Changes in effectiveness of cigarette health warnings over time: Findings from the International Tobacco Control (ITC) Policy Evaluation Project Canada and United States Surveys, 2002–2011

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BACKGROUND

• Article 11 of the World Health Organization’s Framework Convention on Tobacco Control requires countries to implement health warnings on tobacco products. The Article 11 Guidelines suggest that countries periodically rotate warnings; however, little is known about the consequences of not rotating warnings.

OBJECTIVE

• This study investigates potential wearout of cigarette health warnings over a period of nine years in two countries: the United States, where small text-only warnings were in place for 17 years at the beginning of the study, and in Canada, where larger pictorial warnings were implemented approximately one year prior to the study.

SURVEY

• Data were drawn from national samples of smokers from the International Tobacco Control (ITC) Surveys in Canada (N=6,309), and the United States (N=6,412) recruited originally by telephone using random digit dialing.

MEASURES

• Four key indicators of warning label effectiveness: noticing the warnings (salience), indicating that the warnings lead to thoughts about the health risks of smoking (harm), indicating that the warnings lead to thoughts about quitting (quit), and forging a cigarette because of the warnings (forgo).

• Labels Impact Index: a composite measure of effectiveness measures was created by combining the four measures of warning label effectiveness. The standardized measures were used to create a Label Impact Index (LII):
  
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  \text{LII} = (1 \times \text{salience}) + (2 \times \text{harm}) + (2 \times \text{quit}) + (3 \times \text{forgo})
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• The measures were standardized by subtracting the overall mean from each respondent’s score and dividing by the standard deviation, and then weighted according to each indicator’s impact on quit attempts based on a previous study conducted by Lorillard et al. (2009).

ANALYSES

• To test for health warning wearout using the individual binary measures of health warning effectiveness, separate logistic regression models were estimated using GEE to test (1) whether there was a linear decline in effectiveness between Wave 1 and Wave 8, and (2) whether there was a difference in effectiveness at Wave 8 vs. Wave 1. A similar approach was used to test changes in the composite LII over time using linear GEE regression models with Wave 2 – Wave 8.

• Models controlled for: sex, age, ethnicity, income, education, daily vs. non-daily smoking, cigarettes/day, minutes to first cigarette after waking, intentions to quit, and time in-sample.

CONCLUSIONS AND IMPLICATIONS: The health warning effectiveness measures and the Labels Impact Index indicated that the effectiveness of the Canadian and US health warnings declined significantly over time, with the decline being significantly greater in Canada. Despite the greater declines, the Canadian pictorial warnings were more effective than the smaller US text-only warnings throughout the study period, as expected given the larger, more prominent pictorial warnings employed in Canada. This study suggests that health warnings on tobacco products should be changed periodically to maintain effectiveness.