl4/bmbl4s7f.htm](http://www.cdc.cio/od/ohs/biosftv/bmbl4/bmbl4s7f.htm)).
- Laboratories performing serology or RT-PCR testing should handle potential SARS specimens using Standard Precautions (previously Universal Precautions). A detailed description of recommended facilities, practices, and protective equipment for the various laboratory biosafety levels (BSLs) can be found in the CDC/NIH Biosafety in Microbiological and Biomedical Laboratories Manual at [www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4s3.htm](http://www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4s3.htm)

It is estimated that several thousand diagnostic specimens from patients with SARS have been processed in routine clinical laboratories throughout the world and to date there have been no reported cases of SARS illness among laboratory workers performing diagnostic assays; however, there has been two reported cases in a research laboratory setting where the SARS-CoV was being propagated. Until more information about the transmission of the SARS agent in the laboratory setting is known, precautions should be taken in handling these specimens. Effective and timely communication between clinical and laboratory staff is essential in minimizing the risk incurred in handling specimens from patients in whom SARS is suspected. Specimens from patients who may have SARS should be labeled accordingly and the laboratory should be alerted to insure proper specimen handling. Listed below are biosafety guidelines for handling these specimens.

#### B. Blood Specimens (blood, serum, plasma)

These specimens may be handled using Standard Precautions (previously Universal Precautions). Careful attention should be given to hand hygiene after removal of gloves and especially before touching the eyes or mucosal surfaces.

Any procedure with the potential to generate fine particulate aerosols (e.g. vortexing or sonication of specimens in an open tube) should be performed in a biological safety cabinet (BSC). The use of sealed centrifuge rotors or sample cups, if available, should be employed for centrifugation. Ideally, these rotors or cups should be loaded and unloaded in a BSC. Procedures performed outside of a BSC should be performed in a manner that minimizes the risk of exposure to an inadvertent sample release.

Work surfaces and equipment should be decontaminated after specimens are processed. Standard decontamination agents (e.g., bleach) that are effective against lipid-enveloped viruses should be sufficient.

#### C. Other Specimens (e.g., respiratory secretions, stool, urine, tissue)

The following activities should be performed in BSL-2 facilities with standard BSL-2 work practices:

- Pathologic examination and processing of formalin-fixed or otherwise

- inactivated tissues.
- Molecular analysis of extracted nucleic acid preparations.
- Electron microscopic studies with glutaraldehyde-fixed grids.
- Routine examination of bacterial and mycotic cultures.
- Routine staining and microscopic analysis of fixed smears.
- Final packaging of specimens for transport to diagnostic laboratories for additional testing. Specimens should already be in a sealed, decontaminated primary container.

The following activities involving manipulation of untreated specimens should be performed in BSL-2 facilities and in a Class II biological safety cabinet:

- Aliquoting and/or diluting specimens.
- Inoculation of bacterial or mycological culture media.
- Performing diagnostic tests that don't involve propagation of viral agents in vitro or in vivo.
- Nucleic acid extraction procedures involving untreated specimens.
- Preparation and chemical- or heat-fixing of smears for microscopic analysis.

Laboratory workers should wear protective equipment including disposable gloves and laboratory coats. Work surfaces should be decontaminated on completion of work with appropriate disinfectants (e.g., 10% bleach solution) and all disposable waste autoclaved or disposed of as regulated medical waste.

Any procedure or process that cannot be conducted within a biological safety cabinet requires use of the appropriate combinations of personal protective equipment (e.g., respirators, face shields) and physical containment devices (e.g., centrifuge safety cups or sealed rotors). Acceptable methods of respiratory protection include a properly fit tested NIOSH approved filter respirator (N95 or higher); or powered air-purifying respirators (PAPRs) equipped with high efficiency particulate air (HEPA) filters. Accurate fit testing is a key component of effective respirator use. Personnel who cannot wear fitted respirators because of facial hair or other fit-limitations should wear loose fitting hooded or helmeted PAPRs. Centrifugation should be carried out using sealed centrifuge cups or rotors that are unloaded in a biological safety cabinet.

When a procedure or process cannot be conducted within a biological safety cabinet, appropriate combinations of personal protective equipment and physical containment devices **must** be used.

The following activities require BSL-3 facilities and BSL-3 work practices:

- SARS-CoV propagation in cell culture.
- Initial characterization of viral agents recovered in cultures of specimens from previously **confirmed** or highly suspect SARS cases, once cases have been **confirmed** anywhere in the world.

To clarify: At Level 0 (presence of SARS not **confirmed** anywhere in the world), viral cultures may be performed in clinical laboratories with BSL-2 facilities, using appropriate personal protective equipment and precautions, BSC and BSL-2 practices. However, once SARS has been confirmed, the recommendation will be

that any manipulation required to identify an agent in viral cultures of specimens from confirmed or highly suspect SARS cases be attempted **only at MDCH, CDC or designated BSL-3 facilities**. Further guidance will be provided to clinical laboratories when SARS cases have been confirmed.

#### **IV. Specimen Collection Procedures for Michigan**

Before collecting specimens, review infection control precautions at: <http://www.cdc.cioov/ncdod/sars/infectioncontrol.htm> and <http://www.cdc.gov/ncidod/sars/aerosolinfectioncontrol.htm>.

***NOTE: SARS test results are significantly impacted by the handling of specimens in the pre-analytical phase. Viral titer is very low early in disease, so poor specimen quality or timing may result in false-negative results. Likewise, improper storage may lead to degradation of the low virus titer present in the early stage of disease. False-positives may result from cross-contamination between patients/samples, so exceptional care is required in collecting, handling and labeling samples, especially those for PCR.***

#### **A. Informed Consent**

MDCH has fully validated the SARS serologic assay with protocol and reagents supplied by CDC. However, due to the lack of positive samples with which to validate the PCR assay, its use is considered to be investigational at this time and requires a signed patient consent form. These forms are available on the MDCH website; their use will be coordinated by local public health personnel with the attending physician or infection control personnel. Once testing has been approved by BOE, specimens should be forwarded expeditiously to MDCH for testing. The consent form can follow later.

#### **B. Respiratory Tract Specimens**

Respiratory specimens should be collected as soon as possible in the course of the illness for most respiratory pathogens. The likelihood of recovering most viruses diminishes markedly >72 hours after symptom onset. In contrast, for SARS-CoV, the amount of virus may increase later in the course of the illness, in 1-3 weeks post onset, and decline 3 weeks or more post onset.

Seven types of respiratory specimens may be collected for viral and/or bacterial diagnostics. These include: 1) nasopharyngeal wash/aspirates; 2) nasopharyngeal (N/P) swabs; 3) oropharyngeal swabs; 4) bronchoalveolar lavage; 5) tracheal aspirate 6) pleural tap or 7) sputum (see chart above for recommended specimen type). Nasopharyngeal wash/aspirates are the specimen of choice for detection of most respiratory viruses and are the preferred collection method among children aged <2 years. However, sputum is the specimen of choice for detection of SARS when it can be obtained.

##### **1. Upper respiratory tract**

- Collection of nasopharyngeal wash/aspirate

Have the patient sit with the head tilted slightly backward. Instill 1 - 1.5 ml of

nonbacteriostatic saline (pH 7.0) into one nostril. Flush a plastic catheter or tubing with 2 - 3 ml of saline. Insert the tubing into the nostril parallel to the palate. Aspirate nasopharyngeal secretions. Repeat this procedure for the other nostril. Collect specimens in sterile vials. Each specimen container should be labeled with patient identifier and the date collected. Ship with cold packs to keep sample at 4<sup>0</sup>C.

- Collection of nasopharyngeal or oropharyngeal swabs

Use only sterile dacron or rayon swabs with plastic shafts. Do **NOT** use calcium alginate swabs or swabs with wooden sticks, as they may contain substances that inactivate some viruses and inhibit PCR testing.

- o Nasopharyngeal swabs - Insert swab into nostril parallel to the palate and leave in place for a few seconds to absorb secretions. Swab both nostrils.

- o Oropharyngeal swabs - Swab both posterior pharynx and tonsillar areas, avoiding the tongue. Place swabs immediately into sterile vials containing 2 ml of viral transport media. Break applicator sticks off near the tip, avoiding creation of aerosols, to permit tightening of the cap. Each specimen container should be labeled with patient identifier and the date collected. Ship with cold packs to keep sample at 4<sup>0</sup>C.

## 2. Lower respiratory tract

- Collection of bronchoalveolar lavage, tracheal aspirate, pleural tap

If these specimens have been obtained, half should be centrifuged and the cell-pellet fixed in formalin. Remaining unspun fluid should be placed in sterile vials with external caps and internal O-ring seals. If there are no internal O-ring seals, then seal tightly with the available cap and secure with Parafilm®. Each specimen container should be labeled with patient identifier and the date the sample was collected. Ship with cold packs to keep sample at 4<sup>0</sup>C.

- Collection of sputum

Educate the patient about the difference between sputum and spit. Have the patient rinse the mouth with water then expectorate deep cough sputum directly into a sterile screw-cap sputum collection cup or sterile dry container. Label with patient identifier. Ship with cold packs to keep sample at 4<sup>0</sup>C.

## C. Blood Components

### Collection of serum for antibody or PCR testing

Acute serum specimens should be collected and submitted as soon as possible. If the patient meets the case definition, convalescent specimens should be collected > 28 days after the onset of illness.

Collect 5-10 ml of whole blood in a serum separator tube. Allow blood to clot, centrifuge briefly and transfer all resulting sera to vials with external caps, seal tightly with the cap and secure with Parafilm®. A minimum of 2.0 ml of serum, which can easily be obtained from 5 mL of whole blood, is preferred for each test.

Pediatric patients: a minimum of 1cc of serum is needed for testing; use a serum separator tube for collection.

Each specimen container should be labeled with patient identifier and the date the specimen was collected. Ship with cold packs to keep sample at 4<sup>0</sup>C.

#### **D. Stool Collection for PCR**

Begin collecting stool specimens as soon as possible in the course of the illness. Although collecting earlier specimens is ideal, SARS-CoV has been detected in stool as late as one month post symptom onset. Collect each stool specimen (at least 10 cc) in a leak-proof, clean, dry container, transfer to a 50 ml conical centrifuge tube, and refrigerate at 4<sup>0</sup>C.

#### **E. Turn-around Time for SARS Tests**

Serology and PCR results can normally be expected in 2-3 workdays, depending upon testing volume. Any positive results will require confirmation by repeat testing, and possibly retesting at CDC.

#### **F. Holding and Shipping Specimens**

In the absence of SARS cases anywhere in the world (Level 0), specimens should be collected as early in the course of disease as possible (as soon as SARS is considered in the differential diagnosis) and held at 4<sup>0</sup>C during the 72 hour observation period of the patient. Once testing is approved by MDCH BOE, samples should be expeditiously transported on cold packs to MDCH BOL for testing. Complete a test requisition, **adding the approval number supplied by BOE in the ‘Submitter’s Patient Number’ space.** In the absence of SARS cases worldwide, samples will not be tested without this number. Contact the MDCH BOL if assistance is needed to expedite shipment 517-335-8063 (517-335-9030 after hours).

Packaging, shipping and transport of specimens from suspect and probable SARS cases must follow the current edition of the International Air Transport Association (IATA) Dangerous Goods Regulations at ([www.iata.org/dangerousgoods/index](http://www.iata.org/dangerousgoods/index)) and US DOT 49 CFR Parts 171-180 ([hazmat.dot.gov/rules.htm](http://hazmat.dot.gov/rules.htm)). Step-by-step instructions on appropriate packaging and labeling are available at: [www.cdc.gov/ncidod/sars/pdf/packingspecimens-sars.pdf](http://www.cdc.gov/ncidod/sars/pdf/packingspecimens-sars.pdf).

**NOTE: Specimens shipped by commercial couriers, which may utilize air transport even when delivering within the state of Michigan, must be packed in 6.2 packaging as “diagnostic specimens”.**

**V. Recommended Specimens for Evaluation for SARS in Michigan**

| <b>Out-patient</b>  | <b>In-patient</b>   | <b>Fatal</b>  |
|---|---|---|
| <u>Upper Respiratory:</u><br>1. Nasopharyngeal wash/<br>aspirate<br>2. Nasopharyngeal and oropharyngeal swabs | <u>Upper Respiratory:</u><br>1. Nasopharyngeal wash/<br>aspirate<br>2. Nasopharyngeal and oropharyngeal swabs | <u>Upper Respiratory:</u><br>1. Nasopharyngeal wash/aspirate<br>2. Nasopharyngeal and oropharyngeal swabs   |
| <u>Lower Respiratory:</u><br>Sputum   | <u>Lower Respiratory:</u><br>Bronchoalveolar lavage (BAL), tracheal aspirate or pleural tap                   | <u>Lower Respiratory:</u><br>1. Bronchoalveolar lavage (BAL), tracheal aspirate or pleural tap<br>2. Sputum   |
| <u>Blood:</u><br>Serum: Acute and Convalescent (> 28 days post onset)   | <u>Blood:</u><br>Serum  | <u>Blood:</u><br>Serum: Acute and Convalescent (> 28 days post onset)   |
| <u>Stool</u>  | <u>Stool</u>  | <u>Stool</u>  |
|   |   | <u>Tissue:</u><br>1. Fixed tissue from all major organs (e.g. lung, heart, spleen, liver, brain, kidney, adrenal s)<br>2. Frozen tissue from lung and upper airway (e.g. trachea, bronchus) |

For more information, visit [www.cdc.gov/ncidod/sars](http://www.cdc.gov/ncidod/sars) or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY). For information specific to Michigan response, call MDCH BOE at 517-335-8165 or Dr. Hema Kapoor at 517-335-8099 or Dr. Jeff Massey at 517-335-8850 at MDCH BOL.



## **SECTION G - CRISIS COMMUNICATION PLAN**

**Updated 1/10/04**

### **I. Introduction**

During the 2003 SARS response, health communications figured prominently among the tools used to contain the outbreak. The response to outbreaks and the threat of outbreaks necessitated extensive communications activities. Experience showed that, although a media/communications plan cannot alleviate the threat of SARS or solve associated public health problems, good communication can guide the public, the media, and healthcare providers in responding appropriately and complying with exposure-control measures as required.

The goals of this communication plan are to:

- Instill and maintain public confidence in the nation's public health system and its ability to respond to and manage a SARS outbreak.
- Contribute to the maintenance of order, minimization of public panic and fear, and facilitation of public protection through the provision of accurate, rapid, and complete information.
- Provide accurate, consistent and comprehensive information about SARS.
- Address rumors, inaccuracies, and misperceptions as quickly as possible, and prevent stigmatization of affected groups.

### **II. Communications Activities in the Presence of SARS**

The following is a sampling of public health communication activities that would be needed for a recurrence of SARS. The activities listed here will occur with or without activation of the State Emergency Operation Center (SEOC).

- A. MDCH communications will emphasize the importance of wide spread infectious control measures. This will occur while cases are being investigated and diagnostic information is still incomplete.
- B. OPHP Administrators shall activate the MDCH-State Health Operation Center (SHOC) as necessary to meet local and healthcare response needs. The SHOC shall coordinate communication between federal, state and local communication partners, through pre-established list-servs and the OPHP, Michigan Health Alert Network (MIHAN).
- C. The MDCH Public Information Officer (PIO) shall triage media requests and serve as press briefing moderator. As moderator she/he shall set the ground rules and announce times for future media briefing, as needed. Early messages will focus on public isolation and hygiene as key containment measures.
- D. The MDCH PIO, MDCH Administrators, and other subject matter experts shall collaborate, as press releases and media statements are prepared. Subject matter experts will be drawn from: OPHP, Bureau of Epidemiology, Bureau of Laboratories, local public health and regional healthcare partners. As SARS materials are approved for clearance they will be made available to public health officials, healthcare providers and local partners through web postings and the MIHAN.

- E. The SHOC shall ensure that a rumor control function is established to correct false or erroneous information, limiting rebuttal to locations where the rumor is spreading.
- F. The lead program will identify public spokespersons for MDCH during the epidemic. Authorized public health spokespersons will be drawn from: Director of MDCH, Surgeon General of MDCH, Chief Medical Executive, State Epidemiologist, Director Office of Public Health Preparedness, Director of Bureau of Laboratories and Public Health Administration.
- G. The SHOC shall coordinate the development of fact sheets, FAQ's, patient information packets, health recommendations, case definitions, laboratory procedures and special instructions in collaboration with subject matter experts.
- H. MDCH has established a SARS website where information is posted for our clinical partners and the public. MDCH has the capacity to update the SARS site every two hours with fact sheets, FAQs, travelers' alert messages, and healthcare provider materials.
- I. MDCH shall collaborate with federal and local partners to ensure that health recommendations and emergency information is translated and prepared for special populations.
- J. MDCH has three emergency hotlines that will be activated as needed. Hotline numbers will be made available to designated audiences. MDCH shall provide appropriate staffing and telephones to handle incoming calls. The State pool of clinically trained personnel responding to SARS calls will include internal and external experts. The CDC Public Response Hotline Service can also be utilized by the public during a SARS outbreak.
- K. The MDCH PIO shall prepare final news releases and advise media representatives of points-of-contact for follow-up stories.
- L. Responding to a SARS outbreak can push the capacity of public health and healthcare facility to their limits. The social and psychological impact on responders can be substantial, both during and after the outbreak. Mental health counseling for staff where healthcare workers died and for hotline operators will be very important. State and local public health departments and hospitals can coordinate disaster mental health services with the Michigan Crisis Response Association, American Red Cross and Community Mental Health Agencies.

### **III. SARS Communication Response in a State Emergency**

Once widespread SARS has been verified, a full-scale communication response shall be launched.

- A. The Michigan State Police-Emergency Management Division (MSP-EMD) is responsible for direction of the Michigan Emergency Management Plan, the state plan that governs state agency response to all hazard emergencies. MDCH has an Emergency Management Coordinator (EMC) who serves as the department liaison to the MSP-EMD. This person is responsible for coordination of medical and public health response state or federal assets.
- B. The MSP EMD Public Affairs Officer takes the lead for state agency communication when the SEOC Joint Information Center (JIC) is activated. She/he shall assess staffing needs for extended hours/days and have designated

state agency Public Information Officers report to the communications command center.

- C. Once the JIC is activated, all media contacts and public information shall be handled through this center to ensure the distribution of consistent and accurate information. The JIC shall:
  - 1. Create and disseminate media advisories that provide information on the situation, major actions taken, information about SARS, public guidance, and local resources.
  - 2. Issue information updates and correct any errors and misperceptions experienced by the media and public.
  - 3. Coordinate daily or twice daily press briefings with public health spokespersons.
  - 4. Ensure that official state emergency websites are activated, including links to the CDCs SARS website and disseminate this information widely through the media.
- D. The MDCH PIO will be assigned to the SEOC-JIC to help launch full-scale communication activities during any public health or medical emergency.
- E. The MDCH SHOC shall be activated and work in concert with the SEOC-JIC. Together they shall utilize all channels of communication to disseminate SARS information, such as, hospitals, law enforcement, faith-based institutions, schools, local government, and other organizations.
- F. The MDCH SHOC shall coordinate with epidemiological and medical personnel, to obtain and track information daily on the numbers and location of new cases, new quarantined persons, and hospitals with SARS cases. The reports will be used to determine priorities among community outreach and educational efforts.
- G. The MDCH SHOC has contracts established to provide three emergency satellite uplinks to public health and healthcare partners.
- H. The CDC Field Communication Media Liaison may want to join the SEOC or SHOC to support communication activities.

## **Appendix 1**

### **Frequently Asked Questions**



## **SARS Frequently Asked Questions**

### **What is SARS?**

Severe acute respiratory syndrome (SARS) is a viral respiratory illness that was first reported in Asia in February 2003. In early March, the World Health Organization (WHO) issued a global alert about SARS. Over the next few months, the illness spread to more than two-dozen countries in North America, South America, Europe, and Asia. By late July, however, no new cases were being reported and the illness was considered contained. According to WHO, 8,098 people worldwide became sick with SARS during this outbreak; of these, 774 died.

### **What is the status of the SARS outbreak?**

On November 17, 2003 the Taiwan Center for Disease Control confirmed one case of SARS infection in a laboratory researcher who had been researching SARS. Control measures have been initiated. Travelers with fever will be restricted from leaving Taiwan. The SARS control level will return to zero if no new cases are detected. In the absence of SARS transmission, there is no need for concern about travel or other activities. We have learned a great deal about SARS that is helping us prepare for the possibility that it will return.

### **Who is at risk of being exposed?**

In most instances, SARS outbreaks were localized to specific communities and often to specific locations in the community. In Canada, most SARS cases occurred in Toronto, and in Toronto, most cases occurred in hospitals. Persons at risk in healthcare facilities included healthcare workers, patients and visitors. Exposure to SARS also occurred in households with SARS patients. In households, the greatest risk was to family members of SARS patients.

Community exposure outside of these settings was very rare.

### **What are the symptoms and signs of SARS?**

SARS symptoms include fever (100.4 ° F. or higher) and respiratory difficulties such as coughing, shortness of breath or other difficulty breathing. A SARS diagnosis is guided by a history of being exposed to SARS or to a setting in which the illness has been transmitted, such as a hospital, or being in close contact with ill persons who have recently been diagnosed with SARS.

