Reviewer's report

Title: Designation, Diligence and Drift: Understanding Laboratory Expenditure Increases in British Columbia, 1996/97 to 2005/06.

Version: 1 Date: 4 July 2012

Reviewer: Sarah Wilson

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Major compulsory revisions
I think this is a very nice paper but I am concerned that there is insufficient comment in the discussion section and the general reporting of this study on misclassification bias. At minimum, there needs to be acknowledgement that individuals who are classified as ‘no chronic conditions’ may happen to have chronic conditions that were out of the scope of the conditions selected by the investigators. This would include some very resource-intensive and high prevalence conditions that are not part of the BC guidelines, including but not limited to cancer, obesity, dyslipidemia, coronary artery disease. This is more of a limitation in interpretation than true misclassification bias but I would also like to have seen some discussion of the threat of misclassification bias presented. For example, has there been any previous validation work on the codes used? I would also like to see greater elaboration of the issue of screening in the discussion section, although this is briefly acknowledged.

Minor essential revisions
A minor comment, but throughout the manuscript there is inconsistency with which new paragraphs are indented.

Under methods, subheading ‘classifying chronic conditions’, paragraphs 1 and 2. In both paragraph 1 you say “individuals with one diagnosis….” And later in paragraph 2 say “Those who received only one diagnosis”. I would be more precise with the language used as it’s not clear whether or not a diagnosis has been made. In both of these instances you are referring to ICD codes.

Figure 1b: The title of this figure is ‘change in proportion of individuals…’ but a prevalence rate is different than a proportion. I would suggest re-phrasing the figure title to avoid the use of proportion.

Table 2: At the bottom of the table there is a second table presented (with the subheading % growth attributable). I would suggest that this form a third table for the manuscript.

Table 2: Throughout the rest of the manuscript the changes over time are increased on a relative basis, as a % change. It’s not clear to me why for the first time, data (on per-capita lab tests) are presented now as a dollar ($) change. Something to contemplate further.
Figures 2a and 2b: I would suggest that you include an endnote to make some comments regarding constant $ and age standardization.

Discussion, first paragraph: “Many factors….new screening strategies….“: presumably new screening strategies would be included within the scope of your manuscript as those who are screened would have been included based on the methods as I understand them.

In the discussion section, second paragraph: I would suggest adding the word “assessment” following the word dialysis.

Discretionary revisions

Throughout the manuscript there is the use of the term ‘treatment prevalence”. Despite having published in this area, I must admit that I am not familiar with it. You may wish to consider providing a definition for this term early in the paper. I was able to find a good summary of the term at the Manitoba Centre for Health Policy’s website.

Under results, subheading demography, second paragraph: I was surprised that there wasn’t more emphasis placed on diabetes and hypertension given their prevalence. Although renal failure and dementia showed the greatest increases, at a population level, diabetes and hypertension would be expected to be a larger driver of healthcare utilization given their respective prevalence rates.

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

**Quality of written English:** Acceptable

**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.