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Severe Acute Respiratory Syndrome (SARS)

SARS, or Severe Acute Respiratory Syndrome, has captured the attention of the entire world as a new, emerging viral infectious disease of the 21st century. SARS was first identified in March, 2003, by Dr. Carlo Urbani, a World Health Organization (WHO) infectious disease specialist. Dr. Urbani alerted the world to SARS when cases of an unusual and severe respiratory disease began appearing among health care workers in a French Hospital in Hanoi, Vietnam. These health care workers were treating a 48-year-old Chinese-American businessman who was admitted to the hospital on February 26th with fever and respiratory symptoms. His recent travel history included trips to Guangdong Province, Shanghai, and Macao SAR. By March 20th, at least 22 staff at the Hanoi hospital became ill with influenza-like symptoms. Twenty had signs of pneumonia, and two were in serious condition. The Chinese-American businessman died of SARS in Hong Kong on March 13th. Sadly, Dr. Urbani contracted the illness during his investigation of this disease and died of SARS on March 29th.

During November 1, 2002, to April 30, 2003, a cumulative total of 5663 cases of SARS, and 372 SARS-related deaths were reported to the WHO from 29 countries. 3460 of the total SARS cases and 159 SARS deaths were reported from China. The preliminary case-fatality rate for SARS is 6.5%. The updated interim U.S case definition of a suspect SARS case is respiratory illness of unknown etiology since February 1, 2003, with a measured temperature greater than 100.4° F AND one or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or hypoxia) AND travel (including transit in an airport) within 10 days of onset of symptoms to an area with documented or suspected community transmission of SARS (Mainland China; Hong Kong; People's Republic of China;

Singapore; Taiwan; Toronto, Canada and Hanoi, Vietnam) OR close contact within 10 days of symptom onset with a person known to be a suspect SARS case. A suspect case with radiographic evidence of pneumonia or respiratory distress syndrome or autopsy findings consistent with respiratory distress syndrome without an identifiable cause is a probable case of SARS. The CDC updated the SARS case definition to include laboratory criteria for evidence of infection with the SARS-associated coronavirus (SARS-CoV). In addition, clinical criteria have been revised to reflect the possible spectrum of respiratory illness associated with SARS-CoV.

The incubation period for SARS is typically 2-7 days; however, isolated reports have suggested an incubation period as long as 10 days. Initial clinical features of SARS are nonspecific. The illness begins generally with a prodrome of fever (>100.4°F [$>38.0^{\circ}\text{C}$]). Fever is sometimes associated with chills and rigors, and may be accompanied by other symptoms such as headache, malaise, and myalgia. At the onset of illness, some persons have mild respiratory symptoms. Typically, rash and neurologic or gastrointestinal findings are absent; however, some patients have reported diarrhea during the febrile prodrome. After 2-7 days, a lower respiratory phase begins with the onset of a dry, non-productive cough or dyspnea that may be accompanied by or progress to hypoxemia. Chest X-rays may be normal during the febrile prodrome and throughout the course of the illness. In some SARS patients, the respiratory phase is characterized by early infiltrates that progresses to more generalized, patchy, interstitial infiltrates. Early in the course of the illness, the absolute lymphocyte count is decreased and overall white cell counts are normal or decreased. Laboratory tests often show lymphopenia, mild thrombocytopenia, low-normal platelet counts and elevated liver enzymes.

For 2003 information on West Nile Virus, please visit the Genesee County Health Department website at <http://health.co.genesee.mi.us>, or call the Health Department at 257-3612.

The purpose of this quarterly newsletter is to inform the community and health care providers in Genesee County about disease trends in the county. We welcome any comments or questions. Contact:

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Visit our website at

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The Centers for Disease Control and Prevention (CDC) has sequenced the genome for the coronavirus believed to be responsible for SARS. The sequence data confirm that the SARS coronavirus is a previously unrecognized coronavirus, currently called SARS coronavirus, or SARS-CoV. Health experts believe the SARS coronavirus made the leap from animals to humans in the Guangdong province in China; the mechanism by which this occurred is not known. Knowing the etiology of this disease will help efforts to develop diagnostic tests, vaccines and antiviral drugs. Most SARS cases to date have occurred in young adults. This transmission pattern largely reflects the age of health care workers, their family members and social contacts, and international travelers. There have been reports that the SARS virus is less aggressive in younger children, resulting in illness with a shorter duration and faster recovery. Droplet and airborne transmission seems to be the most likely mode of transmission of the SARS virus. Other mechanisms, including indirect or environmental transmission of the virus, are being hypothesized to explain the spread of SARS in an apartment complex in Hong Kong.

In early stages of the illness, SARS may be hard to differentiate from other viral infections, and diagnostic delays may contribute to the spread of the disease within a community. Clinicians must maintain a high index of suspicion and be familiar with the rapidly changing epidemiology of this infectious disease. Initial diagnostic testing for suspected SARS patients should include chest radiograph, pulse oximetry, blood cultures, sputum Gram's stain and culture, and testing for viral respiratory pathogens, including influenza A and B and RSV. Clinical

specimens should be saved for additional testing until a firm diagnosis is made. Acute and convalescent (greater than 21 days after onset of symptoms) serum samples should be collected from patients who meet the SARS case definition. Paired sera and other clinical specimens should be forwarded to the CDC for testing. This should be coordinated through MDCH and GCHD. Clinicians evaluating suspected SARS cases should use airborne (e.g., N-95 respirator) and contact (e.g., gowns and gloves) precautions. The CDC also recommends wearing eye protection for all patient contact. There are no specific treatment recommendations for SARS at this time. CDC currently recommends that patients with SARS receive the same treatment that would be used for any patient with serious community-acquired atypical pneumonia.

There has been unprecedented cooperation between researchers around the world since SARS was identified by the WHO in early March. Many laboratories are working on various techniques to find a vaccine for SARS. By adopting strict infection control, isolation and quarantine measures, many countries have been successful in containing the SARS outbreak. Vietnam became the first country to be removed from the list of countries with local transmission of SARS. Effective April 30th, the WHO lifted the travel advisory for Toronto. Travel advisories for Mainland China, Hong Kong and Singapore remain in effect. As of April 28th, there have been 52 cases of probable SARS and 222 suspect SARS cases in the U. S. Most of the SARS cases in the U.S. have occurred among individuals returning to the U.S. from SARS-affected areas of the world. For daily updates on SARS, please go to the CDC (www.cdc.gov/ncidod/sars) and WHO (www.who.int/csr/sars/en/) websites.

Selected Reportable Communicable Diseases in Genesee County

Disease	Week ending 03/01/03	Reported cases to date FY* 2002-03	Same week reported cases to date FY 2001-02	Total reported cases FY 2001-02
Chicken Pox	3	121	170	318
Pertussis	0	0	0	3
Flu-like illness	1,252	27,497	29,094	49,047
TB-New cases	1	8	12	15
Chlamydia	0	984	1,117	2,142
Gonorrhea	0	666	918	1,794
Hepatitis B (Acute)	0	6	9	11
Hepatitis C (Acute)	0	7	8	11
Campylobacter	1	8	13	29
Giardiasis	0	11	17	29
Hepatitis A	1	9	5	9
Salmonellosis	0	5	16	33
Shigellosis	0	1	2	4
Meningitis-Viral	0	18	73	106
Meningitis-Bacterial	0	3	6	10