

EVIDENCE BRIEF

How large pictorial health warnings on the packaging of tobacco products affect knowledge and behaviour



EVIDENCE BRIEF

How large pictorial health warnings on the packaging of tobacco products affect knowledge and behaviour

Abstract

Evidence shows that combined written and graphic health messages on the packaging of tobacco products are more effective than text-only warnings. Indeed, images have been shown to increase the awareness of the health risks related to tobacco consumption. Article 11 of the WHO FCTC requires the adoption of health warnings on packages and the guidelines on implementation of this article recommend the adoption of pictorial health warnings. Studies have shown that pictorial health warnings increase quit attempts and decrease smoking uptake. Pictorial health warnings, including graphic, fear-arousing information, have proven to be particularly effective. They also have public support; half of the EU citizens recognized the effectiveness of such measures in 2008. Contrary to what tobacco companies are claiming, pictorial health warnings are fast and cheap to implement, and they do not increase illicit trade. These measures are in compliance with international trade law and intellectual property law.

Keywords

HEALTH POLICY
PACKAGING
PRODUCT LABELING
SMOKING
TOBACCO CONSUMPTION

Address requests about publications of the WHO Regional Office for Europe to:

Publications
WHO Regional Office for Europe
UN City, Marmorvej 51
DK-2100 Copenhagen Ø, Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office web site (<http://www.euro.who.int/pubrequest>).

© World Health Organization 2014

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either express or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. The views expressed by authors, editors, or expert groups do not necessarily represent the decisions or the stated policy of the World Health Organization.

Text editing: Anna Müller. Layout: Lars Møller.

Contents

Acknowledgements	vi
Background	1
Objective	1
Evidence	1
Health warnings increase awareness of health risks related to tobacco consumption.....	2
Pictorial health warnings are more likely to be noticed and read than text-only warnings.....	2
Pictorial health warnings increase quit attempts.....	3
Providing a quitline number on tobacco packaging increases quit attempts.....	3
Pictorial health warnings decrease smoking uptake.....	4
Pictorial health warnings including graphic, fear-arousing information most effective.....	4
Pictorial health warnings have public support.....	4
Legal and financial implications of pictorial health warnings	5
References	6

Acknowledgements

This document was written by Céline Brassart Olsen, Consultant, WHO Regional Office for Europe, with contributions from: Rula Cavaco Dias, Regional Surveillance Officer, Yulia Kadirova, Programme Assistant, and Kristina Mauer-Stender, Programme Manager, Tobacco Control Programme; and Gauden Galea, Director, Division of Noncommunicable Diseases and Life, WHO Regional Office for Europe.

Background

Tobacco use is the second leading cause of death globally. It dramatically increases the risk of contracting serious diseases, such as cardiovascular diseases and some types of cancer. Large pictorial health warnings are designed in an effort to improve the public's knowledge about these consequences, decrease smoking uptake and increase cessation.

The *WHO Framework Convention on Tobacco Control (WHO FCTC) (1)* aims at protecting present and future generations from the devastating consequences of tobacco consumption and exposure to tobacco smoke. Article 11 of the Convention requires the adoption of health warnings on packages. The *Guidelines for implementation of Article 11 of the WHO Framework Convention on Tobacco Control (2)* recognize that combined written and graphic health messages on the packaging of tobacco products are more effective than text-only warnings and recommend the adoption of such warnings.

In the WHO European Region, some countries have adopted pictorial health warnings, while in others text-only warnings appear on the packaging of tobacco products.

In the European Union (EU), *Directive 2001/37/EC of the European Parliament and of the Council of 5 June 2001 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the*

manufacture, presentation and sale of tobacco products (Article 5) (3) regulates the labelling of packages with regard to warnings and information about the dangers of tobacco products to health. Under this Directive, text-only warnings have been mandatory and it has been optional to include pictorial warnings on only one side of the pack. However, the new tobacco-products Directive (4), adopted in March 2014, changed the requirements for health warnings, whereby both text and pictorial health warnings covering the top 65% of both the front and back of tobacco packs will be now mandatory.

Objective

Based on experience gained both in and outside the Region, this paper seeks to provide evidence that pictorial health warnings are more effective than text-only warnings in relation to smoking prevention and cessation.

