Author's response to reviews

Title: Utilization and Cost of a New Model of Care for Managing Acute Knee Injuries: the Calgary Acute Knee Injury Clinic

Authors:

  Breda Lau (bredalau@gmail.com)
  Mark Lafave (mlafave@mtroyal.ca)
  Nicholas Mohtadi (mohtadi@ucalgary.ca)
  Dale Butterwick (butterwii@ucalgary.ca)

Version: 4 Date: 23 October 2012

Author's response to reviews: see over
Dear Biomed Central Editorial,

Please accept submission of the revised manuscript “Utilization and Cost of a New Model of Care for Managing Acute Knee. The following concerns have been addressed in a point-by-point response. The reviewer’s comments are highlighted in bold. The author’s responses to each comment are in italics.

Referee 1:

**Major revisions:**

1. As this is a quasi-experimental study, one of the main limitations to this study, which was not highlighted, is selection bias. As the study participants did not represent a random sample, selection bias exists. The measure of frequency or association is likely to be different in the subjects selected for the study compared to the source population.
   A paragraph addressing selection bias has been added to the discussion (p.15).

2. The results show a very high dropout rate in the study; <50%. Please consider analysing the difference between the missing data and the non-missing data. This will help convince the reader that the results are valid. Was any follow-up done on participants? If not, please include in the limitations. It is possible that the participant’s treatment experience that didn’t return the questionnaire is different to those participants that did complete the questionnaire.
   The referee comments on a high dropout rate resulting in response rates <50%. The response rates for the experimental and comparison groups were 50.4% and 61.1% respectively. However, a paragraph addressing low response rates has been added to the discussion (p.16).

**Minor Revisions**

1. In the methods section, when describing the eligibility criteria, there was no mention of age in years included or excluded? Does that mean that all ages were included in the study?
   An age range was added to the inclusion criteria (p. 5).

2. Please clarify how the study was conducted. It is not clear how or who administered the questionnaire and how the data was collected.
   The methods section entitled “Design and Study Population” has been revised to address this concern.

3. In the methods section, ‘all cost estimates were calculated in Canadian dollars (CAD$).’ Were these costs inflated?
   A sentence was added to the methods section (p.6). This was added to the limitations sections (p.16).

4. In the data analysis, please define what statistical significance you used for the
A sentence was added to “Data analysis” section addressing statistical significance (p.9).

5. To keep consistency, please provide a % … ‘data was analysed from 138 questionnaires’.
   Percentages were added (p.9).

6. In table 1, the percentages do not add up to 100%. For example, the Martial status proportions only add up to 56.8%. Were there other categories considered? Single? Unknown? It is a bit confusing. The proportions for Income do not add up either. What was the proportion for people who earned less than $60,000?
   Table 1 has been adjusted with proportions that sum up to 100%.

7. Following on from the above comment, the left hand column of the table should explain what is in the corresponding row of each group. For example, Male (%) does not clearly explain the data in that row as there are two numbers displayed. After the variable perhaps write n (%). It will better explain the reader what the values in the corresponding row represent.
   Table 1 has been adjusted accordingly to represent n(%) after the variable.

8. In table 2 and 3, please consider inserting a column before the p value of the mean differences between the groups and separating the p value and 95% CI into two different columns. It is unclear as to whether the 95% CI relates to the p value or the mean differences in table 2 and 3.
   A column was inserted into Table 2 and 3 separating the p value and 95% CI into two different columns.

9. The title in table 3 does not relate to what the table describes. It would be clearer if it read, ‘The cost difference for patients in the experimental group and the comparison group.’
   Table 3 was renamed to read “The cost difference for patients in the experimental group and the comparison group.”

10. In table 4, please reconsider how you explain the variables sex, race and marital status. The Pearson correlation test of significance represents a linear relationship between the variables. Considering these variables are nominal and not continuous, the p value could be interpreted incorrectly.
    The Pearson correlation test of significance was used to compare costs with socio-demographic information. Though one variable sub-set was nominal in nature (socio-demographic variables), the other variable was categorical (cost). Therefore, we feel that the Pearson correlation test applies in this instance.
Referee 2:

Major compulsory revisions:

1. The design has many limitations, a quasy experimental study has the limitations that the researcher know the hypotesis and in a way not intentional, they would select the patients where the program is better. The controls who answered the questionnaire would have been the that want to declare their incomphormity of the attention received, and for this the cost be higher than experimental group.
   My colleagues and I were unable to discern the meaning behind this comment. We will be happy to address this concern and provide the appropriate revisions if the referee is able to clarify the meaning of this comment.

2. The analysis is incomplete because is studies of cost is most important the willing to pay, it is neccesary to assess the program with an analysis of cost, probabilistics models, Monte Carlo simulations and willing to pay. This study is incomplete. The authors need to do a desition tree.
   This is a good suggestion. We are unable to perform a cost-benefit analysis at this time. We anticipate conducting a decision analysis/economic evaluation in phase 2 of the project.

3. The experimental study is bad defined. The authors must mention the way as the patients were attended.
   My colleagues and I were unable to discern the meaning behind this comment. However, I am guessing that referee 2 is referring to the same concern that referee 1 identified with respect to how the study was conducted in that it was not clearly defined how or who administered the questionnaire and how the data was collected. Therefore, the methods section entitled “Design and Study Population” has been revised to address this concern.

4. The cost are showed as averages, however these are important when the confidence intervals are showed.
   95% Confidence Intervals are displayed in Table 3.

5. The way as the results are described and discussed do not permit to identify to whom the results are useful, because to a political markers not just is important that an intervention is cheaper, even do if he needs to hire more personal with all implications of this. For this reason the analysis need be changed to a willing to pay for an institution. The conclusions are not supported by the data.
   We are aware that the results may not be generalizable to the population sampled. However, healthcare is regionalized in many countries and lessons can be learned by these regions from the descriptors and variables of this study. Again, we anticipate conducting a decision analysis/economic evaluation in phase 2 of the project. We have added a statement of this nature into the discussion (p.17).
Minor Essential Revisions:

1. In the results in the first paragraph the authors give us the chi square values, these are not important. The chi squared values were part of the post-hoc analysis because this was not a truly randomized study. Therefore, to demonstrate there was homogeneity between groups, we compared basic demographic and psychographic data. We understand this does not eliminate the issue of potential sampling bias, but it does demonstrate some homogeneity between groups.

2. In the tables the abbreviations are not mentioned. Legends have been revised to address all abbreviations.

Editorial Points

1. Copy Editing - After reading through your manuscript, we feel that the quality of written English needs to be improved before the manuscript can be considered further. The manuscript was edited by its corresponding authors who are all fluent in English.

2. Ethical Approval - Research involving human subjects (including human material or human data) that is reported in the manuscript must have been performed with the approval of an appropriate ethics committee. Research carried out on humans must be in compliance with the Helsinki Declaration. A sentence addressing this concern already exists and is reported in the manuscript on p.5.

3. Competing interests - A competing interest exists when your interpretation of data or presentation of information may be influenced by your personal or financial relationship with other people or organizations. Authors must disclose any financial competing interests; they should also reveal any non-financial competing interests that may cause them embarrassment were they to become public after the publication of the manuscript.

Authors are required to complete a declaration of competing interests. All competing interests that are declared will be listed at the end of published articles. Where an author gives no competing interests, the listing will read 'The author(s) declare that they have no competing interests'. The authors have declared that they have no competing interests. This section exists on p.17.

4. Authors’ contributions - In order to give appropriate credit to each author of a paper, the individual contributions of authors to the manuscript should be specified in this section.
An 'author' is generally considered to be someone who has made substantive intellectual contributions to a published study. To qualify as an author one should 1) have made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; 2) have been involved in drafting the manuscript or revising it critically for important intellectual content; and 3) have given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content. Acquisition of funding, collection of data, or general supervision of the research group, alone, does not justify authorship.

We suggest the following kind of format (please use initials to refer to each author's contribution): AB carried out the molecular genetic studies, participated in the sequence alignment and drafted the manuscript. JY carried out the immunoassays. MT participated in the sequence alignment. ES participated in the design of the study and performed the statistical analysis. FG conceived of the study, and participated in its design and coordination and helped to draft the manuscript. All authors read and approved the final manuscript.

All contributors who do not meet the criteria for authorship should be listed in an acknowledgements section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance, or a department chair who provided only general support.

A paragraph identifying each author's contributions to the manuscript exists on p.17.

5. Acknowledgements - Please acknowledge anyone who contributed towards the article by making substantial contributions to conception, design, acquisition of data, or analysis and interpretation of data, or who was involved in drafting the manuscript or revising it critically for important intellectual content, but who does not meet the criteria for authorship. Please also include the source(s) of funding for each author, and for the manuscript preparation. Authors must describe the role of the funding body, if any, in design, in the collection, analysis, and interpretation of data; in the writing of the manuscript; and in the decision to submit the manuscript for publication. Please also acknowledge anyone who contributed materials essential for the study. If a language editor has made significant revision of the manuscript, we recommend that you acknowledge the editor by name, where possible.

The role of a scientific (medical) writer must be included in the acknowledgements section, including their source(s) of funding. We suggest wording such as 'We thank Jane Doe who provided medical writing services on behalf of XYZ Pharmaceuticals Ltd.'

Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements section.

A paragraph acknowledging contributions to the manuscript exists on p.17.