

Examining the effectiveness of the 2012 Canadian graphic warning label policy change by sex, income, and education

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Abstract

Background: We examined the differential impact of the 2012 Canadian GWL policy changes on key indicators of warning label impact and quit intentions using national cohorts of Canadian and US adults who smoke.

Methods: We used data from all waves of the International Tobacco Control surveys (2002-2020) in Canada and the US. Our key measures were quit intentions and an index of warning label effectiveness (salience, cognitive and behavioral reactions). We estimated overall policy impact by comparing Canada (treatment group) with the US (control group) using controlled interrupted time series (CITS) regression models, with interactions to examine whether policy impact varied by sex, education, and income.

Results: The CITS model showed a statistically significant increase in the warning label effectiveness in Canada post-policy, compared to the US ($\beta = 0.84$, 95% CI 0.35, 1.33). Similarly, the odds of quit intentions were relatively higher among adults who smoked in Canada compared to the US (OR = 1.89, 95% CI 1.51, 2.36) post-policy. The three-way interaction model showed that these associations were greater among adults from low socioeconomic status (SES) groups than in high SES groups.

Discussion: The 2012 change in the Canadian GWL policy was associated with stronger cognitive and behavioral responses to GWLs and higher odds of quit intentions among adults who smoked in Canada when compared to the US, specifically among individuals from low SES groups, suggesting a positive equity impact. Our findings affirm the need for countries to implement or enhance GWLs, in line with the WHO Framework Convention on Tobacco Control.

Implications: The evidence on the potential health equity benefit of GWL policies is mixed. To further understand the influence of GWL policies on tobacco use disparities, more systematic research using pre/post policy designs with control groups is needed. Using a controlled interrupted time series model, we aimed to strengthen the available evidence on the causal influence of this tobacco control approach. Our findings show that the 2012 GWL policy change had a greater impact on adults who smoked from low SES groups than it did on adults who smoked from high SES groups, indicating a potentially positive equity impact and confirming the need for countries to implement or maximize the size of GWLs, as recommended by the WHO Framework Convention on Tobacco Control.

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