Evidence

A review of the scientific literature and survey results has revealed that most of the current evidence on the effectiveness of pictorial health warnings stems from countries that, at an early stage, met some or all of the requirements of Article 11 of WHO FCTC (1) and the guidelines on its implementation (2). Both recommend the adoption of large pictorial health warnings with shocking images covering 50% of both sides of the pack. A lot of evidence is available on experience gained in adhering to this requirement, for example, in Australia, Canada and Thailand, where it has been

the practice since 2005, 2000 and 2006, respectively, and in Brazil where the use of large, shocking pictorial health warnings on only one side of the pack started in 2001.

In contrast, little evidence is available in the WHO European Region on the effectiveness of pictorial health warnings. This is partly because the inclusion of pictorial health warnings on cigarette packs has only recently been implemented in the Region. In addition, the national requirements for doing so have often been weaker than is the case outside the Region. For example, until the revision of the EU Directive on tobacco products, the sole option available to the WHO European Member States was to include health warnings with relatively mild pictures on one side of the pack only (3). Therefore, this paper is based on the evidence available both in and outside the WHO European Region (5).

Health warnings increase awareness of the health risks related to tobacco consumption

Health warnings on cigarette packs are among the most effective sources of health information: most smokers report having been made aware about the risks of smoking through warnings on cigarette packs rather than from other sources of information, apart from television (6).

Findings indicate that a considerable proportion of non-smokers are also aware of the health warnings on cigarette packs (7,8,9).

Pictorial health warnings are more likely to be noticed and read than text-only warnings

The evidence shows that pictorial health warnings are more likely to attract the attention of the public and are more effective in spreading information about the specific risks of tobacco use than text warnings alone (10,11). This is why Article 11 of the WHO FCTC (1) and the guidelines on its implementation (2) recommend the adoption of pictorial warnings. Among other countries, Canada, Romania and the United Kingdom have provided evidence that pictorial health warnings are more effective than text-only warnings.

Canada introduced pictorial health warnings in 2001, the first country to do so. Since then, several surveys have compared the effectiveness of text versus pictorial warnings. The results consistently show that pictorial health warnings are “more likely to be noticed and read by smokers, are associated with stronger beliefs about the health risks of smoking as well as increased motivation to quit smoking” (12). One of these studies showed that 58% of smokers gave more thought to the health effects of smoking as a result of the pictorial health warnings (13).

In 2008, Romania (14) and the United Kingdom (15) implemented pictorial health warnings designed by the European Commission (Box 1).

In 2008, the Romanian Ministry of Health conducted a study, which revealed that

before the introduction of pictorial health warnings, the most general warnings, such as “smoking seriously damages your health”, were those that smokers remembered best (quoted by 35% of the respondents). In contrast, soon after the implementation of pictorial health warnings, the warnings smokers remembered were much more specific: for example, 18% of smokers participating in the study related smoking to images about lung cancer (17,18).

Box 1. Implementation of pictorial health warnings in the EU: Romania and the United Kingdom

The results of a survey conducted in the EU in 2008 revealed that 61% and 56% of the Romanian and British respondents, respectively, recognized that health warnings on tobacco packs were more effective when they comprised pictures and text rather than text alone (16).

Pictorial health warnings increase quit attempts

By increasing the level of knowledge about the harm caused by tobacco use, pictorial health warnings are more likely to succeed in encouraging smokers to quit than text-only warnings (19).

For example, in a survey conducted in Canada in 2001–2003, 44% of smokers reported that pictorial health warnings had increased their motivation to quit (13,20). Other surveys have also shown that pictorial health warnings help former smokers to refrain from taking up smoking again in the long run, 30% reporting

that pictorial health warnings had helped them remain abstinent (21). (Box 2). In Romania, the situation is similar (Box 3).

Box 2. Canada: pictorial health warnings increase motivation to quit and help ex-smokers remain abstinent

In a survey conducted in Canada between 2001 and 2003, 44% of smokers reported that pictorial warnings had increased their motivation to quit (13,20).

Box 3. Romania: pictorial health warnings increase cessation attempts

Combined text and pictorial warnings played a role in prompting 31% of smokers to try to quit. In addition, 21.8% of smokers considered quitting because of pictorial-only warnings; in comparison, only 14.2% considered quitting as a result of text-only warnings (18).

Providing a quitline number on tobacco packaging increases quit attempts

The *Guidelines for the implementation of Article 11 of the WHO FCTC (2)* also recommend including cessation advice and information on cessation resources on tobacco packs: “... such as a web site address or toll free telephone quitline number, because these resources can help tobacco users to change their behaviour”. Many studies show that, in combination with other measures, such as mass-media campaigns, the provision

of a quitline number on packs results in an increased number of calls to cessation services (19,20) (Boxes 4 and 5).

Box 4. Brazil: an almost nine-fold increase in number of calls within 6 months after the adoption of pictorial warnings

In Brazil, two thirds of smokers (67%) said that warnings resulted in their wishing to quit (20). In addition, in the six months after the implementation of graphic warnings combined with toll-free quitline numbers, calls to these numbers increased nearly nine fold (20).

Box 5. United Kingdom: twice as many calls per month after the introduction of larger text warnings

The Department of Health has estimated that the introduction of larger text-warnings prompted an additional 2000–4000 calls to the toll-free number for the National Health Service smoking helpline, which was provided on tobacco packaging before the introduction of pictorial health warnings (19).

Pictorial health warnings decrease smoking uptake

Several surveys have revealed that pictorial health warnings have an impact on smoking initiation. For example, between one fifth and two thirds of youths in Australia and Canada (12) indicated that graphic health warnings had helped them not to start smoking.

Pictorial health warnings including graphic, fear-arousing information are most effective

Research in the field of health communication indicates that messages with emotionally arousing content are more likely to be noticed and processed by smokers (23).

Graphic warnings on labels may result in strong emotional reactions in a considerable proportion of smokers. Such reactions are associated with increasing the motivation of smokers to quit and prompting them to consider the health risks involved and take steps to stop (24).

The effectiveness of graphic, fear-inducing images is supported by surveys on and focus groups dealing with smokers (Box 6).

Box 6. Consultation on the effectiveness of graphic, fear-inducing images, United Kingdom

An extensive public consultation conducted by the Department of Health received more than 20 000 responses. The highest-rated warnings generally included graphic pictures of the health effects of smoking (22).

Pictorial health warnings have public support

A survey conducted in the EU in 2008 showed that more than half of the EU citizens recognized the effectiveness of adding pictures to text-only health warnings (16).

Legal and financial implications of pictorial health warnings

Pictorial health warnings do not increase illicit trade, contrary to the claims of the tobacco industry. Pictorial warnings for use on tobacco products must be officially approved, which helps government authorities identify counterfeit products. There are also many other ways of fighting the illicit trade of tobacco products, such as the use of digital stamps (26), or packs with invisible markings, which make it easy for enforcement officials to distinguish illegal cigarettes (27,28).

The use of measures to include large pictorial health warnings on tobacco products is in compliance with international intellectual property law, namely the World Trade Organization (WTO) Treaty on Trade Related Aspects of Intellectual Property (TRIPS) and EU law (29,30). The basic purpose of intellectual property law is to prevent the illegal use of a trademark, for example, by counterfeiting it (30). The use of large pictorial health warnings would not affect the rights of trademark owners who would continue to own their trademarks and be protected against the unauthorized use of these trademarks by third parties.

The use of large pictorial health warnings is in compliance with the international trade regulations set out by WTO. Although such measures may restrict trade somewhat, they would satisfy the requirements of the public health exceptions provided under both the WTO General Agreement on Tariff and Trade (GATT) (31,32,33) and the WTO Agreement on Technical Barriers to Trade (TBT) (34), as well as most bilateral investment treaties. For example, Article XX(b) of GATT (32) states that measures restricting trade can be adopted if they are “necessary to protect health”. As shown above, large pictorial health warnings are among the most effective ways of increasing smoking cessation and decreasing smoking uptake. Therefore, such measures are “necessary to protect health” and are proportionate to the goal pursued.

The implementation of pictorial health warnings is fast and cheap. The tobacco industry argues that adding large pictorial health warnings to the packaging of tobacco products is too costly. However, since all implementation costs are borne by the tobacco industry, there is no cost to government or the taxpayer, making the measure very cost effective. According to the tobacco companies, the costs are prohibitive but, as they are constantly redesigning their packaging, this argument does not hold. As some tobacco-control experts have noted, “... most of the costs are borne by the tobacco industry as a result of decreased sales. This means the warnings will have their intended impact: reducing tobacco use” (20). The tobacco

industry also argues that it needs time to implement pictorial health warning measures. Experience has shown that the average implementation time for pictorial health warnings is 9–12 months after the adoption of measures to this effect (20).

