Author’s response to reviews

Title: Treatment patterns and burden of behavioral disturbances in patients with dementia in the United States: a claims database analysis

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Author’s response to reviews:

May 3, 2018

Qi-Hao Guo
Associate Editor – Dementias
BMC Neurology

Dear Dr. Guo,

On behalf of my fellow authors, thank you for considering a revised version of our manuscript "Treatment patterns and burden of behavioral disturbances in patients with dementia in the United States: a claims database analysis" (Manuscript ID#: NURL-D-18-00107) for publication in BMC Neurology. The reviewers’ comments were insightful and allowed us to strengthen the manuscript. Point-by-point responses are detailed below.

We hope that you will find our revised manuscript to be improved and suitable for publication in BMC Neurology. If you have additional comments, please do not hesitate to contact me.

Sincerely,

Myrlene Sanon Aigbogun

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Responses to Reviewers

Shuying Zhang (Reviewer 1)

Comment: I don't know why the author does not use the three-line table as the table design.

Response: We appreciate Shuying Zhang’s comment on improving the format of the tables. We have revised all of the tables in the manuscript, adhering to the three-line APA style.

• Table 1: page 8, lines 186 to 187
• Table 2: page 9, lines 202 to 204
• Table 3: page 11, lines 239 to 243
• Table 4: page 13, lines 278 to 279
• Supplementary Table 1: page 21, lines 521 to 522
• Supplementary Table 2: pages 22 to 24, lines 524 to 526

Qi-Hao Guo (Reviewer 2)

Comment: “I have only one minor concern, was the severity of dementia comparable between the patients with behavioral disturbances and those patients without behavioral disturbances?”

Response: We thank Dr. Guo for reviewing the manuscript and sharing this important consideration. Identifying or adjusting for severity of Alzheimer's Disease (AD) or dementia in analyses using administrative claims data has generally not been possible because billing codes for AD do not directly indicate severity, and cognitive tests such as Mini-Mental State Examination (MMSE) or Montreal Cognitive Assessment (MOCA) are not included. As severity of behavioral disturbances has been associated with dementia severity/disease progression we have included a proxy for evaluating the percentage of patients with late-stage disease between groups (with versus without behavioral disturbances). The proxy was based on a previously published algorithm by Fillit and colleagues in 2002. As outlined in the methods section on page 5 (lines 119 to 120), patients were classified with late-stage disease if there was a presence of the following - decubiti (707.00), malnutrition (260, 261, 262, 263.1, 263.2, 263.8, 263.9), and aspiration pneumonia (507.x). Twenty percent of patients with BD were categorized as late-stage (per the Fillit 2002 late stage criteria) versus 13% of patients without BD group.
As disease severity is an important consideration we have added the following text to the discussion on page 15 (lines 345 to 350) for readers: “Moreover, while we have assessed a proxy for late-stage disease, identifying or adjusting for severity of AD or dementia in analyses using administrative claims data is not possible because billing codes for AD do not directly indicate severity, and cognitive tests such as Mini-Mental State Examination (MMSE) or Montreal Cognitive Assessment (MOCA) are not included.”