

Article details: 2014-0025	
Title	Self-reported chronic health conditions among incoming Canadian federally-sentenced male inmates
Authors	Lynn A. Stewart, Amanda Nolan, Jeremy Sapers, Jenelle Power, Linda Panaro, Jonathan Smith
Reviewer 1	—
Institution	—
General comments	—
Reviewer 2	T.I. Herrenkhol
Institution	University of Washington, School of Social Work
General comments	<p>This is a well-written article on topics of considerable interest and concern to the research and practice communities. The authors conducted a descriptive study of 2,273 male inmates newly admitted to the Canadian federal prison system in 2012. Nearly all (96%) of those admitted to the system at the time of the study agreed to participate in the research, which is based on a comprehensive health assessment questionnaire that was administered within a 2-week period from the time of admission.</p> <p>Results of the study suggest that over a third of those assessed (34%) reported having experienced a head injury; about 19% reported back pain, and nearly 15% reported an asthma condition. Other health conditions, such as arthritis, hypertension, and Hepatitis C were also among the more commonly reported. Rates of "lifestyle risk factors," such as drug and alcohol use, were also elevated in the sample. Analyses of health conditions by age (younger than 50 years versus 50 years and older) showed, rather unsurprisingly, that there were more health problems among those who were older. However, many of the assessed conditions were not appreciably different when Aboriginal and non-Aboriginal inmates were compared.</p> <p>On the whole, this is an interesting and well-written report that summarizes results of a relatively basic, but well-designed, cross-sectional study. The results are in some ways consistent, and in other ways inconsistent, with those of prior studies—reasons for which the authors appropriately discuss. However, to this reviewer, the article requires a stronger rationale for the research and more careful analysis of its unique contributions. As it now stands, it is somewhat unclear what the research adds to already published results, particularly given the exploratory nature of the study. Additionally, more information on the survey instrument (data sources, p.2) would strengthen the article by allowing readers to assess for themselves whether the questions on the tool are sufficiently detailed to capture the conditions in question, and whether alternative explanations are possible for any and all of the findings reported.</p>
Reviewer 3	Patricia Collins
Institution	Queen's University, School of Urban and Regional Planning
General comments	<p>This paper reports on the prevalence of chronic health conditions and related lifestyle factors generated from a health assessment survey of newly admitted inmates to Canadian prisons. While the topic somewhat lacks in originality and creativity, it addresses a key gap in knowledge regarding the health status of inmates in Canada. The findings appear to offer useful baseline data, though minor improvements and points of clarification are needed throughout to offer a more compelling report.</p> <p>Major improvements needed:</p> <p>Introduction</p> <p>-Page 2: When discussing the health status of inmates in the first two paragraphs, it was unclear whether the authors were referring to the health status of inmates upon entry into prison, during incarceration, or both. Since this reviewer assumes (perhaps falsely) that health status declines with incarceration, the authors need to clarify this point. Related to this concern is the authors' use of the term "inmates", since this reviewer assumed that that term refers to those already among the prison population, and not those that are just entering the population. Since most readers would be unfamiliar with prison populations, it would be helpful to clarify this terminology.</p> <p>Methods</p> <p>-Page 4, Data sources: The authors indicate that a "comprehensive assessment questionnaire" was used, but provide no details on the questionnaire itself. Is this an established, validated tool? What kinds of questions are asked? Has it been used by researchers outside of the CSC context? At a minimum, a reference should be provided so that readers could find the tool if they were interested in its contents.</p> <p>Conclusion</p> <p>-Page 10: I would like to see a more thoughtful analysis of the implications of the study findings on medical and public health practice for the inmate population in Canada. This is only mentioned in</p>

	<p>passing, but more critical insights here would provide a more compelling case for the value of this research.</p> <p>Minor improvements needed: Introduction -Page 2, line 14-19: The authors state that "Inmates engage in more high-risk health behaviours...", but do not provide a citation to support this argument. Since it's a rather strong claim, I think this needs to be supported by evidence. -Page 2, last sentence of first paragraph: Are there no studies that could be cited regarding higher rates of infection as a consequence of incarceration? -Page 2, second paragraph, second sentence: The authors refer to demographic shifts in the incarcerated population. It is unclear whether they are referring to the aging of existing inmates, or that newly incarcerated inmates are older. This requires clarification. -While the introduction was informative, I found it was a bit disjointed, and could use some improvement in terms of connecting ideas between paragraphs.</p> <p>Methods: -Page 4, Setting section: Please provide a rationale for why you disaggregated the results into only 2 age groups. -Page 5, line 3: What are the five regions in CSC? -Page 5, line 13: What data source was used to make comparisons to the general population of Canada? I assume the CCHS, but the authors do not provide this information.</p> <p>Results: -Page 5, lines 41-51: It would be useful to see the regional representation and response rates of the survey sample. -Page 6, line 5: The authors reference Table 3 here. It is customary to number tables in the order in which they are referenced in the text. According to this style, this should be Table 2. Alternatively, save your discussion of the lifestyle-related findings to the section in which you present those results. -Page 6, line 51: The authors refer to Table 4, which I presume is a typo, and should instead say Table 3.</p> <p>Interpretation: -Page 7, lines 22-27: The authors discuss the higher prevalence of head injury among inmates compared to the general population. This may be beyond the scope of the article, but it might be worthwhile to offer your reflection on whether this medical condition may be a determinant of incarceration, and worthy of further study.</p> <p>Table 1: -Canadian data is missing from this table.</p>
Reviewer 4	Gallus Bischof
Institution	University of Luebeck, Psychiatry and Psychotherapy
General comments	<p>The present manuscript reports descriptive data from a standardised health interview conducted with consenting incoming male inmates conducted over a six-month period. Interestingly, the authors have found that rates of chronic health conditions do not appear to be higher in incarcerated populations than in the Canadian adult male population, except for blood-borne viruses and asthma. In addition, the authors have analysed the influence of age and aboriginal background and have found that older inmates have more chronic health conditions and that little differences were found between inmates with and without Aboriginal ancestry.</p> <p>The topic of the manuscript is important and the manuscript is concisely written. One major strength of the manuscript is the impressive response rate of 96% of all new admissions. However, although the major limitations are well described in the discussion, there are several methodological caveats concerning presentation and interpretation of the data.</p> <p>First and foremost, all data rely on self-report; although the authors state (citing literature from the US) that "incarcerated populations are known to underutilize health services in the community", it remains unclear if this is the case also in Canada with a diverse health system. It would be helpful to see the utilization rates of health services in this sample the year prior to incarceration.</p> <p>Methods: Description of the assessment instruments in deficient: e.g., was a specific time-frame specified (e.g. "currently" or "in the last month" vs. "ever")? If not, differences between younger and older adults might simply reflect an elevated probability of physical complaints (such as "head injury" or "back pain") as a function of time. How exactly were the health conditions specified (i.e., apparently head injury was specified as leading to "loss of consciousness" [p. 3])?</p> <p>Analyses: The finding that older inmates are more likely to have chronic health conditions than younger inmates is of limited interest (beside the problem of data collection mentioned above). In</p>

	<p>addition, comparing inmates with and without aboriginal ancestry might be distorted by the higher ratio of a history of drug injection in the aboriginal population (i.e., blood-borne viruses are more likely if someone ever has injected drugs). This should at least be included in a multivariate analysis including age and ever having injected drugs as covariates. In general, the paper would benefit from a more in-depth analysis of how lifestyle factors are related to chronic health conditions (the authors state that “further research could clarify the extent to which chronic health conditions among inmates are linked to lifestyle factors” [p. 8], however, it remains unclear why they did not conduct this analysis by themselves).</p> <p>Results: Contrary to the heading of table 1, no reference is made to the prevalence of chronic health conditions in the Canadian Male Population.</p> <p>Discussion: Since findings contrast to data from the US, it would be worthwhile to discuss potential reasons for this discrepancy.</p>	
Author response	<p>Reviewer 1: —</p>	
	<p>Reviewer 2: Comments to the Author</p> <p>On the whole, this is an interesting and well-written report that summarizes results of a relatively basic, but well-designed, cross-sectional study.</p> <p>1. The results are in some ways consistent, and in other ways inconsistent, with those of prior studies—reasons for which the authors appropriately discuss. However, to this reviewer, the article requires a stronger rationale for the research and more careful analysis of its unique contributions. As it now stands, it is somewhat unclear what the research adds to already published results, particularly given the exploratory nature of the study.</p>	Please see additions in the introduction and conclusion.
	<p>2. Additionally, more information on the survey instrument (data sources, p.2) would strengthen the article by allowing readers to assess for themselves whether the questions on the tool are sufficiently detailed to capture the conditions in question, and whether alternative explanations are possible for any and all of the findings reported.</p>	The tools are described and added as an appendix.
	<p>Reviewer 3: Comments to the Author</p> <p>This paper reports on the prevalence of chronic health conditions and related lifestyle factors generated from a health assessment survey of newly admitted inmates to Canadian prisons. While the topic somewhat lacks in originality and creativity, it addresses a key gap in knowledge regarding the health status of inmates in Canada. The findings appear to offer useful baseline data, though minor improvements and points of clarification are needed throughout to offer a more compelling report.</p> <p>Major improvements needed: Introduction</p> <p>1. -Page 2: When discussing the health status of inmates in the first two paragraphs, it was unclear whether the authors were referring to the health status of inmates upon entry into prison, during incarceration, or both. Since this reviewer assumes (perhaps falsely) that health status declines with incarceration, the authors need to clarify this point. Related to this concern is the authors’ use of the term “inmates”, since this reviewer assumed that that term refers to those already among the prison population, and not those that are just entering the population. Since most readers would be unfamiliar with prison populations, it would be helpful to clarify this terminology.</p>	We have attempted to clarify this. “Inmates” was used throughout as this is an appropriate term for individuals who are currently incarcerated. Where possible, we use the term “newly-admitted” .
	<p>2. -Page 4, Data sources: The authors indicate that a “comprehensive assessment questionnaire” was used, but provide no details on the questionnaire itself. Is this an established, validated tool</p>	Provided; see above
	<p>3. What kinds of questions are asked? Has it been used by researchers outside of the CSC context?</p> <p>4. At a minimum, a reference should be provided so that readers could find the tool if they were interested in its contents</p>	Completed.

Methods	Added.
Conclusion 5. -Page 10: I would like to see a more thoughtful analysis of the implications of the study findings on medical and public health practice for the inmate population in Canada. This is only mentioned in passing, but more critical insights here would provide a more compelling case for the value of this research.	
Minor improvements needed: Introduction 6. -Page 2, line 14-19: The authors state that "Inmates engage in more high-risk health behaviours...", but do not provide a citation to support this argument. Since it's a rather strong claim, I think these needs to be supported by evidence.	Citation provided.
7. -Page 2, last sentence of first paragraph: Are there no studies that could be cited regarding higher rates of infection as a consequence of incarceration?	Added.
8. -Page 2, second paragraph, second sentence: The authors refer to demographic shifts in the incarcerated population. It is unclear whether they are referring to the aging of existing inmates, or that newly incarcerated inmates are older. This requires clarification.	We are referring to the age of incarcerated offenders. This is specified. Older incoming offenders contributed to this trend. Sentence lengths have not changed recently.
9. -While the introduction was informative, I found it was a bit disjointed, and could use some improvement in terms of connecting ideas between paragraphs.	
Methods: 10. -Page 4, Setting section: Please provide a rationale for why you disaggregated the results into only 2 age groups. 11. -Page 5, line 3: What are the five regions in CSC? 12. -Page 5, line 13: What data source was used to make comparisons to the general population of Canada? I assume the CCHS, but the authors do not provide this information.	Completed in methods section.
Results: 13. -Page 5, lines 41-51: It would be useful to see the regional representation and response rates of the survey sample.	The authors do not feel this is necessary as the data represented 96% of all new inmate admissions including all regions over the period of time examined.
14. -Page 6, line 5: The authors reference Table 3 here. It is customary to number tables in the order in which they are referenced in the text. According to this style, this should be Table 2. Alternatively, save your discussion of the lifestyle-related findings to the section in which you present those results.	Changed.
15. -Page 6, line 51: The authors refer to Table 4, which I presume is a typo, and should instead say Table 3.	Fixed.
Interpretation: 16. -Page 7, lines 22-27: The authors discuss the higher prevalence of head injury among inmates compared to the general population. This may be beyond the scope of the article, but it might be worthwhile to offer your reflection on whether this medical condition may be a determinant of incarceration, and worthy of further study.	The authors believe this is beyond the scope of the article, but a very interesting question. We are currently studying IQ and cognitive deficits in the federal population.
Table 1: 17. -Canadian data is missing from this table.	We decided to omit these data for reasons cited above.
Reviewer 4: Comments to the Author The present manuscript reports descriptive data.	We do not have and are unable to attain information on the inmates' utilization of health services prior to their incarceration.
1. First and foremost, all data rely on self-report; although the authors state (citing literature from the US) that "incarcerated populations are known to	Description of the

	<p>underutilize health services in the community”, it remains unclear if this is the case also in Canada with a diverse health system. It would be helpful to see the utilization rates of health services in this sample the year prior to incarceration.</p> <p>Methods: Description of the assessment instruments is deficient: e.g., was a specific time-frame specified (e.g. “currently” or “in the last month” vs. “ever”)? If not, differences between younger and older adults might simply reflect an elevated probability of physical complaints (such as “head injury” or “back pain”) as a function of time. How exactly were the health conditions specified (i.e., apparently head injury was specified as leading to “loss of consciousness” [p. 3])?</p>	<p>assessment instruments added and clarified.</p>
	<p>2. Analyses: The finding that older inmates are more likely to have chronic health conditions than younger inmates is of limited interest (beside the problem of data collection mentioned above). In addition, comparing inmates with and without aboriginal ancestry might be distorted by the higher ratio of a history of drug injection in the aboriginal population (i.e., blood-borne viruses are more likely if someone ever has injected drugs). This should at least be included in a multivariate analysis including age and ever having injected drugs as covariates. In general, the paper would benefit from a more in-depth analysis of how lifestyle factors are related to chronic health conditions (the authors state that “further research could clarify the extent to which chronic health conditions among inmates are linked to lifestyle factors” [p. 8], however, it remains unclear why they did not conduct this analysis by themselves).</p> <p>[Editor’s note: While we appreciate that additional analyses are possible, we accept that the purpose of the paper is a fairly straightforward descriptive study. You may wish to discuss further in your limitations section]</p>	<p>Discussed in limitations section. We are currently analysing the social determinants of health for this sample, but for the purpose of this paper we believe it would be better to focus on the survey results noting that various factors could explain the results. Perhaps of interest to this reviewer is that when predicting the likelihood of various health conditions, we found that Aboriginal ancestry no longer significantly predicted some health conditions (i.e., B-B viruses and CNS problems) once we adjusted for key factors such as childhood abuse and poverty.</p>
	<p>3. Results: Contrary to the heading of table 1, no reference is made to the prevalence of chronic health conditions in the Canadian Male Population.</p>	<p>Fixed.</p>
	<p>4. Discussion: Since findings contrast to data from the US, it would be worthwhile to discuss potential reasons for this discrepancy.</p>	<p>Added.</p>