Reviewer’s report

Title: The management of severe hypertension in Australian general practice

Version: 1 Date: 20 March 2013

Reviewer: Dominique Anne-Michele Cadilhac

Reviewer’s report:

The authors have presented data for an important topic that deserves further attention.

Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

Abstract background: The aim could be made sharper; you have examined a range of factors clinician, patient and practice-based to describe management of SHT in Australia and to identify aspects that might be improved

Abstract Methods: mention where these GP clinics were located? Throughout Australia or just a few States? How was BP control defined? What is the definition for hypertension?

Abstract results: really only has results from Figure 1.

Introduction page 4 para 1: re-write what your aims and research questions are, be more explicit regarding what you were investigating and ensure these match the analyses you have undertaken to answer these research questions or hypotheses.

Methods:

The methods and results are intertwined together in sections (see page 6 paragraph 3 and 5, page 7 start of last paragraph are methods). Please split out appropriately. You need to mention somewhere how complete the records are, how much missing data, etc and where you used any imputation methods or assumptions to not have to disregard any data in your analyses.

Page 4 State where these 100 GPs that contribute data to this dataset are located.

Page 4 State why the 45 patients who died in the follow-up period were excluded.

Page 4 Patient characteristics included: did not include BP rather than just SHT because you need to be able to classify into SHT, normotension, etc

Results: This section could be much improved to display the terrific analytic work that has been undertaken here and the richness of information. It is important that the paper can be read independently of the appendix with enough information for readers to understand how the analysis was done. The statistical analysis requires more detail in terms of a basic explanation of what were the levels, adjustment for clustering made, etc.
I suggest that the Appendix be reduced or excluded and the data from the appendix summarised into tables in the manuscript. Use Tables to succinctly explain the results rather than in paragraphs e.g. Results section paragraph 2, page 5.

Tables are required to display these data in a simple and easy to understand methods. The authors should display this information in a more standard way (look at other papers published in this or other journals for displaying similar information). Also why are medians and inter-quartile ranges provided in Table 1 when the sample size is so large? The following are examples of Tables that would be useful in this manuscript:

1. Lack of follow-up visit: patient, general practitioner and practice factors
   a. Bi-variate analyses: patient (gender, age, diabetic status, cholesterol level etc, number of visits), GP (gender, age, yrs of graduation) and practice (location and size)
   b. Multi-variate analyses: patient, general practitioner and practice factors
2. Lack of controlled BP: patient, general practitioner and practice factors
   a. Bi-variate analyses: patient (gender, age, diabetic status, cholesterol level etc..number of visits), GP (gender, age, yrs of graduation) and practice (location and size)
   b. Multi-variate analyses: patient, general practitioner and practice factors

Figure 1 should be a graph on the % who are normotension, hypertension and whether the patient is taking anti-ht drugs. Were there any statistical differences between groups? The flowchart data of the numbers in cohort, follow-up, referral and anti-ht drugs could be simply explained in words.

Page 6; standard deviations are not very meaningful to a reader...state what the mean was as well.

Discussion:
Please emphasise what is novel about this study and what it adds to the literature as part of your conclusion/discussion.

Not with large sample sizes a small difference may be statistically significantly different, but may not be clinically relevant...for descriptive statistics and bi-variate comparisons you may want to discuss this issue (e.g this may be relevant for parts of Appendix as well see page 2 Appendix results section).

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

The following are needed to improve the writing and presentation of the information.

Abstract:
Please don’t repeat your results in your conclusion but provide a summary of what your findings mean or how they should be interpreted.
Main text

Introduction:
A definition for hypertension is needed. E.g “Hypertension, usually defined as >140/90 mm Hg, is the most common primary diagnosis…”

Page 3 Para 2, 3rd sentence: Other authors not ‘studies’
Page 3 Para 2, last sentence: ‘…a large Australian study provided evidence that…’, also put reference 12 at the end of this statement.
Page 3 Para 3: add mm Hg after <140/90. Also “Yet, authors of previous studies”

Data and Methods: “We used data from the electronic medical records that were collected...”.

Page 4, 3rd para –last sentence make two sentences so easier to read.
Page 6: ‘Among the 106 clinics with more than 20 SHT patients’
Page 7 Para 3 ‘Being male and patients with...were less likely...’
Page 8 Discussion: ‘This study was designed to explore...’; “Follow-up occurred within a median of...” “...no more than 7% of the patients would have achieved…”

Was any information on outcome available to include in the analysis e.g stroke or heart attack rates?
Page 9 “This study provides a description of…”
Page 9 para 2 Nevertheless... hypertensive patients in Australia are not being managed”
Page 9 para 3 ‘practitioners’... ‘could also be behind inadequate follow-up or poor achievement of’

Conclusion “This study provides evidence of…”

Acknowledgments : mixed font for number...please fix
Tables: note that all acronyms should be provided as a footnotes.

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

Figure 3 could be excluded as it doesn’t add to the paper.
The statistical method used two-level hierarchical logistic regression with clustering is appropriate for these data. The preferred method for future reference would be to use a random effects multi-level logistic regression which will give more accurate estimates.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests