Reviewer’s report

Title: Modeling delay to diagnosis for Amiotrophic lateral sclerosis: under reporting and incidence estimates

Version: 3 Date: 5 July 2012

Reviewer: Francesco Lagona

Reviewer’s report:

The paper focuses on the estimation of incidence rates of Amiotrophic lateral sclerosis from incomplete data archives. The main assumption of the paper is that underreporting is due to delay to diagnosis and, accordingly, a reverse hazard estimator is exploited to estimate the probability that an individual has been included in the dataset, to correct incidence rates for underreporting.

The approach taken by the authors is methodologically correct, meaningful and the results are sound. The statistical methodology is essentially based on Rocchetti et al (2012), where the Authors focused on another rare disease. The novelty of the paper is the application of these methods to a different rare disease.

Minor Essential Revisions

1. Most of Section 2 (Methods) is a copy of Section 3.1 in Rocchetti et al 2012. It can be considerably shortened, adding appropriate references. Essential formulas can be moved in the Appendix, along with the computation of standard errors.
2. Appendix, last two formulas: terms with a bar must be defined explicitly
3. References: I think that Rocchetti et al 2012 should be included in the bibliography
4. Editing:
   There are several typos in the body text: please check. Here I list some of them 
   p1 +5: add an English translation of DM 
   p2 +6: add a reference that review capture-recapture methods 
   p2 -17: delete the coma after epidemiologic 
   p4 +3: ie should be i.e. (see also other instances) 
   p5 +14-16: please check the positions of the full stops 
   p7 +17: replace “cdf” by “cumulative distribution function” (see also other instances) 
   p13 -11: a percentage is missing

References

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests