

**Vermont Department of Health
Severe Acute Respiratory Syndrome (SARS)
Preparedness and Response Plan**

PART 1: EXECUTIVE SUMMARY

I. INTRODUCTION

Purpose

On March 12, 2003, the World Health Organization issued a global alert for Severe Acute Respiratory Syndrome (SARS), a new infectious disease with the potential for spread from person to person and from continent to continent via rapid international travel. The World Health Organization and its partners, including the Centers for Disease Control and Prevention (CDC), promptly initiated an investigative and control effort that led to a series of containment efforts. By the time SARS transmission was brought to an end in July 2003, 8,096 cases and 774 deaths worldwide had been reported to the World Health Organization.

In the U.S. in 2003, 164 people met the CDC definitions as probable or suspect cases. Vermont investigated two suspect cases, both of whom have recovered. There were no SARS-related deaths in the U.S. and no evidence of community transmission. However, the SARS Coronavirus (SARS-CoV) probably still persists in one or more animal reservoirs in China and perhaps elsewhere, and has reappeared among humans in China in 2004 although no person-to-person transmission has been documented. For this reason the World Health Organization, the U.S. government and the states are making preparations to be ready to respond immediately and effectively to cases of SARS anywhere in the world.

The emergence of SARS provided a fresh illustration of the potential for a new disease to suddenly appear and spread, leading to widespread health, social, and economic consequences. SARS also demonstrated the power of traditional public health measures—including surveillance, infection control, isolation, and quarantine—to contain and control an outbreak. Although the United States had a limited SARS outbreak, it is clear that our population is susceptible to the more widespread outbreaks experienced in other countries. It is not possible to predict whether SARS will reappear in the U.S., but it could. To achieve the type of rapid and effective response that is required to control a SARS outbreak, we must be prepared.

The Vermont SARS Preparedness and Response Plan consists of four parts: (1) an executive summary; (2) a summary checklist of activities by alert level; (3) the interagency coordination plan; and (4) a set of appendixes containing the detailed Health Department operations plan. The purpose of this SARS plan is to describe the actions that are being taken to prepare the state's public health, health care, and public safety responders to quickly detect SARS and limit exposure to, transmission of, and death from the disease. It outlines the strategies and approaches that will guide the public health response to a SARS emergency in Vermont.

This plan will be updated regularly to reflect changes in federal guidelines and policies, upgrades in national and local capacities and resources, and current scientific knowledge.

Authority

Vermont’s plan is based on guidelines from CDC and is in accordance with applicable state laws. Vermont’s commissioner of health has the power and duty to supervise and direct the execution of all laws relating to public health. Vermont law requires health care providers, hospitals, school health officials, laboratories, and others to report diseases such as SARS to the Vermont Department of Health. The commissioner has statutory power to quarantine or isolate a person diagnosed or suspected of having a disease that is dangerous to the health of the population.

Description of Jurisdiction

Vermont is a small rural New England state, bordered on the south by Massachusetts, the east by New Hampshire, the west by New York and Lake Champlain, and on the north by the international border with the Canadian province of Quebec. Vermont is approximately 180 miles north to south and just over 90 miles east to west at its widest point, covering 9,250 square miles. The state is divided north to south by the Green Mountains, with few direct east-west transportation corridors.

Vermont’s population of approximately 620,000 is the second-smallest in the nation. The largest city, Burlington, has a population of 39,000. There is one Metropolitan Statistical Area centered on Burlington with a total population of about 165,000. Seventy-two percent of the population reside in rural communities. Montreal Quebec is the closest large city, with a population of 3.4 million people. An estimated 3.5 million tourists visit Vermont each year. Peak tourism seasons are summer and fall.

Vermont has a system of state and municipal government, but no county government.

Organization and Management

This plan is organized according to CDC guidelines and builds upon the strengths and current organization of Vermont’s system of local governance, community partnerships and public health, health care, and emergency response systems.

Vermont’s public health system is based on a centralized Department of Health and its laboratory in Burlington, with 12 district health offices located throughout the state. In each district office there are public health nurses trained in epidemiology who are linked directly with the central office. The Vermont Department of Health has strong and long-standing ties with hospitals, home health agencies and primary care providers statewide. There are 14 community hospitals, including Fletcher Allen Health Care in Burlington, which is the state’s only tertiary care facility. There are also tertiary care hospitals nearby in Lebanon New Hampshire and Albany New York, a Veterans Administration Hospital in White River Junction, and Retreat Healthcare, a psychiatric care facility in Brattleboro. There are 12 home care agencies which serve all 251 of Vermont’s towns. Each city and town in Vermont also has a town health officer appointed by the commissioner of health; most of these are part-time volunteers, and most are not trained medical professionals. The duties of a town health officer normally encompass rental housing health and safety standards, water system safety, and septic systems.

