

<b>Article details: 2018-0198</b>	
Title	The impact of a household-level deductible on drug use among lower income adults: a quasi-experimental study
Authors	Michael R. Law XX XX, Lucy Cheng XX XX, Heather Worthington XX XX, Sumit R. Majumdar XX XX, Kimberlyn M. McGrail XX XX, Fiona Chan XX XX, Tracey-Lea Laba XX XX, Muhammad Mamdani XX XX
Reviewer 1	Fiona Clement
Institution	University of Calgary, Dept. of Medicine
General comments (author response in bold)	<p>Point 1: The results and conclusions in the abstract don't match. The conclusion notes a 7.2% reduction in overall drug use and costs. The results report a 7.2% relative reduction in costs. Please ensure the conclusion and results match.  <b>We appreciate the reviewer pointing this out. The estimated reduction in total drug expenditures was 7.2% in overall terms, so we have removed the phrase "in relative terms" from the abstract.</b></p> <p>Point 2: The paper would be improved with a careful read to strip out any editorial language. For example, page 6 line 12 - "... provide high deductible..." The use of the word "high" is unnecessary and would more accurately be replaced with income-based deductible.  <b>We have removed the phrase "high" as suggested.</b></p> <p>Point 3: The opening paragraph on page 6 is not nuanced enough. Trillium, for example, is available to all Ontarians under 65 years of age (irrespective of income). Using exact language is important to ensure that it is clear. In addition, later in the paper I believe maximum out of pocket limitations are introduced. Defining these early would be useful.  <b>This is a good point. We have clarified that Trillium is available for all Ontario residents between 25 and 64 years of age (Page 5, para 1). We have also clarified the household maximums in Fair Pharmacare: "Beyond these thresholds, households must pay 30% of the cost of prescription drugs up to a household maximum of 3% and 4%, respectively." (Page 7, Para 2)</b></p> <p>Point 4: Figures 1 and 2 are not that useful. The findings are very intuitive and easily described in text. It seems obvious that when a deductible is introduced at \$15,000, the number of people receiving any public support would decrease.  <b>We respectfully disagree with the reviewer on this point. While the decrease at the \$15,000 threshold is an important finding, we also believe that the lack of change at the \$30,000 threshold merits attention. This suggests that increasing a deductible where it is already in place can reduce public expenditure without impacting drug use, which we feel is best shown in a Figure.</b></p> <p>Point 5: The patient level outcomes are hard to follow. Is the 7.2% decrease in total expenditures relative or absolute? This statistically significant decrease in costs alongside a non-statistical difference in prescriptions is hard to reconcile. If patients are not filling fewer prescriptions but the total expenditure (including public and private) decreases, what does this point to? I found discussion and explanation of this findings lacking.  <b>While the reviewer is correct that the change in the number of prescriptions was not statistically significant, our point estimate was negative (-0.35) and the associated p-value was 0.11. We believe this is not consistent with a conclusion that patients were not filling fewer prescriptions, which of course would be represented by a point estimate of zero. Therefore, we do not discuss this as a finding in one way or the other. However, while assessing this point, we discovered an error in our transcription of the lower end of the confidence intervals: we have moved the decimal point on our prior estimates (from -7.85 to -0.79 and -5.41 to -0.54, respectively).</b></p>
Reviewer 2	Braden Manns
Institution	University of Calgary, Medicine and Community Health Sciences
General comments (author response in bold)	<p>Overall summary: You mention in several places in the paper that fewer patients receive public funds once income rises above \$15,000 or above 30,000... but indeed that is the point of patient copayment (whether it's a deductible or copay), the idea is to reduce government costs (and shift them to patients) – while attempting to minimize the impact on patients. From your paper, it actually seems like the policy has been fairly successful at minimizing the impact on patient care. Additional information (as recommended in Minor point 5) is required to determine that the policy is failing British Columbians.  <b>We thank the reviewer for raising this important point. We have added this idea to the introduction: "One important aspect of this debate is the degree to which government can offset expenditures while minimizing the impact on patients." (Page 6, para 1) and to the discussion: "In particular, our results demonstrate that the current use of deductibles is offsetting significant public expenditure in BC. Further, this is having an impact on prescription drug utilization for households with low incomes, reducing it by an estimated 7.2%, but an increase in the deductible at a higher income level did not have a similar impact." (Page 14, para 2)</b></p> <p>Point 1: Page 7, line 31: clarify what maximum means  <b>Please see our response to Reviewer 1, Point 3.</b></p> <p>Point 2: Page 8, line 6: How many people are not registered for Fair Pharmacare – what impact might this restriction might have? Are these people not registered because they don't have an prescriptions, or because they have private insurance with no copay?  <b>There are approximately 1.25 million households registered for Fair Pharmacare, out of approximately 1.88 million households in the Province. The reviewer is correct that the population that does not register may be more likely to have no prescriptions or have private insurance. However, we feel that this would not bias our results as we feel the baseline need for prescription drugs and availability of private insurance is unlikely to change at the \$15k and \$30k income thresholds.</b></p> <p>Point 3a: There are some limitations of the data (that should be discussed in the methods - and some are only apparent in the discussion). Eg: it appears you do not have specific income for each patient – but rather only within a category? How fine are these categories?  <b>The reviewer is correct that we used the 25 income bands that correspond to the individual plans on Fair Pharmacare. We have now made this explicit in the methods section (Page 8, para 3).</b></p> <p>Point 3b: Also, it is only mentioned in the discussion that you do not have private insurance data. Is this why you do not report patient OOP, which would seem a very relevant metric?  <b>This is correct. We have now noted this in the limitations: "Unfortunately, this also precluded our ability to examine changes in out-of-pocket payments across the income thresholds." (Page 14, para 1)</b></p> <p>Point 4: Page 11 – line 15: is this 6.7 dispensations? or different meds?</p>

**This is dispensations, which we have now clarified in the text.**

Point 5: Page 13, line 17 – Figure 5 is useful but not particularly impactful at the patient level. In subgroups of patients (eg CHF; diabetes) where guidelines recommend use of specific medications, is the proportion on recommended medications smaller after the deductible kicks into place?

**We agree that this would have been an interesting line of study to examine. However, when we attempted it for various common conditions (e.g. cardiovascular disease), we lacked a sufficient sample size to estimate the impact in many income bands.**