

# Epi Monthly Report

Office of Epidemiology and Disease Control



Miami-Dade County  
**HEALTH DEPARTMENT**

## Severe Acute Respiratory Syndrome (SARS) in Miami-Dade County

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### Introduction

A novel Coronavirus is believed to be the cause of SARS, the new respiratory illness that has affected many countries throughout the world. The illness appears to spread by close contact, such as between household members or patients with unprotected health care workers. SARS is believed to spread by droplet and contact transmission and it is also possible that it may be spread by air.

### Case Definition (as of 5/23/2003)

A person presenting with a respiratory illness of unknown etiology with onset since the provided dates (see table 1) is considered a suspect or probable case by three criteria (clinical, epidemiological, and laboratory):

- ◆ Clinical criteria involve a possible spectrum of respiratory illness. This includes a temperature of >100.4°F (>38°C) with one or more of the following: cough, shortness of breath, difficulty

breathing, or hypoxia.

- ◆ Epidemiological criteria cover areas with documented or suspected community transmission of SARS or close contact within 10 days of onset of symptoms with a person known or suspected to have SARS. For current travel advisories or alerts visit <http://www.cdc.gov/ncidod/sars/travel.htm>
- ◆ Laboratory criteria provide evidence for infection with the SARS-associated coronavirus (SARS-CoV). If a person meets the

**Table 1. Dates for Inclusion as reported case**

Area	First date of illness onset	Last date of illness onset
Mainland China	November 1, 2002	Ongoing
Hong Kong	February 1, 2003	Ongoing
Hanoi, Vietnam	February 1, 2003	May 25, 2003
Singapore	February 1, 2003	Ongoing
Toronto, Canada	April 23, 2003	Ongoing
Taiwan	May 1, 2003	Ongoing

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clinical and epidemiologic criteria, the person is considered a suspect case until laboratory results are provided.

A person who meets the epidemiologic criteria and has radiographic evidence of pneumonia or respiratory distress syndrome along with any of the other clinical presentations is called a probable case.

For a complete case definition, visit <http://www.cdc.gov/ncidod/sars/casedefinition.htm>

Healthcare workers should visit the following website for updated information (e.g., infection control, diagnosis).

<http://www.cdc.gov/ncidod/sars/clinicians.htm>

### SARS in Miami-Dade

On March 15, 2003, the Office of Epidemiology and Disease Control (OEDC) received a phone call from a local physician. An OEDC investigator gathered information on temperature, respiratory complaints, travel, and close contact to the suspect SARS case. OEDC consulted with the Bureau of Epidemiology in Tallahassee, and it was agreed that the case was a suspect case.

### Summary of cases

As of May 21, 2003, 14 possible SARS have been reported to OEDC. Of the 14, 7 have met the suspect case definition. Table 2 presents a general description of cases seen in Miami-Dade.

Of the seven suspect SARS cases, four of them showed negative laboratory results for SARS-CoV infection, thus removing them as a suspect SARS case as per the exclusion criteria by CDC. Of the four negative cases, only one did not have an acute test for SARS-CoV. Laboratory results for the remaining cases are pending.

All cases have completed their 10 days of monitoring, and three will be followed for convalescent testing.

### Miami-Dade County Health Department's (MDCHD) role in SARS investigation

MDCHD plays a crucial role in surveillance and investigation of local possible SARS cases. The primary role is to immediately respond, assess the case presentation, and assist the health care provider or resident with infection control measures and isolation.

**Table 2. Suspected SARS Cases in Miami-Dade**

Age	Fever Onset	Gender	Respiratory Symptoms	Travel	Hospitalized
22	3/11	F	Cough, nasal congestion	China	No
53	3/13	F	Cough, sore throat, runny nose	China & Hong Kong	No
72	3/20	M	Cough, difficult breathing	No	Yes
36	3/28	M	Cough	Singapore	No
23	4/1	M	Cough, runny nose	Singapore	No
4	4/6	M	Cough, SOB, nasal congestion	No	No
32	4/26	M	Cough	Canada	No



Even before Miami-Dade experienced its first suspect SARS case, information on SARS and reporting was faxed to health care providers in the community and surveillance was heightened. Other roles include arranging specimen collection, supplying materials (e.g., surgical mask, gloves), monitoring patient and close contacts, providing up-to-date information and fact sheets to patients and community, and communicating with the Bureau of Epidemiology.

To date, no report of documented or suspected community transmission of SARS has occurred in Miami-Dade or in the nation.

