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Title	Cannabis-related emergency department visits by Ontario youths and their
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Reviewer 1	Dr. Howard Meng
Institution	University of Toronto, Sunnybrook Health Sciences Centre, Toronto, Ont.
General comments (author response in bold)	• P6. L105. Could there be additional ICD-10 diagnostic codes for each patient presentation? Would this impact the severity of CTAS and admission? **Many cases have other diagnostic codes, and we assume that everything else being equal, that having more codes would be associated with higher severity. It is challenging to study this because NACRS abstracters were not required to include all diagnostic codes in the chart in the records that we are analyzing.** Are diagnoses attributed to cannabis because of its prevalence after cigarette smoking and alcohol? **The data available to us do not permit us to answer this question.** • P6. L105. How was the diagnosis of cannabis-related intoxication diagnosed (T407 and F12)? **Again, we do not have information about how the ED staff arrived at individual diagnoses.** Was there a POC urine dip or formal lab analysis? **ED clinicians do not routinely use urine screens and other lab analyses for diagnosis.** • P7. L117. Why was the urban/rural divide examined? **Urban vs rural is a standardly reported population health services variable.** It appears that there is less cannabis-related presentations to the ED for rural youths. Is this more reflective of barriers to access to care? **The suggestion that less accessible care in rural areas leads to lower rates is interesting. However, we are mindful that the editor instructed us to refrain from speculation.** • P7.L117. Why were the age groups broken down with varying age gaps? **Good question. We have added this sentence to the Methods: "The age breakpoints were chosen as proxies for stages in child development, between younger and older adolescents, and older adolescents and young adults."** (6|122-124) • P7.L117. What was the purpose of examining neighbourhood income quintiles for this study? What was the hypothesis, expected outcome, and relevance? **Income quintiles are standardly reported demographic variables in descriptive epidemiological studies. We did not have specific hypotheses for this variable.**

	• P7. L121. Some youths had more than one cannabis-related visit in a given year. **Agreed, youths with multiple visits are a critical subpopulation that we plan to study in future research. We now note this plan in our Conclusion.** (13l278-279) What does it mean to have eliminated the clustering of youth? **Figure 1 plots the trends by counts of visits and counts of individual patients. The curves for visit counts are visually indistinguishable from those for patient counts. What changes, slightly, are the numbers on the vertical axis. The conclusions about changes in trends over time do not change.** (Page 26) If the goal is to quantify the trends of cannabis-related visits to furnish physicians with information to encourage maintenance of a high index of suspicion for cannabis use, would it not make sense to account for the multiple visits by one individual? **The count of prior substance-use-related visits would be essential in developing a risk-assessment tool, a project beyond this paper's scope.** • P11.L203. Did the authors account for how many individual youths were responsible for rate of ED presentations? As suggested, a subset may account for a large proportion of ED visits. **Figure 1, Table 2, and Table 3 present and analyze counts of individual youths with at least one ED visit. These are the data on which our principal conclusions about trends are based, so, yes, we have accounted for how many youths were responsible for the ED presentations.** (Pages 23-27) • P12.L220. Can the authors comment on the lacing of drugs within cannabis products that can cause significantly worse symptoms compared to cannabis alone? **The lacing of drugs is a critical health concern. However, as noted in the Limitations, we have no information on the specific cannabis preparations involved in these cases. We expect that the Reviewer is correct, but we have no evidence.** (12l265) • P12.L236. Would the authors recommend a urine tox to aid in the diagnosis of these suspected drug-related presentations? **It is a good question. Having an accurate test would help us better understand the clinical epidemiology of cannabis in the ED; however, the urine tox screen is not very reliable in diagnosing acute ingestions. Cannabinoids are highly lipophilic and thus slowly eliminated in the urine. Urine tox screens can remain positive one week after ingestion or up to a month with chronic use. Further, false positives can occur on these screens because some medications have similar structures to the substances tested; these findings can sometimes bring untoward harm to patients. Given these limitations, we are not ready to recommend this.**
Reviewer 2	Dr. Andrew Dixon
Institution	University of Alberta, Stollery Children's Hospital, Edmonton, Alta.

General comments (author response in bold)	Overall the paper is well written and is a reasonable summary of the data collected. I have a few questions about the paper for the authors. **Thank you.** It would be interesting to include data from after legalization. Is this data not available? or did the authors choose this time frame for a particular reason? **We likewise hope to look at the effect of legalization. We chose 2017 as the end date because it was the most recent data available when the data were retrieved.** Line 71-72-the wording of this sentence tends to imply that there is a causitive link rather than just an association. Perhaps "There are higher rates of psychosis and long term cognitive problems in patients who use cannabis, especially those under 18 years." **We share the Reviewer's concern. Our text says that cannabis exposure is "associated with an increased risk of psychosis and long-term cognitive problems." This does not imply anything more than an association.** (4|70-71) Line 111-115. I don't think that these groupings represent truly different presentations. CTAS 3 patients are much more like CTAS 4-5 than they are like CTAS 1-2. I think the groupings should be CTAS 1-2; and CTAS 3-5. **It is always possible to argue over the choice of a break point in an ordinal scale. Regardless, our choice of break point produced groups that differ in severity, which is our central claim. Moreover, the presentations of the grouping we chose are clearly different in the data, as seen in Table 3 and Figure 2.** (Pages 25, 27) Line 117-118. Why were these age groupings chosen? some rationale for this would be helpful. **Again, good question. As noted, we have added this sentence to the Methods: "The age breakpoints were chosen as proxies for stages in child development, between younger and older adolescents, and older adolescents and young adults."** (6|122-124) Line 172. If the severity of all presentations went up, and the non-cannabis presentations did not go up as much-might this not represent a change in how we triage, rather than a true increase in severity of cannabis presentations. You might argue that relatively the severity of cannabis presentations went down. I think it is fairer to indicate that this data is unclear on severity. **This is an interesting conjecture, and we have added this sentence to the Interpretation: "The triaged severity of non-cannabis-related visits also increased over this period, so it is conceivable that over time, triage nurses have drifted in how they use the CTAS." However, the concurrent increases in the hospitalization rate and the potency of cannabis preparations are consistent with the increased severity of visits.** (10|206-207) Line 187. I would like to see how much the total visits for youths increased over the same time period. The 0.1% to 0.5% number is interesting, but an number like overall visits increaseed by twofold for example might put this into context. **Unless we are misreading the comment, this information is in Table 1.** (Page 21)

	Line 194. see previous comment about severity **Again, we stand by our text.** Line 210. Does the increase indicate a greater propensity for patients to disclose the drug use? As it is now seen as only sort of illegal? **Excellent point. We now include an additional caution in our Limitations: "Our data may also overstate the increase in cannabis visits if youths have become more likely to disclose use over time."** (13l269-270)