Reviewer's report

Title: Impact of Bleeding-related Complications and Blood Product Transfusions on Hospital Costs in Inpatient Surgical Patients

Version: 2  Date: 2 July 2010

Reviewer: Veerasathpurush Allareddy

Reviewer's report:

The authors need to address the following “Major Compulsory Revisions” -

1. In the materials and methods section of the manuscript, the authors mention that PCD database is the largest source of inpatient clinical, drug utilization, and cost based economic data in the US. Is the PCD database larger than the Nationwide Inpatient Sample (NIS) of the HCUP? The obvious benefit of using the PCD database is that it provides information on drug utilization which is lacking in the NIS data. However, I am not sure if the PCD is larger than the NIS database in terms of the sample size.

2. Is the PCD data nationally representative? Are sample weights available to project the estimates to nationwide levels? It would be beneficial if the authors could elaborate more on these in the methods section.

3. From the methods section, I get an impression that the unit of analysis was the individual discharge (patient level). The multivariate regression analysis for costs was conducted by using the ordinary least squares approach. How did the authors adjust for the effects of clustering of outcomes of patients within hospitals? Did the authors consider the possibility of using Generalized Estimating Equations methods to adjust for the same?

4. Several co-morbid conditions were included in the multivariate regression analysis. What was the rationale behind including these conditions in the multivariate model? It would be helpful if the authors mention about this in the methods section.

5. The authors mention that length of stay in hospital and in the intensive care unit are outcome variables along with hospital costs. How was the length of stay distributed in this data? Why was a regression analysis not performed for identifying factors associated with length of stay?

6. Are the statistically significant number presented in Table 4 clinically meaningful? Considering the huge sample of the database, it is not too surprising that some numbers were statistically significant.

7. The authors mention in the discussion section that certain covariates not included in the analysis (because of lack of their availability in the database) could influence costs. It would be helpful if the authors discuss in more detail about the possible covariates that could influence costs.
8. While the effects of presence of co-morbid conditions were adjusted in the analysis, could the severity of the co-morbid condition influence outcomes? Is the severity information available in the database?

Minor Essentional Revisions -
1. The title of the study starts with the term “Impact”. Does the current study actually examine the “Impact” or “Association” of bleeding related complications with the outcomes?

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

**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