Reviewer's report

Title: MDRD is not enough for detection and awareness of chronic kidney disease in an Italian regional hospital

Version: 1 Date: 1 April 2009

Reviewer: Joseph A Vassalotti

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Major Considerations:

Overall this is an interesting and important paper regarding CKD detection for inpatients in Perugia, Italy, based on diagnosis codes.

The term "awareness" should be deleted from the title of the paper as that generally refers to the patient's knowledge of kidney disease. Detection alone is more appropriate to this study.

"DOQI Class" is an older nomenclature, which is frequently used in the manuscript. "KDOQI stage" should be substituted throughout the paper.

The text describes the serum creatinine as calibrated with Siemens on page 5, line 5. Yet the equation with the 186.3 constant used to calculate estimated GFR also on page 5 (line 20) is not the IDMS calibrated equation, which uses a 175 constant instead. The IDMS calibrated equation is described in reference 10. Is this assay IDMS calibrated? If not the authors must remove the comment about calibration with Siemens to avoid confusion. If the assay is IDMS calibrated the authors need to recalculate the data using the correct equation from reference 10.

The authors must remove the data about CKD stages 1 and 2 from Tables 2 and 3 or provide detailed discussion of the limitations. This not only does not add information, it is inaccurate. Patients with CKD were defined only by eGFR in the study. The authors do not have access to other data regarding proteinuria, kidney biopsy or imaging studies that are required to confirm the diagnosis of CKD for individuals with eGFR greater than 60. This is in contrast to CKD stages 3 to 5 that can be diagnosed by eGFR less than 60 alone.

The methods should be more complete. For example, acute kidney injury and administration of radiocontrast are described as an exclusions in the discussion, but there is no information in the methods regarding how this was accomplished. What CKD codes were used? 585 and 586 alone or 585.1, 585.2, 585.3, etc.? When were the codes assessed introduced into the Italian coding system?
The comment on page 9, line 15-17 that in a large screening study using a laboratory database the lack of reproducibility of a single eGFR test was not a problem is misleading. The citation #30 is an outpatient population were issues of acute changes in eGFR are less likely and thus cannot be generalized to an inpatient survey. The authors have excluded ICU, nephrology units, dialysis and transplantation to address this in part.

Expanding Table 4 to explore other interactions would strengthen the paper, including diabetes, cardiovascular disease, age, and gender. How do these conditions change detection?

Minor Considerations

The paper would benefit from general editing as demonstrated by the following examples. On page 2, under conclusions "public health decisioners" substitute "public health professionals". On page 8, paragraph 2, line 10, delete "the volume of" as this really is intended to signify quantity, which is implied.

An additional limitation not addressed by the authors is that the use of ICD codes for detection of CKD is probably increasing over time.

**Level of interest:** An article of importance in its field

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

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests