

## LEGIONELLOSIS - NEW ZEALAND (04): INCREASED INCIDENCE

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

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Source: The New Zealand Herald, New Zealand Press Association (NZPA) report [edited]  
<[http://www.nzherald.co.nz/health/news/article.cfm?c\\_id=204&objectid=10742946](http://www.nzherald.co.nz/health/news/article.cfm?c_id=204&objectid=10742946)>

Health experts are baffled by New Zealand's accelerating rates of legionellosis -- the disease commonly known as legionnaires' disease.

A recently released report -- prepared for the Health Ministry -- revealed a 141 per cent rise in the number of cases of the illness reported between 2009 and 2010.

Historically the pneumonia-like infection has been caught by inhaling potting mix or exposure to contaminated water in plumbing systems, air conditioning units, or cooling towers. Of 178 reported cases of the disease in 2010 there were 5 related deaths and 136 hospitalisations.

The disease has continued to develop with 89 cases reported during the 1st 6 months of this year [2011]. At the same time last year [2010] 63 cases had been reported.

Symptoms included muscle aches, headache, tiredness, chills, shortness of breath, loss of appetite, coughing, and stomach pain.

Public health physician and University of Otago associate professor Michael Baker said he was surprised by the report's findings. "I'm a bit perplexed," he said. "There certainly is a big jump in 2010. It appears to be accelerating in the 1st 6 months of this year [2011] and requires more investigation."

Smokers and the elderly have a higher chance of contracting the disease, but the data did not strongly support this pattern, Dr Baker said. The report was prepared by the Institute of Environmental Science and Research -- the principal science advisor to the ministry.

Institute communicable disease scientist David Harte said he could not pinpoint any clear rationale for the rise, but a possibility could be global warming. "We don't know the reason for the increase. We are still trying to work that one out. [It may be] simply due to warmer weather -- or other seasonal factors we don't understand. Warm, humid weather will allow legionellosis to multiply and survive but we haven't got any hard evidence that this results in an increased incidence of the disease." The disease could not spread between people.

Patients became "accidental hosts" after being exposed to a contaminated environmental source, commonly compost or cooling towers, Mr Harte said. The Public Health Service recorded that 80 per cent of patients in 2010 had previously come in contact with compost or potting mix. Although compost

and potting mix were the most recognised source of the disease, tests on the patients' leftover compost sometimes showed no sign of the guilty bacteria, Mr Harte said.

"Occasionally when we test the [patient's] compost we don't find anything there, which suggests another environmental source." While compost and potting mix posed a real risk and health warnings on the products were not mandatory. Many suppliers labelled their product but were often vague about the associated dangers, Mr Harte said. The simplest way for gardeners to protect themselves was to wear a mask.

"Some labelling is a bit misleading. No one wants to sell a product that says it is a health hazard -- that's not a good marketing ploy.

"The common transmission route for the disease is breathing in dust or water aerosols contaminated with the bacteria. A face mask is a simple way to prevent this from happening." The ministry said revised guidelines for controlling legionellosis would be released this year [2011]. Gardeners would be alerted of the dangers of using potting mix, via media statements, following outbreaks, the ministry said.

Canterbury was worst hit by the disease in 2010 with 58 reported cases but it was not an outbreak but a lower "cluster" classification, Mr Harte said.

Although the disease was soaring, the death count was not at record highs, and Mr Harte recommended seeing a doctor if you suspected you were hosting the disease.

"There have been years where we've had 7 or 8 deaths. The death rates are usually higher if there has been no medical intervention. We get people who get sick and don't go to the doctor."

Communicated by: HealthMap Alerts via ProMED-mail <promed@promedmail.org>

[ProMED-mail reported 2 outbreaks of legionellosis this year (2011) in New Zealand, one in Marlborough and the other in Canterbury, both on the South Island (Legionellosis - New Zealand (03): (MA) 20110530.1658, Legionellosis - New Zealand (02): (MA) 20110525.1586, and Legionellosis - New Zealand: (CA) potting soil, alert 20110116.0189). The outbreak in Marlborough was attributed to aerosolization of *Legionella* from a cooling tower and the outbreak in Canterbury was attributed to aerosolization of *Legionella* from potting mix and compost.

Legionellosis is an infectious disease caused by a Gram negative bacillus of the genus *Legionella*. Legionnaires' disease is the acute pneumonic form of the disease; more than 70 per cent of cases are due to *L. pneumophila* serogroup 1, except in Australia and New Zealand, where *L. pneumophila* serogroup 1 has accounted for only 45.7 per cent of cases of community-acquired legionellosis, and *Legionella longbeachae* has accounted for 30.4 per cent of cases (Yu VL, et al: Distribution of *Legionella* species and serogroups isolated by culture in patients with sporadic community-acquired legionellosis: an international collaborative survey. J Infect Dis. 2002; 186(1): 127-8; <[http://www.legionella.org/lp\\_distribution.pdf](http://www.legionella.org/lp_distribution.pdf)>).

Pontiac fever is a non-pneumonic form of legionellosis that is less severe than legionnaires' disease. Pontiac fever takes its name from an outbreak in 1968 in Pontiac, Michigan, USA.

Legionnaires' disease and presumably Pontiac fever are acquired by inhalation of an infectious dose of aerosolized *Legionella*. Usually a building's contaminated water system is incriminated as the source.

*Legionella* are found primarily in the hot water portion of plumbing systems and in cooling towers. Water temperatures of 25-40 deg C (77-104 deg F) support the highest concentrations of the organism in water storage tanks of plumbing systems. Aerosolization of the contaminated warm water can occur in showers, spa pools, sprays in groceries, fountains, and cooling towers.

However, in Australia and New Zealand, legionnaires' disease has been associated with gardening and exposure to potting mix and compost; in these countries *L. longbeachae* has been commonly found in potting mix, compost, and soil, and cultured from the respiratory specimens of patients with sporadic community-acquired pneumonia. Cases of community-acquired pneumonia due to *L. longbeachae* also have been reported sporadically in Europe

(<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19497> and Legionellosis, fatal - UK (03): (Wales) 20101014.3725), the USA (ProMED-mail post Legionellosis, potting soil - USA: May-Jun 2000 20000904.1503), and Japan (Koide M, Saito A, Okazaki M, et al: Isolation of *Legionella longbeachae* serogroup 1 from potting soils in Japan. Clin Infect Dis 1999; 29(4): 943-4; <<http://cid.oxfordjournals.org/content/29/4/943.long>>). Non-sterilized potting soil apparently contains a mixture of bacteria and free-living amoebae and elevated storage temperatures may foster the intra-amoebic growth of *L. longbeachae* in the potting soil (Ross IS, Mee BJ, Riley TV. *Legionella longbeachae* in Western Australian potting mix. Med J Aust 1997; 166(7): 387).

The HealthMap/ProMED-mail interactive map of New Zealand can be accessed at <<http://healthmap.org/r/16OU>>. - Mod.ML]

[see also:

Legionellosis - New Zealand (03): (MA) 20110530.1658 Legionellosis - New Zealand (02): (MA) 20110525.1586 Legionellosis - New Zealand: (CA) potting soil, alert 20110116.0189

2010

Legionellosis, fatal - UK (03): (Wales) 20101014.3725

2006

Legionellosis, tourists - Malaysia 20061027.3064

2005

Legionellosis, potting soil - New Zealand (South Island) 20051027.3126

Legionellosis - Australia (NSW) 20050216.0526 Legionellosis, fatal, potting soil - Australia (VIC): 2004  
20050123.0250

2004

Legionellosis, potting soil - New Zealand 2003 (02): background 20040104.0033

Legionellosis, potting soil - New Zealand 2003 20040102.0014

2003

Legionellosis, potting soil - Australia (S.) (02): bkgrnd 20031230.3167

Legionellosis, potting soil - Australia (South) 20031229.3160

2002

Legionellosis, potting soil - Australia (NSW) 20020808.4988

2000

Legionellosis - Australia: background 20001226.2282 Legionellosis, potting soil - USA: May-Jun 2000  
20000904.1503] .....sb/ml/mj/lm