



RAPID RISK ASSESSMENT

Outbreak of Legionnaires' disease in a hotel in Calpe, Spain November 2011 – July 2012

Update, 4 July 2012

Main conclusions and recommendations

This is a further update of the risk assessment posted on ECDC's website on 4 June 2012; it is in response to eight new notifications of cases associated with a hotel in Calpe, in the province of Alicante, Spain.

According to the Spanish authorities, action has been taken, and the hotel is complying with all relevant regulations. All recent environmental samples taken from the hotel have tested negative, with the exception of one sample from the spa pool. However, the appearance of new cases of Legionnaires' disease indicates that an intermittent source of contamination is present in the hotel posing an ongoing risk of exposure to *Legionella* for hotel guests and personnel.

Link to the previous rapid risk assessment

- Rapid risk assessment: Outbreak of Legionnaires' disease in a hotel in Calpe, Spain, November 2011–January 2012, 6 February 2012.
http://ecdc.europa.eu/en/publications/Publications/1202_TER_Legionnaires_cluster_Spain.pdf
- Updated rapid risk assessment: Outbreak of Legionnaires' disease in a hotel in Calpe, Spain, November 2011–May 2012, 24 May 2012.
<http://www.ecdc.europa.eu/en/publications/Publications/1205-TER-Updated-Risk-assessment-Legionnaires-Spain.pdf>
- Updated risk assessment: Outbreak of Legionnaires' disease in a hotel in Calpe, Spain, November 2011–May 2012, 4 June 2012.
<http://ecdc.europa.eu/en/publications/Publications/1206-TER-Updated-Risk-assessment-Legionnaires-Spain.pdf>

Updated event background information

Since the publication of the last update, eight new confirmed cases of Legionnaires' disease associated with the hotel in Calpe have been notified. The eight new cases add to the 25 already known cases of the outbreak. Three Belgian and five Spanish citizens were afflicted, with dates of disease onset on 23 June (1 case), 25 June (3 cases), 28 June (2 cases), 29 June (1 case), and 3 July 2012 (1). They stayed in the hotel during varying periods between 10 and 28 June 2012. The age of the cases ranges from 52 to 86 years; the three women and five men stayed in different hotel rooms and on different floors.

Following the notification of the first two new cases from Belgium, an EWRS message was posted by the Spanish public health authorities on 2 July. This message states that stringent control measures were in place and that periodic inspections and sampling results so far had been negative for *Legionella*, with the last samples being

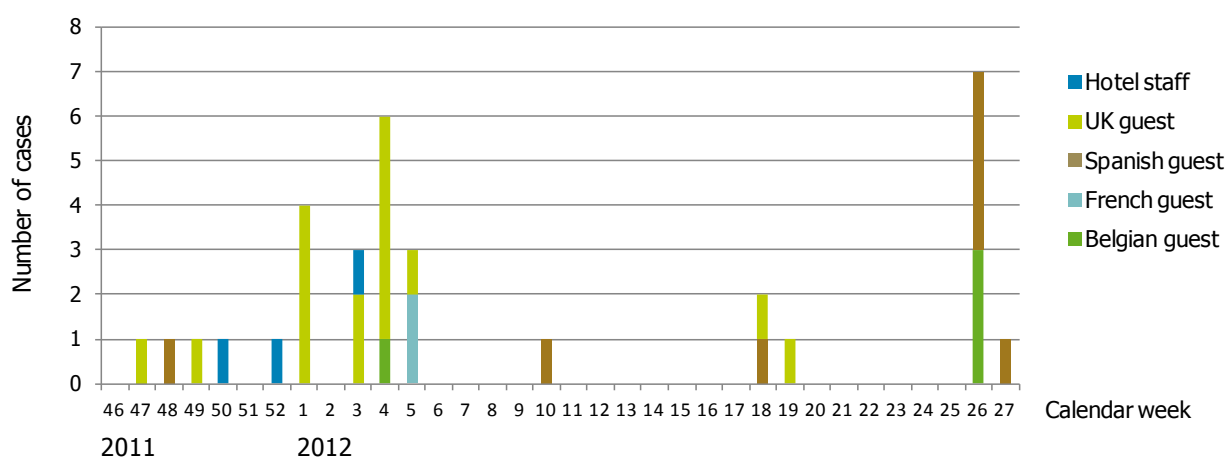
taken on 25 June. A report regarding an environmental site investigation was published together with the EWRS message. A second EWRS message, following reports of four other cases, was posted by Spain on 2 July, announcing the closure of the hotel as a precautionary measure. The hotel was closed on 3 July, and all guests were relocated.

One water sample, taken on 20 June 2012 from the spa pool water, was found positive in low concentration (different serogroup from cases with known strain) on 2 July. [1]

This is a local outbreak involving cases from three other EU countries. In this context, an epidemiological descriptive investigation was carried out and results were initially shared through EWRS (3 February, 8 February, and 10 February 2012) and an article in Eurosurveillance [2]. Updates on follow-ups regarding clusters, subsequent environmental investigations and control measures were shared with all EU Member States via EWRS on 22 May, 29 May and 2 July. These updates and environmental investigation's reports were also shared with ECDC and WHO.

Microbiological investigations have been hampered by a lack of clinical samples from cases, as the majority of cases were diagnosed by urinary antigen tests. Samples from three Spanish cases were analysed at the national reference laboratory. Three further samples were analysed at the regional lab, where all environmental samples have been tested. Two clinical isolates from UK cases were analysed in a UK lab showing the same typing results as the ones reported by Spanish laboratories.

Figure: Infections with travel-associated Legionnaires' disease in Calpe, Spain; number of cases by week of disease onset



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As all new cases are visitors of the hotel and no new cases have been identified in the community, all evidence points towards an intermittent source within the hotel or associated to a place or device mainly used by hotel guests.

Despite all control and preventive measures taken so far, these eight new cases strongly suggest that there is a source of *Legionella* contamination located inside the hotel. As most environmental samples from the hotel tested in June have been negative for *Legionella* colonisation, it is likely that a new or un-recognised source of infection is present inside the hotel. Ongoing in-depth investigations will hopefully provide information which will allow the regional and national authorities to narrow down the source of contamination.

Legionnaires' disease cannot be transmitted from human to human. The risk associated with any specific source is therefore likely to be limited to a population confined in time and space to an area with a device capable of producing an aerosol from contaminated water. The risk for guests has stopped since the hotel was closed on 3 July.

Conclusion

The new cases indicate a period of exposure of visitors and hotel staff to an intermittent source of infection, probably a device capable of producing an aerosol from contaminated water. It is therefore necessary to inform guests and staff about possible exposure and ask them to immediately seek medical attention should they develop symptoms suggestive of legionellosis; they should also mention the possibility of *Legionella* to the medical

attendant. Information is of utmost importance to enhance early diagnosis and treatment, since the disease is associated with a high case-fatality rate.

In view of this new cluster of cases of Legionnaires' disease, the Spanish health authorities have decided, in agreement with the management of the hotel, to close the hotel on 2 July as a precautionary measure. This action was taken despite the implementation of control measures, the mainly negative results for *Legionella* in environmental samples, and the hotel's compliance with all current regulations. For the time being, the risk of infection seems to have been removed.

Unless the source of the *Legionella* contamination is found and eliminated, the risk of future exposure cannot be ruled out. ECDC will be offering support to the investigations of the Spanish authorities to prevent further cases.

Finally, it needs to be recognised that despite the best efforts, *Legionella* spp. can be very difficult to eradicate from water systems, especially when for example dead legs of pipe work, resulting in stagnant water, are not identified [3].

Contact

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References

[1] Teleconference on risk assessment regarding the outbreak in Calpe, Spain, 3 July 2012.

[2] Vanaclocha H, Guiral S, Morera V, Calatayud MA, Castellanos M, Moya V, Jerez G, González F. Preliminary report: Outbreak of Legionnaires' disease in a hotel in Calp, Spain, update on 22 February 2012. Euro Surveill.2012;17(8):pii=20093.

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[3] Ricketts KD, Yadav R, Rota MC, Joseph CA, on behalf of the European Working Group for *Legionella* Infections. Characteristics of reoffending accommodation sites in Europe with clusters of Legionnaires' disease, 2003-2007, Eurosurveillance 2010; 15(40):pii=19680.

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