

**Title:** The effect of legislation on firearm-related injuries and deaths in Canada: asystematic review

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**Reviewer 1:** Roya Rashidpouraie — Tehran University of Medical Sciences, Medical Ethics

The topic of this meta- analysis is one of important concerns in medicine and law. It seems that these ambiguities must be clarified. Key question is not clear in text.

**We thank Reviewer 1 for their comments. We have clarified the research objective of this study in the final sentence of the Introduction section.**

Comparison with other studies needs to extend Interpretation needs to revise and discuss expanded. The demographic and psychological status of persons who died due to legislation on firearm-related injuries didn't consider as one of effective factors for homicide and suicide and it is a major limitation of this study that is not mentioned. The legislation cannot effect on death alone.

**We appreciate this comment from the Reviewer. There certainly are factors (e.g., socioeconomic status, history of mental health issues) that were not considered in most of the studies that were included in this review. We have revised the Results section of the manuscript to note which studies adjusted for demographic and/or psychological factors, and we have added a sentence to the Discussion to emphasize the importance of accounting for these factors.**

**Reviewer 2:** Michelle Rey — Ontario Health, Cancer Care Ontario

To the authors and editors, thank you for the opportunity to review this manuscript.

This manuscript provides a recent systematic review of evidence pertaining to the effectiveness of Canadian firearms legislation and its impact on deaths in Canada. The methods and results were appropriately described, and discussion provided that is both novel and aligned with other published evidence. I recommend this manuscript be accepted with minor revisions. A few questions for comment, and considerations on the review are below: The title and abstract refer to the effect on firearm related injuries and deaths, however the authors note they did not find, nor include any information related to non- fatal injuries. It may be prudent to reflect the scope of the review on deaths in the title and abstract while retaining injuries as a search term.

**We thank Reviewer 2 for their comments. We have revised the title and abstract, as well as parts of the manuscript to focus more on firearm-related deaths.**

In regard to the inclusion of research on firearm related injury, the authors commented their review was unable to identify any studies evaluating the effect of legislation on non-fatal firearm injuries (pg 7, lines 8-9). It is unclear if these studies do not exist, were not captured in the search strategy, or were excluded during screening.

**We have clarified in the Results section that our search strategy did not capture any articles that investigated the effect of legislation on firearm-related injuries that did not result in death. Any such articles should have been identified by our search strategy; thus, to the best of our knowledge, no such studies have been performed to date in the Canadian setting.**

The authors do not comment on any process involving hand-searched articles as recommended through consultations with subject matter experts to address this gap in their results in relation to their initial scope.

**For this study, hand-searching was limited to checking the reference lists of journal articles. We did not manually scan select journals from cover-to-cover and page-to-page to identify relevant articles that may have been missed during indexing. We have added this as a study limitation in the Discussion section.**

In relation to additional study around non-fatal injuries due to firearms, the authors do not comment on the use of other health data outside of Statistics Canada (pg 7, line 9-10). For example the Canadian Institute for Health Information could provide non-fatal injury data from hospitals as a proxy to be used in further analyses or research for this issue.

**We agree with the Reviewer that there are potential sources of non-fatal injury data such as CIHI, as well as provincial trauma registries. Although the use of such data sources was not considered for this purpose of this review, we have revised the Discussion section to note that such sources exist and should be utilized in future investigations of this topic.**

Lastly, the authors note in the limitations section that the results are skewed due to the size of the population of reporting provinces, in addition to the variation in implementation of firearms laws across provinces. It is unclear from the data extraction which of the studies provided a provincial breakdown on the impact of the legislation (pg 7, line 31- 32), and it would be helpful to include this information in the manuscript (Where provincial information is available, are there variations in impact? Is this due to the implementation strategy?).

**There were 2 studies which broke down the effect of legislation by province (shown below). Neither of these studies reported significant variation on the effect of legislation across provinces. We have revised the Results section to clarify this point.**

**Carrington P, Moyer S. Gun Availability and Suicide in Canada: Testing the Displacement Hypothesis. Stud Crime Crime Prev. 1994;3:168–78**

**Blais É, Gagné MP, Linteau I. L'effet des lois en matière de contrôle des armes à feu sur les homicides au Canada, 1974- 2004. Can J Criminol Crim Justice. 2011;53(1):27–61.**