Author's response to reviews

Title: Perceptions and Use of the National Kidney Foundation KDOQI Guidelines: A Survey of U.S. Renal Healthcare Providers

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Author's response to reviews: see over
Dear Editor:

Thank you for the opportunity to revise our manuscript. As requested, we have added a Conclusion section to our manuscript. We would like to also thank the reviewers for their thoughtful and detailed consideration of our manuscript. We revised our manuscript accordingly as detailed below. We hope that our manuscript is deemed acceptable for publication in *BMC Nephrology*.

Sincerely,

Michael J. Choi

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**Detailed response**

**Reviewer 1:**

1. However, this study presents a major drawback that undermined the validity of its results: the doubtless large proportion of non-respondents. Indeed, assuming that the proportions of non-renal or non-American renal care providers are the same in the non-respondents population than in the respondent’s population, the response rate is only 5.82%. In the discussion section, I acknowledge that the authors rightly state that there is concern about the generalizability of their results. However, I think that it is primarily related to the low response rate and not to the fact that the survey has been sent only to people included in the NKF database. The authors claim that they were not able to calculate the response rate because some care providers may not have received the survey (page 11, line 11). This argument sounds elusive because I do not believe that the number of people who were unable to answer the survey just owing to “technical” problems (email address change, inability from various technical causes to answer) is so high that it would have led to reach a 60% response rate (the response rate considered as desirable according to the authors instructions from the *Journal of American Medical Association* (1)). About the appropriate response rate of a survey, it can also be noted that the federal authorities before funding a survey, ask to review the survey by submitting an analysis plan of nonresponse bias if the response rate is expected to be lower than 80%(2) (however, this recommendations are not specifically dedicated to survey in health sciences). Furthermore, the authors also claim that they were unable to determine the response rate among US renal providers because the proportion of each profession is unknown in the non-respondents. Although I agree that the response rate cannot be accurately determined, it is likely to be low. Assuming that the true response rate is 60%, that would mean that in the 15372 providers that did not respond, only 400 would be renal care providers, which means that only 6.56 % of all the professional recorded in the NKF database are actually renal care providers. This proportion rises to 12.7% if we assume that the response rate is 30%. Finally, even if we suppose that both some providers did not receive the survey properly (in a way that made them unable to complete it) and some others may have been non-renal care providers, it is likely that the true response rate is very low. Therefore, there is an important non-response bias in the study that let the
reader without knowing if the results are properly representative of the actual use of the guidelines by the community of renal care providers and of their opinions about these guidelines.

We acknowledge that our response rate from the survey is low, and we agree with reviewer’s concerns regarding biases and limited generalizability of our findings. We have been transparent about these limitations by noting them in the revised manuscript as detailed below. Despite the limitations of our methodology, we still believe that these results are worth publishing because this survey represents the first survey organized by the National Kidney Foundation to provide a snapshot of the current perceptions and applications of the KDOQI Guidelines.

“The findings reported in our paper should be interpreted in the context of its limitations. A major limitation is the low overall response rate of 5.8%. Although this response rate may be due to technical issues with survey delivery, such as invalid email addresses, we cannot rule out other factors related to non-response that may have biased our findings. In addition, we were unable to determine the response rate among U.S. renal providers specifically as data on the profession of non-responders were unknown. Thirdly, the online survey was sent only to users of the NKF website. Due to the focused data obtained through the survey and the limited data available on U.S. renal providers, we were unable to determine whether survey responders were comparable to non-responders. Therefore, self-reported practices and attitudes toward the KDOQI guidelines and tools may not be generalizable to all U.S. renal healthcare providers. These survey results, however, included responses from various types of providers involved in the care of patients with CKD and sheds light on some aspects of the KDOQI guidelines and related tools that could help professional associations improve delivery of educational and implementation tools to specific subgroups of renal providers.”

2. Currently, some experts in the field advocate to evaluate and report the non-response bias (which is proportional to the non-response rate) rather than the sole response rate (2),(3),(4) because even with high response rate, some no-response bias can be high. Moreover, some techniques exist that allow to adjust the results for the bias (imputation, re-weighting)

(1) http://jama.jamanetwork.com/public/instructionsForAuthors.aspx#GeneralInformation
(2) Davern M, Health Serv Res 2013
(3) Johnson TP and Wislar JS, JAMA 2012
(4) Albesleben JRB and Whitman MV, Health Serv Res 2013

We agree with reviewer 1 that assessing for non-response bias would be ideal especially in light of our low response rate. As noted in the revised discussion section and above, we were unfortunately unable to assess for non-response bias due to the limited data collected in the survey and due to the lack of data on U.S. renal providers in general, rendering comparisons between our responders and non-responders impossible.
Minor Revisions

