Reviewer's report

Title: P.Re.Val.E.: Outcome Research Program for the Evaluation of Health Care Quality in Lazio, Italy

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Reviewer: Hester Floor Lingsma

Reviewer's report:

In this study the authors describe a program implemented in the Lazio region in Italy to measure quality of care and publically disclose the results. The paper presents the data on 3 quality measures and concludes that the P.Re.Val.E. program has highlighted aspects of patient care that merit further investigation and monitoring to improve health care and services and equity.

The topic of the paper is of interest and it is well written. There are however also some concerns I have.

Major Compulsory Revisions:

The question and the conclusions do not adhere to the methods and results. If the aim is to describe the program, I would like more details on how it was set up exactly, which data, who were involved etc in the results. Now most emphasis in on the data of three specific indicators. This is of course highly interesting, but fit a research question like: ‘describe differences in quality of care between hospitals in Lazio’. To state it differently: the result section currently almost seems to come from another paper.

The current ‘state of the art’ method in quality of care measurement is random effect modelling instead of fixed effet modelling. Although I expect not many changes in the in the results because of the high numbers of outcomes, the authors should make sure this is the case and mention the consideration of random effect models in the paper.

The authors put a lot of emphasis on direct standardisation in the introduction and discussion, while this is not a research question, neither is it related to the research questions. The part in the introduction on standardization should be omitted, it adds nothing there.

Although I know the discussion on indirect vs direct standardization, to my knowledge it is practically impossible to apply direct standardization in combination with case-mix adjustment, since the rates in the reference group should be observed for each specific stratum (e.g. males between 50 and 55 with no previous MI but with diabetes and hypertension etc) I wonder how the authors have done this.

In the discussion the authors state that indirect standardization should not be
used for hospital comparisons. Besides the remark that I do not see the additional value of the Aristotelian deduction method here, it should be noted that indirect standardization leads to different results ONLY if the effect of risk factors varies between hospitals. This should be mentioned.

There seems to be confusion on the distinction between outcome and process indicators. In the abstract Methods section the program is on '54 outcome/process indicators' while in the rest of the manuscript the authors refer to '54 outcome indicators'. But I would consider operation within 48 hours in hip fracture patients a process measure.

I think the authors quote the literature on the merits of quality measurement a little selectively. Although many belief in the potential of quality measures and their public disclosure to improve quality of care, at least as many do not. Example (with most relevant references): Shahian et al., Variability in the measurement of hospital wide mortality rates, N Engl J Med 2010. 363;26. the discussion could be more balanced in that sense.

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

**Quality of written English:** Acceptable

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