PEER REVIEW HISTORY

This paper was submitted to a another journal from BMJ but declined for publication following peer review. The authors addressed the reviewers' comments and submitted the revised paper to BMJ Open. The paper was subsequently accepted for publication at BMJ Open.

(This paper received three reviews from its previous journal but only two reviewers agreed to published their review.)

ARTICLE DETAILS

TITLE (PROVISIONAL)	Demographic and clinical characteristics of hospitalised unintentional poisoning in Aboriginal and non-Aboriginal preschool children in New South Wales, Australia: a population data linkage study
AUTHORS	Lee, Caroline; Hanly, Mark; Larter, Natasha; Zwi, Karen; Woolfenden, Susan; Jorm, Louisa

VERSION 1 – REVIEW

REVIEWER	Philippe Finès Statistics Canada, Canada
REVIEW RETURNED	22-Mar-2018

GENERAL COMMENTS	p. 7: Statistical analyses. Declare clearly what refers to questions 1, 2, 3 mentioned in the introduction. For question 3: The number and types of procedures and LOS ... how was done the comparison. P. 9: what is the proportion of incidence at age 4? The authors should include a figure or table for distribution by age. This remark also applies for 2nd paragraph p. 17. How were calculated adjusted odds ratio? How were calculated confidence intervals? "Poisoning risk…" this is true for non-Aboriginals only. There is a discrepancy between last sentence and what table 1 shows P. 11 and table 2. The text is unclear. If the authors want to stress only the most frequent poisoning agents, they should put them in bold in Table 2. Table 2 seems redundant with Supplement 2: either remove Supplement 2 or keep Table 2 with only the 3 main categories (All, Pharmaceutical, Non-pharmaceutical). The levels of details are mentioned only in p. 11 and in the discussion. In any case, the rows of table 2 have been repeated. P. 15: was the outlier LOS for an Aboriginal or non-Aboriginal? What was its value? p. 16. No mention of "most recent", whereas you mention them in the different definitions of Aboriginals. p. 17, 1st paragraph: replace "almost" by "at least" (according to Table 1)

	p. 17, 5th paragraph. Clearly, the paper begs for a multivariate analysis that would have helped the authors determine the most important factors evoked in that paragraph.
	p. 17-18: Unclear how the authors distinguish between "the leading classes of poisoning agents" and "the second most common poisoning agent": the 1st group contains a lot of poisoning agents.
	p. 18, 3rd paragraph: the last sentence in Discussion is confusing: is it a recommendation for a future research? Is it a limit of the present research?
	p. 18, Strengths and Limitations, end of 1st paragraph: "The use of an …" Why? Could you elaborate for your study?
	p. 18, Strengths and Limitations, 2nd paragraph. There is a "However" missing at the beginning of 2nd sentence ("This may introduce…") and in any case, the authors fail to have a definite position on what to recommend.
	p. 19, Implications for practice and prevention. I fail to see how the contents of this section is related to the results of the study: they look like generalities. I would have expected a discussion related to the results, i.e. higher incidence among Aboriginals, among children living in remote areas, among boys, etc…
	p. 20: - Rising prevalence. This is the 1st time the authors mention this fact. References are lacking, and clearly this should have been presented in the introduction.
	Figure 2: The figure is confusing and does not add precision to the text. If we follow the boxes from top to bottom, we get n=3436 (there is a typo here: "m=3,436" should read "n=3,436") then after an exclusion of 321, one gest 3,757?? The answer is that the boxes are in the wrong order. In any case, the authors wanted to put in the same graph the number of children and of admissions. Maybe the figure should be removed altogether.
	Figure 3. Confusion with Table 1: Area-level disadvantage level 1: is it the least or the most disadvantaged?
	Supplement 1: What is the added information of the blue triangle?
	Supplement 2: Refer to previous comments about Table 2
	Strobe statement: Bias: should refer to what the authors mentioned about Aboriginal identity: the more the child goes to hospital, the higher the probability of declaring Aboriginal identity in the "Ever-mentioned" definition.

