Reviewer's report

Title: Impact of urinary incontinence on health-related quality of life, daily activities, and healthcare resource utilization in patients with neurogenic detrusor overactivity.

Version: 1
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Reviewer: Marco DiBonaventura

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Although the burden of OAB has been well-documented, the aim of this study was to specifically examine the burden of UI among patients with NDO, which stems from certain neurological conditions. The research question is clearly defined and this fits a nice gap in the literature. My comments on the study are reported below:

MAJOR COMPULSORY REVISIONS

Page 7: Given the potential differences between those who complete and who do not complete the PSC form, I would strongly recommend some analysis to explicitly determine those differences. Presumably, the authors have all that information as they acquired the charts for a larger group of patients than were surveyed. I imagine that older patients who have NDO due to stroke maybe less able to participate than a younger patient who has NDO due to MS. This would need to be explored to put the burden in context.

Page 10: OLS regression models seem inappropriate for analysis of productivity loss. These variables have significant skew. Use of a generalized linear model with a negative binomial distribution (or Poisson) would likely be preferred. Naturally, there are alternative approaches but I don’t think OLS would be the best choice here.

Page 10: I’m surprised to see that country is not a covariate (or that separate models were not run by country/region…either would be fine with me). Given the burden varies by country and other tables break out analyses by country in Table 4 and 5 then it seems odd to pool everything together for the regressions.

Page 10: I was interested to see two references for the MCID for the WPAI, however, they don’t seem accurate. One is a survey study in insomnia and the other is an abstract (unable to get access to what was done) in Crohn’s disease. Given the noted variability in MCIDs across therapeutic areas for the EQ-5D, I’m not sure a 7% change can be assumed to be MCID for an OAB-specific subscale. This is noted in the limitations but I think this should just be removed altogether.

Page 15: Interestingly, the authors mention the limitation that patient data are not independent, which is correct (patients are nested within physician and it is
reasonable to assume patients within a physician are more similar to one another than patients across physicians). However, if they acknowledge this as limitation, why wouldn’t they address it? First, the authors should examine the intraclass correlation coefficient. If it is not significant, then they can report this and remove this statement as a limitation (as the evidence would not support the need to account for the nesting). If it is significant, then the authors should preform a multilevel model (patients nested within physicians). This would address the limitation they raise fairly easily.

MINOR ESSENTIAL REVISIONS

Page 9: Why is a history of anticholinergics an inclusion criterion? This would exaggerate the burden as patients who require treatment are known to have worse outcomes (since they are more severe). I don't think this would necessarily affect the delta between UI and non-UI groups but it just makes the comparison with other disease states more difficult.

Page 10: It sounds like a “median AND multiple imputation” was conducted. Was median and mean imputation meant? If the authors did multiple imputation (which has been found to be less biased than mean/median, or most other methods) then median imputation seems extraneous. Fine if that is what was done but would just want more clarity in the paper.

Page 11: The Health utilities in the US for continent patients is quite high. Half of these patients have MS, so this is quite strange. What might be the explanation for this?

Level of interest: An article whose findings are important to those with closely related research interests

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