Reviewer's report

Title: The effect of physician's recommendation on seasonal influenza immunization in children with chronic diseases

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Reviewer: Bruno Christian C Ciancio

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The manuscript describes a cross-sectional study conducted in a population of children with specific chronic conditions attending specialized pediatric centres in three Italian regions during a three months period in the spring of 2009. The study had two aims: 1) to describe paths that led to influenza immunization among those vaccinated, and 2) to describe factors associated with vaccination during the last immunization campaign.

From the information provided the study was sufficiently well conducted and its findings are relevant and for policy makers and health care workers.

Some specific comments by section. All would require minor essential revisions from the authors.

Abstract
1. In the methods please mention which type of immunization predictors have been analysed.
2. In the results report the overall number of children recruited.
3. It is not clear what is the reference group for calculating the ORs, e.g. Receiving a recommendation by family pediatricians...was associated with OR=191.93....of being vaccinated compared to what (not receiving a recommendation or receiving a recommendation from someone else?).
4. It is not clear whether these are crude or adjusted ORs.

Methods
1. Information should be provided on how many specialty clinics were included overall and in each region. It should also be described whether these clinics were a convenient sample of all the specialty clinics in the three regions or whether any randomization was attempted. The former seems to be the case as described in the discussion, however one should not read until the discussion to get this information.
2. Children with neurological disorders should be better described. They seem to represent a different population of children than the others included in the study. They are indeed the least represented category in the study, though depending on who they are they could represent the largest group in the population. They probably have different (less?) access to specialized pediatric services and may
follow a different path to influenza immunization. The authors should consider excluding this group from the analysis or providing more information to justify their inclusion.

3. Results should be adjusted for or stratified by number of visits in the previous year/s. Children with a higher number of contacts with the health care system had also more opportunities to receive a vaccine recommendation but also to be vaccinated than children with fewer contacts. Therefore number of visits can be a confounder for many of the determinants described in table 3.

Results
1. Table 2: column headings – N and (%) should be removed.
2. Table 3: I would suggest adding one column to describe the actual numbers behind the ORs. I would also suggest reporting the total number of subjects included in the multivariate model to have an idea of the number of records lost due to missing values in one of the included variables. Please specify whether P values from multivariate analysis are from likelihood ratio test of Wald test.

Discussion
1. The study population is that of children with chronic conditions and frequent access to pediatric services, often specialized pediatric services. It is therefore difficult to draw conclusions on the role of recommendations issued by community vaccinators or other health care professionals such as family pediatricians or family doctors. This limitation should be better described in the discussion and results interpreted accordingly.

2. Some of the conclusions seem too strong for a cross-sectional study. For example the statement Our path shows that families of patients with chronic diseases refer most frequently to specialty and family pediatricians to receive recommendations on influenza vaccine is difficult to justify. It could well be that a similar or higher number of children with chronic conditions follows a different pattern which could not be described simply because they did not attend a specialized clinic. For instance, this could be the case of children with less severe chronic conditions not requiring frequent specialized assistance but still at high risk of severe influenza. In general some of the limitations related to the study design should be better described in the discussion.

3. Recall bias is mentioned but not explained. Are those remembering their vaccination status also more likely to remember whether and who advised them to be immunized?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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