REVIEWER	Carrington Shepherd Telethon Kids Institute, Australia
REVIEW RETURNED	10-Apr-2018

GENERAL COMMENTS	This paper examines the extent and characteristics of unintentional poisoning (as measured by hospital admissions) in Aboriginal and non-Aboriginal children in New South Wales in the first 5 years of life, and associations with socio-demographic factors. The paper covers an interesting and relevant topic and will make a useful contribution to the literature, after consideration of a few relatively minor comments/suggestions. I have documented these below.
	- Page 3, line 3: Why is the focus on pre-school children a strength – assume because it is one of the peak times of this type of hospitalisation (greatest disease burden?)
	- I was curious as to the selection of Indigenous identification method. I had thought that an 'ever identified' method had fallen out of favour, with multi-stage median and other approaches preferred and considered to be more 'optimal'? There

are a number of linked datasets used in this study and one assumes that there are multiple indicators of Indigenous status that provide the scope for other methods? Perhaps some further reasoning for the adopted approach would be useful.

- Further, after reading the last paragraph of Results, it seems that power may have been the critical issue in deciding on the 'ever' approach – I don't necessarily have a problem with this given that a sensitivity analysis has been conducted and the results (we are told) are similar. However, I think the addition of the results from the sensitivity analysis is important (even as supplementary material).

- Page 4, para 3: The discussion of other, relevant evidence in this area is good. This para made me wonder where the gaps are in terms of disentangling the associations with or causes of poisoning events? Do other studies typically not have the breadth to fully examine risks?

- Page 4, line 30: one assumes that the point of difference between this study and reference 18 is the age groups examined?

- Page 4, line 45: the aim is clear, although the authors could reinforce that part of the value of this study is the ability to examine a particularly at-risk group at a peak time of vulnerability

- Page 5, line 11: is ERP a better measure?

- Page 5, line 40: I assume the APDC has complete coverage of births in the state, as per a births register?

- Page 7: line 14-15: any consideration of including food substances as in-scope? Assume this mostly relates to food in the household and therefore also a reflection of parental care, etc.?

- Page 10 (Table 1): the columns for 'N poisoned' indicates that the figures in parentheses are row percentages; are they actually rates?

- Page 12 (table 2): perhaps indicate that the first row of data is row percentages (the rest of the table isn't)

- Page 13: my copy of Table 2 is duplicated, i.e. I had a second copy of the table presented after the first

- Page 15, line 11: perhaps clarify that 1.5% is of those with a poisoning admission

- Page 16: the figures 21,576 and 246 are a distinct drop from the actual study cohort and this comparison is worth highlighting

- Page 17: para 3: I had some issues with the interpretation here. The comparisons between the results for Aboriginal and non-Aboriginal groups are different for SES and Remoteness. There is at least one statistically significant result in the Aboriginal data by SES and the results (in terms of effect size) are somewhat similar to the non-Aboriginal results. Whereas the effects in the Aboriginal data for Remoteness are all quite close to the null, contrasting a strong gradient in the non-Aboriginal results. Para 5 picks up on some of the potential reasons why these results have been observed; although there are probably also issues of access to health services, cultural appropriateness of services and institutional racism that may also be relevant.

- Page 17, line 41-42: the point regarding overcrowding is well-taken, although the nature of the overcrowding may also be an issue – where other extended family and non-family members can be present – these are groups for whom medications are unknown to parents of children and therefore difficult to control

- Page 18: lines 37-39: a good point made re addressing the issue among Indigenous parents, although I think some elaboration is required re the link to child removal and trauma. There are issues of cultural competence here as well.

	- Page 18, lines 46-49: do other studies provide a guide on how important the missing covariates are in this context. Are we missing the crucial factors? - Page 18, line 42: was this program evaluated? Any insights?

VERSION 1 – AUTHOR RESPONSE

Reviewer 1

Comment to author	Response
p. 7: Statistical analyses. Declare clearly what refers to questions 1, 2, 3 mentioned in the introduction. For question 3: The number and types of procedures and LOS ... how was done the comparison.	**Change:** Marked RQ1, RQ2, RQ3 in parentheses in text for statistical analysis. RQ3: Descriptive statistics (percentages %) and chi squared tests
P. 9: what is the proportion of incidence at age 4? The authors should include a figure or table for distribution by age. This remark also applies for 2nd paragraph p. 17.	To clarify, the age was analysed by one-years intervals and refer to 0-1, 1-2, 2-3, 3-4, and 4-5 years. Thus, incidence at 4 years (changed from previously "older than four years") refers to 4-5 years. **Change:** Table 2 has been added, which provides the proportion of incidence by one year age intervals for Aboriginal and non-Aboriginal children.
How were calculated adjusted odds ratio? How were calculated confidence intervals?	Odds ratios (with 95% confidence intervals) for poisoning admission by demographic characteristics (sex, geographic remoteness, area-level disadvantaged) were calculated using logistic regression, with separate models for Aboriginal and non-Aboriginal children. Unadjusted odds ratios refer to the OR of poisoning for each demographic variable individually; adjusted refers to the full model containing all of the variables together.
"Poisoning risk..." this is true for non-Aboriginals only. There is a discrepancy between last sentence and what table 1 shows	**Change to:** "For non-Aboriginal children, poisoning risk increased with increasing socioeconomic disadvantage and increasing geographic remoteness. For Aboriginal children, increasing socioeconomic disadvantage was also associated with higher poisoning risk, although confidence intervals were wider. However, geographic remoteness was not significantly associated with an increasing trend in poisoning risk."
P. 11 and table 2. The text is unclear. If the authors want to stress only the most frequent poisoning agents, they should put them in bold in Table 2.	**Change:** have put the most frequent poisoning agents in bold in the table (Table 3 in the revised text)
Table 2 seems redundant with Supplement 2: either remove Supplement 2 or keep Table 2 with only the 3 main categories (All, Pharmaceutical, Non-pharmaceutical). The levels of details are mentioned only in p. 11 and in the discussion. In any case, the rows of table 2 have been repeated.	We deemed it appropriate to include the full list of agents included and excluded (including ICD-10 codes) for future researchers, especially as some categories have been merged due to small cell numbers. Additionally due to word limitations it was not possible to list all of our excluded poisoning agent codes in the 'Methods' text. **Change:** repeated rows removed. **Recommendation:** to keep Supplement 2
P. 15: was the outlier LOS for an Aboriginal or non-Aboriginal? What was its value?	The outlier LOS was 100 days (Aboriginal child). This was not included in the report to prevent possible identification.
p. 16. No mention of "most recent", whereas you mention them in the different definitions of Aboriginals.	**Change:** The results of the sensitivity analyses are now provided in an additional supplement, including results for the

	three identification methods: ever-identified, birth record, and most recent record.
p. 17, 1st paragraph: replace "almost" by "at least" (according to Table 1)	**Change:** "almost" replaced by "at least"
p. 17, 5th paragraph. Clearly, the paper begs for a multivariate analysis that would have helped the authors determine the most important factors evoked in that paragraph.	RQ1 investigates three demographic risk factors (sex, SES, remoteness) and their effect on poisoning risk in separate Aboriginal and non-Aboriginal models. One of the limitations of our study was that we did not have many exploratory risk factor variables. We could undertake a limited multivariate analysis, but discussed that doing so with such limited variables would not offer much more than our existing analysis. Additionally, a comprehensive investigation of poisoning risk factors was not the primary aim of the study. In our discussion we discussed this limitation and suggested future studies could explore risk factors in greater detail.
p. 17-18: Unclear how the authors distinguish between "the leading classes of poisoning agents" and "the second most common poisoning agent": the 1st group contains a lot of poisoning agents.	**Change:** Wording changed to clarify "most frequent groups of poisoning agents" vs "most frequent individual agents"
p. 18, 3rd paragraph: the last sentence in Discussion is confusing: is it a recommendation for a future research? Is it a limit of the present research?	This statement is not about future research or limitations about the current study. We include this comment as a consideration of social factors regarding education and social worker involvement for Aboriginal children and their families surrounding injury hospitalisations. Given the significant trauma caused by the Stolen Generation, and continued high rates of child removal, parents may mistrust social workers and/or health staff or fear that they will be blamed for their child's injury leading to child removal.
p. 18, Strengths and Limitations, 2nd paragraph. There is a "However" missing at the beginning of 2nd sentence ("This may introduce...") and in any case, the authors fail to have a definite position on what to recommend.	A recommendation on the ideal method of identification was not the focus of the study, however, we decided to use the 'ever-identified' method as it maximises the number of Aboriginal children identified. We have incorporated the following change with response to reviewer 2's comment about page 19, paragraph 2 **Change to**: The under-identification of Aboriginal children in Australian public hospital data can affect estimates of health outcomes.[25] This study used an 'ever-identified' algorithm for children recorded at least once as Aboriginal in order to maximise the number of poisoning events in Aboriginal children for analysis. Although this method may introduce bias in comparison of event rates between Aboriginal and non-Aboriginal people due to differential increase in identification among sicker individuals with more hospital records, such comparisons were not the main purpose of our study. Also, results of the sensitivity analysis indicated that the methods of identification did not alter the main conclusions (Supplement 1).
p. 19, Implications for practice and prevention. I fail to see how the contents of this section is related to the results of the study: they look like generalities. I would have expected a discussion related to the results, i.e. higher incidence among Aboriginals,	We mention that a combination of broader public health measures such as improved packaging, individual/household-based interventions for storage, and specific Aboriginal community based interventions are required to prevent poisoning. Whilst general statements, safe storage and packaging are recommended evidence-based prevention measures outlined in a recent review of the literature (Adams et al 2016). It is a good point regarding the need to discuss

among children living in remote areas, among boys, etc...	more specific implications for groups such as remote, Aboriginal children; however our literature review did not identify any studies providing poisoning interventions for such specific groups. Adams S, Elkington J, MacKay JM, Zwi K, O'Sullivan M, Vincenten J, Brussoni M, Towner E, Brown J. Child Safety Good Practice Guide: Good investments in unintentional child injury prevention and safety promotion. Sydney: Sydney Children's Hospitals Network, 2016.
p. 20: - Rising prevalence. This is the 1st time the authors mention this fact. References are lacking, and clearly this should have been presented in the introduction.	Agreed, although for the sake of flow of argument this has been modified for the Discussion rather than the Introduction section. **Change (page 18, para 2):** most recent national health and medication statistics from AIHW added as a reference in discussion - now reads: "Chronic diseases are highly prevalent, affecting 11 million Australians. In 2014-15, 117 million medications were prescribed by a GP, increasing by 17% since 2010-11.[34]"
Figure 2: The figure is confusing and does not add precision to the text. If we follow the boxes from top to bottom, we get n=3436 (there is a typo here: "m=3,436" should read "n=3,436") then after an exclusion of 321, one gest 3,757?? The answer is that the boxes are in the wrong order. In any case, the authors wanted to put in the same graph the number of children and of admissions. Maybe the figure should be removed altogether.	**Change:** The typo has been fixed. The figure has been updated for greater clarity, and now incorporates previous Figure 1 and 2 to demonstrate how the number of poisoning admissions were derived from the total cohort of hospital records.
Figure 3. Confusion with Table 1: Area-level disadvantage level 1: is it the least or the most disadvantaged?	**Change:** have swapped row order in Table 1 top-bottom so now reads "1 – least disadvantaged, 2, 3 – most disadvantaged" so matches Figure
Supplement 1: What is the added information of the blue triangle?	No added information of the blue triangle **Change:** figure changed to a table included in an additional Supplement 1 with results for repeated analyses using comparative identification methods
Supplement 2: Refer to previous comments about Table 2	No change made (Refer to comment re: Table 2)
Strobe statement: Bias: should refer to what the authors mentioned about Aboriginal identity: the more the child goes to hospital, the higher the probability of declaring Aboriginal identity in the "Ever-mentioned" definition.	**Change:** STROBE statement (bias) updated

Reviewer 2

Comment to author	Response
Page 3, line 3: why is the focus on pre-school children a strength – assume because it is one of the peak times of this type of hospitalisation?	Yes, the incidence of unintentional poisoning hospitalisations is highest during age 0-5 (preschool children), and particularly at ages 1-3 years [Refs 1-7]. Moreover, unintentional poisoning is also one of the most common causes of unintentional injury in this age group. It is therefore appropriate to focus on this highly-susceptible group.
I was curious as to the selection of Indigenous identification method. I had thought that an 'ever identified'	This raises a good point about the limitations of identification methods, including the ever-identified method. It is important to note that the potential for bias introduced by use of the ever-

method had fallen out of favour, with multi-stage median and other approaches preferred and considered to be more 'optimal'? There are a number of linked datasets used in this study and one assumes that there are multiple indicators of Indigenous status that provide the scope for other methods? Perhaps some further reasoning for the adopted approach would be useful.	identification method relates to the comparison of event **rates** between Aboriginal and non-Aboriginal people, because "sicker" individuals (those with more records) have more chances to be identified as Aboriginal. The main purpose of our study was to investigate and compare **risk factors** for poisoning in non-Aboriginal children, rather than to compare rates of poisoning between the two groups. Poisoning hospitalisations are a relatively infrequent event, and children generally have few hospital records, so we chose to use the ever-identified method in order to maximise the number of Aboriginal poisoning events for analysis.
Further, after reading the last paragraph of Results, it seems that power may have been the critical issue in deciding on the 'ever' approach – I don't necessarily have a problem with this given that a sensitivity analysis has been conducted and the results (we are told) are similar. However, I think the addition of the results from the sensitivity analysis is important (even as supplementary material).	**Change (Page 19, paragraph 2)** We have updated the relevant sentence in the discussion to read: "The under-identification of Aboriginal children in Australian public hospital data can affect estimates of health outcomes.[25] This study used an 'ever-identified' algorithm for children recorded at least once as Aboriginal in order to maximise the number of poisoning events in Aboriginal children for analysis. Although this method may introduce bias in comparison of event rates between Aboriginal and non-Aboriginal people due to differential increase in identification among sicker individuals with more hospital records, such comparison was not the main purpose of our study. Also, results of the sensitivity analyses indicated that the methods of identification did not alter the main conclusions (Supplement 1)." **Change:** as suggested, we have also now provided the full results of the sensitivity analysis, in an additional supplement, including results for the three identification methods: ever-identified, birth record, and most recent record.
Page 4, para 3: The discussion of other, relevant evidence in this area is good. This para made me wonder where the gaps are in terms of disentangling the associations with or causes of poisoning events? Do other studies typically not have the breadth to fully examine risks?	Other studies (including in the international literature) have investigated risk factors associated with unintentional childhood poisoning. Previous national health and injury reports by the Australian Institute of Health and Welfare have described hospitalisation rates amongst Aboriginal children for poisoning by sex, and by geographic remoteness (with highest rates in remote/very remote areas). However, these national reports included children aged 0-18, whereas our study focusses on preschool aged children. However to date, no studies have specifically examined risk factors for poisoning amongst Aboriginal children in Australia. Some of the issues lie with the data sources – large, administrative datasets (such as the APDC, ED department data) often don't include information about demographic and household risk factors; similarly for Poisons Information Centre (PIC) calls data. Linkage to other datasets with information about education or maternal demographics could provide more insight (such as the Australian Early Development Census or Perinatal Data Collection respectively). Smaller studies with surveys or questionnaires closely examining specific risk factors or attitudes towards injuries could offer more information about poisoning amongst Aboriginal children.
Page 4, line 30: one assumes that the point of difference between this study and reference 18 is the age groups examined?	Yes – the previous study by Moller et al. used an age range of 0-14 years. However, previous literature indicates that teenage children have different risk factors/epidemiological patterns of poisoning (for example, higher amongst male preschool children

