Reviewer's report

**Title:** Mortality and cause of death in hip fracture patients aged 65 or older - a population-based study

**Version:** 4  **Date:** 8 October 2010

**Reviewer:** Jian Sheng Chen

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The authors should try to address a couple of issues in the manuscript:

1. My major concern is still related to proportional hazard (PH) assumption. Testing of PH assumptions using Kaplan-Meier curves gives only a rough guide. One of formal PH assumption tests is to include time dependent covariates in the Cox model which can be founded in http://www.ats.ucla.edu/stat/sas/faq/test_proportionality.htm. This is an important issue for the study because:

The authors reported that based on a Cox’s proportional hazards model HR of death for men compared to women after a hip fracture was 1.55 (95% CI: 1.21 to 2.00, P<0.001) at the end of the follow-up (last paragraph, page 9). This implied that the HR of 1.55 was for the entire follow-up period. At the same time they also reported the HR of 2.12 (95% CI: 1.12 to 4.01, P=0.02) for the period of 1st day of a hip fracture to 30 days after the fracture based on another Cox’s model. So, which HR for the first 30 days after the fracture shall a reader believe?

2. The finding of higher risk of death in men compared to women after a hip fracture might not add much to the literature since this was also the case in the general population. It would be more interesting to know whether increased risk of death due to hip fracture was higher in man than in women. This might be assessed by calculating RRs of death for persons with hip fracture to persons in the general population by gender and comparing the two RRs.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

I declare that I have no competing interests