### **How is SARS spread?**

The primary way that SARS appears to spread is by close person-to-person contact. The virus that causes SARS is thought to be transmitted most readily by respiratory

droplets (droplet spread) produced when an infected person coughs or sneezes. Droplet spread can happen when droplets from the cough or sneeze of an infected person are propelled a short distance (generally up to 3 feet) through the air and deposited on the mucous membranes of the mouth, nose, or eyes of persons who are nearby. The virus also can spread when a person touches a surface or object contaminated with infectious droplets and then touches his or her mouth, nose, or eye(s). In addition, it is possible that SARS-CoV might be spread more broadly through the air (airborne spread) or by other ways that are not now known.

**What does “close contact” mean in the context of the SARS outbreak?**

Close contact is defined as having cared for or lived with a person known to have SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a patient known to have SARS. Examples include kissing or embracing, sharing eating or drinking utensils, close conversation (within 3 feet), physical examination, and any other direct physical contact between people. Close contact does not include activities such as walking by a person or sitting across a waiting room or office for a brief time.

**If there is another outbreak of SARS, how can I protect myself?**

If SARS were to re-emerge, there are some common-sense precautions that you can take that apply to many infectious diseases. The most important is frequent hand washing with soap and water or use of alcohol-based hand rubs. You also should avoid touching your eyes, nose, and mouth with unclean hands and encourage people around you to cover their nose and mouth with a tissue when coughing or sneezing.

If I were exposed to SARS, how long would it take for me to become sick?

The time between exposure to the SARS virus and onset of symptoms is called the “incubation period.” The incubation period for SARS is typically 2 to 7 days, although in some cases it may be as long as 10 days.

**How long is a person with SARS infectious to others?**

Available information suggests that people with SARS are most likely to be infectious only when they have symptoms, such as fever or cough. However, as a precaution against spreading the disease, CDC recommends that people with SARS limit their interactions outside the home (for example, by not going to work or to school) until 10 days after their symptoms have gone away. Patients are most infectious during the second week of illness.

**What medical treatment is recommended for patients with SARS?**

CDC recommends that patients with SARS receive the same treatment that would be used for any patient with serious pneumonia. SARS-CoV is being tested against various antiviral drugs to see if an effective treatment can be found.

**What measures can be taken to contain a SARS outbreak?**

SARS can be controlled by rapid, appropriate public health action that includes surveillance, identification and isolation of SARS cases, infection control, intense contact tracing, and quarantine of persons who may have been exposed to SARS.

These measures can be a temporary inconvenience to those involved but are essential for containing SARS outbreaks.

**What is Michigan doing to combat this health threat?**

The Michigan Department of Community Health (MDCH) is working closely with physicians, local health departments and laboratories throughout the state to be on the lookout for potential cases of SARS. Increased surveillance is incredibly important in our efforts to detect suspect cases, investigate them and ensure that patients will be cared for properly with minimal risk to other individuals. Hospitals and health care providers throughout the state are prepared to follow the protocols and recommendations for care set by the CDC to ensure patient safety. Appropriate specimens from individuals suspected to have SARS will be collected and sent to the CDC. The MDCH continues to work with federal, state, and local health departments and other professional organizations to plan for a rapid recognition and response should SARS re-emerge.

**Who should be notified of a suspected case of SARS?**

Health care providers should contact their Local Health Department Communicable Disease Program if they suspect a patient has SARS. The local health department will notify the Michigan Department of Community Health (MDCH) who will in turn communicate with the Centers for Disease Control and Prevention (CDC) if necessary. Healthcare providers should not call CDC directly. Such calls to CDC are always referred back to the state health departments and often result in critical delays to appropriate public health or medical response to treat and/or contain the disease.

**Where can I get more information?**

For more information on SARS visit the Michigan Department of Community Health website: [http://www.michigan.gov/mdch/0,1607,7-132-2945\\_5104-63837--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2945_5104-63837--,00.html) or the CDCs SARS website [www.cdc.gov/ncidod/SARS](http://www.cdc.gov/ncidod/SARS).

**Appendix 2**

**SARS Suspect Illness Case Report Form  
United States Centers For Disease Control And Prevention**



**SARS SUSPECT ILLNESS CASE REPORT**  
**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
**Centers for Disease Control and Prevention**  
**Atlanta, Georgia 30333**

Date of Report (MM/DD/YY) \_\_\_/\_\_\_/\_\_\_

Name of person completing report \_\_\_\_\_ Title \_\_\_\_\_ Port of entry \_\_\_\_\_  
Phone number ( ) \_\_\_\_\_ - \_\_\_\_\_

Was State or Local Health Department contacted? Yes No

If yes, which health department? \_\_\_\_\_

Health Department Contact (list only one): \_\_\_\_\_

Phone Number ( ) \_\_\_\_\_ - \_\_\_\_\_

**Patient Demographic Information**

Patient name: First: \_\_\_\_\_ Middle: \_\_\_\_\_ Last: \_\_\_\_\_

Age: \_\_\_\_\_

Sex: Male Female (*circle one*)

Race: White Black Asian/Pacific Islander American-Indian/Alaskan Native

Other, specify \_\_\_\_\_

Ethnicity: Hispanic Non-Hispanic

Occupation:

Healthcare worker: Yes \_ No \_

Circle: Physician, Nurse, Phlebotomist, LPN, other (specify) : \_\_\_\_\_

***If not a healthcare worker***, list occupation: \_\_\_\_\_

City of residence: \_\_\_\_\_ County of residence: \_\_\_\_\_

State of residence: \_\_\_\_\_ Zipcode: \_\_\_\_\_

Country of residence: \_\_\_\_\_

Phone number: ( ) \_\_\_\_\_ - \_\_\_\_\_ circle: patient or caretaker/family member

Email address \_\_\_\_\_ Addition contact information (e.g., cell phone) \_\_\_\_\_

Passport Number or Resident Alien No. \_\_\_\_\_

Visa type \_\_\_\_\_

AIRLINE \_\_\_\_\_ FLIGHT NUMBER \_\_\_\_\_ SEAT NUMBER \_\_\_\_\_

INDIVIDUAL/GROUP/TOUR \_\_\_\_\_

**Illness History**

Date of illness onset (mm/dd/yyyy): \_\_\_/\_\_\_/2003

*Check all symptoms that are present below:*

\_ Temperature >38° C (100.4 °F) during course of illness

\_ Cough

\_ Shortness of breath/difficulty breathing

**Travel and Contact History**

Did patient travel to any of the following destinations within 10 days of symptom onset?

- No Travel       Unknown Travel History
- Hong Kong  
From: \_\_\_\_/\_\_\_\_/\_\_\_\_ to : \_\_\_\_/\_\_\_\_/\_\_\_\_
- Guangdong Province, People’s Republic of China  
From: \_\_\_\_/\_\_\_\_/\_\_\_\_ to : \_\_\_\_/\_\_\_\_/\_\_\_\_
- Other City/ State/Country \_\_\_\_\_  
From: \_\_\_\_/\_\_\_\_/\_\_\_\_ to : \_\_\_\_/\_\_\_\_/\_\_\_\_
- Other City/ State/Country \_\_\_\_\_  
From: \_\_\_\_/\_\_\_\_/\_\_\_\_ to : \_\_\_\_/\_\_\_\_/\_\_\_\_
- Other City/ State/Country \_\_\_\_\_  
From: \_\_\_\_/\_\_\_\_/\_\_\_\_ to : \_\_\_\_/\_\_\_\_/\_\_\_\_

In the 10 days before illness onset, did patient have close contact with any person under investigation for SARS?    Yes  No  Unknown

*Close contact is defined as caring for, living with or having had direct contact with respiratory secretions and body fluids of a person with respiratory illness.*

Name: First: \_\_\_\_\_ Middle: \_\_\_\_\_ Last: \_\_\_\_\_  
Type:  Household  Healthcare Worker  Other Work  Other \_\_\_\_\_  
Traveled to area with SARS transmission? Yes  No   
Phone Number: (    ) \_\_\_\_\_ - \_\_\_\_\_

Name: First: \_\_\_\_\_ Middle: \_\_\_\_\_ Last: \_\_\_\_\_  
Type:  Household  Healthcare Worker  Other Work  Other \_\_\_\_\_  
Traveled to area with SARS transmission? Yes  No   
Phone Number: (    ) \_\_\_\_\_ - \_\_\_\_\_

*Completed forms should be faxed to the CDC Emergency Operations Center at 770-488-7107.*