

# Effectiveness of tobacco warning labels before and after implementation of the European Tobacco Products Directive: Findings from the longitudinal EUREST-PLUS ITC Europe Surveys

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## Abstract

**Background:** Tobacco product packaging is a key part of marketing efforts to make tobacco use appealing. In contrast, large, prominent health warnings are intended to inform individuals about the risks of smoking. In the European Union, since May 2016, the Tobacco Products Directive 2014/40/EU (TPD2) requires tobacco product packages to carry combined health warnings consisting of a picture, a text warning and information on stop smoking services, covering 65% of the front and back of the packages.

**Methods:** Key measures of warning label effectiveness (salience, cognitive reactions and behavioural reaction) before and after implementation of the TPD2, determinants of warning labels' effectiveness and country differences were examined in a longitudinal sample of 6011 adult smokers from Germany, Greece, Hungary, Poland, Romania and Spain (EUREST-PLUS Project) using longitudinal Generalized Estimating Equations (GEE) models. **Results:** In the pooled sample, the warning labels' effectiveness increased significantly over time in terms of salience (adjusted OR = 1.18; 95% CI: 1.03–1.35), while cognitive and behavioural reactions did not show clear increases. Generally, among women, more highly educated smokers and less addicted smokers, the effectiveness of warning labels tended to be higher. **Conclusion:** We found an increase in salience, but no clear increases for cognitive and behavioural reactions to the new warning labels as required by the TPD2. While it is likely that our study underestimated the impact of the new pictorial warning labels, it provides evidence that health messages on tobacco packaging are more salient when supported by large pictures.

## Recommended Citation

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