

Appendix 1 (as supplied by the authors): Description of the COMPASS study

The COMPASS study is an ongoing cohort study collecting longitudinal data from a convenience sample of grades 9-12 secondary school students in Ontario and Alberta, Canada. A full description of the design and methods of the study is available at

[https://uwaterloo.ca/compass-system/compass-system-projects/compass-study.\(1-3\)](https://uwaterloo.ca/compass-system/compass-system-projects/compass-study.(1-3))

E-cigarette use was assessed at baseline (Year 2 of the COMPASS study, in 2013/14), as well as at one-year follow-up (Year 3 of the study, in 2014/15).

Schools were recruited for the survey through purposefully selected school boards that met eligibility criteria: English-speaking, with at least 100 students in each of grades 9 through 12, and permitted the use of active-information passive-consent parental permission protocols (where parent/guardians were mailed information letters and asked to contact the researcher to decline their child's participation). In Ontario, every school board that met the three criteria was approached. In Alberta, boards were approached as needed until the recruitment goal was met. For boards that were eligible and agreed to the study, schools within the boards were then approached to participate. Within each school, all students were invited to participate. The COMPASS study was reviewed by and received ethics clearance from the University of Waterloo Office of Research Ethics and appropriate school board review panels.

The sample size was based on the funding that was available. To evaluate school policy impact (which was the primary research objective of COMPASS), a minimum of 30 schools was

required; including 90 schools helped to (a) ensure more adequate power, and (b) increase sample heterogeneity across participating jurisdictions.

The schools represented a range of large, medium, and small urban, as well as rural population centres, as noted in the table below; however, they did not include schools within the largest cities. In Alberta, Edmonton and Calgary were not included, due to the requirement by their School Divisions for active permission protocols; all 9 schools were from “small urban” centres (as defined below). In Ontario, although public school boards in the three largest cities (Toronto, Hamilton, Ottawa) were not included, there was good geographic coverage across the province, with schools in almost all the major regions (southwest, central west, central east, east, GTA, and northwest; no schools were recruited in the northeast). In Ontario, 31 schools were from “large urban” centres, 13 from “medium urban”, 30 from “small urban”, and 3 “rural” (see the table below for a description of the population centres where study schools were located). Although the schools selected are different from the provinces overall, the students look similar to the general student population.(4)

Table. Number of schools included in the longitudinal sample (n=86), by population centre type and province.

Population centre type*	Ontario	Alberta
Large urban†	31	0
Medium urban‡	13	0
Small urban§	30	9
Rural¶	3	0

*Source: "From urban areas to population centres". Statistics Canada, May 5, 2011.

†Large Urban: populations from 100,000 and greater and a population density of at least 400 per km²

‡Medium Urban: populations between 30,000-99,999 and a population density of at least 400 per km²

§Small Urban: populations between 1,000-29,000 and a population density of at least 400 per km²

¶Rural: population less than 1,000 or population density less than 400 per km²

References

1. Bredin C, Leatherdale ST. Methods for linking COMPASS student-level data over time. *COMPASS Technical Report Series* 2013;1(2). Waterloo, ON: University of Waterloo. <http://uwaterloo.ca/compass-system/publications/methods-linking-compass-student-level-data-over-time>.
2. Qian W, Battista K, Bredin C, Brown KS, Leatherdale ST. Assessing longitudinal data linkage results in the COMPASS survey. *COMPASS Technical Report Series* 2015;3(4). Waterloo, ON: University of Waterloo. <http://uwaterloo.ca/compass-system/publications/assessing-longitudinal-data-linkage-results-compass-study>.
3. Leatherdale ST, Brown KS, Caron V, et al. The COMPASS study: a longitudinal hierarchical research platform for evaluating natural experiments related to changes in school-level programs, policies and built environment. *BMC Public Health* 2014;14:331. doi: 10.1186/1471-2458-14-331.
4. Leatherdale ST. An examination of the co-occurrence of modifiable risk factors associated with chronic disease among youth in the COMPASS study. *Cancer Causes & Control* 2015;26:519-528.