Reviewer's report

Title: The descriptive epidemiology of delirium in a large population-based cohort study: results from the Medical Research Council Cognitive Function and Ageing Study (MRC CFAS)

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Reviewer: Timothy Girard

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Davis and colleagues have revised their report of a population-based cohort study within which they sought to identify delirium using the Geriatric Mental State (GMS) exam, examine the association of GMS-based delirium with mortality and dementia, and determine the age-based prevalence of GMS-based delirium. The authors have made a number of changes suggested by the reviewers, and in doing so have improved the manuscript. I remain concerned, however, that the language in the manuscript does not accurately reflect what the study design was able to accomplish.

Major comments:

1. The authors correctly state on page 8 that "the major limitation is that the algorithm was not validated with concurrent clinical diagnosis of delirium." Since they acknowledge that they have not validated the algorithm to be diagnostic of delirium, I am confused as to why much of the manuscript, including the Abstract, is written in a way that implies delirium was definitely diagnosed. I appreciate that the title now refers to "delirium symptoms," a helpful change, and urge the authors to revise the rest of the manuscript to be consistent with this approach. For example, the 2nd sentence of the Results section in the Abstract should read "Delirium symptoms were associated with..." or even "GMS-based delirium was associated with..." Similarly, Table 2 should report "Cases of delirium symptoms..." or "Cases of GMS-based delirium..." Most instances of the word "delirium" in the manuscript should be changed to "delirium symptoms" or "GMS-based delirium" since the authors have established that their algorithm predicts death but have not shown that the algorithm diagnoses delirium.

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

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.