The Vermont Department of Public Safety, including the Division of Emergency Management, the State Emergency Operations Center, and Vermont State Police headquarters, are located in Waterbury. The state police force is organized into four Regional Terrorism Management Districts, each directed by a troop commander and containing one or more state police barracks.

Many fire and emergency medical services are provided through volunteer squads organized into 13 districts that roughly correspond to the county lines. Health Department directors of district health offices represent public health on 11 Local Emergency Planning Committees.

Vermont has a well-developed and practiced emergency management system, employing an Incident Command System (ICS) in an Emergency Operations Center to respond to any major emergency. The Vermont Department of Health is represented at the Emergency Operations Center and has primary responsibility for public health response and public health information. The Vermont Department of Public Safety (including the Division of Emergency Management and the Vermont State Police) has primary responsibility for managing emergency operations and logistics, and directing public safety and law enforcement response. Depending upon the situation, the Emergency Operations Center also includes representation from the Vermont National Guard, the Vermont Association of Hospitals and Health Systems, the Vermont Chapter of the American Red Cross, the Vermont Agency of Human Services, and other government departments and agencies.

II. SEVERE ACUTE RESPIRATORY SYNDROME

Disease Transmission

SARS is a serious, contagious, sometimes fatal disease caused by a newly-recognized coronavirus, which emerged in human populations in southern China in November 2002. “Coronavirus” is the group of viruses that cause the common cold. SARS spread to Hong Kong early in 2003, and from to Vietnam, Taiwan, Singapore, and Toronto, Canada. The total case-fatality rate was 9.6 percent; the case-fatality rate among patients over age 65 was 45 percent.

SARS is transmitted primarily through respiratory droplets (coughing, sneezing, etc.) and close personal contact. Close contact means having cared for or lived with someone with SARS or having direct contact with respiratory secretions or body fluids of a patient with SARS. Examples of close contact include kissing or hugging, sharing eating or drinking utensils, talking to someone within 3 feet, and touching someone directly. Close contact does not include activities like walking by a person or briefly sitting across a waiting room or office.

At this time there is no vaccine to prevent SARS. There is no proven treatment for SARS disease, but research to evaluate antiviral agents is ongoing. Patients with SARS can benefit from supportive therapy (intravenous fluids and medicine to control fever or pain) and antibiotics for any resulting bacterial infections.

The basic strategy that controlled SARS outbreaks worldwide was rapid and decisive surveillance and containment. The keys to successful implementation of such a strategy are up-to-date

information on local, national, and global SARS activity; rapid and effective institution of control measures; and the resources, organizational and decision-making structure, and trained staff vital to rapid and decisive implementation.

Characteristics of SARS

- **Incubation period:** Exposure to the virus is followed by an incubation period during which people do not have any symptoms and may feel fine. The incubation period for SARS is typically 2 to 7 days, although in some cases it may be as long as 10 days. In a very small proportion of cases, incubation periods of up to 14 days have been reported. During the outbreak of 2003, people who contracted the disease apparently did not infect others during the incubation period, that is, before symptoms appeared.
- **First symptoms** of SARS include fever, headache, and muscle aches or tenderness. After onset of fever, respiratory symptoms develop within 2 to 7 days. These include non-productive (dry) cough and shortness of breath or difficulty breathing. Most patients develop pneumonia. During this time, the person is contagious. These are also the common symptoms of ordinary flu and other respiratory diseases; they do not distinguish SARS. At this time there is no reliable test for SARS in its early stages.
- **Duration of infectivity:** Studies of the SARS outbreak in Taiwan estimated that the average time from hospital admission to discharge was 24 days. At this time, there is insufficient evidence to determine whether a SARS case-patient is still contagious for some period after symptoms have resolved. Current CDC guidance recommends that SARS patients continue to be isolated from the general public until their fever is gone and respiratory symptoms have resolved or are resolving, and for an additional 10 days after their symptoms have resolved.

SARS Vaccine

When this plan was adopted there was no SARS vaccine. As soon as a vaccine is available for use, this plan will be revised to incorporate a vaccination strategy.

