Author's response to reviews

Title: Health burden and economic impact of measles-related hospitalizations in Italy in 2002-2003.

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Version: 2 Date: 22 November 2006

Author's response to reviews: see over
Dear Editors,

Thank you to both reviewers for their useful comments. Please find attached a revised version of the manuscript, in which all comments have been addressed. Below please find point by point responses to each reviewer’s feedback:

**Reviewer 1: Angel Gil**

1. I consider of great relevance to compare the demographic and clinical characteristics of those with and without measles as a main discharge diagnosis, and to discuss the results of these comparisons (Major Compulsory Revision).

Demographic and clinical characteristics of cases with a main diagnosis of measles and cases for whom measles was a secondary diagnosis have been included in the Results section, and are discussed in the Discussion.

Briefly, no significant differences in demographic characteristics were found between the two groups. In cases where measles was a secondary diagnosis, the main diagnosis was mostly represented by respiratory complications (32.1%) or other symptoms and complications associated with measles (37.4%). The remaining cases (30.5%) had as main diagnosis a medical condition unrelated to measles (such as malignancies, immunosuppressive disorders, diabetes and other metabolic disorders). Overall, the latter cases represent approximately 4% of the total number of hospitalizations.

2. I think that Table 4 is unnecessary and as the authors point out data for some regions are possibly little representative due to the small sample size. Perhaps it would be more interesting to provide results only by geographical area (Major Compulsory Revision).

The above-mentioned table has been modified as suggested. Results are now presented only by geographical area (North, Centre, South). Please note that since a new table has been added (Table 3), the above-mentioned table has now become Table 5.
3. I consider necessary more information about the infant vaccination policy in Italy, and the author’s public health recommendations in order to increase vaccination coverage (Major Compulsory Revision).

More information about the infant vaccination policy in Italy is now given in the Background section while public health recommendations to increase vaccination coverage are discussed in the Conclusions.

4. Add a reference for ISTAT (Minor Revision).

A reference for ISTAT has been added (Reference n. 15).

5. Do all Italian hospitals provide discharge data to the Ministry of Health? Provide a reference (Minor Revision).

Yes, since 1991 discharge abstract forms are legally required for all patients discharged from any public and privately-owned hospital in Italy. This has been better explained in the Background section and three references have been added (ref n.13-15).

6. Change 8,800,000.00 to 8.8 million (Minor Revision).

This and all other figures over one million have been changed and written in the format suggested by the reviewer.

Reviewer 2: Hester De Melker

1. The authors should make clear the added value of the present study compared to previous information on the measles epidemic.

The Background section has been revised to make more clear the added value of the present study compared to previous information on the measles epidemic. This is also discussed in the Discussion section. In fact, previous information on this measles epidemic was limited to specific regions, particularly Campania, and mainly evaluated cases in children aged <15 years, reported to the Italian sentinel pediatrician network (see reference n.29). In addition, previously published data regarding hospitalizations (see ref. n.6) was limited to hospitalizations which occurred in Campania in 2002 only, and no cost analysis was performed in that study.

The added value of our study, therefore, is that it presents nationwide data over 2 years (2002 and 2003), and it evaluates the costs of measles hospitalizations in the specified period.

As reported in the Methods section, information for this study was obtained from a hospital discharge database, where clinical data are limited to discharge diagnoses and outcomes. In order to give a more extensive description of clinical information on measles admissions, as suggested, we have compared the clinical characteristics of cases with and without a main diagnosis of measles (see Results and Discussion sections). In addition, we have given more information on the two measles-related deaths registered in the database (see Results).

2. Too much detail is given in the text; information should be given in a more concise and systematic manner. For example, a lot of the information could be presented in a few tables or sometimes figures.

All sections have been revised and we now present information in a more concise manner. The Results section has been revised and a new table has been added (Table 3).
3. The results also with regard to costs should be discussed in view of the available other literature, in the discussion section.

Costs per hospitalised day and per hospitalized case are now discussed in view of the other available literature, in the Discussion section.

Kind regards,

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