Reviewer's report

Title: Referral and provision of specific dental procedures by general dentists in the National Dental Practice-Based Research Network: questionnaire findings

Version: 2
Date: 8 October 2014

Reviewer: Sergio Chrisopoulos

Reviewer's report:

This study reports on the findings of a questionnaire of general dentists enrolled in the National Dental Practice-Based Research Network in the US. More specifically, the authors attempt to show how often certain dental procedures are provided and to test associations of dental provision with various factors. Overall I feel that the article can contribute to literature on dental service provision in the US. In my view, there are some areas that would strengthen the paper.

Major Compulsory Revisions

1. In the statistical methods section there is a discussion on the use of logistic regression (top of page 7) yet there is no evidence of any regression analysis in the results section.

2. In the Results section, the reader is sent to an external website to view the actual tables. This article should be a standalone piece of work where the reader can see a summary of the important output. While I acknowledge that there are a number of independent variables being assessed, other studies have managed to summarise this information succinctly into a journal article. If there is too much information either trim the output or focus the attention of the paper so that it becomes more manageable.

3. Lines 162-165 on page 7, refers the reader to table 3 and to the website. While table 3 provides a summary of the web tables it doesn’t tell me anything useful. For example, under Esthetic procedures it states that males do more. How much more? You stated in the statistical methods that logistic regressions were performed. What was the rate ratio for this variable?

In the the authors cite a paper by Brennan & Spencer which looks at similar output. Can I suggest that you use that paper as a template for this? The tables provide far more meaningful information than Table 3.

4. On page 8 in the results, and throughout the discussion the text refers to regression analyses and reports certain findings which were or weren’t significant when controlling for a couple of other variables. Why not just through all independent variables into a logistic regression so that any significant associations are present when controlling for other confounding variables rather than just choosing what to control for. E.g. line 186 on page 8 states that analyses were conducted controlling for race, insurance status, and visitation behaviour simultaneously. What about the dentist’s background, their educational
background (a potential proxy for treatment philosophy), location of their practice etc.? All of these factors potentially confound the association. Therefore include them in your model. Because of the sample size there would be enough power in the study to support the analysis and because you are running a single analysis on each outcome variable then you won’t need to reduce your critical p value to .001.

5. The discussion reads like a results section. Again using a regression approach will help focus your discussion rather than just stating which associations were significant (without providing the statistics to support the claim).

Minor Essential Revisions

1. The paper makes reference to assessing referral patterns of dentists (e.g. in title, abstract, and line 99, as well as in the discussion), yet from the questionnaire it didn’t appear that referral patterns were assessed. Also, this is pointed out in the limitations section of the discussion.

2. In the description of the NDPBRN in the methods section it would be worth stating that the sample is effectively a convenience sample rather than a random selection of practitioners across the US and therefore not representative of the population of dental practitioners. This is pointed out in the limitations sections but needs to be stated up front in the methods sections as well. Also, having a table describing the characteristics of the GDs will help the reader orient themselves with the sample.

3. I was unable to ascertain over what period the data was collected. Was it for a given year or from the start of the NDPBRN? Either way, can you provide some info on this?

4. Lines 159-161 state that the 10 dental procedures were categorised into 3 groups: very common, common, and uncommon. What was the criterion used?

Discretionary Revisions

6. Table 1a lists all of the variables assessed. Can these be summarised in the text in the methods section rather than specifically naming each characteristic? This would remove the need for the table. I defer to the editor’s decision on 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 I have no competing interests