III. SUMMARY OF VERMONT'S SARS RESPONSE PLAN

There are a number of different ways in which a suspected case of SARS could appear in Vermont. The following describes possible stages of a SARS outbreak affecting Vermont, and the critical actions that would be taken by medical, public health and public safety responders to prevent or limit the spread of the disease. This plan envisions a rapid, flexible response to a SARS event as it evolves.

The Health Alert Network, which has been in place in Vermont for several years, electronically links public health professionals at the local, state, and national level. CDC, state and local health departments are part of this network to quickly share critical information regarding serious threats to the health of the population. Health care providers in Vermont have been alerted to the possibility of SARS. Most have received basic education about how to recognize, triage, treat, and report suspected SARS cases.

The Vermont Department of Health serves as the lead agency for response to a SARS outbreak. Within the Health Department, the state epidemiologist is the primary source of medical information and the primary advisor to the commissioner of health regarding response activities.

- **Alert Level 0: No person-to-person SARS transmission confirmed in the world.** The Vermont Department of Health will continue preparedness activities in the areas of surveillance, recommendations to healthcare facilities, community containment measures including non-hospital isolation and quarantine, international travel-related transmission risk, laboratory diagnosis, public information and education.

- **Alert Level 1 (First Alert): Person-to-person SARS transmission confirmed somewhere in the world but not in Vermont.**

The Vermont Department of Health receives the first alert of person-to-person SARS transmission in the world via the Health Alert Network or the news media. This is not considered an emergency. During normal business hours and depending on the situation the health commissioner might give an informal notice to the governor and the secretary of human services, and they would decide who else should be notified. Again depending on the situation the State EOC duty officer might convene a telephone conference call including all State EOC participants for a briefing and planning session. Emergency response staff at the Health Department review and update pre-event plans and factual materials, evaluate staffing capacities, and intensify public information, education and training. The Health Department Epidemiology Field Unit notifies the 12 district health offices and selected health care providers. The goal of Alert Level 1 will be to increase the level of alertness among health care providers and to increase the level of readiness among all potential responders.

Once SARS transmission has been confirmed in the world the health department will remain at level 1 readiness until either there is SARS transmission in Vermont (Level 2) or until SARS transmission has ceased worldwide for the season. Typically that means after symptoms have resolved in the last known case, and two more incubation periods (20 days) have passed with no confirmed transmission anywhere. When there are no longer any active SARS cases and no SARS transmission for 2 incubation periods Vermont would drop back to Level 0.

- **Alert Level 2: SARS is confirmed in Vermont**
- **Level 2a: A small number of suspect cases of SARS are reported in Vermont and confirmed** (no in-state transmission). The Health Department Epidemiology Field Unit will probably receive notification of the first suspected case of SARS in Vermont from a physician or clinic. This is still not considered an emergency. During normal business hours the Epidemiology Field Unit duty officer initiates an investigation of the reported case. If the investigation determines that the patient meets the CDC case definition of a suspect or probable case, the Field Unit requests the patient to voluntarily isolate himself or herself from contact with others. The Health Department concentrates on surveillance, investigation, isolation and laboratory testing. The goal of Level 2a would be to prepare the Health Department and other responders for a possible high volume of cases.

- **Level 2b: Multiple probable or confirmed cases of SARS in Vermont, with an identified pattern of transmission and effective control measures in place.** Additional cases of SARS in Vermont are reported to the Epidemiology Field Unit via the 24/7 disease reporting hotline or through health department district offices. For each new case, the Epidemiology Field Unit repeats all procedures under Alert Level 2a, including isolation and contact tracing. Although multiple cases are not considered an emergency, the Health Department might need assistance to respond. If so, the state epidemiologist notifies the State EOC duty officer, who then makes further notifications and convenes the State EOC within 48 hours for a briefing and planning session. The State EOC begins to assemble resources that will be needed for a full response. If CDC recommends, or if local conditions warrant, the commissioner of health will impose voluntary or mandatory quarantine of contacts.
- **Level 2c: Multiple cases in Vermont without an identified pattern of transmission, or extensive transmission and ineffective control measures.** The commissioner of health requests the governor to declare a State of Emergency. Upon recommendation from the health commissioner, the State Emergency Operations Center provides support to regional referral hospital facilities and may open alternative containment facilities. Through the State Emergency Operations Center the Department of Public Safety will provide crowd control and will enforce isolation and quarantine orders if requested. The commissioner of health will decide whether to impose voluntary or mandatory quarantine, cancel public events, close schools, and restrict travel. All public health measures and public information operations continue until the SARS outbreak is ended and recovery is complete.