Reviewer's report

**Title:** Incidence and costs of bleeding-related complications in French hospitals following surgery for various diagnoses

**Version:** 5  **Date:** 27 October 2012

**Reviewer:** Darryl T Gray

**Reviewer's report:**

This is a further improved, (re-) re-revision of a manuscript on a study of hospital costs and prolonged length of stay associated with transfusions and bleeding consequences seen in French surgical inpatient stays. It addresses an important issue and provides useful and interesting new data. Several previously raised issues have now been better addressed. However, some clarifications should still be made.

Specific comments follow. Those which reflect issues that were at least partially raised in prior reviews are enclosed in starred brackets, i.e., *[ ]*:

Major Compulsory Revisions (issues that need to be addressed in some fashion. Revisions to the analysis itself may or may not be required.)

**TEXT**

1. *It appears that *billed* physician fees (rather than those actually paid or expected to be paid) were included in private sector hospital” costs”. Was this also included in public sector hospital “costs”? If not, this systematic difference and its potential effect on study results should be more fully discussed.]*

2. *Why didn't the analysis address possible clustering by hospital (which may reflect case-mix, propensity to transfuse, etc)? It appears that hierarchical modeling using generalized estimating equations or other approaches were not considered as a way to adjust for clustering of cases within hospitals. Can the authors explain why not more extensively than was done in the cover letter? If a given hospital had generally higher costs, and, as an independent issue, had more bleeding complications, then some of the cost difference attributed to bleeding would actually be due to hospital characteristics. The potential implications of this should be discussed.]* If nothing else, a discussion of observed clustering of costs and of bleeding by hospital is warranted *

3. *Given the potential for non-Gaussian distributions of hospital costs and/or LOS, the skewness of the cost and LOS data should be described. Given recent work done on handling non-Gaussian distributions of hospital costs, SOME discussion, based on papers published more recently that 2000, is still warranted. The ways in which non-Gaussian distributions of hospital costs were
accounted for in the regression analyses should be better described.]*

4. *[It is still unclear how or why LOS and costs were adjusted for age, gender, # of procedures, etc. for the bleeding complications group. It is still unclear if or why adjusted costs and LOS were not calculated for cases without bleeding.]*

5. It is possible that, in total, the failure to adjust for clustering within hospitals and the (apparent) failure to transform skewed cost and LOS data together represent flaws that should perhaps lead the authors to more clearly label their results as pilot work that should be extended in other analyses before any real conclusions can be drawn.

Minor Essential Revisions:

1. In the abstract and text, please clarify that “DRGs with 10% or more of WB patients” (presumably) means “DRGs where 10% or more of the patients in the DRG had bleeding”.

2. *[Handling of inpatient deaths during stays of less than 2 days should be better clarified. It is unclear to this reviewer what the passage: “All hospitalisations extended to at least 2 nights. Shorter hospitalisations were less documented and did not included [sic] inpatient deaths.” actually means.]*

3. *[Again, what does the word “tariffs” mean as the term is used in this context?]*

4. Shouldn’t the passage “cases with fewer transfusions” (last paragraph Page 11) actually refer to “WoB patients”?

5. What is the denominator for the “25.2%” (first paragraph Page 12)? This a result anyway.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests