Article details: 2017-0065	
Title	A comparison of Canadian public medication insurance plans and the impact on out-of-pocket costs
Authors	David J.T. Campbell MD PhD, Braden J. Manns MSc, Lesley J.J. Soril MSc, Fiona Clement PhD
Reviewer 1	Dr. Joel Lexchin
Institution	York University, School of Health Policy and Management, Toronto, Ont.
General comments (author response in bold)	This study is important in pointing out the large differences in coverage in the different Canadian provinces but I'm not convinced about the authors' recommendations for remedying the situation through focusing on reducing out-of-pocket payments. They seem to view this as a better option than a national pharmacare plan although they only mention such a plan in passing. This is problematic for a number of reasons. First, although reducing out-of-pocket payment is very important for enhancing adherence there are a number of other reasons for establishing a national pharmacare system. The first is the ability to bargain for lower prices. The pan-Canadian Pharmaceutical Alliance is limited in its bargaining power because it only controls about 40% of Canadian spending on medications. Second, a pharmacare system can provide incentives to help improve medication prescribing and use whereas these objectives will not be achieved simply by lowering out-of-pocket payments. **We have now added to the discussion to outline why we feel that targeting provincial plans and pan-provincial collaboration may be more feasible to achieve lower out of pocket costs in the short-term. Primarily, we believe that the federal government has signaled that national pharmacare is not a priority as evidenced by the lack of discussions within the recent health accord negotiations. Without federal leadership, national pharmacare is unlikely to happen and thus, the provinces will be required to continue to move forward within the scope of their own tools. We have added a paragraph to page 13 that reads:** **This study is particularly relevant in the current climate with frequent discussion in the academic literature regarding the need for a system of national pharmacare to replace the current patchwork system of pharmaceutical insurance in Canada (12). National pharmacare is defined as public coverage of medically necessary prescription drugs on universal terms and conditions across Canada, including limited patient copayments and a basic list of medications available for all Canadians. Recent research has found that national pharmacare could reduce private insurers costs by $ 8.2 Billion, increase the costs to public plans by $1 Billion thus achieving a total medication spend reduction of $7.3 Billion. These savings would be achieved by lower prices achieved by creating a larger market share and thus being able to negotiate lower prices of drugs similar to those seen in other countries. The analysis also assumes that a larger market would also be better able to promote better medication selection and co-insurance would be maintained. While the savings that could be achieved are very attractive, it is important to consider National pharmacare within the current context and options that currently exist for provinces to lower drug prices. It is important to note that national pharmacare would presumably require the federal government to get into the business of providing medication insurance, an area they currently have no foothold; moreover, national pharmacare is not currently a federal priority as signalled by its notable absence in the recently concluded health accord negotiations. The Provinces have already banded together to aggressively negotiate on price forming a larger share of the market. Some cost savings have already been achieved through that mechanism and this new pan-provincial approach was not included in the above analysis. Lastly, co-payments will be maintained doing little to eliminate the out-of-pocket expenses documented in this work.** I also find that the authors' differentiation between having medication insurance and the affordability of medications to be hairsplitting. Effectively, if medications are unaffordable then someone is not insured in practice, even if theoretically they are. The authors state that national pharmacare would require significant and expensive administrative restructuring. However, pharmacare could be run similarly to doctor and hospital coverage by the provinces with a federal contribution conditional on the provinces fulfilling certain requirements. This could be done through a piece of federal legislation. Having the provinces meet a set of minimal federally required conditions seems to me to be a less burdensome option than having all the provinces individually adjust their current plans. Finally, if the provinces individually changed their plans what guarantee would there be that there would be relatively uniformity in coverage across the country? **Thank you for this comment. We apologize for the lack of clarity. We have now tried to separate the two distinct, and important, concepts of eligibility for insurance (i.e. a person is unable to get insurance due to a characteristic that is not financial) and out of pocket expenses. We have avoided terms like 'affordability' as we feel these are vague terms without a shared definition. Further, we have added a discussion paragraph highlighting, as the reviewer notes, that working within the already established provincial plans is unlikely to smooth out the differences seen between the out of pocket payments across the country. This would require a federal approach, likely federal legislation. The discussion paragraph reads:** **While making changes at provincial levels may be easier to achieve than trying to engage in national pharmacare in the absence of a clear signal from the federal government, it will not address the noted differences in out of pocket payments across the country. If the federal government included prescription medication access within legislation such as the Canada Health Act, this would compel a minimum standard within provincial government funded medication insurance. Establishing a minimum standard would likely close the gap between the out of pocket payments facing the same patients in different provinces. (page 14)** Page 5, Methods: How many people extracted data and if more than one person, how were discrepancies resolved? **Data were extracted by 1 person with verification completed by the drug plan managers within each province. This has now been clarified on Page 5 paragraph 1.** Page 6, lines 6-11: Are there provincial plans where patients need to apply for public coverage rather than having it granted automatically to eligible people. If there are then this assumption may not be accurate and should be mentioned as a limitation. **Thank you for this comment. We sought to document the current publicly-funded medication plans. Thus, this work does not consider the role of private insurance either as a supplement to public insurance nor as first-payer and sole**

	coverage provider. Indeed, there are, in our view, unnecessary administrative burdens to enrolling in the public plans. For example, in Alberta, when a person turns 65 years of age a paper-based enrolment mail-out is triggered and the person is required to complete and return the form via mail. Instead, the person could be automatically enrolled in the public drug insurance plan based on the data that is already captured through other electronic government databases such a tax returns. We have now added a paragraph to the discussion highlighting this issue. Specifically, on page 10, we have added: **Currently, despite the fact that all Canadians are eligible for drug insurance, in many cases without a premium, approximately 20% of Canadians report that they do not have drug insurance (some of whom did indeed have drug insurance, but were not aware) or are under-insured (10). The administrative hurdles that exist are a legacy of a system that was dependent on paperwork. Given the current capacity to link existing data and "push" systems, the administrative hurdles to enrolling in drug insurance could be eliminated, and access to drugs would be increased.** Page 7, lines 46-51: The words "limited" and "nominal" should be seen in the context of the income level of the people who are paying the copayment. A fee of \$5 may be considered limited or nominal by someone making \$100000 annually, but may be considered burdensome by someone with an annual income of \$20000. **We have now removed all "commentary" language and instead present the range of out of pocket costs. We have changed paragraph 2, page 7 and paragraph 3, page 7 to read:** **"…social assistance beneficiaries that leave patients with approximately \$2-5, or no, out-of-pocket expenditures." (page 7, para 2)** **"Individuals receiving social assistance do not pay out of pocket in 6 provinces (BC, AB, MB, QC, NflD, PEI). In the remaining provinces, those on social assistance pay lower amounts for their prescription medications compared to seniors and non-seniors. The range for the low and high medication burden is \$32- 80 and \$64-160, respectively. " (page 7, para 3)** Page 8, lines 51-54: In the Introduction the authors cited reference 2 to say that 14% of Western Canadians with chronic diseases have no coverage. Here they are saying that all residents of all provinces have some level of insurance. The authors need to reconcile these two disparate statements. **We have now clarified that 14% of Western Canadians with chronic diseases report that they have no coverage. However, we argue that there is a publicly-available coverage option for all Canadians should they wish to enact it. We hypothesize that those without insurance are a heterogeneous group composed of people who are unaware they are insured (in some cases because their drug costs do not exceed a deductible), unaware of the public option (and thus have not enrolled), rational non-consumers (e.g. people for whom their premium is so high that their costs are lower by remaining uninsured) and those that cannot afford the premium. As suggested in comment 4, we have now expanded this point in the discussion.** Page 9, lines 51-54: The authors should make it clear that the figure of 5% of household income just applies to those 40 years and older with certain types of chronic diseases. **Based on comments from reviewer 2, we have removed the focus on 5% threshold. We instead focus on the association between out of pocket expense and medication usage. We have restructured the entire discussion to streamline the implications of our work. Specifically, we have added discussion on: 1) what changes have occurred since 2006, 2) that all groups are eligible for insurance in all provinces, 3) how administrative hurdles may contribute to ~ 20% who remain uninsured, 4) premiums and those that chose to remain uninsured, 5) the differential impact of cost-sharing mechanisms, 6) lower drug prices and 7) national pharmacare (pages 9-13) We feel this now better reflects the findings of our work and places it within the current context of medication policy.**
Reviewer 2	Dr. Steven G Morgan
Institution	University of British Columbia, School of Population and Public Health, Vancouver, BC
General comments (author response in bold)	A minor point on this: despite the paper's title (and headings for tables describing public drug plans), the authors excluded territorial plans and federal plans in their summary and analysis. The paper offers useful updates to literature on differences in provincial drug plans, but neither the description of drug plans nor the analysis of out-of-pocket costs is particularly new. Public drug plans in Canada have been summarized by others in several academic papers and policy reports, including a relatively comprehensive review in 2015 by the Wellesley Institute. The contribution concerning the effects on out-of-pocket expenditures is also an update of previous work, including that of Demers et al in 2008 and others in the more distant past (such as Grootendorst 2002; and Coombes et al 2004). • Grootendorst, P. 2002. "Beneficiary Cost Sharing Under Canadian Provincial Prescription Drug Benefit Programs: History and Assessment." Canadian Journal of Clinical Pharmacology 9(2): 79-99. • Coombes ME, Morgan SG, Barer ML, Pagliccia N. Who's the fairest of them all? Which provincial pharmacare model would best protect Canadians against catastrophic drug costs? Healthc Q 2004;7(4):Suppl 13-9 **Thank you for flagging this literature. As we note in our response to Editorial Comment 1, there has been substantial change to the drug plans since Demers et al was published in 2008. Indeed, even though this paper was published in 2008, the information was only current to December 2006 (more than 10 years old now). Thus, while not the first research group to document the differences in drug plan design in Canada, this piece of work builds upon the previous literature but notably updates the literature to be current to November 2016. We feel this work serves as an important update for clinicians about the out-of-pocket costs their patients may face and the publicly-**

funded plans available for different segments of the population.

We have added a contextual paragraph in the discussion section acknowledging this previous work and further highlighting the need of our paper. The addition on Page 9 reads:

Other studies have documented the variation in plan structures and the resulting out of pocket payments (5, 9). However, clinical case scenarios as a means to visualize and compare the out of pocket costs for a typical patient across the country was last published in 2008 (7). The majority of provinces have undergone changes in their medication insurance plan and cost-sharing structures over the last decade. Thus, our work builds upon but provides a much-needed update for clinicians to understand the costs patients face when they are prescribed medications.

The authors specifically mention the Demers study in their introduction, suggesting that major changes to provincial drug plans since the 2006 data collection year for Demers were the rationale for an update. Surprisingly, they do not identify what those "major changes" are in their motivation and they do not compare their results to the Demers study - - or any other study of differences in out-of-pocket costs across Canada.

We apologize for the lack of clarity. We have now outlined the changes we allude to with details of our response in Editorial comment 1.

What is perhaps most surprising is that the authors appear to have downplayed the main findings of their analyses: under existing public drug plans, out-of-pocket costs for standardized patients vary widely across provinces and are sometimes significant in absolute value and as a share of household income.

Paraphrasing the authors' summary of their findings: depending on their age and province of residence, a patient requiring $500 worth of prescriptions would incur out-of-pocket costs ranging from $250 to $2,100 if their household had $55,000 in income and from $0 to $700 in out-of-pocket costs if their household income was below $14,000. Depending on their age and province of residence, a patient requiring $1,800 in prescriptions would incur out of pocket costs ranging from $250 to $2,500 or from $0 to $1,100, depending on whether their household income was $55,000 or $14,000.

The authors move from those findings to this conclusion: "Canada's delivery of pharmaceutical insurance has been described as a patchwork, with each province having separate medication insurance plans leading to *some variations* in out of pocket payments across the provinces. Despite this variation, there is a publicly available plan for all Canadians" [emphasis added].

Why is this such a strange assumption to make? First, the high-end out-of-pocket estimates in this study are driven by the economically unsound assumption that households would voluntarily participate in a public drug plan that costs the household more in premiums than they expect to require in medications in the first instance; unless, of course, the analysis included multiple-person households with higher costs in the scenarios - - but the analyses did not. Further, many of the income-based drug plans in provinces provide little or no assistance for either level of drug costs modelled for non-seniors with incomes of $55,000. (As noted below the relevant findings for high-burden scenario are not reported owing to what appears to be an error in figure placement.) Combined, this means that in many provinces in Canada, non-senior households would essentially receive no public subsidy for either level of drug needs the authors have modelled. Despite this, the authors conclude that "there is a publicly available plan for all Canadians."

I believe the authors should reconsider whether they should call a person "covered" under a public drug plan if the voluntary premiums of the plan exceed the household. They could, for example, note how many of the people in their scenarios received any subsidy at all for prescription needs, and how many had, say, over 50% and over 75% of their costs covered by the plan.

Thank you for this excellent suggestion. To highlight the situation where a person receives no support from the government, we have added a horizontal line to the graphs representing the full cost of the medications. If the bar for that province and medication regimen exceeds or is at the horizontal line (the full medication cost), this indicates that the government is not providing any subsidy to patients.

I think the authors should note in their discussion that neither of the scenarios used reflects true outliers in the Canadian population. That is, the costs involved in this study are not that uncommon: about 25% of the population experiences individual drug costs that are at or above the "low burden" level and that about 10% of the population incurs costs at the "high burned" level. Given that much of the health services research literature on high cost users of health care defines high-cost users based on the top 5% and 1% of the expenditure distribution, the authors should probably note what that level of spending would look like for prescription drugs. In population-based studies of the concentration and persistence of medication costs, my colleagues and I have shown that the top 5% of the population in terms of medication use (which is a reasonably common 1 in 20 people) account for about 50% of prescription drug expenditures in BC. Back in 2004, such patients filled $3,600 worth of prescriptions in BC (Hanley paper). In 2011, the roughly 5% of BC residents who had been persistent high-cost needs for medications filled over $4,000 in prescriptions (Weymann paper). See the following:

- Hanley GE, Morgan S. Chronic catastrophes: exploring the concentration and sustained nature of ambulatory prescription drug expenditures in the population of British Columbia, Canada. Soc Sci Med. 2009;68:919-24.
- Weymann D, Smolina K, Gladstone EJ, Morgan SG. High-Cost Users of Prescription Drugs: A Population-Based Analysis from British Columbia, Canada. Health Services Research. 2017;52:697-719.

This paper focuses on common scenarios that are experienced by Canadians. The objective was not to assess the impact of the different drug plans on those with very high costs (where catastrophic drug coverage is the issue). We have now clarified this in the manuscript and cited the above work as references that assess catastrophic coverage.

We have added a sentence to the methods section on page 6 ("We did not consider any specialized plans that target

high cost drugs such as transplantation, major surgery, palliative or cancer drugs.") and an acknowledgement in the limitations sections on page 13 ("Other studies have reported on these plans (19, 20) but this was not the focus of this study.")

I was surprised the authors did not mention or discuss concerns related to distributional equity in health care financing when modelling out-of-pocket. The WHO, World Bank, and others have made cases against direct charges for health care based not only based on concerns about access to care but also based on concerns about distributional effects. By their recommendation for income-based coverage (despite the paper not actually assessing such a plan with rigour), the authors of this paper have implicitly suggested that paying 3% to 5% toward medical needs, often on an ongoing basis, is an acceptable financial burden on those with medical needs. That is certainly fine if the authors believe that is an acceptable normative frame, but it should be contextualized relative to alternative to financing medicines through direct charges.

Thank you. We have now removed the recommendation of an income-based plan and focus on the variations in provincial plans and out of pocket payments. We have also removed the focus on a 3-5% threshold. We have instead acknowledged the association between out of pocket payments and medication usage. We have also restructured the discussion to streamline our points (page 9-13).

The main figures illustrating the findings do not seem correct. In particular, it appears that figure 2a is simply a reproduction of figure 1a.

Thank you. This has now been fixed.

A minor but important note: $55,000 is below the median household income in Canada, so authors should not refer to such a household as a "high income" household.

We have now descriptors such as "low" and "high" income. We instead now state the income (i.e. $55,000). We continue to use relational language such as "higher" and "lower" as these are the appropriate words to describe the relationship between the two incomes selected.

The line and singular citation regarding "Recent Canadian work has demonstrated that the risk of cost-related nonadherence increases significantly when out-of-pocket payments exceed a threshold of approximately 5% of household income" is potentially misleading. Very many studies, including Canadian studies, have shown that much smaller out-of-pocket charges increase the likelihood of noncompliance. Several systematic reviews could be cited to substantiate that point, rather than relying on a single citation that appears to suggest that charges less than 5% of household income are not a deterrent to filling prescriptions.

We have now changed the sentence to place less emphasis on the 5% threshold. As pointed out, the out-of-pocket payment threshold remains unknown. We have also added several more references to support that out-of-pocket payments are related to cost-related non-adherence. The sentence now reads: There is a demonstrated association between the risk of cost-related nonadherence and out-of-pocket payments, though this varies based on patient income and type of patient cost sharing.

The authors assume that all eligible patients would have the public drug insurance they would qualify for in these models. While households with chronic medical needs are likely the most motivated to apply for (and pay for) available coverage, the reality is that some otherwise eligible households are not actually covered by public plans, owing to factors such as the complexity of registration processes (e.g., Ontario's Trillium program) or the cost of government plan premiums. This is not unique to drug coverage, as there is a decent literature on registration barriers for various health insurance programs in the US, but it deserves mentioning in the discussion.

We have now added this to the discussion section. We provide a more detailed response in Reviewer 1 Comment 4.

The assumption that patients receive 3-month prescriptions is inconsistent with policy in Quebec, which requires that beneficiaries of the public plan receive prescriptions of 30 days or less.

We feel that the assumption that patients receive 3 months (maximum of 100 pills) is reasonable. For all other provinces, we were able to find documentation on their public plan websites that identify this maximum and it is commonly practiced. We were unable to find documentation that limits the prescription to 30 days or less in Quebec. In addition, our research objective was to demonstrate how plan design affected out of pocket costs. Thus, we aimed to hold other variables, such as drug costs and dispensations, constant to highlight the differences due to drug plan design alone. If the editor feels strongly, we could re-calculate the out of pocket costs for Quebec using a 30-day maximum per dispensation.

Given that those the authors have flagged those "born before 1939" under the seniors heading of Table 1, and because the benefits for BC residents of that age are outlined in Table 2, it is not clear whether this was accidentally use as the BC case for persons over age 65. Coverage for such persons, who are now 77 years or older, was a grandfathering of more comprehensive coverage for persons who were over 65 at the time that BC eliminated its age-based drug plan. If the seniors scenarios are for a person aged 72, then the standard terms of coverage should be applied. I cannot tell if that was the case from the figures alone.

We apologize for not being more clear. As you note, our clinical scenario is a 72 year old and thus they are subject to the same general rules as a younger person. We highlight, in Table 2, that a different plan does exist for those born before 1939 and note that BC is phasing out their age-based plan in the text. We have not made any changes to the manuscript.

It is a minor point, but words like "generous" should be avoided when describing drug plans for social assistance recipients (p. 7) or other targeted populations (e.g., those over age 65, p. 9) , as the language assumes that such coverage is above some reasonable expectation. A better term is "more comprehensive" coverage is provided to some populations than others.

We have now removed all "commentary" language throughout the manuscript.

The discussion section of this paper does not follow from the findings and seems to draw selectively from the literature to support the authors' conclusions.

We have now reworked the discussion and the conclusion. Each of the specific changes are detailed in other responses below. Specifically, we have added discussion on: 1) what changes have occurred since 2006, 2) that all groups are eligible for insurance in all provinces, 3) how administrative hurdles may contribute to ~ 20% who remain uninsured, 4) premiums and those that chose to remain uninsured, 5) the differential impact of cost-sharing mechanisms, 6) lower drug prices and 7) national pharmacare (pages 9-13) We feel this now better reflects the findings of our work and places it within the current context of medication policy.

The authors cite Choudhry's 2011 NEJM study of full coverage of post-AMI medication regimes as evidence that it is "known that cost-sharing is associated with decreased adherence for individuals with lower incomes," and then state that little is known about persons with higher incomes. While there are many studies showing that co-payments and deductibles reduce use of medicines for low-income populations, the Choudhry study was of working populations who had private health insurance in the USA. They were not "lower income" populations per se. It is unclear why the authors have framed the literature in this way.

We have now deleted this reference and the qualifying statement "known that cost-sharing is associated with decreased adherence for individuals with lower incomes". We, instead, open the paragraph directly with a statement that the preferred method of cost sharing and the impact of different cost-sharing mechanisms remains unknown (page 11, paragraph 1).

The authors then argue that the "The only data published on this topic comes from a recent US study which demonstrated that while higher deductible health insurance plans often lead to higher out-of-pocket expenses, they do not result in patients choosing to delay seeking care due to costs (11); there are not data published that assess the relationship specifically for medication insurance." Again, this is a surprising way to frame literature on the effects of costs on medication use, as systematic reviews have documented that expansions (contractions) of drug coverage have been found to be associated with increased (decreased) adherence to medications and improved health outcomes. Though many studies have focused on older populations (of various incomes), some have studied the effects on working-aged populations (also of varying incomes). See, for example, the following:

- Adams AS, Soumerai SB, Ross-Degnan D. The case for a medicare drug coverage benefit: a critical review of the empirical evidence. Annual Review of Public Health. 2001;22:49-61.
- Gemmill M, Thomson S, Mossialos E. What impact do prescription drug charges have on efficiency and equity? Evidence from high-income countries. International Journal for Equity in Health. 2008;7:12.
- Goldman DP, Joyce GF, Zheng Y. Prescription Drug Cost Sharing: Associations With Medication and Medical Utilization and Spending and Health. JAMA. 2007;298:61-9.
- Kesselheim AS, Huybrechts KF, Choudhry NK, et al. Prescription drug insurance coverage and patient health outcomes: a systematic review. Am J Public Health. 2015;105:e17-30.
- Soumerai SB, Ross-Degnan D, Fortess EE, Abelson J. A critical analysis of studies of state drug reimbursement policies: research in need of discipline. Milbank Quarterly. 1993;71:217-52.

Thank you for flagging the above literature. We have now rewritten the paragraph to include reference to Gemmill, Goldman and Kesselheim (the other literature was older or less relevant to the question at hand). It now reads:

It remains unclear which form of cost-sharing has less impact on adherence or is preferred by patients. There have been multiple systematic reviews synthesizing the literature on cost-sharing (6, 14-16). However, the conclusions have been limited to documenting the association between increased out-of-pocket costs and lower medication usage. They have not been able to compare across mechanisms of cost-sharing. The limited published data reporting on cost-sharing mechanisms comes from the US where the relationship between health insurance cost-sharing mechanisms, not medication insurance, is arguably different. Given the differences in medication insurance coverage across Canada, additional research on the association between plan design, appropriate medication use, adherence and outcomes could inform policy. (page 11, para 2)

The argument that keeping household costs for medications below some threshold in the range of 3 to 5% of household income does not follow from this study and appears to be an unreasonable extrapolation from a single study while ignoring a larger body of evidence concerning the effects of coverage on access to medicines.

We have now removed the focus on 3-5% threshold. We instead acknowledge the association between out of pocket costs and medication usage. We then focus ways to 1) increase the number of people with insurance and 2) decrease out of pocket costs through reduced cost sharing and reduction in prices.

The cited paper involved linkage of tow Statistics Canada surveys: Barriers to Care for People with Chronic Health Conditions (BCPCHC) and the CCHS. It tested whether having OOP costs greater than 5% of household income was associated with greater likelihood of self-reported CRNA among the chronically ill study cohort. This was the case. But that does not imply that patients with OOP costs below 5% of household incomes did not experience CRNA - - they did. Further, the broader literature suggests that even modest patient charges (well below 5% of income) will reduce the use of essential and non-essential medicines alike.

We have now streamlined the discussion to acknowledge this broader context as outlined in response 16.

Further, the assertion that income-based drug plans that limit OOP costs to below 3 to 5 percent of income might improve access seems inconsistent with the fact that CRNA rates are highest in British Columbia, a province that has a universal public drug plan that limits costs to a maximum of 4% for all residents (max 3% deductible + max 1% of co-insurance after deductible). If the authors are going to make the case for an income-based program, they should review the many publications assessing the income-based deductibles in British Columbia, including the following:

- Dormuth, C. R., R. J. Glynn, et al. (2006). "Impact of two sequential drug cost-sharing policies on the use of inhaled medications in older patients with chronic obstructive pulmonary disease or asthma." Clinical Therapeutics 28(6): 964-978.
- Dormuth, C. R., M. Maclure, et al. (2008). "Emergency hospital admissions after income-based deductibles and prescription copayments in older users of inhaled medications." Clinical Therapeutics 30: 1038-1050.
- Dormuth, C. R., P. Neumann, et al. (2009). "Effects of prescription coinsurance and income-based deductibles on net health plan spending for older users of inhaled medications." Medical Care 47(5): 508-516.
- Morgan, S. G., E. J. Gladstone, et al. (2017). "The effects of catastrophic drug plan deductibles on older women's use of cardiovascular medicines: a retrospective cohort study." CMAJ Open 5(1): E198-E204.
- Schneeweiss, S., A. R. Patrick, et al. (2007). "Adherence to beta-blocker therapy under drug cost-sharing in patients with and without acute myocardial infarction." The American Journal of Managed Care 13(8): 445-452.
- Schneeweiss, S., A. R. Patrick, et al. (2007). "Adherence to statin therapy under drug cost sharing in patients with and without acute myocardial infarction: a population-based natural experiment." Circulation 115(16): 2128-2135.
- Wang, P. S., A. R. Patrick, et al. (2008). "The impact of cost sharing on antidepressant use among older adults in British Columbia." Psychiatric Services 59(4): 377-383.

As the noted, we did not study the impact of income-based plans and have now removed the reference to income-based plans in the conclusion. We have instead focused the discussion on the plan variations and the noted differences in approaches.

The authors should support their claim that a universal pharmacare program would "require significant and expensive administrative restructuring." The paper documents that there are dozens of public drug plans across Canada, even dozens within a single province. There are also hundreds of private drug plans, the overhead costs for which are significant. A single, universal pharmacare program in each province would therefore appear to produce significant reductions in administrative costs, not increases. If there are data to support the argument that the desire to avoid administrative restructuring is the grounds to avoid universal pharmacare, that should be provided along with the claim.

Thank you. We have now removed the reference to an administrative burden of national pharmacare. We have added a more extensive discussion paragraph outlining that while national pharmacare is attractive, we believe that there is a current lack of federal leadership to drive forward. Thus, we note that other areas such as pan-provincial collaboration, pricing negotiation and individual plan redesign may be more feasible within the short-term (page 13, paragraph 1).

As this paper was not a study of CRNA rates or of the effects of income-based drug coverage on access to medicines and its effects on access to medicines, the authors should keep the discussion more focused on the findings. The findings need to be situated in terms of previous findings using simulations, previous studies of household drug expenditures that are based on the Survey of Household Spending, and international differences in direct charges for medicines.

We have now removed the conclusions about income based plans and CRNA. We have streamlined the discussion to focus on the variation across provinces and the cost-sharing tools utilized within plans.

The argument that all Canadians appear covered by public drug plans needs to be better justified in view of the study findings, for it would appear that many provincial drug plans offer little effective coverage at all for non-seniors with routine and moderate drug costs such as the levels described in this study.

We apologize for not being nuanced in our language. We argue that there exists a plan that all Canadians all eligible for and could apply for, if they wished. However, this does not translate into "affordable coverage for all." We have now separated the two concepts into insured (i.e. a person has insurance) and out of pocket payments. We have purposively avoided terms such as "affordable" and "effective coverage" as we do not feel that these terms are specific enough to describe the current context of drug insurance. In addition, there is no shared definition of what these mean. We have instead tried to use exact language to describe what different groups of people are eligible for and what they are responsible for within their out-of-pocket payments.