Reviewer’s report

Title: An investigation of factors predicting the type of bladder antimuscarinics initiated in Medicare nursing homes residents

Version: 0 Date: 03 Jul 2017

Reviewer: Tamara Bavendam

Reviewer's report:

The authors are to be congratulated on a clear presentation of the results of this study in a complex dataset. Figure 2 is very helpful.

The objective of the study was stated "identify factors predicting type of BAM initiated in long-term care residents in Medicare nursing homes throughout the U.S." As a clinician reading this, I formed several hypothesis in my mind as to what I might expect to find based on what I know about M receptor selectivity. Without my own knowledge, I am not sure I would have understood from this manuscript introduction why this is a worthwhile research. Why does selectivity matter in BAM? Based on what is known about M selectivity, what did authors expect to find?

I then read the results and none of it seemed particularly revealing nor consistent with my on the fly hypotheses. None of the findings made sense based on M selectivity?

The conclusion stated: "Our findings can be used to develop strategies for targeting interventions to improve medication use for the treatment of urinary incontinence." How?

Why is BAM use so low in the Western Region?

I was surprised by the amount of prescribing in the continent population which makes me question the accuracy of the MDS.

I feel like there is an interesting story behind the manuscript that is not being communicated because the results were not what authors thought they may be. Do the finding suggest that this was too sophisticated of a question to get meaningful answers with retrospective Medicare data?

This was a lot of work and I would like to see this work published but I think this manuscript needs more context as to why it was done and a more meaningful discussion that may help future researchers who are hoping to use Medicare data to inform clinician education and thus clinical care.
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.

No

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 am able to assess the statistics

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

Needs some language corrections before being published

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