Reviewer's report

Title: Cost-effectiveness analysis of timely dialysis referral after renal transplant failure in Spain

Version: 2 Date: 23 March 2012

Reviewer: Rachael Morton

Reviewer's report:

This study addresses an important economic question on the cost-effectiveness of post-transplant management of patients with end-stage kidney disease.

Major Compulsory Revisions

1. A sound justification for the chosen utilities is missing. The utilities used in the model for the late referral hemodialysis and late referral peritoneal dialysis health states (0.53) look like they come from a study by Lapacius not Blumberg -(incorrectly referenced) that describe a 'good dialysis' health state at 6 months. This does not appear to represent a late referral health state, nor does it represent a peritoneal dialysis state.

2. There are different sources for the utilities describing early start and late start dialysis states, with late start having a decrement of 0.16. How do the authors justify this? A randomised controlled trial by Harris A et al 2011 published in AJKD (http://download.journals.elsevierhealth.com/pdfs/journals/0272-6386/PIIS0272638611000497.pdf), measured utility based quality of life in early and late start dialysis patients and did not find any difference between groups.

3. I question the rationale for using a +/-10% range for all parameter estimates in univariate sensitivity analyses. Wouldn't it be better to report the actual range or at least the 95% CI for costs and utilities from the authors' prior study as well as other published literature and use these?

4. The authors make an overall assumption that late referral health states for pre-dialysis patients approaching stage 5 CKD have the same costs and health outcomes as for those with a failing transplant approaching stage 5 CKD. Is there evidence for this? Not all patients with a failed transplant need vascular access for example, particularly if their transplant has failed less than one year after transitioning from dialysis. This needs to be addressed in the limitations.

5. In Figure 1 the Markov states, it looks like patients who enter a 'late referral' state stay in that state accruing the high late referral costs and low late referral utilities until they transfer back to transplant or die. Surely there is a time limit on the effect of the 'late referral' time period (eg. one year) where dialysis states then become the same, or is this taken into account in the model as per the evidence in references 17 and 18?

6. In the discussion the authors imply that the reason timely dialysis referral has
an increased cost is because of extended survival. The additional costs associated with starting dialysis 6 or 12 months earlier start may also be a contributing factor. I think this point needs to be acknowledged.

7. Do you have evidence of productivity losses associated with late referral to dialysis after a failing transplant? The common view is that there are greater productivity losses with dialysis than transplantation, thereby providing an incentive to forstall dialysis as long as possible.

8. The authors do not address any limitations of their study.

9. If patients are reluctant to start timely dialysis after a failing transplant, the authors may like to comment on how patients could be convinced it was a good idea.

10. Are there any areas of further research that need to be undertaken?

Minor essential revisions
1. Define the L and T scenarios in the abstract.
2. Please report ICERs in a consistent way. eg Euro/QALY
3. Is GFR the same as CCr? If so could the authors use a consistent term in their background section regarding recommendations to start dialysis.
4. In the background section what does this sentence mean? Kidney transplantation is the election therapy for CKD.

Discretionary Revisions
1. Grammar - In the results section paragraph 1, sentence 3. "Aiming for concision...figures." Can you write this in a clearer way? Also in the second sentence in the discussion could be improved. eg "Late dialysis referral..restart that has important...such as higher malnutrition...incurred.”

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