Author’s response to reviews

Title: Emergency department visits in older patients: a population-based survey

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Author’s response to reviews:

First I would like to thank all the reviewers for their valuable comments. I have taken into account all the comments, and suggested changes were made for the whole manuscript.

Reviewer 1:

(1) I would either reference the last phrase of the first paragraph or just remove it. This manuscript has nothing to do with « economic pressures » and / or measuring "high quality ED care ». I would stick to developing the study hypotheses.

Excellent comment, the last phrase of the first paragraph is removed as suggested (page 3).

(2) Are there any Finnish studies / publications, preliminary or not, that have suggested an increase in ED use by the aged (statistics Finland for example)? If so then they should be mentioned in the Background section.

There are no previous studies precisely focusing on this point of view. This is now stated in the last phrase of the background section (page 3).
The aims section needs some major revision. As presently written it is very vague. For instance, "understanding the burden on ED services" is much too general. The authors might start with "The primary aim of the present study was to assess the incidence of …" The secondary aim was to assess the overall cost of … compared to ….". For example, the second to last phrase of the first paragraph of the Methods section is actually the primary aim of this study, just delivered on section too late. The following phrase i.e., "In addition, according to our incidence data…" also belongs in the last paragraph of the Background section but should be more detailed.

The last section of the background is now completely rewritten according to Your valuable remarks (page 3).

METHODS

The study population is never defined either in the Background or the Methods section. Perhaps the authors might give some thought to initially using a term or acronym to define their study population and use that term throughout the rest of the manuscript. For instance, "We defined the primary study population (i.e. "older") as those being aged ….." I would actually use a very descriptive acronym, such as 80+. In this manuscript there are too many different terms to identify.

The first paragraph of the methods section is now rewritten, with older population defined as you suggested. (page 3)

Not quite certain I follow the reasoning behind the section on "primary / tertiary" care in the second paragraph of the Methods section. In fact, I have difficulty with this entire paragraph. Do people have regular scheduled appointments with ED physicians in the ER? That would be relatively unknown in North America. Perhaps what the authors are trying to say is that only patients actually "assessed" by an ED physician were tabulated? They should detail this section much better.
Indeed, it was not defined well. By following Your remarks, we made changes to the whole Methods section.

(6) I would also better detail the "cost per visit" stated in the third paragraph of the Methods section. Perhaps by adding an itemized e-Table? I would also state that Finland has a centralized universal health care system from the get go so that most all readers would by definition understand that taxpayers foot the bill. I find it very interesting that all patients are nevertheless charged a basic fee for ER use in Finland (that would cause massive riots in Canada and probably a change in government).

Excellent comment. The cost analysis is now detailed more precisely. Indeed, while the majority of costs are covered by taxes, there are still some costs that patient is required to pay.

(8) Again, in the second to last paragraph the authors have to detail what parameters they are using to assess "estimates" of further use and justify that statistically and, if need be, by supporting data in the Background section.

We made some changes to Methods section to explain it in more detail how the cost analysis is made.

(9) There is very little detail in the statistics section of the Methods. Without more detail it is difficult to interpret some of the data presented.

The methods section is now rewritten according to Your excellent observations.

RESULTS

(10) First paragraph of the Results section. What does "admitted" to tertiary care mean. Where these patients admitted to hospital for specialty care? Were the other 75% kept under observation in the ED? How did the authors come up with 5 or more visits ad criteria for frequent visits. This
should be defined in the Methods Section. Overall, the authors should think of presenting a Table for this data. In fact, I would probably replace paragraph one with a table and just highlight the points the authors would like to illustrate in the text.

Indeed, the first paragraph of the results section is now completely rewritten, as we did some changes to the methods section according to Your suggestions. However, because of the limitations, we found the rest of the tables and figures crucial. The table You suggested contained only a little information, therefore we decided to leave it out from the revised version.

(11) When the authors state that 31% of those 80+ require ED services every year they are referring to the base city population of those 80+? This appears to be the case of one refers to Figure 1. I would also change the word "share" by "proportion", which is a more descriptive term. Are the authors using "accessed" and admitted in a different context in this paragraph?

The changes were made according to Your excellent remarks.

(12) How did they estimate the proportional increase in ED visits by age (Figure 2). Did the authors just multiply their static incidence by the proportional population increase / year of older patients?

Excellent comment. This is now detailed more precisely in the methods section. The calculations were based on age and gender specific incidence rates, and adjusted to the population projections provided for us by Statistics Finland, which is a publicly funded Finnish facility for population based statistics.

DISCUSSION

(13) Again, this section is somewhat disorganized. I would start off with what the authors consider to be the primary finding of their study, then the secondary finding (or findings). This in relation to the study hypotheses elaborated in the Background section. Then I would add supporting (or not) data in the literature in order to put the primary and secondary findings into perspective. Then I would draw the conclusions.
Indeed, this was an important remark. The discussion section is now rewritten according to Your comments.

MINOR POINTS:

BACKGROUND

(1) Remove « remarkable » from the phrase in the first paragraph, line 8. It can be replaced by « an increasing share ». Remove « will » in the same phrase, replace with « may ».

The changes were made as You suggested.

METHODS

(2) You will probably get a few letters from ER physicians with the first phrase of the Methods section. Most ED physicians in North America are board certified and they consider this a medical specialty. It may be more politically correct to use that term given that I assume that most all (other than in peripheral hospitals) ED physicians are board certified in Finland (i.e., both board certified ED physicians and tertiary….). I would remove the several primary / tertiary mentions in the 1st paragraph of the Methods section as this is already included in the first phrase. For instance, the second phrase could read "During the study….one million inhabitants within the city of …".

As You suggested, the methods section is now rewritten. We are now trying to emphasize that in this study we were interested in including all level ED patients. While the hospital has a responsibility for the ED care of 1 million inhabitants in some emergency services (and actually it is the one of two hospitals providing e.g. emergency replantation surgery), it is the only ED facility within the city. There are some smaller regional hospitals, larger tertiary care hospitals and primary care ED services offering ED services for those living further away. The patients accessing our ED from other parts of Finland were excluded.
RESULTS

(3) First phrase of the Results section. I would change ED accesses to "ED visits"

The first phrase of the results section is now rewritten as You suggested.

FIGURES/TABLES

(4) I would name the y-axis in Figures 1 and 2.

Excellent remark, the y-axis in both figures are now named according to Your suggestions

David Peran (Reviewer 2): Thank you for inviting me to review this article. I would like to thank the authors for their work and my comments are below.

Abstract, title and references

The title is informative and relevant to the content of the article. Abstract summaries the content in a clear way.

References are relevant and except two of them are all recent (last 10 years). This topic of elderly patients in the emergency medicine is not common and the older articles might be also used and they have been used appropriately.

Introduction and background

Introduction into the topic and research question are well described.

Methods
There is variety of methods used in this manuscript and all of them are well described and used appropriately so the study is replicable in different settings.

Results

Results are described in a clear and understandable way and are well supported by figures and tables.

Discussion and Conclusions

Results are discussed from multiple angles (medical, economic) and placed in the context of other similar studies. The authors also added their point of view on the potential solution of the problem, which is not the aim of the study, but the authors mentioned that in the discussion. The only thing which might improve this part from my point of view is to add references to support the 3 possible solutions (because the results did not support these claims) even when they are obvious according to common sense.

Figures and tables

Figures and tables are understandable, described and support the results and discussion part.

Summary

This population-based survey is well designed and brings a clear data of current problem of almost all European countries and points out the future development of the situation. Future research might be done also in other countries to discover how deep the problem is and to find the best solution. These articles might support next research in this area.

I would like to thank the authors for their work and for the opportunity to provide these comments.

We appreciate Your comments very much. Thank You for Your work as a reviewer.