Reviewer's report

**Title:** Cancer risk among elderly persons with end-stage renal disease: a population-based case-control study

**Version:** 1  **Date:** 7 May 2012

**Reviewer:** Micah L Thorp

**Reviewer's report:**

The study by Shebl et.al. is a case control study examining the risk of ESRD among patients with cancer. Cases were extracted from the SEER data system and controls from a Medicare population. ESRD cases were identified using ICD-9 and CPT codes.

The study is well written and produces some novel information. I have only a few criticisms:

**Major revision:**

The authors suggest they are examining the relationship between ESRD and cancer. Strictly speaking this is incorrect. Their study examines the relationship between dialysis and cancer. The codes they use to identify “ESRD” are exclusively dialysis codes. ESRD includes patients on dialysis and those with CKD stage 5. Some entities include patients who have received a renal allograft in their “ESRD” definition, though this is not the norm. In either case, the nomenclature needs to be changed throughout the paper. Additionally, I didn’t see any peritoneal dialysis codes (at least the ones that are commonly used) though the revenue center codes may pick this up.

**Minor revision:**

I’m also not aware of the effect of Medicare Advantage patients in this mix – it may have an effect on billing codes (insurers are given a lump sum for a large population of Medicare patients – and Medicare claims are not made in the same fashion). Whether or not this effect is present should be mentioned in the paper.

A portion of the dialysis patients included likely had prior renal transplantation. The numbers may not be large, but they are at high risk for cancer, particularly b-cell lymphomas (which would explain the high rates of small intestinal cancers).

In addition the majority of patient on dialysis receive erythropoietin – which appears to have significant carcinogenic risks. It would be appropriate to add this to the discussion.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable
**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests