



## RAPID RISK ASSESSMENT

# Update - Outbreak of Legionnaires' disease in a hotel in Calpe, Spain November 2011 – May 2012 4 June 2012

### Main conclusions and recommendations

This further update of the risk assessment posted on ECDC's website on 24 May is in response to new information shared via the EWRS by Spain's Ministry of Health.

A possible source of infection for the three most recent cases with symptom onset at the beginning of May was the hotel spa. Environmental samples were taken by the Spanish public health authorities and recent typing results support this hypothesis.

According to the Spanish authorities, action has been taken and the hotel is complying with all the appropriate regulations. All recent environmental samples taken from the hotel, including the spa, have tested negative and the hotel therefore may not represent a significant risk for visitors at the present time.

Very stringent control measures are essential and these have been implemented at the hotel in order to prevent further cases of Legionnaires' disease.

### 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](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 event background information

The update of this risk assessment is occasioned by the results of the environmental samples being shared via the EWRS by Spain's Ministry of Health on 29 May 2012.

Since 16 December, 20 confirmed and two probable cases of travel-associated Legionnaires' disease (TALD) have been notified to the ELDSNet Surveillance Network. All travellers (sixteen residents from the United Kingdom, three from Spain, two from France and one from Belgium) stayed at the hotel between 8 November 2011 and 2 May 2012. Dates of disease onset range from 22 November 2011 to 11 May 2012. An additional three cases have been detected in hotel staff with disease onset dates of 20 December 2011, 1 and 21 January 2012, respectively.

All but two travel-associated cases have been confirmed by urinary antigen test or four-fold rise in antibody levels. Eight clinical isolates have been obtained (two in the United Kingdom and six in Spain). The isolates from the UK were found to be *L. pneumophila* serogroup 1, mAb subgroup 'Allentown/France', DNA-sequence type ST23. Typing results from Spain show three strains of the same type isolated from two travellers and one member of the hotel staff. The remaining three Spanish isolates are confirmed to be *L. pneumophila* serogroup 1, DNA-sequence type ST23.

This hotel was associated with a cluster in 2006 involving seven cases. No risk installations in the surrounding area, such as cooling towers, have been identified [1].

The regional health office and epidemiological department are leading investigations into this outbreak. A preliminary outbreak report was published in February 2012 [2].

The hotel was closed from 2-10 February 2012 for cleaning and disinfection and allowed to re-open, with additional measures being implemented to those recommended under current legislation, along with a control programme designed by regional public health authorities. These control measures included: daily determination of chlorine (in the tap water system) and bromine (in the spa) levels, measurements of pH and temperature in the hot and cold water systems, routine control inspections of working conditions, measurements taken by the public health authorities and water sampling on a regular basis.

On 8 May 2012, *Legionella* was identified in samples from the spa taken during a previous control inspection of the hotel on 2 May 2012. Further microbiological testing identified three different strains of *Legionella pneumophila* including DNA-sequence type ST23. The hotel spa was closed that same day and mechanical cleaning and chemical disinfection (hyper chlorination) of spa installations was carried out. After chlorine levels were verified to be above recommended levels, the spa was re-opened on 13 May 2012 and further samples were taken from the hotel on 18 May 2012, including the spa. Results from these most recent environmental samples are negative.

An independent evaluation of the hotel installations has also been carried out by a private company working with the main tour operator used by British citizens, to design an action plan for the facilities. This plan includes the technical inspection of the facilities, mechanical cleaning and chemical disinfection (hyper chlorination), an increased turnover of the water in the pool and installation of a second barrier in the form of an ultraviolet system with medium-pressure lamp to complement chlorine disinfection. The hotel has also agreed to carry out weekly 'shock treatments' of the installation.

## ECDC threat assessment for the EU

The update of the risk assessment posted by ECDC on 24 May indicated that in the absence of negative results from samples collected at the spa, the risk of new cases occurring could not be excluded.

Since samples from the tap water system have tested negative and samples from the spa collected in mid-May have also tested negative, the hotel may no longer represent a significant risk for visitors, provided that the control measures continue to be implemented.

## Conclusion

A possible source of infection for the three most recent cases with symptom onset at the beginning of May was the hotel spa. Environmental samples were taken by the Spanish public health authorities and recent typing results support this hypothesis.

According to the Spanish authorities, action has been taken and the hotel is complying with all the appropriate regulations. All recent environmental samples taken from the hotel, including the spa, have tested negative and the hotel therefore may not represent a significant risk for visitors at the present time.

Very stringent control measures are essential and these have been implemented at the hotel in order to prevent further cases of Legionnaires' disease.

## Contact

support@ecdc.europa.eu

## References

1. Teleconference 2 February 2012 with participation of United Kingdom, Spain (national and regional authorities), ECDC and representatives from tour operators.
2. Preliminary report: outbreak of Legionnaires' disease in a hotel in Calpe, Spain, update on 22 February 2012, Eurosurveillance. Volume 17, Issue 8, 23 February 2012.