	compared with female teenage children). Secondly, Moller's study investigated multiple injury mechanisms (falls, motor vehicle accidents, poisoning, burns) whereas our study focuses on poisoning in greater detail. For example, we examine individual poisoning agents instead of broad poisoning agent classes (such as paracetamol, rather than generally 'analgesics'), which is a point of difference with Moller's other study [Ref 11].
Page 4, line 45: the aim is clear, although the authors could reinforce that part of the value of this study is the ability to examine a particularly at-risk group at a peak time of vulnerability	**Change to** "The study aimed to answer questions that will inform prevention efforts for this at-risk group during a time of peak incidence"
Page 5, line 11: is ERP a better measure?	**Change:** estimated residential population used as a reference for population of Aboriginal and Torres Strait Islander Australians in NSW, "In 2011, NSW had a population of 7,218,529 people, of whom an estimated 208,476 (2.9%) were Aboriginal or Torres Strait Islander.[24]"
Page 5, line 40: I assume the APDC has complete coverage of births in the state, as per a births register?	Yes, the APDC has complete coverage for all separations from NSW public and private sector hospitals and day procedure centres.
Page 7: line 14-15: any consideration of including food substances as in-scope? Assume this mostly relates to food in the household and therefore also a reflection of parental care, etc.?	Noxious food substances such as fish, mushrooms and berries were amongst the agent excluded from this study. Whilst it may reflect parental care and household factors, our study aimed to focus on pharmaceutical and non-pharmaceutical chemical products because these particularly are associated with storage and packaging and thus could be addressed with similar prevention strategies. We also wished to separate accidental ingestion of poisons from food allergies/reactions to noxious food substances such as shellfish.
Page 10 (Table 1): the columns for 'N poisoned' indicates that the figures in parentheses are row percentages; are they actually rates?	No, these indicate percentages of the total number of Aboriginal/non-Aboriginal/all children respectively.
Page 12 (table 2): perhaps indicate that the first row of data is row percentages (the rest of the table isn't)	**Change:** row heading Total (row %)
Page 13: my copy of Table 2 is duplicated, i.e. I had a second copy of the table presented after the first	**Change:** Fixed to remove duplication
Page 15, line 11: perhaps clarify that 1.5% is of those with a poisoning admission	**Change to** "There were 51 repeat admissions (1% of poisoning admissions)." Proportion changed from 1.5% (of all children with a poisoning admission n=3,385) to 1% (total poisoning admissions, n=3,436) for ease of interpretation with table 4 (previous table 3)
Page 16: the figures 21,576 and 246 are a distinct drop from the actual study cohort and this comparison is worth highlighting	**Change:** as per Reviewer 1's comments, a full supplement of results for Aboriginal children by different identification method has been added. **Change (page 16):** Compared with the ever-identified method, defining Aboriginal status by most recent record and birth record reduced the numbers of children in the cohort to 25,891 and 21,576 respectively, and the number of children poisoned to 319 and 246 respectively (Supplement 1). Other findings remained similar.

	As per above change (Page 19, paragraph 2) We have updated the relevant sentence in the discussion to read: "The under-identification of Aboriginal children in Australian public hospital data can affect estimates of health outcomes.[25] This study used an 'ever-identified' algorithm for children recorded at least once as Aboriginal in order to maximise the number of poisoning events in Aboriginal children for analysis. Although this method may introduce bias in comparison of event rates between Aboriginal and non-Aboriginal people due to differential increase in identification among sicker individuals with more hospital records, such comparison was not the main purpose of our study. Also, results of the sensitivity analyses indicated that the methods of identification did not alter the main conclusions (Supplement 1)."
Page 17: para 3: I had some issues with the interpretation here. The comparisons between the results for Aboriginal and non-Aboriginal groups are different for SES and Remoteness. There is at least one statistically significant result in the Aboriginal data by SES and the results (in terms of effect size) are somewhat similar to the non-Aboriginal results. Whereas the effects in the Aboriginal data for Remoteness are all quite close to the null, contrasting a strong gradient in the non-Aboriginal results. Para 5 picks up on some of the potential reasons why these results have been observed; although there are probably also issues of access to health services, cultural appropriateness of services and institutional racism that may also be relevant.	**Change to: "**Poisoning risk increased with socioeconomic disadvantage amongst Aboriginal and non-Aboriginal children, and increased with geographic remoteness amongst non-Aboriginal children… Higher poisoning hospitalisations in remote areas may suggest more children are being poisoned, but also that children presenting to rural hospitals are more likely to be admitted [4, 16] for reasons including distance from facilities, limited specialist services and delayed diagnostic tests.[23, 32] However, Aboriginal children did not have significantly higher poisoning risk in remote/very remote areas, possibly due to barriers in access to health services, or differences in housing, medication availability, or other social factors." Given the lack of previous literature to draw for discussion about poisoning by particular agents amongst Aboriginal children in rural areas, we added further comments about what is known about child poisoning in the general population – "Differences in poisoning agents by geographic region may also contribute. Some have suggested children in rural areas are more likely to be poisoned by chemical such as pesticides. However, evidence is conflicting, with this hypothesis supported by a Queensland study [2] but not a subsequent NSW study which did not find higher rates of chemical poisoning in rural areas.[10]"
Page 17, line 41-42: the point regarding overcrowding is well-taken, although the nature of the overcrowding may also be an issue – where other extended family and non-family members can be present – these are groups for whom medications are unknown to parents of children and therefore difficult to control	This is a good point about how preventing medication exposures from visiting family or non-family members is more difficult to control. The rationale for this statement is to highlight that social determinants of health –particularly housing – are a major contributor to poisoning risk, particularly in Aboriginal families. Currently, there are no available data that allow us to measure the effect of poor housing/overcrowding on poisoning risk unfortunately, but we highlight this area for potential future study.
Page 18: lines 37-39: a good point made re addressing the issue among Indigenous parents, although I think some elaboration is required re the link to child removal and trauma. There are issues of cultural competence here as well.	**Accepted change:** "However, cultural sensitivity is required to promote safety and not instigate blame or fear, given the intergenerational trauma around child removal for Aboriginal families.[42]"
Page 18, lines 46-49: do other studies provide a guide on how important the missing covariates are	No previous studies have examined these risk factors (parental, household) or clinical outcomes for poisoning amongst Aboriginal children so the degree of effect of these missing covariates on our analyses is unknown. This is the first study to

in this context. Are we missing the crucial factors?	describe clinical outcomes of poisoning for Aboriginal Australian children.
	Change: additional text added to discussion on page 18 - However, covariates were limited, and risk factors previously demonstrated to affect poisoning risk were unavailable, such as perinatal depression [13, 14], younger maternal age [8], parental alcohol misuse [8, 13], poor storage and supervision [22], household dwelling and socioeconomic deprivation [13, 14]. Clinical information (such as time to presentation, symptoms, laboratory results, treatment, complications [7]) were also unavailable.
	From other studies, we do know that parental/household and storage factors are important risk factors for poisoning though their relative importance is difficult to quantify:
	A recent Australian study found that poor storage, parenting styles (positive control from the mother, less close supervision) were associated with increased poisoning risk (Schmertman 2013 Manuscript Ref #22)
	A study from Denmark identified investigated risk factors for various injuries and found the following significant poisoning risk factors: parental factors (younger mother, perinatal depression, single parent), household factors (socioeconomic deprivation/low income, farmhouse dwelling). (Laursen 2008, Manuscript Ref 14).
	A study from the UK found that harmful alcohol consumption had the highest attributable risk for poisoning (43%), with maternal perinatal depression (33%) and socioeconomic deprivation (32%) being other important risk factors (Orton et al 2012, Manuscript Ref 13).
Page 18, line 42: was this program evaluated? Any insights?	Due to word limit constraints, the results of the study were not explained in the manuscript. The program was evaluated with pre- and post-test questionnaires with 790 children (Aboriginal and non-Aboriginal) and twenty-four teachers. Self-efficacy and knowledge about injuries increased among Aboriginal and non-Aboriginal children, but no significant improvements in attitudes towards safety. The researchers identified that Aboriginal involvement was central to the program, but acknowledged the challenges in changing underlying attitudes, as well as the need for interventions that consider the factors affecting Aboriginal children in urban areas.

VERSION 2 – REVIEW

REVIEWER	Philippe Finès
	Statistics Canada, Canada
REVIEW RETURNED	22-Jun-2018

GENERAL COMMENTS	The new version is better than the original.
	RQ1 is the same number used for 2 different tables (p. 30 and 31). You could use RQ0 for the 1st one, and change the 2 references used in last paragraph of p. 7
	p. 15: Reference to table 1 should be to table 4 instead
	p. 17, 1st line of discussion: Replace "almost" by "about"

	p. 19, 1st paragraph: "The use of and area-level ... bias": Explain why
	p. 19-20: All the paragraph titled "Implications for practice and prevention" is not related at all to the results. It could be moved to the introduction without any impact. But clearly it does not fit here in the discussion

REVIEWER	Carrington Shepherd
	Telethon Kids Institute and University of Western Australia
REVIEW RETURNED	29-Jun-2018

GENERAL COMMENTS	The authors have addressed all of my concerns and, by my way of thinking, have improved the manuscript. The only, very minor, issues that I noted in this review were:
	- a minor grammatical error in the first line of p3
	- the last sentence under the heading 'Aboriginal status' (p6) seemed to exclude mentioning the 'most recent record' method?
	- p16 would benefit from a more specific description than 'Other findings remained similar'. Assume this means that there were no statistically significant differences in the odds ratio from models of poisoning admissions using each of the 3 identification methods

VERSION 2 – AUTHOR RESPONSE

Reviewer 1

Comment to author	Response
RQ1 is the same number used for 2 different tables (p. 30 and 31). You could use RQ0 for the 1st one, and change the 2 references used in last paragraph of p. 7	The tables in the Supplement answer the same questions proposed in the introduction, with additional values for each identification method. For example, in the main manuscript, Table 1 and 2 both answer RQ1 (are the demographics of poisoning different between Aboriginal and non-Aboriginal children?).
	We have amended the labelling and formatting of the Supplement, numbering each Table and including a List of Contents, as well as copying the original research questions for clarity.
p. 15: Reference to table 1 should be to table 4 instead	Upon review, there was no reference to Table 1 on p15 however an incorrect reference to Table 3 was changed to Table 4 instead.
p. 17, 1st line of discussion: Replace "almost" by "about"	Thank you, amended
p. 19, 1st paragraph: "The use of and area-level ... bias": Explain why	Added further explanation:
	"The use of an area-level index … bias. For example, individuals from low socioeconomic households who live in relatively advantaged areas will be misclassified."
p. 19-20: All the paragraph titled "Implications for practice and prevention" is not related at all to the results. It could be moved to the introduction without any impact. But clearly it does not fit here in the discussion	The authors note that the focus of discussion should be in relation to the results and agree that the phrasing could be improved to enhance relevance. We believe it reads most appropriately in the discussion section rather than the introduction. Given that the study results highlights and characterises the higher rates of poisoning amongst Aboriginal children, the section has been restructured to emphasise factors affecting poisoning prevention specific to an Aboriginal child health context. Reference to safety packaging legislation has been removed. Citations have been updated accordingly.

Reviewer 2

Comment to author	Response
a minor grammatical error in the first line of p3	Thank you, amended
The last sentence under the heading 'Aboriginal status' (p6) seemed to exclude mentioning the 'most recent record' method?	Thank you, amended
p16 would benefit from a more specific description than 'Other findings remained similar'. Assume this means that there were no statistically significant differences in the odds ratio from models of poisoning admissions using each of the 3 identification methods	Added further detail to explanation of sensitivity analysis, with full detail available in Supplement. "Other findings remained similar. For example, the magnitude of the association between poisoning admission and sex, area-level disadvantage and remoteness were similar with overlapping confidence intervals. The profile of age at admission, common poisoning agents and clinical outcomes were also consistent across all three identification methods."