Article details: 2016-0113	
Title	Quality Indicators for the Detection and Management of Chronic Kidney Disease in Primary Care in Canada Derived From a Modified-Delphi Panel Approach
Authors	Karen Tu MD MSc, Lindsay Bevan BA, Katie Hunter MSc, Jess Rogers BA, Jacqueline Young BCMPH MSA, Gihad Nesrallah MD MSc
Reviewer 1	Dr. Kelly Chessie
Institution	Department of Sociology, University of Saskatchewan, Saskatoon, Sask.
General comments (author response in bold)	Major comments 1. Abstract: nice abstract, interesting article. 2. Page 3, line 20: why do you report two numbers 140,147? (and on page 8) **That is one hundred and forty thousand one hundred and forty-seven. All one number not two separate numbers** 3. Page 4, line 20: why do you not assess care against the Canadian guidelines? and pull indicators that could assess care against that guideline? And similarly, not develop new indictors from it (page 5, line 6-9) **The Canadian guidelines were published in 2008, they were used but more current guidelines such as KDIGO were since that time published. As new evidence arises, guidelines change and we wanted to use the most up to date information at the time we undertook the study**. 4. Page 5: nice clear description of your Delphi method **Thank you** 5. Page 6, line 18-56: I cannot comment on the apparent validity of these clinical indicators but would encourage you to ensure a clinical expert does review and consider. **The Delphi panel consisted of mostly clinical experts and we had clinical leads both from family medicine and nephrology.** 6. Page 7: it is not clear to me why you id patients with Db. Is it to exclude them? Make this identification step and its reason clearer. **If Db means dialysis then we id them to exclude them and they were removed because patients on dialysis were considered to be beyond the domain of primary care for management. This has been added to the methods on page 5 and clarified in the results on page 7. If Db means diabetes then they were identified and reported on because diabetes is a significant risk factor for CKD.** 7. Page 10: can you make your list of limitations clearer/more readable with numbering? I could not always tell where one stopped and the next started. Do you have 5 limitations or fewer? (or more?) **Done** 8. Page 11, line 18-23: "Next steps .... " I thought from your abstract that you had already id'd gaps (e.g., "additionally, we found physicians ..." Yes from our study we identified gaps in care and our next steps are to try to address the identified gaps though an RCT with tools targeted towards those gaps 9. Are all of your tables and figures critical to your article? As short and concise as can be? **We've put a lot of detail in an Appendix for people wanting more detail. We've found the tables and figures helpful in keeping the word count down.** Minor comments 1. page 4, line 58: can you define/explain AGREE AGREE is a framework with a scorecard/check list to: 1. assess the quality of guidelines; 2. provide a methodological strategy for the development of guidelines; and 3. inform what information and how information ought to be reported in guidelines. **We have rewritten this section to clarify.** 2. page 5, line 13-14: did your two reviewers agree across all? If not, how did you resolve disagreement? Pull in both indictors? Include only those with two in agreement? **For indicators that were not in agreement they were discussed and a consensus was achieved.** 3. page 6, line 14: you say EMERALD has been found to be generally reflective ... but tell your reader what the weaknesses in it are so that we can assess whether any of that had possible impact on your work and findings. (Similar comment with page 7, line 51-56 -- it sounds plausible, but do your EMR experts agree with you?) **'Young adults and lower socioeconomic status are slightly under represented in EMRALD compared to the Ontario population, however this is likely characteristic of the types of people that see a physician and not anything specific to EMRALD patients. Relative to all Ontario physicians, EMRALD physicians are practicing more in rural locations and are less foreign trained physicians.' Has been added to the manuscript.** 4. page 9: what is the "problem list"? **A problem list is a running list of active problems that typically sit at the top of the EMR record, or in paper records as the top face sheet. We've edited the text to describe this.** 5. Fig 1: can't see how your numbers add up **This has been corrected.** 6. Table 2: why are some numbers in lighter font (percent column) **This is just a formatting error. It has been corrected.**

Reviewer 2	Dr. Manish M. Sood
Institution	Department of Nephrology, St. Boniface Hospital, Winnipeg, Man.
General comments (author response in bold)	Tu et al present an innovative two step study involving the development and application of CKD quality indicators. After identifying 17 indicators, they identified strengthens and weaknesses in respect to CKD care in a primary care population of 140,000 adults. The manuscript is well written and appropriate for the intended readership. Some recommended revisions: 1) I would restructure the abstract and results section to follow a more logical flow so the screening and diagnosis of CKD is presented first in the results section followed by annual follow up eGFRs and ACR then complications and therapy. **Thank you for this suggestion we have rewritten the abstract accordingly** 2) I would add to the conclusions for the abstract that these indicators could likely be applied Canada-wide. **Thanks for this suggestion we have done that.** 3) In the introduction the transition from a discussion of guidelines to "CKD-related measures" is very abrupt and not properly explained. Perhaps a sentence of two on how strong recommendations from guidelines may be measured as indicators of care delivery etc. **We've edited this section of the introduction as per recommended.** 4) Why did the group choose to not use guidelines for the development of their indicators? The lack of strong recommendations in nephro? **We did conduct a focused search to identify high quality guidelines by searching the following resources:** **• Clinical guideline repositories** **• Renowned guideline developers with proven methodologies** **• Supplemental internet search, which included a search of Canadian sources (i.e. Canadian Society of Nephrology and The Kidney Foundation of Canada), The Kidney Disease Improving Global Outcomes, and 9 other sources** **These guidelines were then used to develop the guideline recommendation document which was distributed to panel members each round along with a levels of evidence summary document. There were a large and unwieldy number of potential recommendations and overlapping content in the multiple guidelines that were identified. Instead we extracted measure concepts from the guidelines and they were used to shape the final indicators during the Delphi process. We have added this to the methods for better clarity on how the guidelines were used.** 5) The ACE+ARB category was defined upon receipt on the same day. This would be highly rare and unusual in my opinion. I'm not sure this should be included as an indicator or perhaps consider ACE with the addition of an ARB within 3 weeks (and vice versa). **It is difficult to determine whether two different medications are taken at the same time. If we used a 3 week window we could not be certain that at the three week point one med was discontinued and another one was started or if the second script was added on. Discontinuation and time of discontinuation of meds is not well documented in the EMR in a structured format that is readily analyzable. We have included this limitation in the discussion.** 6) Was this an ICES project (not mentioned)? **This study was conducted at ICES but was funded by the Ontario Renal Network this is documented in the Acknowledgements** 7) Was ethics obtained for the second part of the study? **Ethics for all parts of the study** 8) I note the developed indicators were, in part, based on EMR availability as opposed to solely on scientific validity. Did this potentially bias any choices of indicators? Were indicators ranked highly (other than lifestyle) that were not included because of measurement issues? An example would be AKI in CKD **Feasibility was one of the domains included in the evaluation of the indicators but it was not given any additional weighting compared to the other questions/domains.** 9) The findings that less than 50% of primary care physicians order ACR, repeat GFR or order ACR in pts with CKD is, in my opinion, the single most important finding in this study and should be emphasized as such throughout the manuscript. Could the low ACR measures be due to the use of urine dipstick measures of proteinuria in the office? **We were unable to tell if the low ACR was due to the use of urine dipstick measures of proteinuria in the office as we knew from previous studies that urine dipstick is not well captured in the EMR in an automated fashion as tests done in the office are really entered in a structured format. We have now added the low ACR measure to the abstract, highlighted more in the results and concluding paragraph.** 10) in the discussion the authors should consider some mention of KT or education strategies especially directed at ACR measures **This has been done in the concluding paragraph**.