

# A comparative analysis of definitions for data elements related to sex, gender, race, and ethnicity in trauma registries across Canada

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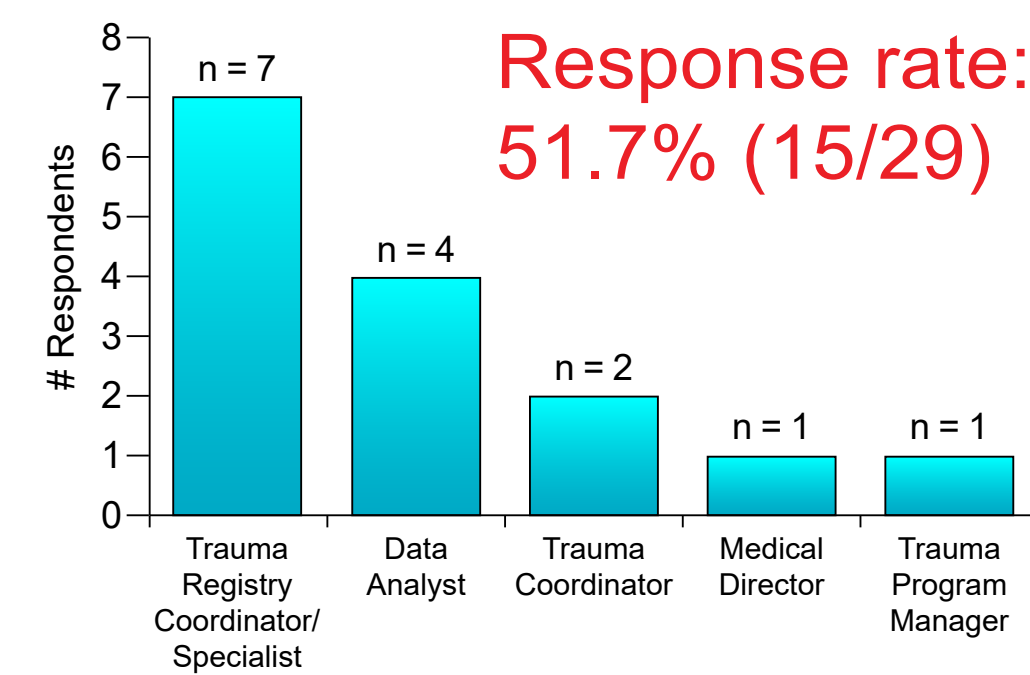
## Introduction

- There are variations in sex and gender across Canadian Electronic Medical Records (EMRs) that are used to inform trauma registries (Lau et al., 2020; Lau et al., 2020). Variability in definitions may confound reporting on the frequency and acuity of traumas.
- There currently is no requirement to collect demographic data such as gender, race, and ethnicity in EMRs, and this can introduce health disparities (Douglas et al., 2015).
- It is best practice to document more specific data on gender or sex, instead of using catch-all terms that incorporate both definitions (Thorton et al., 2022).
- Trauma registries in Canada collect certain patient demographics; however, it is unclear how much variation exists between registries regarding the demographics collected and how they are defined.
- Our goal was to compare definitions of data elements related to sex, gender, race and ethnicity across Canadian trauma registries.

## Methods

- An electronic survey was created in SelectSurvey v5.0 and pilot tested by members of the research team.
- The survey was administered over a 4-week period during 2022.
- Translation of French survey questions and responses was performed by Nova Scotia Health Translation Services.
- Managers, coordinators, and specialists of trauma registries across Canada were invited via email to participate in a web-based survey to determine whether their registry collects data on sex, gender, race and/or ethnicity, and how these data elements are defined.
- Follow-up emails were sent to jurisdictions that did not reply to the initial email invitation.
- Descriptive statistics were used to report how often these demographic variables are collected in trauma registries and to characterize any variation in their definitions.

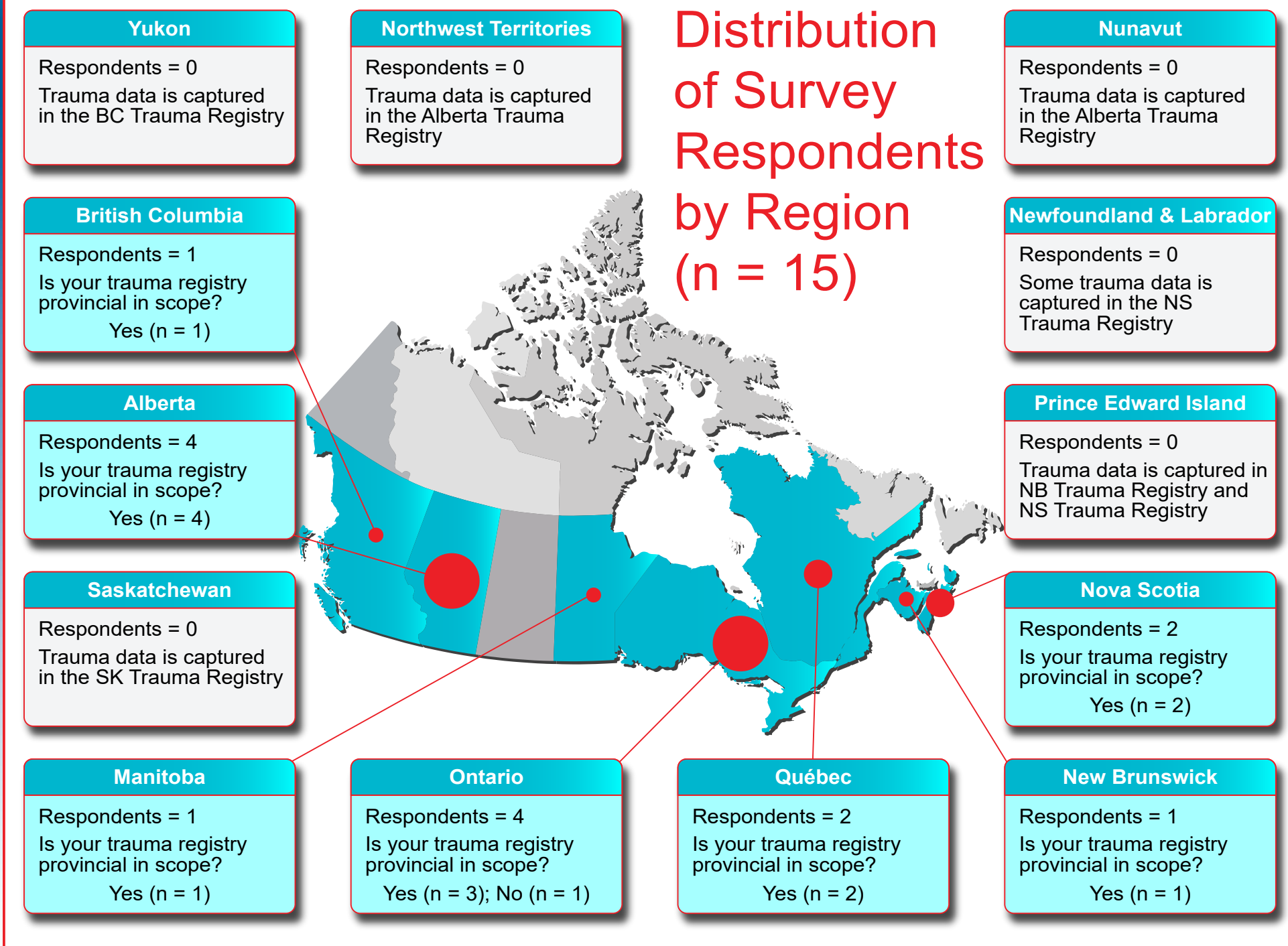
## Results



Question	AB	BC	MB	NB	NS	ON*	ON**	QC
From what sources are data on sex, gender, race, and ethnicity collected?	Autopopulation via EMR; Chart; Data collected at hospital admission	Chart; Data collected at hospital admission	Chart	Chart	Autopopulation via EMR; Chart; Data collected at hospital admission	Chart; Data collected at hospital admission	Data collected at hospital admission	Chart; Data collected at hospital admission
Is mandatory education on sex, gender, race or ethnicity provided by your organization?	Yes (sex, gender, race, ethnicity)	No	Unknown	No	No	Yes (sex, gender, race, ethnicity)	Unknown	Yes (ethnicity)
Any registry changes to sex, gender, race or ethnicity variables in the past 5 years?	Yes (gender identity field added)	Unknown	Unknown	No	No	No	Yes (added non-binary)	Yes (ethnicity)
Planning any changes to the collection of these demographic variables in the next 2 years?	Unknown	Unknown	Unknown	Yes (sex, gender)	Unknown	Yes (sex, gender, race, ethnicity)	Unknown	No

\*Provincial trauma registry; \*\*Non-provincial trauma registry. EMR = Electronic Medical Record

## Distribution of Survey Respondents by Region (n = 15)



Variable	AB	BC	MB	NB	NS	ON*	ON**	QC
Sex	<b>Definition:</b> Refers to the different biological and physiological characteristics of females, males and intersex persons, such as chromosomes, hormones and reproductive organs. <b>Picklist Items:</b> Male, Female	<b>Definition:</b> If patient has undergone surgical and/or hormonal sex reassignment, enter sex according to the current assignment. <b>Picklist Items:</b> Male, Female, Unknown	<b>Definition:</b> Male/Female/Not Applicable/Unknown <b>Picklist Items:</b> Male, Female, Not Applicable, Unknown	Not collected	<b>Definition:</b> The anatomical gender of the individual until there is legal proof. <b>Picklist Items:</b> Male/Female/Not Applicable/Unknown	<b>Definition:</b> Male, Female. No difference from gender. <b>Picklist Items:</b> Male, Female, Not Applicable, Unknown	<b>Definition:</b> Male, Female <b>Picklist Items:</b> Male, Female	<b>Definition:</b> This field indicates the particular conformity that distinguishes a man from a woman. <b>Picklist Items:</b> M=male, F=female
Gender	<b>Definition:</b> Transgender-female, Transgender-male, non-binary, male, female, other non-disclosed, not applicable, unknown. <b>Picklist Items:</b> As above	Not collected	Not collected	<b>Definition:</b> N/A <b>Picklist Items:</b> Male, Female, Unknown (Trans, unknown or not documented)	Not collected	Not collected	Not collected	Not collected
Race	Not collected	Not collected	Not collected	Not collected	Not collected	Not collected	Not collected	Not collected
Ethnicity	Not collected	Not collected	Not collected	Not collected	Not collected	Not collected	Not collected	<b>Definition:</b> This field indicates ethnic origin of patients with severe burns, which refers to their genetically acquired physiognomic traits/ characteristics. <b>Picklist Items:</b> Asian, Black, Hispanic, White, Native American, Other, Not specified (only for severe burn victims)

\*Provincial trauma registry; \*\*Non-provincial trauma registry.

## Discussion

- A total of 29 trauma professionals were invited to participate in the survey of which 15 responded (response rate = 51.7%).
- Our findings suggest that trauma registries in Canada do not routinely collect key demographic variables for trauma patients that accurately characterizes their membership in sex and gender-diverse populations, and race and ethnic populations. Furthermore, there is considerable variation in how these demographic data are defined.
- Collecting race and ethnicity-based health data can be controversial, as marginalized populations that have experienced systemic racism may not consent to this data being collected and shared with the health team.
- Representation for marginalized groups is important for healthcare planning, and incorrect definitions may further marginalize these communities.
- Inconsistent demographic collection data collection in trauma registries in Canada could exacerbate health disparities by hiding increased incidences of trauma in certain patient populations.
- We recommend Canadian trauma registries broaden their collection of demographic data using standardized definitions.

## References

Douglas MD, Dawes DE, et al. Missed policy opportunities to advance health equity by recording demographic data in electronic health records. *Am J Public Health*. 2015;105 (Suppl 3):S380-8.

Lau F, Antonio M, et al. A rapid review of gender, sex, and sexual orientation documentation in electronic health records. *J Am Med Inform Assoc*. 2020;27(11):1774-83.

Lau F, Antonio M, et al. An environmental scan of sex and gender in electronic health records: analysis of public information sources. *J Med Internet Res*. 2020;22(11):e20050.

Thornton S, Roy D, et al. Towards statistical best practices for gender and sex data. *Significance*. 2022;Feb:41-5.