Reviewer's report

Title: The impact of generic-only drug benefits on patients' use of inhaled corticosteroids in a Medicare population with asthma

Version: 1 Date: 25 February 2008

Reviewer: Neal T Wallace

Reviewer's report:

Overall, the study provides some interesting results that contribute to the literature and is generally well-designed. I do have one main issue that I believe requires some revisions ("major compulsory") and one discretionary revision.

Major Compulsory Revision:

1) My main beef is with the use (or lack thereof) of the propensity score and the at least tacit suggestion that its application here is doing anything more than simply "re-engineering" your control variables. Entering the propensity score as a covariate, given that it is just a uni-dimensional scaling of the control variables, does not reduce "potential bias due to imbalances..." any more than just entering the control variables directly (as evidenced by the authors own sensitivity test on p.7-8). The appropriate (or at least meaningfully significant) use of propensity scores is in establishing comparability between study groups across the measured control variables.

This means looking at the propensity score distributions between study groups to assess "support" or comparability and if lacking using random sampling of subjects (here likely from the larger comparison group ("unrestricted") to create it. I would also note that the variables used in the propensity score should be identified (missing here) and balance across covariates within propensity percentiles assessed (reported generally here but without detail on what "establishes" balance - usually t-tests of covariate means and review of mean differences where N's are small.)

The authors should either: 1) dispense with the propensity score and acknowledge lack of comparability or 2) apply the propensity score methods more fully to establish comparability.

Discretionary Revisions:

The authors find that switching from high to low cost ICS mitigates the impact of the coverage change. Given that the high/low groups are clinically distinct, the paper would be improved if information was provided on who the switchers were and whether they look more like initial low or high cost users - i.e. how strongly is the choice of high/low cost use tied to these clinical differences.

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

**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.