Reviewer's report

Title: Emergency room (ER) visits of children under age one: effects of immigrant status and maternal education level. A cohort study in the province of Reggio Emilia (Italy)

Version: 4 Date: 25 August 2013

Reviewer: Evelina Pappa

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Major Compulsory Revisions

1. In Background section an enhancement of bibliography of ER utilization-if possible- related to children would be preferable. Furthermore, I have the sense that there is a slight trend to focus on the inappropriate visits, which is one parameter of your study. Try to approach the issue of ER utilization on the whole and indicate what your study adds to the existing research.

2. Reading the responses to my first two comments (previous review), the first thing that emerges is what the aim of the study is. The authors discuss the identification of whether and when the first utilization induces a different probability of using the service again (there is a rich bibliography regarding the repeated visits in ER that you should take into account in your analysis) and the identification of the factors that lead to inappropriate use (table 4 seems to cover it). The aim as it is described in the Introduction does not match. The authors ought to describe the aim of the study in details. Add the detailed aim of the study in the last par. of the Introduction using a, b, ...

3. In the response to my first comment (previous review) there are points that I cannot understand. What is fidelization? And what does “fidelization is part of mission of the services itself” mean? Furthermore, it is said that “ER intension is to avoid any recurrence particularly the inappropriate access”. In your data there are a significant number of repeated visits. 1340 out of 3191 children- users of ER- concern more than one visits. How do you treat the repeated visits? How do you define the frequent visits? Repeated visits should be analyzed and the existing bibliography is very helpful.

4. It is obvious that the authors followed the method that 4 previous studies (referred in the present study) used in order to study the ER use. This does not mean that the ER use could not be studied differently following the Andersens’ behavioral model using binomial and multinomial logistic regression analyses. In the present study it should be explained why negative binomial regression is used which has used previously in BMC Health Service Research 2008, 8:51. The previous 4 studies have focused on use i.e. total number of ER visits. The present study was based on general newborn population. What is the role of the 0 visits? It is not clear how you have treated them in your analysis. One thing should be clear. Zero visits have the person as unit analysis (in that case the analysis is different), whereas the total number of visits and the average number
of visits per 100 persons have the visit as unit analysis whether they analyzed it as appropriate vs inappropriate visits, urgent vs less urgent visits, frequent vs non frequent visits etc. The issue of zero visits should be clarified. It is better to remove the zero visits of your analysis.

5. In tables 3 and 4, how is morbidity taken into account? A variable that measures the morbidity is missing, which is necessary in order to be investigated whether higher use in immigrants is due to higher morbidity, or to different approach to health services. The explanation in 3rd par. on Discussion section is unfounded and should change. Rerun the models including a morbidity variable and a behavioral factor as it is stated in the paragraph. A solution to this problem would be to rerun model in table 3 by including the color triage as a morbidity variable i.e. urgent, less urgent…etc. in order to control for morbidity.

6. Table 4 should be changed. The characterization of the urgency or the hospitalization that follows is made by the clinician, based on the health status of the children therefore a variable that indicates par example the patient diagnosis is necessary.

Minor Essential Revisions

1. In Abstract, in the background par. remove the last sentence in the Conclusion par.

2. On page 10, in 3rd par at the end, I cannot understand the last sentence, how the population with no accesses was larger than predicted.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests