Reviewer's report

Title: Providing dental insurance can positively impact oral health outcomes in Ontario

Version: 0 Date: 04 Nov 2019

Reviewer: Kelsey Chalmers

Reviewer's report:

Thank you for inviting me to review this article and to the authors for their work. In this article, the authors analyse a cross-sectional survey of the Ontarian population to report on the relationship between dental insurance and dental health outcomes. The authors advocate for a universal dental insurance scheme in Canada based on the positive relationship they find in their analysis.

Major comments:

Introduction: given the systematic review and previous studies mentioned from line 9, page 4, on dental insurance and utilization and unmet need, are the authors addressing an unknown gap in the literature? Have outcomes - like the ones the authors report - not been investigated before? This wasn't clear to me when reading the introduction.

Methods: did the authors consider collinearity between the covariates? If dental insurance is collinear with household income (perhaps also education level? Geographic peer group?) this could impact the marginal effect estimates of dental insurance on the investigated outcomes. See: Wheeler, D. (2010). Collinearity. In N. J. Salkind (Ed.), Encyclopedia of research design (pp. 194-195). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412961288.n62. "First, the interpretation of regression coefficients as marginal effects is invalid with strong collinearity, as it is not possible to hold highly correlated variables constant while increasing another correlated variable one unit."

Some minor comments:

Introduction: the US's outcomes are mentioned several times along with Canada, but this doesn't add anything to the introduction - I would suggest deleting most of the US references here.
Line 53, page 3 - is there a difference between 'low income workers' and the 'working poor'? If not, this point doesn't really make sense.

Line 36, page 3 mentions that dental insurance may be employment-based or individually purchased - is this describing the US and Canada, or just Canada (from the previous sentence, it would seem the US and Canada)? If dental insurance is employment-based, do both low-income and high-income workers still have access to dental insurance? Or is this only a benefit typically for high-income workers?

Line 25, page 4 - "What's more, there is growing policy and civil society interest in universal dental care coverage in Canada (23, 24)." This line doesn't really lead into the rest of the paragraph, which discusses the modelling approach the authors used.

Methods: Line 56, page 5 - it may be useful to readers to include, if possible, the survey items these outcomes are based on. "Visiting a dentist only for emergencies was defined as whether or not an individual identifies as someone who visits the dentist only for emergency situations" - are these people who have never visited the dentist other than an emergency situation, or have the intention of never going to the dentist other than in an emergency?

Covariate description (line 38, page 6): "Dental insurance includes any coverage (public and private) that offsets the cost of dental services partially or completely" - were public/private and partial/complete coverage distinguishable in the original data, and this was then combined by the authors? If some individuals have dental insurance, but then still have out-of-pocket costs when using dental care, this might change the impact of dental insurance on the outcomes investigated by the authors. If these data/breakdowns are not available, perhaps this could be mentioned in the discussion.

Line 15, page 7 should include et al after Onukwugha.

Discussion: line 15, page 12 - "Using these methods, bias from missing data would arguably be minimized". As pointed out by the authors at the beginning of the paragraph, the missing data may not have been missing at random (which the authors assumed in their methods) if some answers were more sensitive than others.
Line 20, page 12 - Suggest removing all these phrases which are at the start of every sentence in this paragraph: "However,...", "Thus, ...", "Yet, ...", "In fact,..."; since it makes it difficult to read.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

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