

LEGIONELLOSIS - SPAIN (05): MADRID

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A ProMED-mail post

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<[http://www.antena3.com/noticias/espana/quinta-victima-epidemia-legionella-madrid\\_2010111300001.html](http://www.antena3.com/noticias/espana/quinta-victima-epidemia-legionella-madrid_2010111300001.html)>

According to reports from the Madrid Health Council, last 1 Nov 2010, a person died in Madrid as a result of legionellosis, bringing the number of deaths to 5 since the onset of this outbreak, which has affected so far a total of 46 [other] people.

The 5th victim was an 87-year-old man whose symptoms began on 26 Oct 2010. He was admitted on 1 Nov 2010 in the emergency department at the Fundacion Jimenez Diaz and died the same day.

The epidemiological confirmation of this case was made on 8 Nov 2010, added the Health Council, which has sealed another 8 cooling towers due to high *Legionella* contamination, bringing to 12 the number of sealed towers. The 8 newly sealed cooling towers are located in Gran Via 29, Preciados 18, Jordan 11, Paseo de los Melancolicos 1, Arenal 4, Arenal 7; Puerta del Sol 11, and Peciados 32.

Of the 46 cases of legionellosis in the outbreak, 30 have been discharged, 7 remain hospitalized (including 4 in the medical ward and 3 in the ICU), and 4 have not required hospitalization. This is in addition to the 5 deaths recorded.

Of the 46 [surviving] cases, 2 have been recorded this week [week of 8 Nov 2010], one of them with symptoms since 8 Nov 2010, and the other since 26 Oct 2010.

From the moment when the outbreak was reported, the Madrid Health Council, according to the General Subdivision of Environmental Health intervention protocol for legionellosis, ordered the cleaning of all the towers that were inspected, and samples were taken from 179 of them. The council is awaiting more test results of the cultures taken during inspections and continues its inspection and control activities. To date, 736 inspections have been carried out. Of the culture results available, 122 have tested negative and 31 positive for *Legionella pneumophila* serogroup 1.

In addition, the protocol for control and monitoring of legionellosis in the community of Madrid remains active in order to further investigate the possible link between cases and the potential exposure to a common source of infection.

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[Legionellosis is an infectious disease caused by a Gram-negative bacillus of the genus *Legionella*, most commonly *Legionella pneumophila*. Legionnaires' disease is the acute pneumonic form of the disease. Pontiac fever is a non-pneumonic form of legionellosis that is less severe than Legionnaires' disease and develops from hours to 2 days after initial infection, with fever, malaise and muscle aches.

Legionnaires' disease, and presumably Pontiac fever, is acquired by inhalation of an infectious dose of aerosolized *Legionella*. Water temperatures of 25-40 C (77-104 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. Why some persons exposed to contaminated aerosols develop Legionnaires' disease and others develop Pontiac fever is unknown.

Genotyping *L. pneumophila* of patient and environmental isolates should be done to confirm epidemiologic linkages. Identical genotypes among patient isolates in an outbreak would suggest that there is a common source. However, in a recent legionellosis outbreak in Wales, UK, each clinical isolate was genetically distinct, which suggested that multiple sources were responsible (see ProMED post Legionellosis, fatal - UK (03): (Wales) 20101014.3725). Because *Legionella* species are commonly found in the environment even in the absence of illness, matching the genotypes of clinical isolates with those of possible environmental sources helps identify the environmental sources that have given rise to the cases.

Madrid is the capital and largest city of Spain. The population of the city is about 3.3 million (2009) and that of the metropolitan area (urban area and suburbs) is nearly 6.5 million. It is the 3rd most populous municipality in the European Union after London and Berlin (<<http://en.wikipedia.org/wiki/Madrid>>).

The HealthMap/ProMED-mail interactive map of Spain can be accessed at <<http://healthmap.org/r/01Dt>>. - Mod.ML]