Reviewer's report

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

Version: 2 Date: 25 June 2009

Reviewer: Joseph A Vassalotti

Reviewer's report:

Major

Although the authors have addressed all the specific concerns of the reviewers carefully, the revised manuscript still contains significant issues that require attention.

1. Most of the conclusion and the entire discussion section (except the limitations portion) are general discussions of CKD that do not relate back to the data.

2. There are a number of areas where the text contradicts the data.

3. Although there is a relatively rich amount of data, the statistical analysis is almost non-existent, e.g. there is only one p-value reported on page 7. The analysis should include predictors of CKD detection other than inpatient surgery versus inpatient medicine services (see below).

4. The manuscript does not read well.

In the spirit of trying to be as constructive as possible to make this a better paper, see the details below.

Minor or specific issues

Title, suggest "Estimated GFR Reporting Is Inadequate For Detection of CKD in an Italian Regional Hospital"

Abstract

- at the end of the methods of the abstract, add "To reduce the impact of acute loss of kidney function on the study, the last eGFR for the hospitalization was analyzed, intensive care and nephrology unit admissions were excluded, and ICD-9-CM code exclusions were renal replacement therapy, acute renal failure and contrast administration."

- The abstract results section should also consider other factors besides surgical versus medical department admission, see discussion below.

- The last sentence of the abstract results section describes data from the nephrology department, yet the methods section (on page 5) describes nephrology department admission as an exclusion? Please delete this sentence
from the abstract or clarify?

- the conclusion of the abstract should be substantially shorter, something like, Although CKD was common in this large inpatient regional hospital population, low levels of CKD detection emphasize the need for ongoing efforts to educate physicians regarding eGFR interpretation.

Background

- Page 3, next to last line, "eGFR" should be substituted for "estimation of creatinine clearance." Creatinine clearance is determined with the 24 hour urine collection or Cockcroft Gault equation, whereas the MDRD equation is used for eGFR.

- Page 4, first sentence, substitute "tests for detecting" for "instruments for revealing the presence of a" and delete "and approached in the appropriate manner."

- Page 4, line 8, substitute "eGFR" for "creatinine clearance."

- Page 4, line 10, substitute "reports eGFR" for "supplies the estimate of glomerular filtration rate calculated."

- Page 4, line 11, substitute "an order for" instead of "been prescribed."

- Page 4, line 13, delete the sentence beginning, "As a result, for each."

- Page 4, line 16/17, substitute "advancing the diagnosis of CKD" for "reaching the expected objective."

- Page 4, last line, substitute "eGFR" for "renal function of patients calculated using the MDRD formula."

Methods

- Page 5, line 4, substitute "maintain integrity of the data" for "avoid contamination and/or intrusions."

Results

- Pages 6 and 7, delete multiple uses of "KDOQI" as this is redundant after the initial citation, "CKD stage" or "stage" is understood.

- Page 6, line 19, "The frequency of CKD ...increased with age and was on average 35%." Does not make sense?

- Page 7, line 4, omit the sentence "Diagnosis of ....(KDOQI 1 or 2)." CKD 1 and 2 cannot be detected with eGFR data alone.

Results section and Table 4 should include an analysis of other variables as predictors, DM, CVD, CKD 3, CKD 4, CKD 5, initial admission, repeat admissions and how they impact prevalence and detection of CKD. These terms should be included in Table 4 under the variable column after male, female. There should
be a statistical analysis regarding these as predictive factors in univariate fashion (at least) so that not only surgical versus medical unit admissions are explored but also older > 70 versus younger < 70, men versus women, Diabetes versus no diabetes, CVD versus no CVD, Stage 3 versus 5, initial admission versus repeat admission, etc. P-values should be reported in the results section of the abstract, the results section in the body of the manuscript and Table 4. The results section should then discuss the high prevalence of CKD, low detection of CKD, the factors that may predict CKD detection, etc.

Discussion
This section should be more focused on the results and potential explanations. The limitations discussion should be substantially abbreviated to page 9, lines 20-24, "Our study has ... with CKD." Then, insert the line suggested to be added to the end of the abstract methods section above and move on.

Conclusion
This should be abbreviated to a few sentences, see suggestions for the conclusion of the abstract above.

Table 4, Column headings, What is the difference between "Hospitalizations with diagnosis of kidney disorder (ICD-9)" and "KDOQI stage greater than or equal to 3 plus ICD-9 diagnosis of kidney disorder"? One of these columns is probably not needed. An additional column should address p-values.

I hope the authors are willing to address the above to produce a more informative paper.

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

**Quality of written English:** Not suitable for publication unless extensively edited

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

**Declaration of competing interests:**

I declare that I have no competing interests.