

## LEGIONELLOSIS, FATAL - UK: (WALES) 2010 CLOSURE

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

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Source: BBC News Southeast Wales [edited] <<http://www.bbc.co.uk/news/uk-wales-south-east-wales-14373703>>

Investigators admit the cause of the outbreak may never be known. A fatal outbreak of Legionnaires' disease in the south Wales valleys may have been caused by "very unusual climatic conditions," officials say.

An 85-year-old man and a woman of 49 died, and 22 people needed hospital treatment after the 2010 outbreak.

No single source was identified for cases in the Cynon Valley, Merthyr Tydfil and Rhymney Valley areas. Dr Gwen Lowe, of Public Health Wales, said European research backed what began as a "purely speculative theory."

An investigation into the outbreak found 4 cooling towers tested positive for the *Legionella* bacterium but no single source was identified. The Public Health Wales' Outbreak Control Team report found some cases were linked to commercial and retail premises outside the affected areas, while an unregistered cooling tower in Merthyr Tydfil, which came under suspicion, tested negative.

The outbreak, which became known as the Heads of the Valleys outbreak, began on 3 Sep 2010 and went on until 12 Oct [2010]. It centred on a corridor 12km (7.5 miles) either side of the Heads of the Valleys road between Abergavenny in Monmouthshire and Llandarcy in Neath Port Talbot. A number of people living and working in that area reported flu-like symptoms, in some cases chest pain and vomiting, with the symptoms worsening over the course of a week.

A mother-of-2, age 49, from Rhymney in Caerphilly County, became one of 2 cases linked to the outbreak when she died in hospital on 12 Sep 2011. An 85-year-old man's death was also linked. 10 further people with the disease were investigated but their cases were not found to be linked; 2 of these patients -- a 70-year-old man and a 64-year-old woman -- died.

The outbreak control team included representatives from 8 local authorities, 2 local health boards, the Health and Safety Executive and Environment Agency Wales. At the time Public Health Wales described it as a very complex outbreak. Their report said it was extremely complex to investigate. More than 200 workplaces and other sites were sampled for the *Legionella* bacterium. The 58-page report called for more guidance on taking samples and collaboration between organisations tackling any future outbreak.

It said unregistered cooling towers "remain a problem in outbreaks" and called for councils to maintain their registers of these buildings.

Dr Lowe said only one case out of the 22 could be linked in microbiological terms to a specific source. She told Radio Wales that the theory about weather conditions might go some way to explaining the unusually high number of cases in a specific area. The climatic conditions at the time may have caused an overgrowth of bacteria in the area, infecting more and more people, she said. More weight had been given to it in light of research from the Netherlands, which showed that a spike in the number of cases can occur under certain climatic conditions, she said.

In 2008, a study by the UK Health Protection Agency found that there appeared to be an increase in cases of Legionnaires' disease following warm, humid periods.

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[This is the final report on the Legionnaires' disease outbreak that occurred in South Wales last year [2010] (see ProMED-mail post Legionellosis, fatal - UK (03): (Wales) 20101014.3725). The outbreak involved a total of 22 people. *Legionella pneumophila*, the cause of Legionnaires' disease, was grown from clinical specimens in only 7 of the 22 patients. Genotyping the *L. pneumophila* isolated from patients and environmental samples is done to help identify environmental sources giving rise to cases; however, in this outbreak each of the patient isolates was genetically distinct, which suggests that there was no common source at least for these 7 patients. The news release above says that 4 cooling towers tested positive for the *Legionella*, but only one case out of the 7 culture-positive cases could be linked in "microbiological terms" to these 4 culture-positive cooling towers. The news release does not specify if by "microbiological terms" they mean genotyping.

A map of in the South Wales Valleys where the Legionnaires' disease outbreak occurred is available at <<http://www.walesonline.co.uk/news/health-news/2010/09/11/new-cases-of-legionnaires-disease-hit-wales-91466-27248515/>>.

The HealthMap/ProMED-mail interactive map of the UK is available at <<http://healthmap.org/r/07gb>>. - Mod.ML]

[Photo of rooftop cooling tower:

[http://www.denverwater.org/docs/assets/42C53C80-D0B9-7C22-9809DA6725C2DC23/cooling\\_tower\\_dw1.jpg](http://www.denverwater.org/docs/assets/42C53C80-D0B9-7C22-9809DA6725C2DC23/cooling_tower_dw1.jpg) - Mod.JW]

[see also:

2010

Legionellosis, fatal - UK (03): (Wales) 20101014.3725 Legionellosis, fatal - UK (02): (Wales) 20100916.3352 Legionellosis, fatal - UK: (Wales) 20100914.3321

2006

Legionellosis, spa pool - UK: (Wales) 20060929.2787

2005

Legionellosis - UK (England) 20050906.2639

2004

Legionellosis, fatal 2003 - UK ex India: background 20040630.1736 Legionellosis, fatal 2003 - UK ex India  
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2003

Legionellosis - UK (West Midlands) (03) 20031126.2925 Legionellosis - UK (West Midlands)  
20031109.2778 Legionellosis, hotel - UK (England) 20030311.0599

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1999

Legionellosis - UK ex Thailand 19990422.0673] .....ml/ejp/jw