Reviewer's report

Title: Helicopter Emergency Medical Services (HEMS) over-triage and the financial implications for major trauma centres in NSW, Australia

Version: 1 Date: 15 October 2012

Reviewer: Bryan Bledsoe

Reviewer's report:

Major Compulsory Revisions

Page 2 (Abstract) “HEMS over-triage was estimated based on injury severity (ISS#12 or #15) and hospital length of stay (LOS<24hrs).” This does not make sense. The American College of Surgeons lists minor injuries as ISS < 15. How can you have both # 12 and # 15?

Page 3 (Introduction) “NSW trauma centres (referred to as major trauma centres) receive proportionally higher volumes of trauma and currently admit more trauma patients than any other state/territory in Australia [4].” This needs to be better defined. Does NSW have more trauma patients than VIC, SA, or QLD because there is a greater population in NSW or is the number truly greater proportionally (number of trauma patients per population). Please clarify.

Page 6 (Methods) The use of two definitions of severe injury is certainly confusing and a limitation of this paper.

Page 8 (Results) Need 95% confidence intervals for patient characteristics.

Page 9 (Results) Because this will be an international paper, clarify that monetary values are in Australian Dollars. Confidence intervals also needed.

Page 9 and 10 (Cost variance) The authors need to complete the necessary statistical tests two show the comparative values are statistically significant based upon the alpha value chosen.

Page 13 (Conclusion) Needs confidence intervals.

Summary

Overall, this is a good paper addressing a valuable issue. The state of NSW is certainly similar to other modern EMS systems. In comparison to the United States, the NSW populace generally does not have to pay for HEMS while US residents do. That said, there is applicability to trauma systems worldwide.

The biggest limitation of this paper is the statistical analysis. The presented percentages and differences require the necessary statistical analyses to determine whether the findings and differences are significant or just due to chance. It is unclear from reading the paper whether patients with ISS scores
between 12 and 15 (which can be a large number of patients in our trauma system) are included in this analysis. This is one of the biggest criticisms of this paper. If NSW uses # 12, then use that despite the national use of # 15

**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, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

No competing conflict of interest