Reviewer’s report

Title: Effect of electronic patient record use on mortality in End Stage Renal Disease, a model chronic disease: retrospective analysis of 8 years of prospectively collected data

Version: 2 Date: 8 August 2007

Reviewer: Padmanabhan Ramnarayan

Reviewer’s report:

General

This article deals with an important question: does the adoption of an electronic patient record in the management of a chronic disease result in better patient outcomes? The authors conclude that the use of their own EPR in the management of End stage Renal disease patients leads to improved mortality, mainly due to its patient-centric nature and its extensive coding.

The article is well structured and deals with most of the common biases that might weaken the study design, including use of standardised mortality ratios and comparison against a contemporaneous national control group. Nevertheless, the article does overstate the correlation between the use of an EPR and improved mortality, the causes for which may have been multi-factorial, many of which cannot be teased out without a randomly allocated control group. Many EPRs are coded and to varying degrees, patient centric; why other dialysis centres did not benefit from their own EPR is unclear. This suggests the conclusion that some centre-specific features of the units studied may be more responsible for the findings reported, more than just the use of an EPR.

The differences in the groups (study vs. control) with respect to ethnic origin, incidence of diabetes etc. may account for some of the differences in mortality rate, an aspect that the authors have not discussed in detail.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. The authors state in the results section that mortality rate per 1000 patient-years has serially decreased over the years in units A, B and C. However, the table 4 shows that mortality is in fact variable (186.1, 201.4, 171.8, 225.8, 139.4, 86.2, 163.2, 144.5) for unit A. Similar numbers are seen for units B and C. USRDS mortality rate remains stable at around 240 constantly. The authors need to clarify this point in their revision.

2. Some statistical analysis (chi squared test and/or Cochran Armitage trend analysis) is necessary to examine the mortality rate across the years, and to
contrast it with USRDS data.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. It would be essential to include a few screenshots of the EPR to illustrate the patient centric nature and the reporting features, so that readers can contrast it with their own EPR systems. Since the message of the paper is that better outcomes may be attributed to an EPR, a more detailed illustration of how the EPR is different from others is needed.

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Discretionary Revisions (which the author can choose to ignore)

1. The authors refer to many of their own papers, perhaps too many, giving the impression that an adequate literature review was not undertaken. The same points could be made with other references.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

'I declare that I have no competing interests'