Reviewer's report

Title: The importance of comorbidity in analysing patient costs in Swedish primary care

Version: 1 Date: 28 July 2005

Reviewer: amy K rosen

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. P.3. There are several articles written about the Veterans Health Administration (VHA) which uses the ACGs to look at variation between regions (networks). These might be relevant to cite in this article, since the rationale for utilization of case-mix is similar (see Rosen et al. 2001 Med Care, Sales et al. Med Care or HSR)

2. Why were these specific two PHC centres chosen? Could the authors have found larger ones?

3. I am unclear as to whether inpatient and outpatient care was evaluated, or just outpatient care. The authors should make that clear.

4. It is fine to use ACG weights, and it is good that the authors calculated their own weights. I would recommend that the authors redo the analyses using the ADGs, as was done in Canada. The ADGs are typically used in regression modeling, and are simpler units of analysis than the more complex ACGs.

5. Application of ACG weights on p.4-5 is not that clear and could be rewritten more clearly. I do not think it's necessary to run correlations between the variables by year, so this could get deleted. More importantly, the regression models run should be clearly specified: the case-mix literature refers to concurrent and prospective models (same-year and future-year). This seems to be what the authors did, but they should make that clearer. Another recommendation is to delete 2001 costs as the independent variable from the prospective model. While prior costs are likely to closely predict future costs, putting that in the model with ACGs diminishes the importance of the ACG weights, which is what the authors want to test. Another test they could do would be to look at how well a model does with age, gender, and prior costs vs. a model with age, gender and ACGs. This would be very informative in showing us whether the ACG model performs better than prior costs in predicting future costs (for prospective modeling only). This applies to some changes in the discussion section also.

6. The authors do a nice job of listing the limitations of the study. There is quite a bit of literature on the limitations of diagnostic coding that they could add to p.7. While socioeconomic status might be useful in improving the predicting of costs, other variables are also worth mentioning and testing, such as functional status measures, self-perceived health status, and type of provider seen. The authors should include some discussion of these in their conclusions.

7. Table 1 results are descriptive but informative and should be discussed directly under "results." The same is true for Table 2, which is important for an understanding of the case-mix burden of each of the PHCs. Also, which ACGs are most frequent in the population is important for understanding the relationship between ACGs and costs (more severe ACGs should be associated with higher costs).

8. What I suggest in #7 above could be summarized as saying that the authors spend too much time discussing the regression results and not enough time on tables 1 and 2.

9. Some discussion of the 95% CI of the b-coefficient in tables 3 and 4 would be useful. There is no mention of those results from the regression.
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
There are typos on several pages or awkward phrasing that should be corrected. For example, p.5- last sentence- seems to be missing "predict patient costs...in the ---next year." Same page, The 2nd paragraph under results has an awkward first sentence.
Usually the ACG system is referred to as the Adjusted Clinical Groups or ACGs for the acronym (not ACG except with the word "system.")
table 4- was gender accidentally omitted from table 4?
The authors need to indicate where in the text they want the tables inserted and they need to refer to the tables in the text.

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests