

## Reviewer's report

**Title:** A comparative epidemiologic analysis of SARS in Hong Kong, Beijing and Taiwan

**Version:** 1 **Date:** 19 November 2009

**Reviewer:** Mary-Louise McLaws

### Reviewer's report:

General: This paper aims to examine risk factors across three major populations who experienced the SARS outbreak. It is an excellent idea as it provides power to the analyses. In the main this is an excellent paper but I would like to see several major issues to be considered by the authors to strengthen the paper.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Methods.

- The Beijing data were redefined in a 2007 publication (Liang et al Public health 2007 Oct;121(10):725-33) according to the WHO definition with 2443 cases reduced to 1862 cases with age, sex, residential, date onset or admission etc.

Q1. Do the 917 cases used in this paper fulfil the WHO case definition? If this cannot be achieved please indicate in your methods the change in the number of cases (Liang et al 2007) this limitation to your dataset.

- In the Methods section the source of Beijing and Taiwan data is not explicit.

Q2. Can the authors include in the Methods section the source of the Beijing and Taiwan data?

- The authors have stratified their tables by three geographic region assuming that the data within each region is not confounded by (i) method of acquisition or (ii) time of acquisition.

(i) In Hong Kong the epidemic was introduced into the community by the index case (AA) but then the outbreak differed with a large proportion of cases being acquired occupationally and environmentally. The authors have already considered healthcare workers (i.e. occupational acquisition) as a potential confounder. But the effect of the other method of acquisition (environmental) may also be a confounder. 18% of cases acquired SARS from the Amoy Garden environmental outbreak from the index case (YY). YY was potentially discharged from hospital on 19th March (with SARS) and experienced diarrhoea at Amoy Gardens 19th March with the majority of the subsequent cases presenting with diarrhoea (66%) and other signs/symptoms between March 24-26, 6-11 days (mode at March 24) after YY experience diarrhoea in his brother's apartment. This could suggest there had been a change in presentation of the disease, duration of disease and possibly the incubation period etc.

Q3. Is Amoy Garden acquisition a confounder and if so alter the tables to include

this?

(ii) The three Beijing hospitals represent patients from different stages of the epidemic (hosp 309 – early phase with a CFR of 12.5% for patients with rapid onset of symptoms; hosp 302 April onwards CFR 6.1% and XTS Hosp may onwards CFR 1.2% for patients with rapid onset of symptoms).

Q4. It was not clear whether the authors have controlled for hospital when presenting Beijing data as an aggregate?

- The titles of the tables suggest the odds ratios were adjust. Which variables each geographic location controlled for is not clear as hospital acquired SARS (admitted before symptom onset) was a significant risk factor for Taiwan.

Q5. Please change OR to AOR and list in the Methods section the variable controlled for as well as at the foot of the tables clarifying where a variable was controlled for in one location but not another.

- In the tables the authors have used 41-50 years of age as the reference group with neither the highest or the lowest CFR

Q6. Please include for the readers in the Methods section the rationale for this choice?

- Results for incubation period is given as 95th percentile

Q7. Can the authors also provide 25th, 50th and 75th percentiles in the text?

I would appreciate leaving a review of the Discussion until the authors have considered Q1,3,4.

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests