Reviewer’s report

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

Version: 0 Date: 05 Nov 2018

Reviewer: Yves Chaput

Reviewer's report:

Thank you for permitting me to review this interesting manuscript. I usually divide my comments into major and minor points. Major points are those requiring a response by the authors, either by changes to the manuscript or, if in disagreement, then a rebuttal in a response letter. Minor points are mere suggestions that the authors can integrate into the text or not.

My main concern about this manuscript is that it is not well organized. It is also somewhat imprecise (although some of this may be due to language). Some sections, such as the Methods, contain elements that should be in the Background and the Results contain topics that should be in the Methods section. Detail is also lacking throughout the manuscript and this is unfortunate. It makes accurately assessing what the authors are trying to convey difficult for the average reader. See the following points.

MAJOR POINTS:

BACKGROUND

(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.

(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.

(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 …". 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.

METHODS
(4) 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.

(5) 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.

(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).

(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.

(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.

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.

(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?

(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?
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.

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”.

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 …".

RESULTS

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

FIGURES/TABLES

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

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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