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**Article title:** Prevalence of self-reported visual impairment in Canadians with and without diabetes: findings from population-based surveys from 1994 to 2014

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**Reviewer 1:** Kirsten Coppel

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This cross-sectional study used Canadian health survey data to describe the trends in the prevalence of visual impairment (VI) among Canadians aged 45 years and over who did or did not have diagnosed diabetes during the period 1994/95 to 2013/14. The paper was well written and a pleasure to read. The introduction would benefit from some more contextual information and parts of the interpretation could be further developed (see points below). Was consideration given to analysing the results by ethnicity, in addition to income and education level? This would be relevant in terms of how a service is delivered, and therefore would enhance the paper. Overall my comments are fairly minor.

Specific comments

Abstract

\* The final sentence does not reflect the discussion / interpretation in the body of the report. Please amend accordingly

Introduction

\* A definition of visual impairment would be informative. It would also be informative to note the other main causes of visual impairment e.g. macular degeneration, as well as which disorders respond to the various treatments. This would provide contextual information for the observed trends and ensuing discussion.

\* It is stated that the prevalence of diabetes has been 'fast-rising'. Including diabetes prevalence data would also provide useful contextual information, as well as the proportion with diabetic eye disease, and retinal screening rates.

Methods

\* Page 6. How were the survey participants randomly selected? Was there over-sampling of some groups to ensure representative samples?

\* Page 8. Please add a sentence to explain how the additive and multiplicative interactions were assessed.

Results

\* Presumably, the unweighted number of participants with a valid answer to VI in the first sentence refers to those without diabetes? If so, for clarity, please include this additional information.

\* Page 14, 1st sentence (“Thus, interventions ..... a larger effect.”). This is an interpretative statement and therefore should be deleted from the results section.

#### Interpretation

\* The explanation / discussion about possible reasons for the observed reduction in VI could be developed more beyond the statement on page 12, “We believe these results likely reflect the collective efforts by eye care clinicians, other medical clinicians, researchers, the public, and government to prevent vision loss.” While this might be true, it is a bold statement and is not substantiated with any examples or references. For example, advances / technology progress in cataract surgery.

\* Page 13. Good blood pressure control should be added to the list of actions that are necessary to protect vision. This sentence, “Amongst those with diabetes ..... macular edema can be irreversible.” requires references.

\* Page 13, last sentence of 1st paragraph, “Programs to increase ..... highly recommended.<sup>34</sup>” Consider rephrasing ‘uptake of diabetic eye exams’ and ‘aimed at poor neighbourhoods’ so use of person-first language is evident and deficit framing is less evident.

\* Page 13, Limitations. Please include comment about the impact of undiagnosed diabetes on the findings.

#### Figures

\* Figures 2 and 3. Please ensure the scale on the vertical axis is the same in both graph A and B to ensure accurate visual interpretation. That is, in Figure 2, the vertical axis upper limit is 13 in A, as well as B (and not 10), and in Figure 3, the vertical axis upper limit is 20 in A, as well as B (and not 15).

#### **Reviewer 2:** Michael Lichter

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Very important paper.

Well constructed.

I think there were limitations in group selection, but I did not think this would impact the conclusion.

**Author response:** We have addressed the comments from the journal editor and reviewers in a point-by-point fashion and incorporated relevant changes in the revision with amendments tracked [Author responses to reviewer 1 indirectly answered in responses to editors’ comments, which are not published].