Reviewer’s report

Title: Diabetes and the Occurrence of Infection in Primary Care: A Matched Cohort Study

Version: 0 Date: 23 Jan 2017

Reviewer: Michelle Greiver

Reviewer’s report:

Thank you for the opportunity to review this paper.

This is an important question in primary care.

The main concern I have is with methods: the cohort matching. 8 patients without diabetes were randomly matched with each patient without diabetes. Why not match on the basis of some of the most important factors associated with infection. Example, age, gender. Older patients are more at risk of some infections. Female patients have more UTIs.

The baseline characteristics show significant differences in age (59 yrs median diabetes, 41 without diabetes) and gender (50% female with diabetes and 59.9% non diabetes). This was accounted for in the analyses by adjustment, see table 4. ORs were non significant for example, for GU and became significant after adjustment. Would it not have been better to match cohort from the outset? If they were older, would they also not have some co-morbidities like COPD, which would be associated with more infections?

Minor comments:

References need updating. Example, ref 13, there is a more up to date validation of CPCSSN data (Williamson et al, Annals of Family Medicine)

Exclusion criteria: >=10 abx or corticosteroids. I understand 10n abx, but 10 prescriptions for steroids in a year is unlikely; they would mostly get 1 script for several months. Were you able to distinguish between topical and oral steroids?

Patients with diabetes were on more PPIs (17.2% vs 8.9%). PPIs associated with increased risk of pneumonia. Should this be adjusted for?

Page 13, line 53: I think "conceded" should be "concluded".

Thank you once again for allowing me to review this paper.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes
**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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I am a CPCSSN network director. I have not worked with any of the authors, but know the NL-CPCSSN network director.

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