STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract The indication that a retrospective cohort study was conducted is indicated in the abstract.
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found This requirement was respected in the abstract.
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported The 'Background' section of the manuscript provides a rationale for the study we conducted.
Objectives	3	State specific objectives, including any prespecified hypotheses These are found at the end of the 'Background' section
Methods		
Study design	4	Present key elements of study design early in the paper The study design is presented in the first part of the 'Methods' section.
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection These details are provided in the 'Methods' section in the 'Study design, population and setting', the 'Sources of data', and the 'Case definition' subsections.
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up The 'Methods' section describes the eligibility criteria for the main analysis and sub-analysis. Follow-up of patients is described in the description of the sub-analysis in the 'Case definitions' sub-section. *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable These details on covariates and outcomes are provided in the 'Measured variables' subsection of the 'Methods'. The supplementary online materials provide the diagnostic codes used to define our outcome.

Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group This information is provided in the 'Methods' section.
Bias	9	Describe any efforts to address potential sources of bias We adjusted for potential confounders using multivariate regression. We also conducted a sensitivity analysis and completed multiple imputations to adjust and assess for bias.
Study size	10	Explain how the study size was arrived at A priori, the denominator of the study population was the entire population of each sub-population we investigated in Quebec (Health Regions), since we included all traumatic brain injury hospitalizations for each population.
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why The details of how quantitative variables were handled in the analysis and why groupings were selected are described in the 'Methods' section.
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding This is described in the 'Statistical analysis' subsection of the 'Methods'.
		(*b*) Describe any methods used to examine subgroups and interactions We completed a sub-analysis of adult traumatic brain injury patients and provided a rationale for doing so.
		(*c*) Explain how missing data were addressed The 'Missing data' subsection of the 'Methods' explains our approach to addressing missing data.
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy
		(*e*) Describe any sensitivity analyses The 'Sensitivity analysis' subsection of the 'Methods' describes how we conducted our sensitivity analysis.

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Results		
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed Table 1, Figure 2, and the first part of the 'Results' section provides these details
		(b) Give reasons for non-participation at each stage Figure 2 provides details on cases that had missing data for the sub-analysis.
		(c) Consider use of a flow diagram Figure 2 provides details on how adult cases' charts were reviewed.
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders Found in Table 1 and Table 3.
		(b) Indicate number of participants with missing data for each variable of interest Figure 2 and Table 3 provide this information.
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount) Table 1 provides this information.
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time Table 1 provides this information.
		Case-control study—Report numbers in each exposure category, or summary measures of exposure
		Cross-sectional study—Report numbers of outcome events or summary measures
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included Table 1 provides this information.
		(*b*) Report category boundaries when continuous variables were categorized This was completed in the reporting of our results.
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period We provided crude and standardized incidence rates (in addition to incidence rate ratios) of traumatic brain injury hospitalization by year and for the entire study period.
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses Our sensitivity analysis was reported. In addition, the results of the inter-rater agreement between the chart review and the traumatic brain injury database that was used for validation were also provided.
Discussion		

Key results	18	Summarise key results with reference to study objectives This was completed in the first part of the 'Discussion' section.
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias The 'limitations' section provides this information.
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence The 'Discussion' and 'Conclusion' sections provide this information.
Generalisability	21	Discuss the generalisability (external validity) of the study results A statement on the generalizability of the study findings is provided in the 'limitations' section.
Other information		
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based The sources of funding and their role were described.

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.