3. - Page 5, lines 21-22 and page 6, lines 1-6: to better emphasize the importance of the quality of care, the authors might rely on the quite recent findings of an observational French study which showed the link between the quality of care during predialysis period and subsequent patients outcomes. In this study, Thilly et al. found that the quality of care, evaluated during the 12 months before dialysis start based on the achievement of 5 clinically relevant targets (control of BP, anaemia, Ph-Ca disorders, hyperlipidaemia and metabolic acidosis), was correlated with survival during the first of dialysis treatment (Med Care 2012). Interestingly, the same team found previously that some characteristics of the care (including quality and also the time since referral to a nephrologist) were also able to positively impact some components of the quality of life (assessed by the KDQOL 36 questionnaire). This study is different from the Jones study (ref 8) in that the quality of care has been well quantified and also because it showed the impact on mortality during the early dialysis period where the mortality rate is the highest (17.5% in USA according to DOPPS data, Bradbury et al. CJASN07).

We thank the reviewer for this additional reference which is highly relevant to our manuscript. We have included the findings from Thilly et al. in the revised introduction as detailed below:

“In a cohort study of 556 patients initiating dialysis, receipt of quality care in the management of CKD-related complications prior to dialysis initiation was associated with greater survival during the first year following dialysis initiation.[10]”

4. - I think the reader could be interested by reading a copy of the entire questionnaire (that could be provided with the manuscript)

We have added a copy of the survey questions as an appendix.

5. - Please, let know to the reader if some responders have given only partial responses or not. If so, what were the proportion and the affected question(s)?

The number of respondents for each question is noted in Tables 1-3. The majority of responders, responded to most of the survey questions.

6. - I think that the results section could be shortened because most of the results are given both in the tables or figures and in the text

We have shortened the results section as recommended by reviewer 1.

7. - Page 15, line 7: a reference is requested about the development and implementation of clinical decision support system in UK (maybe this one: “engaging primary care in CKD initiatives: the UK experience” Stevens PE et al.)
We have added this reference for the development and implementation of clinical decision support system in the U.K.

Reviewer 2:
1. Dr Estrella and colleagues have performed a survey on barriers to the use of KDOQI guidelines. Although the subject is interesting and the manuscript well-written, the questions asked in the survey are relatively basic and more importantly, only addressed to users of the NKF website which represents a significant bias. In addition, the response rate is low and has not been acknowledged by the authors.

Please refer to our detailed response above regarding the low response rate in addition to consequent potential biases which we have now acknowledged in the revised manuscript.

The purpose of this survey was simply to identify the barriers against the use of the KDOQI guidelines to enable the National Kidney Foundation to target these issues in their efforts to educate healthcare providers about kidney disease. To that end, the survey questions were tailored to address this specific issue. As with any survey, we attempted to balance the need to obtain the data of most interest with the need of attracting respondents to complete the survey. As this survey targeted a response audience which is often burdened with clinical workload, we opted to develop a survey which was focused and sufficiently short so as to not discourage participation from potential responders.

2. More importantly, the survey is only addressed to users of the NKF website which represents a significant bias. The authors could try to solicit renal healthcare providers and allied health professionals from their different centers to increase the number of respondents.

We have acknowledged that our surveying only users of the NKF website may bias our findings in the Discussion. Surveying renal healthcare providers and allied health professionals in our centers, however, will potentially lead to similar biases given the academic nature of our institutions.

3. In addition, the response rate is low which has not been acknowledged by the authors. The authors could solicit respondents at least once more and/or see the evolution of barriers over time as this survey was conducted a few years ago.

We thank the reviewer for this intriguing point. The current manuscript was based on a survey to better understand the barriers to the use of the KDOQI guidelines. The NKF is currently in the process of revising their approach to alleviate these barriers, and a survey at a later point once these new approaches have been established and implemented would be of great interest.
4. The authors have merged responses from physicians and nurse practitioners which may vary significantly. We suggest that the authors present these results separately.

We thank the reviewer for this suggestion. We have described the differences between physicians and physician extenders which were significant within the revised Results section. We have also revised Figures 1-3 to reflect the unique responses from physicians, physician extenders, and allied health professionals.

5. In addition, responses from other subspecialties may be of high interest to improve care in patients with CKD and should be included in this manuscript.

We agree with the reviewer that perceptions and use of the KDOQI guidelines among subspecialists would be of interest; however, we had too few subspecialists within each field (13 endocrine, 4 cardiology, and 4 critical care) who completed the survey for their response to be reliable.

6. The denominators for the percentages included in the tables are not clear.

We have added a footnote for each table clarifying that the percentages displayed are based on the number of respondents to that particular question.