

## LEGIONELLOSIS - CANADA (ONTARIO): LONG-TERM CARE

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A ProMED-mail post <<http://www.promedmail.org>>

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From: Susan Squires <[susan\\_squires1@phac-aspc.gc.ca](mailto:susan_squires1@phac-aspc.gc.ca)>

Source: Jeannette Macey, Susan Squires, Ottawa, Public Health Agency of Canada, & Erika Bontovics, Toronto, Ontario Ministry of Health and Long-term Care [edited]

Since 2 Oct 2005, no new cases of FRI (febrile respiratory illness) have been identified in connection with a respiratory outbreak in a Toronto nursing home. A FRI case is defined as a resident, staff member or visitor with sudden onset of fever with malaise and/or anorexia, with or without runny nose and congestion or cough.

In total, 93 cases, including 16 deaths, have been identified to-date. The case breakdown is as follows: 70 residents, 16 staff and 7 visitors. All deaths have occurred in residents of the nursing home. Cases are rapidly improving upon initiation of antibiotic therapy.

Autopsy specimens were received from 7 patients through the coroner's office and tested by the Central Public Health Laboratory in Toronto. All were tested for *Legionella pneumophila* by DFA and culture. To-date specimens from 3 deceased patients are positive for *L. pneumophila*. Culture results on the other 4 deceased patients are pending.

While the media continues to give this outbreak substantial coverage, at this point the Ontario Ministry of Health and Long Term Care (MOHLTC) is considering the outbreak under control. The province of Ontario has ongoing surveillance of FRI in place in hospitals and residential institutions. All indications suggest that this outbreak is waning and there is no heightened risk to the general population. In response to the identification of *Legionella* bacteria in several cases, all staff and residents will be given antibiotic therapy.

As a result of this ongoing surveillance, outbreaks are regularly detected, especially during the influenza/respiratory season, which we are now entering in Canada. The 1st outbreak of laboratory-confirmed influenza for the 2005-2006 season was reported in a long-term care facility (LTCF) elsewhere in the country last week, and other common respiratory viruses are circulating as well. (see Canada's weekly FluWatch surveillance report at: <<http://www.phac-aspc.gc.ca/fluwatch/index.html>> )

In terms of the larger picture with respect to the respiratory [illness] season in Canada, we are likely to see many reports of respiratory outbreaks in nursing homes and other institutions. As is often the case, a proportion of these outbreaks may not have any identifiable etiologic agent. Using increasingly sophisticated molecular testing techniques, laboratory scientists are able to detect and identify previously unrecognizable pathogens, e.g. new coronaviruses and parvoviruses etc. As a result, appropriate risk

assessment is an important accompaniment to these reports, especially given the current wide media coverage of respiratory illnesses/outbreaks.

Toronto Public Health News Release:

<<http://wx.toronto.ca/inter/it/newsrel.nsf/bbe889573b1b4bc585256a9d00589271/63b4e996664a64d18525709200753944?OpenDocument> >

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[ProMED-mail would like to thank Dr. Squires and the Public Health Agency of Canada for sending this update on the outbreak in Toronto. The last paragraph is a very accurate and astute assessment of the situation most departments of health in the northern hemisphere are facing at this time of year and moving forward.

With the current concerns regarding when and where the next influenza pandemic will arise (and in the shadow of the SARS epidemic in 2002/2003), and on public health preparedness to both identify the onset of the pandemic early as well as to develop and implement control measures rapidly, there is a heightened focus of the media on coverage of outbreaks of febrile respiratory illness. This current outbreak came to the attention of the media because it was "different" from the majority of febrile respiratory illness outbreaks in long-term care facilities, and in fact, the etiologic agent turned out to be *Legionella pneumophila*.

We now await further information on the source of the infection. Outbreaks have been associated with cooling towers, whirlpools, spas, showers, and other sources of aerosolized warm water. - Mod.MPP]

**UNDIAGNOSED RESPIRATORY DEATHS - CANADA (ONTARIO) (03):  
LEGIONELLOSIS CONFIRMED**

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A ProMED-mail post <<http://www.promedmail.org>>

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Date: 6 Oct 2005

From: ProMED-mail <[promed@promedmail.org](mailto:promed@promedmail.org)>

Source: Globe and Mail [edited]

<<http://www.theglobeandmail.com/servlet/story/RTGAM.20051006.wdiseas1006/BNStory/National/>>

The disease that has killed 16 people at a Toronto nursing home has been identified. The current outbreak at the nursing home is likely Legionnaires' Disease, officials said Thu [6 Oct 2005].

3 of the 16 people who died at the 7 Oaks Home for the Aged tested positive for the pneumonia-type illness, Dr. David McKeown, Toronto's medical health officer, told a press conference on Thursday.

Dr. McKeown said there have been no new deaths since Wednesday and it appears that the cases have been waning.

The bacteria that cause the illness are found in water, the health officials said. Legionellosis is not an airborne disease, they said.

Toronto Mayor David Miller emphasized that the city's general population has never been at risk because of the outbreak.

"In identifying the source we are now able to move effectively to address it."

All 16 people who died of the respiratory illness that surfaced on 25 Sep [2005] were elderly, and frail from other medical problems. The latest victims were 3 men, who were 75, 84 and 89, and 3 women, who were 85, 92 and 96. In all, 70 residents were affected, along with 13 staff members and 5 visitors.

The name "Legionnaires' disease" came from an illness that swept through a convention in 1976 in Philadelphia. That convention was held by the American Legion of Pennsylvania. Eventually, the bacterium responsible for the disease was isolated and [called] "Legionella pneumophila."

Since the until-now mystery illness appeared, officials have taken pains to emphasize that it is in no way comparable to the severe acute respiratory syndrome [SARS] in 2003 that killed 44 people in the city.

On Thursday, Ontario Premier Dalton McGuinty issued a word of caution against those tempted to compare the death of the residents with the outbreak of SARS. Mr. McGuinty insisted that medical experts have concluded that the [bacterium] was contained and that it posed no threat of spreading.

The Premier insisted that there was nothing unusual about the recent outbreak which was not "dissimilar to what happens from time to time" in long term care homes.

Toronto's economy was hit hard following the SARS outbreak, as tourists stayed away in droves.

[Byline: Allison Dunfield]

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[In ProMED-mail post Undiagnosed respiratory deaths - Canada (ON)(02) 20051005.2908, Dr. Steve Berger mentioned: "Regarding the outbreak of respiratory illness at a facility for senior citizens in Ontario, legionellosis appears to have been discounted on the basis of negative urinary antigen tests. Most such tests are designed to detect only Legionella pneumophila serogroup 1. Additional procedures, such as culture and serology, should be performed in order to rule out other strains of Legionella."

From the above newswire, it appears that Dr. Berger's comment was right on target, and further testing of autopsy specimens confirmed Legionella as the etiologic agent of this outbreak.

Background information on legionellosis in Canada is available on the Gideon website: <<http://www.gideononline.net>>

[Cases reported in] Ontario (percent of total cases in Canada) 60 in 1991; 39.1 in 1992; 32.2 in 1993; 45.3 in 1994; 44.6 in 1995; 40.7 in 1996; 55.6 in 1997; 50 in 1998; 31.3 in 1999; 72.4 in 2000; 41.7 in 2001

Notable outbreaks [of legionellosis in Canada]:

1. Memish ZA, Oxley C, Contant J, Garber GE. Plumbing system shock absorbers as a source of Legionella pneumophila. Am J Infect Control 1992 Dec ;20(6):305- 9.
2. Loeb M, Simor AE, Mandell L, Krueger P, McArthur M, James M, Walter S, Richardson E, Lingley M, Stout J, Stronach D, McGeer A. Two nursing home outbreaks of respiratory infection with Legionella sainthelensi. J Am Geriatr Soc 1999 May ;47(5):547-52. [The outbreaks were in 1994.]
3. Abbas Z, Nolan L, Landry L, Galanis E, Egan C. Investigation of an outbreak of Legionnaires' disease in a hospital under construction: Ontario, September-October 2002. Can Commun Dis Rep 2003 Sep 1;29(17):145-52.  
- Mod.MPP]

#### LEGIONELLOSIS - CANADA (ONTARIO) (02): LONG-TERM CARE

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A ProMED-mail post <<http://www.promedmail.org>>

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Date: Sat, 22 Oct 2005

From: ProMED-mail<[promed@promedmail.org](mailto:promed@promedmail.org)>

Source: Edmonton Sun [edited]

<<http://www.edmontonsun.com/News/Canada/2005/10/22/pf-1273860.html>>

3 more people have died from an outbreak of Legionnaires' disease that investigators confirmed yesterday, 21 Oct 2005, originated in the cooling tower of a Toronto nursing home.

Toronto health officials said droplets were distributed into the air by the cooling system on the roof of the Seven Oaks Home for the Aged in the city's east end and then sucked into the ventilation system's air intake.

"The bacteria causing the disease were spread through a very vulnerable population of elderly residents with tragic results," Dr. David McKeown, Toronto's medical officer of health, told a news conference.

"From what we know at this point, there's no evidence that the cooling tower was not properly maintained."

The latest 3 people to die were all elderly residents of the home with a median age of 90 and pre-existing health conditions, officials said.

Health officials ordered the cooling tower shut down 6 Oct 2005 when the disease was detected, and McKeown said there's been no risk to the public since that time.

"This outbreak stands as one of the most significant events on record involving Legionnaires' disease and we will be very diligent in reviewing our work and identifying important lessons learned."

A separate, independent review of the outbreak is also being conducted by Dr. David Walker, who also chaired an expert panel on Toronto's deadly SARS outbreak 2 years ago. Walker will evaluate the city's response to the latest outbreak and determine whether lessons learned from the 2003 SARS outbreak were applied.

So far, 20 people -- all of whom were elderly with underlying health conditions -- have died as a result of the outbreak, which began late in September 2005. All told, there have been 127 cases of disease, including 67 residents, 30 staff and 26 visitors.

Another 4 people who live or work in close proximity to Seven Oaks Home for the Aged have also contracted the disease, likely infected by droplets that escaped the building through the cooling tower.

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[In total, this outbreak was substantial, not only in overall numbers but also in the number of deaths. It is always prudent to locate outdoor air intake vents appropriately far away from exhaust systems or anything that generates potentially infectious droplets. - Mod.LL]