Author's response to reviews

Title: Amenable mortality as a performance indicator of Italian health care services

Authors:

Maria Pia Fantini (mariapia.fantini@unibo.it)
Jacopo Lenzi (jacopo.lenzi2@unibo.it)
Giuseppe Franchino (giuseppe.franchino@unibo.it)
Cristina Rainieri (cri81@fastwebnet.it)
Alessandra Burgio (burgio@istat.it)
Luisa Frova (frova@istat.it)
Gianfranco Domenighetti (gianfranco.domenighetti@usi.ch)
Walter Ricciardi (wricciardi@rm.unicatt.it)
Gianfranco Damiani (gdamiani@rm.unicatt.it)

Version: 2 Date: 10 July 2012

Author's response to reviews: see over
Dear Dr Forero,

Thank you for the opportunity to submit a revised version of our paper. Below we answer, point by point, the critiques of the reviewers. Our replies are in boldface and changes to the text are tracked in word. We have revised the English form of the paper as requested by the second reviewer and rearranged the discussion according to the study aims.

We appreciate the time and effort of the reviewers for their thoughtful feedback. We feel that the revised version of this manuscript has benefited considerably from the review process. We hope that we have addressed adequately each of the issues raised. Please feel free to contact us with any additional questions or comments.

We look forward to your final decision on this paper.

Yours sincerely,

Maria Pia Fantini

Reviewer: Fred Paccaud

Major Compulsory Revisions

(i) The reference to "external validation" characterizing one of the scope of the study is misleading. The term is formally inappropriate (external validity usually refers to the possibility to generalize the results of a specific study). It is also conceptually flawed. At best, the study provides several arguments showing a convergence of amenable mortality with selected indicators (i.e., life expectancy). But this is by no mean a validation of the indicator as stated in the discussion and in the conclusion.

(i) We agree that the term ‘external validation’ is misleading and changed it to ‘convergent’ validation, as suggested.

(ii) The most interesting part of the paper is the lack of relationship between health care resources and amenable mortality. Some in-depth analysis of the specific resources needed to treat specific amenable diseases would be welcome in the paper.

(ii) Unfortunately, data on specific resources needed to treat specific amenable diseases are not available. However, to address the reviewer’s comment we have examined the relationship of SDR with the number of diagnostic and laboratory tests per 1,000 inhabitants and the GDP per capita and added the new findings to the Results and Discussion sections.

(iii) Part of the discussion is devoted to the inverse relationship between amenable mortality and the prevalence of both cardiovascular disease and cancer, describing this inverse relationship as "unexpected". It is not. Amenable deaths from specific diseases must be first diagnosed (and sometimes screened) to be then treated and cured. In this perspective, an inverse relationship is
expected. What would be surprising is an inverse relationship between amenable mortality and incidence of cancer or cardiovascular disease.

(iii) We apologize for being unclear and not distinguishing the relationship of amenable mortality with the incidence and the prevalence of cardiovascular disease and cancer. We have no data on incidence on cardiovascular disease and cancer to support an inverse relationship with SDR. To address the reviewer’s comment, we have now deleted the sentence ‘Contrary to the expectation that the higher the prevalence the higher the SMRs, …’ in the Discussion section.

(iv) Figures 2 and 3 do not suggest a north south gradient but rather a clear-cut divide above and below the Rome region, with one exception (Puglia). Figure 2 would be more informative if more than three categories of mortality rates are used.

(iv) We apologize for using the term ‘trend’ inappropriately. On pages 3 and 9, we changed the sentence ‘...among men the SMR increased from Northern to Southern Italy, while among females this trend was less pronounced’ with ‘...among men we found a clear-cut divide in SDR values between Central and Southern Italy, while among females this divide was less pronounced’. To be consistent, in the Discussion section we have replaced the term ‘gradient’ with ‘clear-cut divide’ (page 11) and the term ‘increase’ with ‘separation’ (page 12). We have also reported in more detail the geographical distribution of SDRs in Figure 2 using a color scale.

Minor Essential Revisions

(v) In epidemiology, SMR usually refers to ratio (i.e., to the indirect standardization), and not to standardized mortality rates (direct standardization), which are thus expressed as a percentages. Although defined in the methods section, the use of SMR in the text and in the figures is a bit confusing for the reader.

(v) We thank the reviewer for noticing this unclear point. We have now changed the acronym ‘SMR’ with ‘SDR’, that is age-standardized death rate, in all the figures and throughout the text.

Reviewer: Recinda Sherman

Minor Essential Revisions

The manuscript is written in technically correct English, however, it is a difficult read. This is Italian research, but I do not know if all the authors are primary Italian speakers. It may be useful to have a native English speaker/ writer edit the document. Additionally, the manuscript would be much easier to understand on the first read with appropriate use of commas. There are many instances where the proper use of commas would clarify the content. The paper needs some editing for clearness before publication.

We have now edited the English form of the paper and addressed the specific comments below in the revised version of the text.
Some simple areas: cite the quotes in the abstract; page 5, first paragraph “Explicit framework” should be “frameworks” and “in the last years, relying upon these above mentioned featured” should be “features”; page 7 last paragraph “In line with other Authors” should be “authors”; and page 9 last paragraph “On the contrary, we found a significant” should probably read “Surprisingly, we found a significant” or “Unexpectedly, we found”.

And the use of the standard abbreviation “SMR” is confusing because it refers to a subset of mortality—either more clarification early in the discussion or a different name/acronym (also in abstract SMR needs to be defined before it is used).

We thank the reviewer for noticing this unclear point. We have now changed the acronym ‘SMR’ with ‘SDR’, that is age-standardized death rate, in all the figures and throughout the text. We have also defined in the Abstract the meaning of ‘SDR’.

The manuscript also needs to be flushed out more fully. Specifically, the only specific aim of the study specified was to analyze the regional variability in health care services using amenable mortality. However, the validity of using amenable mortality as a proxy for health care services was also cursorily evaluated. And the conclusions only address this secondary, loosely defined, aim.

We have now better clarified that the aim of the paper was twofold (page 7) and addressed both the regional variation and the convergent validity of amenable mortality in the Discussion and Conclusions section.

They quasi-evaluated disability adjusted life expectancy compared to amenable mortality, even though they state the amenable mortality is a better measure—but there is no gold standard comparison—only comparing two proxies to each other and a statement that one is better than the other without evidence aside from a prior study.

We agree that in the absence of a gold standard it is difficult to state that one measure is better than another. We have now deleted the sentence ‘Our results support Nolte and McKee’s view that amenable mortality has a stronger face validity’ in the Discussion section.

Also, the author’s used the Nolte and McKee list but did not explain or defend the appropriateness of the choice (which will depend upon a number of factors including region/country specifics).

We thank the reviewer for noticing this unclear point. We have now explained why we chose to use Nolte and McKee’s list in the Methods section, page 7.

Finally, regarding the negative relationship between prevalence and amenable mortality. The authors maybe be mixing up incidence and prevalence or oversimplifying, but for many diseases (i.e. cervical cancer) a high prevalence rate often indicates adequate screening and follow-up so a negative relationship is intuitive.

This point was also raised by the first reviewer. We report below our reply to his comment:
We apologize for being unclear and not distinguishing the relationship of amenable mortality with the incidence and the prevalence of cardiovascular disease and cancer. We have no data on incidence on cardiovascular disease and cancer to support an inverse relationship with SDR. To address the reviewer’s comment, we have now deleted the sentence ‘Contrary to the expectation that the higher the prevalence the higher the SMRs, …’ in the Discussion section.

**Discretionary Revisions**

Page 11, second paragraph states that the amenable mortality may be more sensitive for cardiovascular cancer. But I think the concept of amenable mortality should not be more sensitive but perhaps the specific proxy/list used.

We agree and changed the text as follows: ‘This finding suggests that Nolte and McKee’s list is especially sensitive to conditions for which effective and appropriate health care is essential, such as cardiovascular diseases’.