Reviewer's report

Title: On the validity of area-based income measures to proxy household income

Version: 1 Date: 12 February 2008

Reviewer: Bruce Stuart

Reviewer's report:

Major compulsory revisions

This is an excellent, well designed study that will add to the growing knowledgebase regarding errors-in-variables (to use the economists’ term) in income measurement. Because income is such an important variable in health services research, measurement error can be a major concern. My one significant complaint with this otherwise well thought-out and well written paper is the reader is left in the lurch regarding the take home message. The authors show that area measures are not good proxies, but make no effort to explain how using the ersatz versus the gold standard measures would actually affect research results. For example, a more useful sensitivity test using the prescription drug cost data would be to estimate side-by-side simple regressions with the alternate income measures entered as continuous variables. This would tell you whether area-measured income tends to underestimate or overestimate the true effect of income on drug spending. Other tests of this sort would also be useful if the authors have other variables. For example, if they had basic demographics and household size, they could test whether the bias associated with area-income measures is attenuated in multivariate models (I would expect to be the case, but an empirical verification would be useful.

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

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