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Title	Changes in employer-sponsored private health insurance amongst retirees in Ontario: a cross-sectional study
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Reviewer 1	Maude Laberge
Institution	Département d'opérations et systèmes de decision, Faculté des sciences de l'administration, Université Laval, Québec, Que.
General comments (author response in bold)	1. Introduction: many health care systems have a combination of public/private insurance, with cost-sharing schemes. First sentence appears to be misleading. **We have changed the wording of this (Page 6, para 1): In contrast to other universal systems, only physician and hospital services have universal coverage in Canada.** 2. There is limited context regarding insurance in Canada. More specifically, there is no mention of public drug coverage for seniors, upon turning 65. **To address this concern, we have added a "setting" paragraph at the end of the introduction section titled "Insurance coverage for seniors in Canada" (Page 7, para 3), as per the editors' recommendation.** 3. The authors need to provide a better rationale for the value and importance of their research question. Why would having employer-sponsored insurance important? **Thank you for the comment. We have now added a "setting" paragraph as requested by the editor to better contextual the role of employer-sponsored insurance and private insurance in general. We have also provided additional support for the important role while private insurance and employer-sponsored insurance plays in the health system in the introduction paragraph (Page 6, para 1).** 4. p9, l 5-6: I suggest providing actual percentage of retiree coverage rather than the decrease, as a 7% decrease provides little relative information. **The wording of this sentence has been changed to include the actual percentages at the two different time points (Page 7, para 2): For example, between 1996 and 2000, the proportion of retirees aged 65 to 69 with retiree coverage decreased by from 46% to 39%.** 5. p9, l8: which surveys are authors referring to? Are these Canadian or American? **The cited surveys were conducted in Ontario. This has been added (Page 7, para 2)** 6. Methods: Why were immigrants excluded? Respondents who had not answered employer coverage, job status, or immigration status were excluded. What was the rationale for the exclusions? Could the results be biased? Were there any sensitivity analyses conducted or examination of the excluded respondents to know how comparable they are? **We have provided a rationale for the importance of including the variable indicating recent immigration, as suggested by the editors (see above). Job status is key variable in our definition of a retiree. As employer coverage is our main dependent variable, this is necessary in order for us to conduct our analysis. Statistics Canada adjusts for non-response in their bootstrap weights, which account for non-response to the entire survey as well as only for particular questions. As such, we feel confident that our estimates and estimates of variances adequately account for any non-response bias.** 7. I am not sure I understand the rationale of the choice of pooling the data and running a logistic on pooled data. It seems like having proportions of retirees with coverage could answer the question just as well. Unless the authors wanted to examine the factors that could be associated with having employer-sponsored coverage. **We respectfully disagree that by merely presenting the proportions of retirees with coverage would adequately describe the problem. This is apparent in the fact that the unadjusted logistic regression results did not show an apparent difference in the odds of individuals receiving retiree coverage between the 2 cycles. Individuals which have**

	access to this coverage differ vastly from individuals who do not - the shifting demographics of the two populations studied has masked the fact that the decreasing trend is in fact occurring between different individuals with the same characteristics in the two cohorts. 8. In the absence of a policy or other intervention that could have affected employer-sponsored retirement, I have difficulty finding the value of the research question and the interpretation of the results, other than in descriptive terms. **This is a great point - the lack of policy intervention in this era of rising prescription cost resulting in employers reducing coverage availability to retirees is precisely what we are attempting to highlight with this study. Particularly as more individuals are retiring, not having the coverage that they may currently have as employees upon retirement may translate to increased out-of-pocket burden on prescription drug costs. If this current trend of decreased coverage availability continues, this may present as a future cost-related non-adherence to prescription medicines. Cost-related non-adherence to medications has been shown to increase physician visits and hospitalizations.[1] Thus, with this study, we hope to highlight this trend and call for policy interventions which will prevent this future public health issues.** 9. Discussion: The results appear difficult to interpret with limited context and conceptual or theoretical framework. **We apologize if the results are difficult to interpret. We hope that the clarifications and modifications made above have helped better contextualize the study.** Reference 1. Law MR, Cheng L, Kolhatkar A, Goldsmith LJ, Morgan SG, Holbrook AM, et al. The consequences of patient charges for prescription drugs in Canada: a cross-sectional survey. CMAJ Open. 2018 Feb 5;6(1):E63–70.
Reviewer 2	Yaping Jin
Institution	Department of Ophthalmology and Vision Sciences, University of Toronto, Toronto, Ont.
General comments (author response in bold)	1. Abstract section: "While international data suggest that private health coverage for retirees has been …" What does "private health coverage" mean here? Is it different from "employer-sponsored" health coverage you are studying, or is it the same? Does it refer to/include health coverage purchased by out-of-pocket? Very confusion. **We thank the reviewer for pointing out the inconsistency. "Private health coverage" refers broadly to all private insurance policies, which include employer-sponsored private health and/or retiree coverage policies administered and negotiated through the employer, as well as policies negotiated with private insurance companies individually. We have changed the language to specify which of the two types we are referring to throughout the text, or if we are discussing private insurance generally.** 2. Abstract section: " …. to investigate the changes in retiree health insurance availability over time in Ontario." I think this is your study aim, not your study methods. Conventionally study aim is placed in the Introduction, not in Methods. **The aim of the study has now been moved to the Introduction as advised.** 3. Abstract section: "… of reporting retiree health insurance, compared to …" "… PubMed ; the rate of retiree health insurance has declined for Canadians with similar characteristics over the past decade." Again, what "health insurance" mean here? Does it mean employer-sponsored health insurance? Or does it also include government-sponsored health insurance and privately purchased health insurance? In addition, what does "similar characteristics" mean? The "similar characteristics" does not seem to link well with what you presented in Results. **This has been clarified in the abstract on page 4.** 4. Page 8, paragraph 1, "…are paid through a mix of public and private insurance, and out-of-pocket payments." "Private health insurance plays …." Paragraph 2 "The availability of employer health insurance…" It seems "private insurance" refers to "employer-sponsored insurance". This wording is very confusing. Please clarify this issue throughout the manuscript. I will not

	repeatedly point out this confusing term again. **We have now changed the sentence to read "The availability of employer-sponsored private health insurance represents.." to emphasize that difference between private insurance generally and employer-sponsored private insurance. We have also added the "Drug coverage across Canada for seniors" section, which we hope offers better context and clears up some of the confusion about the different types of private insurance.** 5. Page 8, paragraph 1, "… 60% of Canadians hold private health insurance...".There are many types of insurance, e.g., drug insurance, dental insurance, and vision insurance etc. The coverage for each type of insurance is different. What type of insurance the "60% of Canadians hold private health insurance" refers to? **We have now clarified for this to mean prescription drug coverage (Page 6, para 1): Approximately 60% of Canadians hold private insurance for prescription drugs.** 6. Page 9-10, "We excluded individuals who immigrated to Canada fewer than 10 years ago"? Please provide justifications for this exclusion. **Thank you for noting that this was not clearly justified. We excluded immigrant to minimize the bias which may be introduced for individuals who arrived after retirement, in which case they were likely not eligible for retiree coverage from a Canadian employer. As noted above, the rationale has been added (Page 9, para 1).** 7. Page 10, paragraph 2, "We constructed this variable from self-reported coverage of four types: prescription medication, dental care, eye glasses and private/semi-private hospital room cost." Does having one type of insurance coverage mean having the other 3 types of insurance coverage? My understanding is not. Please provide justification for this construction? Why not focused on 1 specific type of insurance coverage, e.g. prescription medication, which may be more important for seniors? In Ontario, residents over the age 65+ are eligible for the Ontario Drug Benefit Plan. If government covers the cost, why employers will double cover the cost? In contrast, dental, vision and hospital room coverage is generally not covered by government, except for those on social assistance. As a result, the reported declined coverage rate provided by employers may likely reflect the declined coverage rate for vision, dental and hospital rooms. Please elaborate this issue. **We respectfully disagree with the reviewers comment regarding the validity of aggregating the availability of insurance coverage. Firstly, the Ontario Drug Benefits (ODB) program has been in existence for some time and had been unchanged throughout the study period, thus any effect which the ODB has on changes in employer retiree coverage would likely have stayed constant and unlikely to bias this trend that we have found. In regards to the validity of aggregating the insurance types into 1 outcome, health benefits are most often offered as a package rather than separately, thus we felt it was appropriate to aggregate these insurance benefits together. To test the validity of our aggregated outcome, we performed a sensitivity analysis testing each insurance type individually (as noted in the last paragraph of the results section). The results of this analysis resulted in similar ORs with wider confidence intervals for each insurance type compared to our aggregate insurance outcome. We would be happy to provide the full results of this analysis at your request.** 8. Page 11, paragraph 1, "… representing a weighted population of 479,192 individuals in 2005 and 455,072 in 2013-2014." PubMed This level of number details does not seem to follow the guideline of reporting for numbers. Please double check for the user guide on reporting guidelines set by Statistics Canada for CCHS **We thank the review for pointing out this reporting error. As we had used the "pooled approach" as outline by Thomas & Wannell (2009) in order to analyze the two survey cycles,[1] the more accurate method of reporting would be to present the results in ratios and proportions, rather than actual weighted frequencies. This has been corrected in the text (Page 11, para 1). We have retained the frequencies presented in Table 1, which have been presented with the weighted percentages.**

	9. Table 1, the percentage for "Have prescription coverage" for "total" (27.6), PubMed is almost double the percentage for 2005 (13.8) and 2013-2014 (13.7 PubMed). This sounds odd. The combined percentage should be similar to the percentage in individual cycles as other percentage shows. Please explain this big difference? Similar issues occurred for dental, eyeglasses and hospital coverage. **Apologies and thank you for pointing out this error. These numbers have been reviewed and corrected and the big difference is no longer present. Upon reviewing the numbers, we also noticed the error in the total weighted study sample size in the 2013-2014 and this has also been correct. (Page 20, Table 1).** 10. Table 1, frequencies in Q5 is only nearly half of those in Q4. Is it necessary to keep Q5 as a separate category? Why not combine Q5 and Q4 as one category? This combination may help you better explain the results. **We respectfully disagree with the reviewers comment that keeping Q5 as a separate category is not necessary. While the frequencies are lower, we feel that there are adequate numbers to produce a statistically sound estimate. In fact, we believe that the trend observed in Q5 may be explained by the fact that this quintile would likely have included many current and former business owners, who would not have "employer-sponsored" private insurance.** 11. Page 11, paragraph 2, "2nd quintile" "1st quintile", does this refer to the poorest or the richest categories? Please elaborate. **Thank you for pointing out that this may be unclear. Generally speaking in statistics, the 1st quintile (much like the 1st quartile or other quantiles) is taken to mean the lowest ranking group on the variable and thus, in this case, would mean the lowest income earners. This has now been clarified in the text: Individuals earning in the 2nd quintile had 2.71 times the odds of receiving coverage, compared to individuals in the 1st quintile (ie. those who are poorer) in the adjusted analysis. (Page 11, para 2)** 12. Page 13, paragraph 2, "Our also results corroborate previous...which found thatemployers plan to reduce the coverage they provides." Please correct this sentence. It reads problematically. **Thank you for noting that this sentence was unclear. This has now been corrected (Page 13, para 2): Our results also corroborate previous industry surveys conducted in the province, which found that many employers had plans to reduce the coverage they provide.** 13. Employer-sponsored health insurance is only one source of insurance coverage. How other sources of insurance coverage, e.g. government-sponsored insurance, out-of-pocket purchase insurance, government social assistance programs for seniors with low-income etc interact with the reduced rate of employer-sponsored coverage should be discussed. For example, is this reduced coverage provided by employers the results of better coverage provided by government? If so, there should be no worry about the reduced coverage rate by employers. This is especially true for prescription medications for seniors 65+ (the Ontario Drug Benefit Plan). **We respectfully disagree with the reviewer's comment. As noted above, prescription coverage for this segment of the population had not changed during the study period, thus we feel that better coverage from the government is an unlikely reason for the observed trend.** **Additionally, while it is true that the ODB program does provide drug coverage to Ontario's seniors, this study has national implications. While we do not have data to study the effects in other provinces, since incentives for employers to provide coverage are governed federally, it may be reasonable to assume that similar trends are occurring in other provinces. In fact, the results of this study may be conservative estimates for trends occurring in many other provinces where drug coverage for this segment of the population is not as generous. As prescription costs represent one of the highest expenditures on these coverage plans, this may be more burdensome for employers in**

	other provinces, thus the incentive to reduce coverage would be higher. **Reference** **1. Thomas S, Wannell B. Combining cycles of the Canadian Community Health Survey. Health Rep. 2009;20(1):53–8.**
Reviewer 3	Ching-Wen Chien
Institution	National Yang-Ming University, Taipei, Taiwan
General comments (author response in bold)	1. Lack of proper comparisons in representation of population between two groups of respondents of two surveys. **We have now added a sentence in the Results section to say that the two cohorts are comparable and for the reader to refer to Table 1 for further breakdown of the demographics (Page 6, para 1). We also added a sentence in the statistical analysis section to indicate the that survey questions and collection methods were similar between the two cycles (Page 10, para 1).** 2. Some variables were divided into groups without provide evidences which support the division, such as age, income, etc. **We have now added additional justification for the confounders chosen in the analysis (Page 9, para 2).** 3. Adding number of chronic diseases together need more evidence to prove its validity. Besides, the authors had to correlate self-report health status and number of chronic diseases to assure its correction of either variables. **Thank you for the reviewer's comment. To clarify, the addition of self-reported health status was not to "assure its correction of either variables", as the reviewer had suggested, but rather that we believe the two variables fundamentally measure different concepts. One may have many chronic illnesses, but the conditions may not dramatically alter daily life and the individual may still feel they are of great health. We feel that self-reported health status is a subjective measure of health status, while the number of chronic illnesses (though self-reported, as well) is a more objective measure and the two are not necessarily colinear.** 4. Adding coverage together to form the dependent variable is questionable because yes/no in dependent variable is an over-simplification of the scope of insurance coverage, which means having two or more coverage is equal to only one coverage. This aggregation to form dependent variable is very over-simplied. **Thank you for the reviewer's response. We recognize that the dependent variable may be over-simplified, as there may be other ways which insurance coverage can change, as discussed in the Limitations section of the paper (Page 14, para 3). From the survey data and the questions which were asked, it was not possible to tease out these nuances and we are limited to simply investigating whether an individual does or does not have insurance. In regards to aggregating the insurance types and the validity of doing so, please refer to our response to Reviewer 1's comment above.** 5. Please include a limitation section of this study. **This has now been included (Page 14, para 3).**