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Title	A population-based analysis of long-term sedative use among community-dwelling adults
Authors	Deirdre Weymann MA, Emilie J. Gladstone MPH, Kate Smolina PhD, Steven G. Morgan PhD
Reviewer 1	Dr. Dick Bijl
Institution	Utrecht, Netherlands
General comments (author response in bold)	<p>The subject of the study by Weymann et al is an important one as chronic use of and addiction to benzodiazepines and z-drugs are a great problem as are the consequences of its use. The study itself though is an observational study with its inherent problems.</p> <p>What does this study add to what we already know? Compared to ref 5 in general the same pattern of usage is found. The current paper gives some details of the age group 18-65 but is not essentially different. They found something about Chinese surnames.</p> <p>1. There is no attention to the recent changes in the product information of the Z-drugs also in Canada.</p> <p>2. In the manuscript details, it is stated that the study falls in the category cross-sectional. I doubt whether that is true. In that case the authors made an estimation of the prescriptions and users by means of a cross sectional analysis. How many times did they do that? Once for every year? But if that is true the figures are not clear, because they suggest that the patterns of use stay the same in the years between the measurements. Therefore, the figures should not show or depict lines but should be represented by dots.</p> <p>3. Data base studies can add valuable information to health care problems. The limitations of data base studies are also well known. In this case the authors could not describe essential features of the users and the drugs, like DDD's PDD;'s, co-medication and co-morbidity, were the prescriptions repeat prescription, who was the initiator? These are however very important data.</p> <p>Per page/line.</p> <p>4. Page 3, line 12 a. Ref 1-3 do not seem the most adequate as these are written by only one author where systematic reviews and meta-analysis from the Cochrane Library and with more than one author would be appropriate. b. Apart from that problems in traffic and fall risk in elderly should also be addressed.</p> <p>5. Line 33 Ref 5 does not primarily focus on older adults.</p> <p>6. Line 43-45 The authors want to determine risk factors on the basis of this data base study. This is not appropriate as the aim of the data bases was not to classify that. It is merely that the data base contains additional information regarding aspects of the users and the drugs. Real risk factors are not addressed, like co-medication and co-morbidity.</p> <p>7. Page 6, line 17 Is the reference 27 dating from 1991 still appropriate? In what populations was it validated?</p> <p>8. Line 44 I have doubts whether this can be done in a proper way. But even if it could be done, this information is of no use for practice because this research question should be estimated in a comparative study.</p> <p>9. Page 9, line 53-56 The term correlated might falsely give the impression that you used a correlation coefficient, where you write of an odds ratio. AOR should be spelled fully.</p> <p>10. Page 10, line 44 These references 1-3 and 8 are not the most evidence based references there are.</p>

	<p>11. Page 10-12 The interpretation and discussion sections do not add relevant new information to what is already known.</p> <p>12. Line 54 The conclusion that having a Chinese surname has a protective effect should not be drawn on the basis of a cross sectional study.</p>
Reviewer 2	Dr. Hugo Lövheim
Institution	Geriatric Medicine, Community Medicine and Rehabilitation, Umeå University, Umeå, Sweden
General comments (author response in bold)	In my opinion a well written manuscript. This is not ground breaking science but still important reporting of prescribing patterns and pharmacoepidemiology, well worth of publishing. I have no further suggestions to the analyses and discussion.
Reviewer 3	Dr. Larry W. Chambers
Institution	Elisabeth Bruyere Research Institute, Ottawa, Ont.
General comments (author response in bold)	<p>Summary: The methodological quality of this study of long-term sedative use over ten consecutive years in British Columbia is excellent. The authors' primary aim was to identify health and socio-economic risk factors associated with long-term sedative use using administratively linked datasets. The paper raises the important point that there continues to be an upward trend in prevalence of long-term use of benzodiazepines and z-drug sedatives despite efforts to curb their use. This paper brings awareness to the issues facing the BC healthcare system and their particularly strikingly finding that prevalence has increased among adults under the age of 65.</p> <p>Major Recommendations:</p> <ol style="list-style-type: none"> 1. The article lacks of rationale as to why the authors chose to elaborate on the issue of ethnicity. The inclusion of this variable is not well explained. The citations on page 10 provide sufficient explanation of disparity between Asian and non-Asian but without conceptual framing readers are left wondering why this is included in the first place. Also, the text that refers to Table 2 mentions only Chinese having a lower risk of long-term sedative use but Table 2 data reveal that both Chinese and South Asians have lower risk. In addition, the authors cite reference 38 and 39 as having to do with drug use and Chinese and South Asians with one of the co-authors (Morgan) of this manuscript being the lead author for reference 39. 2. The authors refer to younger adults frequently throughout but do not offer any framework to support their 18-64 age classification. Ordinarily classification schemes are as follows: 18-35 young adults, 36-55 (or 64) middle aged and 65+ at older adults. A qualifier or citation would help here. Reframing the population 18-44 as "young" and 45-64 as middle aged, may also be appropriate. The tables might refer to the 18-64 category as "Young/Middle aged adult". See http://archpsyc.jamanetwork.com/article.aspx?articleid=2019955 3. For the results section entitled "Trends in sedative use among community-dwelling adults, 2004 to 2013" are any of the associated rate increases statistically significant? If so, they should be reported. 4. Minor Recommendations: <ol style="list-style-type: none"> a. Page 9, line 53 should be "adult women" (remove "s") b. Page 10, line 16 to 18 "long term users" appears twice in one sentence. c. Page 10, line 51 to 52 "if they were older" is redundant, authors stated as much in lines above. d. Page 12, line 17 to 22, I would clarify that "more users" relates to greater raw numbers of users in these age categories. 5. Recommendations to improve tables and figures: <ol style="list-style-type: none"> a. Table 1. If the authors call sedatives z-drugs throughout the paper then they should be called z-drugs in this table.