Reviewer’s report

Title: The Impact of a Pay-per-Performance System on the Quality of Care of Patients with Hip Fracture: Experience from the Lazio Region (Italy).

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Reviewer: Eila Kankaanpää

Reviewer's report:

Major Compulsory Revisions

1. The authors state that they study the impact of a pay-for-performance payment system on quality of care of hip fracture. However, they report that not all hospitals in the study are paid according the DRG payment system linked to performance (page 4). What they compared is the performance of hospitals according to different payment systems. The payment system changed only for a small part of them. The pay-for-performance system has been studied before (see for example the editorial by Andrew Ryan in Health Econ. 18: 1109–1113 (2009)). The authors should have summarized the existing literature.

The text (and abstract) should be rewritten so that throughout the article it is clear that the pay-for-performance payment was applied only to some hospitals.

2. The hospitals not paid for their performance could act as a comparison group. Therefore, differences-in-differences would suit the question addressed better (they refer to Farrar et al. (2009) who applied the DiD method). If the authors would use the panel design properly it would be better to not spend so much effort (and space) on co-morbidity which now blurs the message of the article. The aim is not to “explain” the probability of surgery within 48 hours in hip fracture but to study the impact of a change in the DRG payment system.

I recommend to use a DiD analysis. If the authors prefer not to, the results are still interesting but need then rewriting and a different literature to support the discussion of the results. If they would change the focus of the article to performance, ownership and different payment system it could lead to an interesting discussion of ownership and incentives of hospitals. I recommend that the authors familiarize themselves with the literature on payment systems. A good summary can be found in


3. Comment on the analysis as it currently is.

3A The authors used stepwise bootstrapping to assess the importance of “risk factors” and report how they did it. However, the interesting point is how this
changed the model. Please do report this.

3B The authors applied logistic regression without an intercept. They should report if the model improved compared to a model with an intercept. Anyway, there should be arguments why this was done.

3C The journal has the nice feature of offering space for additional files. I strongly recommend that the results of the model will be published as such in an additional file.

4. It would help the reader to understand the differences between hospitals if the authors would describe the health care system in Italy. How many hospitals there are in the Lazio region, if they are different (size, specialties, population served etc.), do hospitals compete on patients, do patients have access to quality data …

In the discussion, the authors refer to their previously published article. Some information that is given in that article is of interest and important also for this article. For example, the fact that the Lazio region has a low level of patients receiving surgery within 48 hours.

The authors describe the data mainly at the level of all patients, “before” and “after” characteristics. What is equally interesting, are the characteristics of the hospitals and the characteristics of patients per hospital type. If the data will not be analysed with DiD, the patient characteristics per hospital type should be published as well.

5. Probably because all hospitals had a higher rate of surgery after the change the authors focus in their discussion on programs to improve quality and not on the differences in payment systems. Here, they should combine the literature on payment systems and discuss the differences between hospital types.

Minor Essential Revisions
6. The text under the heading “Comorbidities” could be combined with the text on outcome.

7. The conclusion in the abstract:
The abstract should also contain the main results: the share of patients with hip fracture that were operated within 48 hours was 11.7% before the change in the DRG system and 22.2% after the change.

8. Instead of pay-per-performance the authors should use pay-for-performance.

Discretionary Revisions
9. The text would benefit from language editing.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.