Reviewer’s report

**Title:** Trends in hospital admissions due to antidepressant-related adverse drug events from 2001 to 2011 in the U.S.

**Version:** 0  **Date:** 02 Apr 2016

**Reviewer:** Julie Zito

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BHSR-D-15-00066

This mss. reports on a topic of interest to clinical and research communities on the risks associated with antidepressant use. The data source is HCUP national data on hospital admissions according to ICD-9 codes for antidepressant-related adverse drug events. The main outcome is trend in ArADE-related hospital admissions across 11 years and further broken down according to patient age group, gender, neighborhood median income and hospital region (urban/rural). Among the admissions, mean and median LOS data are shown by age group and mean and median hospital charges.

There are considerable strengths to the findings. However, they could be presented in a simpler fashion. There are 6 tables; perhaps, 2-4 can be combined and 1, 5 and 6 can be combined. These would show columns as study year above age groups and then the rows would be the covariates of interest (gender, neighborhood income and hospital region, for example. Not sure why means and medians are needed for LOS and charges—medians are usually important for these typically skewed data. Finally and most important is the rationale for both change in absolute numbers and change in rate which is not well explained and not understandable from the data on the tables. In table 1, showing the change in admissions followed by change in rate is excessive. It is sufficient to show the change in rate and easier for a clinically oriented researcher to appreciate the change. Same for tables 2-4.

Abstract. I would suggest removing the last sentence from the abstract. Leaving it in the text is fine but as part of the abstract it is quite a leap from these population-based data to pharmacist-led improvements in the use and quality of ATD care.

Problematic use of the term 'antidepressant-caused ADEs, (ArADEs)—'cause' is a big word which is better reported as antidepressant-related as the 'r' in ArADEs suggests. Many of these cases may involve polypharmacy, excessive or accidental dosage and other preventable problems—hence, prescriber/patient error problems.

Limitations. The simplifying of the quartile data is not discussed re whether lumping bottom half with top half dilutes the differences in the subgroups.

**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.

Unable to assess

**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?**
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I am able to assess the statistics

**Quality of written English**
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Acceptable

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