Reviewer's report

Title: Who uses emergency departments inappropriately and when? A national cross sectional study using a monitoring data system

Version: 1 Date: 18 October 2013

Reviewer: Michael Schull

Reviewer's report:

Thank you for giving me the opportunity to review your paper addressing an important topic. I have several comments for you to consider, hopefully you will find them helpful.

Major Compulsory Revisions

• Your rationale for this study is that so-called inappropriate patients represent a “huge burden” for EDs, but can you provide of this burden. The fact that these patients, according to your premise, present with minor problems suggest they may not be a significant burden.

• As you know, “inappropriateness” of ED visits is a controversial subject. Your definition based on administrative data poses particular challenges. For example, would a patient who was having suicidal ideation and who received only counseling from the ED staff and not have seen a consultant prior to ED discharge not potentially meet your definition of “inappropriate”? Similarly, a patient with a bad headache that is worried about meningitis, but who can be safely discharged with only a history and physical exam, would also be “inappropriate” by your definition, I believe? Yet I think most emergency physicians would consider these to be appropriate reasons to visit an emergency department. I think a better term for your definition might be “ED visits that could potentially be seen in a primary care setting”. I do not believe you can term these visits “inappropriate” based on this definition.

• Similarly, to define other patients as “appropriate” goes against clinical experience. The fact that a patient receives a test or treatment or arrives by ambulance does not guarantee that those visits were “appropriate” or the tests/treatments needed. Once again I this you need to rethink the terms you are using for these patient groups.

• In the first para of your results, 2nd line, you say “Rates of IA per AA were highest in under 16s....” yet do you not mean rates of IA per 100 ED visits”?

• In the discussion you state “Reducing IA...could have a significant effect not only on waiting times and the subsequent quality of care...but also on overall financial costs...”. Can you provide a mechanism for these effects and perhaps references? Indeed on waiting times there is evidence to the contrary, that minor acuity patients do not negatively impact waiting times (see The Effect of
Low-Complexity Patients on Emergency Department Waiting Times. Ann Emerg Med. 2007;49:257-264.] As for cost, most of the costs to keep an ED running are likely fixed, and the marginal costs associated with IA patients low by definition. Therefore, unless reducing IAs would allow an ED to close or reduce staff, it is difficult to imagine how it could reduce costs. Can you elaborate?

Minor Essential Revisions

• In the methods you refer to EMM, yet I am not familiar with this statistic nor what it is meant to represent. Can you clarify?

• In the results, you find statistically significant differences between some groups (eg aORs of IAs by month, or aORs by deprivation group), yet there absolute differences are quite small and of uncertain clinical significance. Can you comment more fully on the clinical significance of your findings?

• You suggest increasing capacity in EDs to deal to deal with these patients, but this of course would increase costs. And yet, it is not clear that there is a need to increase capacity in EDs to manage these patients. What evidence is there that EDs currently have any difficulty dealing with these patients?

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests