



**Legionnaires' Disease Outbreak at the Luxor Hotel and Casino, Las Vegas, NV, 2011
Interim Report #4**

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INTRODUCTION:

Since our interim report #3, dated January 27th, 2012, the SNHD investigation and control team has continued to make considerable progress.

Epidemiologic Investigation:

A caller was referred by the SNHD Helpline to the Office of Epidemiology. This person had been an employee at the Luxor for 17 years and was actively employed at the time he became ill and was diagnosed with Legionnaires' Disease in December 2010. This person's illness was not reported to the SNHD when he became ill in 2010. Hospital records were reviewed and revealed that the individual had pneumonia in December of 2010 and had a positive urine antigen test for *Legionella pneumophila* serogroup 1. Staff interviewing the person could not establish a specific exposure to contaminated water at the Luxor within the 2 weeks prior to onset of illness.

The CDC laboratory received and tested fixed lung tissue and a clinical isolate from the December 2011 case. Both were positive for *Legionella pneumophila* serogroup 1. Monoclonal antibody testing was also completed. The results from the clinical and environmental specimens were compared and matched. DNA sequencing of the isolates will be performed by CDC next week.

Environmental Investigation

As of February 3, 2012, the Luxor Hotel Management completed their emergency disinfection procedures for the hot water systems that serve the all of the guest rooms in the pyramid. Emergency disinfection of the remaining two hot water systems that serve the guest rooms located in the tower section is scheduled to be completed by February 11, 2012.

The SNHD received final results from the sampling of the fixtures that occurred on January 17 in the room where the guest stayed. These samples indicated that *Legionella pneumophila* was present in the tub, shower and sink. The five isolates obtained from the environmental sampling

that occurred on January 11 and January 17 were sent to the CDC for molecular testing. All five isolates matched the monoclonal antibody pattern of the December 2011 case. Results from the DNA sequencing are pending.

Discussion:

The SNHD will continue to work closely with the Luxor Hotel management and continue enhanced surveillance and observation of the remediation and environmental sampling.

The matching of the monoclonal antibody patterns of the *Legionella pneumophila* isolates from the environmental sampling with the isolates from the case provides evidence that the case was exposed to *Legionella pneumophila* during their stay at the Luxor. Additional laboratory testing at CDC is pending.