Author's response to reviews

Title: The impact of ICU format change on the outcome of high risk surgical patients: a cohort analysis

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Author's response to reviews: see over
Ms. Aguera-Gonzalez, Executive Editor in training, BMC Surgery
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PO Box: WC1X 8HB, United Kingdom.

Ms. No.: 4063437234011717 “The impact of ICU format change on the outcome of high risk surgical patients: a cohort analysis”

April 13, 2011

Dear Ms. Aguera-Gonzalez

In response to your email we received on March 23, 2011, I am sending you the revised version of the above manuscript. Enclosed with this letter we have provided details about how we have addressed the comments of the reviewers.

Two copies of the manuscript were sent electronically. One copy is a clean copy of the manuscript. In the second copy we have indicated with marginal notes where changes have been made.

We hope you agree with our changes and that the revised manuscript is now suitable for publication in BMC Surgery.

On behalf of the authors,

Yours sincerely,

Fabian van der Sluis
Editorial points:

1. As mentioned in our methods section the study received internal review board exemption status because it was conducted in an existing hospital complication database and data were not reducible to individual patients. We added the name of the local board.
2. An explanation was added to the introduction with regard to “open” and “closed” format ICU organization.
3. We elaborated in our limitations section on the fact that the comparison was conducted in different time periods.

Referee 1:
Detailed information was added to the hospital and ICU characteristics section with regard to changes that were made after format change. Information was added about responsibilities of staff, the introduction of daily rounds, the introduction of multidisciplinary meetings and the emergency intervention team.

Referee 3:
1. Indeed we agree with the referee in that we overstated our conclusion. We have therefore adjusted it accordingly
2. The IRIS score was validated on our population of surgical patients and is strongly related to mortality and morbidity. However we agree that this is not the focus of the current paper and have therefore omitted the part about the IRIS score from the discussion.
3. We further attempted to improve our limitations section by adding a section on the improvements of medicine / surgical technique and technology. These improvements are likely to have caused a general temporal trend in mortality. Our study design does not allow us to distinguish between this general trend and mortality reduction caused by format change. We acknowledge this and added this part to our limitations section.

Specific comments by referee 3:
1. We agree and therefore removed this statement from the introduction
2. In this sentence “structural change in perioperative management” refers to all kinds of changes in perioperative management (see references with regard to: perioperative fluid optimization, goal directed therapy, fast track principles). It is meant to illustrate the potential importance of changes in perioperative management. After this sentence we narrow the introduction down to ICU format. Should the editor decide that the sentence is irrelevant then we are willing to remove it from the introduction.
3. A description of who completed the complication form was added.
4. With pulmonary we mean pneumonia. Pressure ulcers stage 2, 3 and 4 were documented. Cardiac refers to acute coronary syndrome, decompensated heart disease and arrhythmias. CNS refers to both hemorrhagic and ischemic stroke. Definitions and clarifications were added to the table.
5. In the open format setting intensivist involvement was only possible on a consultant basis. After format change the intensivist became available 7 days a week and 24 hours a day. This was added to the methods section.
6. Crude and case-mix adjusted mortality are mentioned for both open and closed format setting. Crude numbers were replaced with percentages.
7. We changed our conclusion accordingly (association was used in stead of cause-relation).
8. We agree that the difference between mean APACHE II scores might be due to age differences between the groups and have therefore added this to the discussion.

9. We like to think this too, however we agree in that the current study does not provide any direct evidence to ground this statement. Therefore this was added to the discussion.

10. We agree and have therefore changed improve with: associated with improved outcome. Furthermore, we adjusted the contradiction in our last statement.