### **Obstacles**

As with any new disease affecting the world and our community, public health authorities have to impose certain disease controlling measures and guidelines. Even though individuals presenting with the disease in question might not see the need for specific measures, public health officials need their cooperation in order to limit the spread of disease. Early stages in the control of any new disease raise several obstacles.

Obstacles encountered by OEDC include:

- Initial unwillingness of some patients to cooperate with isolation.
- Specimen collection – patient/physician reluctance
- Changing guidelines
- Waiting time for results
- Reluctance of health care workers to see patients.

### **Infection control measures dealing with a possible SARS patient.**

#### **Inpatient setting**

- SARS screening at first point of contact.
- Institute immediate infection control precautions for patients who traveled to an area described in case definition or had close contact with a person with SARS and have fever or respiratory symptoms.

- Place surgical mask early during triage until the following are instituted:
  - \* Standard precautions and eye protection wear.
  - \* Contact precautions.
  - \* Airborne precautions:



- > Isolation room and use of N-95 disposable respirator for persons entering the room. If negative pressure room not available, place patient in a private room.
- > When respirator not available, HCWs should wear surgical mask.

- Contact health department.

#### **Outpatient setting**

- SARS screening at first point of contact.
- Place a surgical mask if SARS is suspected. If mask not available, patient should cover mouth with disposable tissue when coughing, talking, or sneezing.
- Separate patient from others as soon as possible, negative pressure room preferred.
- Wear N-95 respirators while taking care of patient. If N-95 respirator not available, wear surgical mask.
- Follow standard and contact precautions and wear eye protection for all patient contact.
- Contact health department.

#### **Health care workers who are exposed to a SARS patient**

#### **Unprotected high-risk exposure**

(Defined as presence in the same room with a patient with probable SARS during a high-risk aerosol-generating procedure, or if infection control precautions were absent or breached)



- HCWs should be excluded from duty for 10 days following exposure.
- Limit interactions outside of home.

### Other unprotected exposure

- Exclusion from work not necessary.
- Develop active surveillance for symptoms (e.g., measurement of temperature twice a day for 10 days).
- Prior to each shift, HCW should be asked about respiratory symptoms and have temperature taken by designated employee.
- Notify infection control or designee of an unprotected exposure to a SARS patient or if fever or respiratory symptoms develop.

### Protected exposure

- Be vigilant for fever (e.g., measurement of temperature twice a day for 10 days) and respiratory symptoms.
- Notify infection control or designee of fever or respiratory symptoms.

For more information visit <http://www.cdc.gov/ncidod/sars/exposureguidance.htm>

### Prevention

Careful hand hygiene is crucial, including hand washing with soap and water. As an alternative, alcohol-based hand rubs may be used.

The routine use of mask is not recommended for the general public (outside of the healthcare setting).

For more on specific and updated guidelines visit <http://www.cdc.gov/ncidod/sars/>



## Update: Severe Acute Respiratory Syndrome --- United States, May 28, 2003

*[ The following article was published on MMWR, a weekly publication by CDC (May 30, 2003 /vol. 52 / No. 21). The full article can be downloaded from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5221a4.htm>*

CDC continues to work with state and local health departments, the World Health Organization (WHO), and other partners to investigate cases of severe acute respiratory syndrome (SARS). This report updates SARS cases reported worldwide and in the United States and reports a seventh laboratory-confirmed U.S. case.

During November 1, 2002--May 28, 2003, a total of 8,240 SARS cases were reported to WHO from 28 countries, including the United States; 745 deaths (case-fatality proportion: 9.0%) have been reported (1). The 363 SARS cases identified in the United States have been reported from 41 states and Puerto Rico, with 297 (82%) cases classified as suspect SARS and 66 (18%) classified as probable SARS (more severe illnesses characterized by the presence of pneumonia or acute respiratory distress syndrome) (Figure, Table) (2). Of the 66 probable SARS patients, 43 (65%) were hospitalized, and two (3%) required mechanical ventilation. No SARS-related deaths have been reported in the United States. Of 66 probable cases, 64 (97%) were attributed to international travel to areas with documented or suspected community transmission of SARS within the 10 days before illness onset; the remaining two (3%) probable cases occurred in a health-care worker who provided care to a SARS patient and a household contact of a SARS patient. Since the last update, new cases of SARS have been reported in Toronto, Canada, and CDC has reissued a travel alert for Toronto (3). Consequently, the surveillance case definition continues to include cases in persons whose illness is consistent with the clinical criteria and began within 10 days of travel to Toronto (2).



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Serologic testing for antibody to SARS-associated coronavirus (SARS-CoV) has been performed for 32 (48%) probable cases and was positive for seven, six of which have been described previously as laboratory-confirmed cases. For one patient, a reverse transcriptase polymerase chain reaction (RT-PCR) assay detected SARS-CoV ribonucleic acid in a sputum specimen collected 14 days after illness onset (4,5); this patient subsequently had antibody to SARS-CoV. The seventh patient, a household contact of one of the six patients with positive serology, was reported previously as a probable SARS patient on the basis of clinical and epidemiologic criteria (4). Among the seven patients, four had positive serology on or before day 12 after onset of symptoms. The other three had negative serologic tests on day 4, 6, and 14, respectively, and a positive test in the next available serum sample on day 28, 25, and 41, respectively. Serologic testing has been performed for 111 (37%) suspect cases; antibody was not detected for any of those tested.

CDC measures SARS-CoV--specific total IgG, IgM, and IgA antibodies by both enzyme-linked immunosorbent assay (ELISA) and indirect immunofluorescence antibody (IFA) (6). A serum specimen is reported as positive when both tests are positive. Antibodies against other human and non-human coronaviruses do not react in these assays, and tests on sera from 384 persons without SARS-CoV infection all were negative. These findings indicate that SARS-CoV has emerged recently within the population and that the serologic methods are specific for detection of antibody against SARS-CoV and have a low false-positive rate.

Rapid identification of SARS-CoV as the etiologic agent of SARS and extensive international collaboration has aided in the development of this diagnostic test. Of the 66 probable SARS cases, convalescent serum has been collected for 40 (61%). Testing of convalescent serum is invaluable in confirming infection with SARS-CoV, and every effort should be made to obtain follow-up specimens >21 days after onset of illness.

**Reported by:** State and local health departments. SARS Investigative Team, CDC.

## References

1. World Health Organization. Cumulative number of reported cases of severe acute respiratory syndrome (SARS). Available at [http://www.who.int/csr/sarscountry/2003\\_05\\_28/en](http://www.who.int/csr/sarscountry/2003_05_28/en).
2. CDC. Updated interim U.S. case definition of severe acute respiratory syndrome (SARS). Available at <http://www.cdc.gov/ncidod/sars/casedefinition.htm>.
3. CDC. Travel alert reinstated: Toronto, Ontario, Canada. Available at [http://www.cdc.gov/travel/other/sars\\_can.htm](http://www.cdc.gov/travel/other/sars_can.htm).
4. CDC. Severe acute respiratory syndrome (SARS) and coronavirus testing---United States, 2003. *MMWR* 2003;52:297--302.
5. CDC. Update: severe acute respiratory syndrome---United States, 2003. *MMWR* 2003;52:357--60.
6. Ksiazek TG, Erdman D, Goldsmith CS, et al. A novel coronavirus associated with severe acute respiratory syndrome. *N Engl J Med* 2003;348:1953--66.

**TABLE. Number\* and percentage of reported severe acute respiratory syndrome (SARS) cases, by selected characteristics — United States, 2003**

Characteristic	Probable cases† (n = 66)		Suspect cases† (n = 297)	
	No.	(%)§	No.	(%)§
<b>Age (yrs)</b>				
0–4	8	(12)	45	(15)
5–9	1	(2)	13	(4)
10–17	4	(6)	9	(3)
18–64	39	(59)	206	(69)
≥65	13	(20)	21	(7)
Unknown	1	(2)	3	(1)
<b>Sex</b>				
Female	27	(41)	143	(48)
Male	39	(59)	153	(52)
Unknown	0	(0)	1	(0)
<b>Race</b>				
White	29	(44)	163	(55)
Black	1	(2)	7	(2)
Asian	28	(42)	97	(33)
Other	3	(5)	6	(2)
Unknown	5	(8)	24	(8)
<b>Exposure</b>				
Travel†	64	(97)	270	(91)
Close contact	1	(2)	23	(8)
Health-care worker	1	(2)	4	(1)
<b>Hospitalized &gt;24 hrs**</b>				
Yes	43	(65)	75	(25)
No	23	(35)	218	(73)
Unknown	0	(0)	4	(1)
<b>Required mechanical ventilation</b>				
Yes	2	(3)	2	(1)
No	59	(89)	288	(97)
Unknown	5	(8)	7	(2)
<b>SARS-associated coronavirus laboratory findings</b>				
Confirmed	7	(11)	0	(0)
Negative	29	(44)	111	(37)
Undetermined††	30	(45)	186	(63)

\* N = 363.

† CDC. Updated interim U.S. case definition of severe acute respiratory syndrome (SARS). Available at <http://www.cdc.gov/ncidod/sars/casedefinition.htm>.

§ Percentages might not total 100% because of rounding.

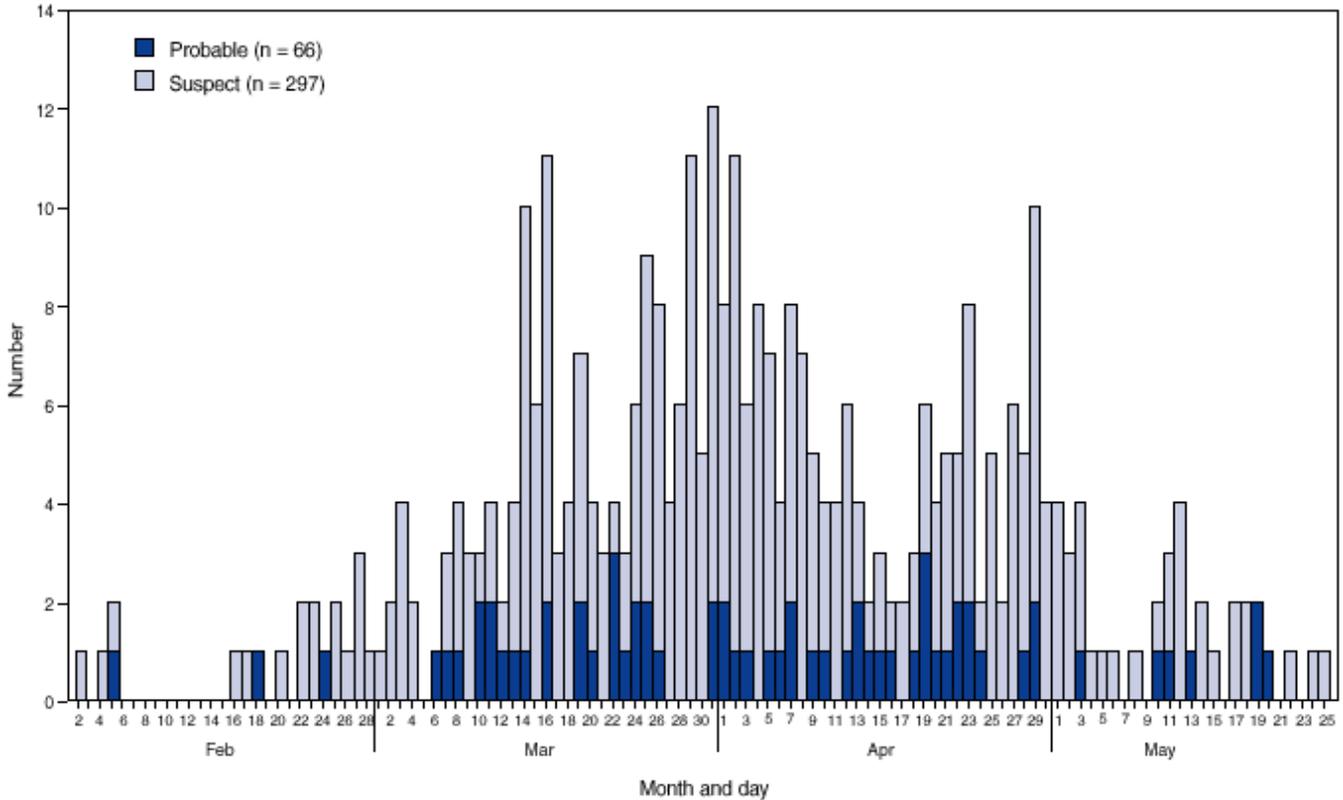
† To mainland China; Hong Kong Special Administrative Region, China; Hanoi, Vietnam; Singapore; Toronto, Canada; or Taiwan.

\*\* As of May 28, no SARS-related deaths have been reported in the United States.

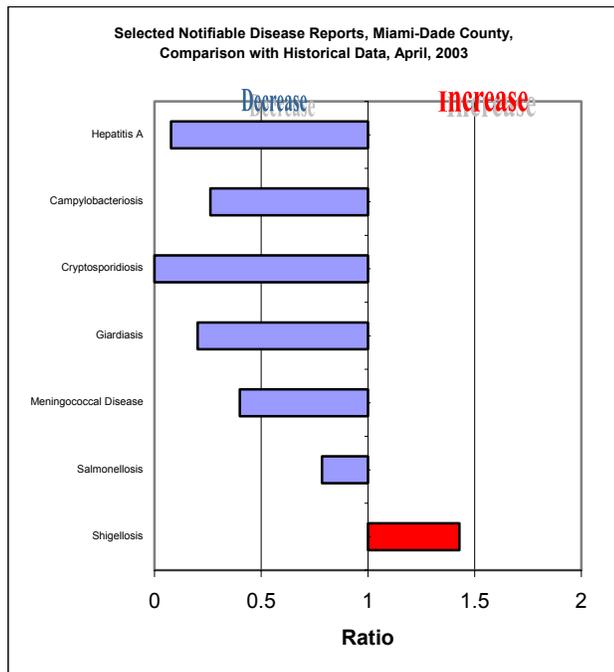
†† Collection and/or laboratory testing of specimens has not been completed.



**FIGURE. Number\* of reported cases of severe acute respiratory syndrome, by classification and date of illness onset — United States, 2003**



**Selected Notifiable Disease Reports, Miami-Dade County, Comparison with Historical Data, April, 2003**



\*Ratio of current month total to mean of 15 month totals (from previous, comparable, and subsequent month periods for the past 5 years).



**To report diseases or for information:**

Office of Epidemiology and Disease Control  
 Childhood Lead Poisoning (305) 623-3565  
 Prevention Program  
 Hepatitis (305) 324-2490  
 Other diseases and outbreaks (305) 324-2413  
 HIV/AIDS Program (305) 324-2459  
 STD Program (305) 325-3242  
 Tuberculosis Program (305) 324-2470  
 Special Immunization Program (305) 376-1976  
**Nights, weekends, and holidays (305) 377-6751**



Monthly Report  
Selected Reportable Diseases/Conditions in Miami-Dade County, April 2003

Diseases/Conditions	2003 this Month	2003 Year to Date	2002 Year to Date	2001 Year to Date	2000 Year to Date	1999 Year to Date
AIDS <sup>Provisional</sup>	80	386	416	474	538	562
Campylobacteriosis	9	37	29	31	20	27
Chancroid	0	0	0	0	0	0
<i>Chlamydia trachomatis</i>	212	1044	1505	1026	1105	1505
Ciguatera Poisoning	0	0	0	0	0	0
Cryptosporidiosis	1	4	1	7	1	3
Cyclosporiasis	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0
<i>E. coli</i> , O157:H7	0	0	0	0	0	0
<i>E. coli</i> , Other	0	0	0	0	0	0
Encephalitis	0	0	1	0	0	0
Giardiasis, Acute	11	40	52	62	4	17
Gonorrhea	91	501	698	538	751	1056
Granuloma Inguinale	0	0	0	0	0	0
<i>Haemophilus influenzae</i> B (invasive)	1	3	0	2	1	0
Hepatitis A	3	10	28	45	24	17
Hepatitis B	9	14	4	13	21	11
HIV <sup>Provisional</sup>	146	558	573	457	487	503
Lead Poisoning	10	52	62	61	142	84
Legionnaire's Disease	0	0	0	0	0	0
Leptospirosis	0	0	0	0	0	0
Lyme disease	0	0	0	0	2	0
Lymphogranuloma Venereum	0	0	0	0	0	0
Malaria	1	5	4	8	2	6
Measles	0	0	0	0	0	0
Meningitis (except aseptic)	1	2	3	2	9	4
Meningococcal Disease	1	3	6	5	7	4
Mumps	0	0	0	0	1	2
Pertussis	0	0	1	1	3	2
Polio	0	0	0	0	0	0
Rabies, Animal	0	0	0	0	0	0
Rubella	0	0	0	0	0	0
Salmonellosis	47	109	75	52	36	47
Shigellosis	45	101	61	28	26	36
<i>Streptococcus pneumoniae</i> , Drug Resistant	15	44	35	57	67	36
Syphilis, Infectious	15	60	60	62	48	24
Syphilis, Other	97	373	356	178	273	353
Tetanus	0	0	0	1	0	0
Toxoplasmosis	0	3	7	4	0	0
Tuberculosis <sup>Provisional</sup>	22	80	73	39	80	74

\* Data on AIDS are provisional at the county level and are subject to edit checks by state and federal agencies.

\*\* Data on tuberculosis are provisional at the county level.

