Author's response to reviews

Title: Identifying older diabetic patients at risk of poor glycemic control

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Answers to referee.

1-4. Abstract.
The terminology "training population" and "testing population" is currently used when a diagnostic model is developed in a given population and, then, tested in a different population. The rationale for using this terminology has been reported in the Methods section, Study design subsection. The data analysis has been presented at the end of the Method subsection of the abstract. In the subsection Results sentences have been reworded. Conclusions have been smoothed.

In the methods section it has been specified that the score was calculated to identify patients at risk of poor glycemic control at discharge in the training population. Furthermore it has been specified that the association between the score and 1 year HbA1c values was assessed in the testing population. In the subsection Statistical analysis it has been specified that the cut off level HbA1c>7.8% was empirically identified as the best predictor. It corresponds to the lower limit of the third quartile of HbA1c distribution. The rationale for using this cut off is further specified in the section "Results", paragraph before last.

This part has been summarized as suggested. AMT was used because this 10-item instrument has been reported to yield 100% sensitivity and 71% specificity with respect to the DSM III diagnosis criteria of dementia (23). Furthermore, it was convenient in terms of interview burden.

7. Methods section: Data analysis
Health-related behavior has been eliminated. The classification of antidiabetic therapy has been changed as suggested.

8. Results
Tables 2 and 3 have been merged (Table 2 in the present version). The relationship between lower diastolic pressure and poor glycemic control has been analyzed and discussed (see answers for the section Discussion).

9. Results section.
It has been specified that the testing and training populations have been matched also for education, functional and cognitive capacity. Information on age and gender has been excluded from Table 4 to focus on the relationship between discharge glycemia and indicators of diabetes severity in the testing population.

10. Results section.
Table 6 of the old version has been deleted and its content summarized in the section Results.

11. General comment on results section.
Results section has been modified as suggested.

12. Discussion.
Testing population: information on patient management in the General Medicine ward and after discharge has been provided in the section "Method".

It has been acknowledged that testing the proposed method on a single center and not on a multicenter basis might limit the generalizability of conclusions.

It has been stressed that the studied population is not representative of the general older population with diabetes. Thus, aim of the study was to target diabetic patients at risk of poor metabolic control at discharge from and, mainly, after being discharged from the acute care hospital and not generically older diabetic patients. We have further clarified this basic assumption.

We have further motivated the choice of using glycemia>140 mg/dl and HbA1c>7% as cut off levels on the basis of the available evidence. Indeed, only optimal metabolic control can prevent diabetic microvascular complications. Nevertheless, we are aware of many problems making the attainment of such goals quite problematic in the elderly and we discuss them. However, we could not find in the literature any evidence supporting the choice of higher cut off levels of metabolic control in the elderly. Thus, we resolved to use recognized measures of metabolic control and comment about their limitations in frail elderly.

It has been specified that the clinical score outweighs HbA1c in predicting the late outcome, i.e. the long term metabolic control, on the side of specificity, i.e. it could more reliably exclude the risk of poor metabolic control. Given that predicting long term metabolic control can be considered the main outcome, this difference seemed to us rather than negligible.

Patients with diastolic hypotension have been characterized and found to have more comorbid diseases. (see section Results). We argued that diastolic hypotension is the hallmark of malnourished and unstable patients. For obvious reasons, a more cautious approach to reduce hyperglycemia in this kind of patients is advisable. We comment upon this theme in the section "Discussion".

Any inference on the quality of in-hospital care has been excluded from the present version. The attention has been focused mainly on the targeting of patients at risk of poor long term metabolic control.
The issue of complication is mentioned in the discussion and not in the conclusions.