Reviewer’s report

Title: Clinical features and predictors of mortality in community- and hospital-acquired Legionnaires’ Disease: A Danish historical cohort study.

Version: 1 Date: 13 February 2010

Reviewer: Francesco Castelli

Reviewer’s report:

The Authors investigate differences in 30 and 90 days case-fatality rates between community acquired and hospital-acquired Legionnaire’s diseases in 4 Danish counties over a 10 years period. The topic is relevant and may well be of interest to the readers of BMC.

The question posed by the Authors is well defined.

However, in my opinion, the following methodological issues are to be addressed by the Authors:

Minor essential revisions
- I feel uncomfortable with the case-definition of HALD and CALD. To my knowledge, incubation period of Legionnaires’ Disease ranges between 2-10 days. A 14-day period after discharge seems to be too long for a pneumonia to be considered as HALD. Please comment
- Equally, I feel uncomfortable with the definition of travel-associated LD for those cases whose admission occurred within a month from travelling.
- Hyponatremia was associated with a lower risk of death in CALD. The Authors suggest that earlier LD suspicion and treatment may be responsible for better outcome in these cases. However, it is not clear if this association with earlier specific anti-LD treatment was in fact observed in the study sample
- I believe that the definition of presumptive cases is important and should not be only left to a reference. What do the Author mean by “presumptive”? Which parameters are taken into account?
- No reference about the different distribution of “presumptive” cases among HALD and CALD is made in the article. Any difference in case-fatality rates?
- HALD was associated with higher mortality, which is not an unexpected result. How many HALD deaths were likely linked to LD? Which were the causes of the other deaths? Which co-morbidities?

Discretionary revisions
- Pag. 7: please clarify if the p-value < 0.001 refers to the difference in C-reactive protein, sodium level, potassium level or hemoglobin.
- Non-Danish patients were excluded?

Data provided are fairly sound and English writing if correct. Statistical analysis is
sound. However, no information is given about the distribution of cases among different counties and among different hospitals. Were cluster observed?

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interest