References¹

1. WHO Framework Convention on Tobacco Control. Geneva: World Health Organization; 2003 (<http://whqlibdoc.who.int/publications/2003/9241591013.pdf?ua=1>).
2. Guidelines for implementation of Article 11 of the WHO Framework Convention on Tobacco Control, Geneva: World Health Organization; 2008 (http://www.who.int/fctc/guidelines/adopted/article_11/en/).
3. Directive 2001/37/EC of the European Parliament and of the Council of 5 June 2001 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco products. In: Official Journal of the European Union. Brussels: European Union; 2001 (<http://eur-lex.europa.eu/JOHtml.do?uri=OJ:L:2001:194:SOM:EN:HTML>).
4. European Commission – MEMO/14/134 26/02/2014. In: Press releases database [website]. Brussels: European Union; 2014 (http://europa.eu/rapid/press-release_MEMO-14-134_en.htm).
5. Hammond D. Health warnings on cigarette packages: summary of evidence and legal challenges. Tobacco-free Kids: Washington, DC; 2008 (<http://global.tobaccofreekids.org/files/pdfs/en/India-study-warningLabels-DHammond-Jan08.pdf>).
6. Hammond D et al. Effectiveness of cigarette warning labels in informing smokers about the risks of smoking: findings from the International Tobacco Control (ITC) Four Country Survey. *Tobacco Control*. 2006;15(iii):iii19–iii25 (http://tobaccocontrol.bmj.com/content/15/suppl_3/iii19.full.html).
7. Brown KS et al. Survey methods. In: 2002 Youth Smoking Survey Technical Report. Ottawa: Health Canada; 2005 (<http://www.hc-sc.gc.ca/hcps/pubs/tobac-tabac/yss-etj-2002/index-eng.php>).
8. Environics Research Group Limited. Wave 9 surveys. The health effects of tobacco and health warning messages on cigarette packages. Survey of adults and adult smokers. Final Report. Ottawa: Health Canada; 2005 (<http://www.smoke-free.ca/warnings/warningsresearch/por-04-19%20final%20report%205552%20adult%20wave%209.pdf>).
9. Fong GT, Hammond D, Hitchman SC. The impact of pictures on the effectiveness of tobacco warn-

¹ Unless otherwise indicated, URLs accessed 3 May 2014.

- ings. Bulletin of the World Health Organization. 2009;87:640–643 (<http://www.who.int/bulletin/volumes/87/8/09-069575/en/>, accessed 9 July 2014).
10. White V, Webster B, Wakefield M. Do graphic health warning labels have an impact on adolescents' smoking related beliefs and behaviours? *Addiction*. 2008;103(9):1562–71 (<http://www.ncbi.nlm.nih.gov/pubmed/18783508>).
 11. D. Hammond et al. Showing leads to doing: graphic cigarette warning labels are an effective public health policy. *European Journal of Public Health*. 2006;16(2):223–4 (<http://eurpub.oxfordjournals.org/content/16/2/223.long>).
 12. D. Hammond. Health warnings on tobacco products: a review. *Tobacco Control*. 2011;20(5):327–37 (<http://www.ncbi.nlm.nih.gov/pubmed/21606180>).
 13. Environics Research Group Limited. Evaluation of new warnings on cigarette packages. *Focus Canada* 2001–3. Ottawa: Canadian Cancer Society; 2001 (http://www.cancer.ca/~media/cancer.ca/CW/get%20involved/take%20action/Environics-study-on-cigarette-warning-labels_2002.pdf).
 14. Order no. 764 of June 15, 2004. To approve the norms regarding the use of color photographs or other illustrations as part of health warnings on tobacco packages. Bucharest: Ministry of Health; 2004 (<http://www.tobaccocontrolaws.org/files/live/Romania/Romania - MoH Order No. 764 .pdf>).
 15. HM Government. The tobacco products (manufacture, presentation and sale) (safety) (amendment) regulations 2007. London, Her Majesty's Stationery Office, 2007 (<http://www.tobaccocontrolaws.org/files/live/England/England - Amdt. to Tobacco Products Regs - national.pdf>, accessed 9 July 2014)
 16. Flash Eurobarometer. Survey on tobacco. Analytical report. Brussels: European Commission; 2009 (Flash EB Series #253; http://ec.europa.eu/public_opinion/flash/fl_253_en.pdf).
 17. Sambrook Research International. A review of the science base to support the development of health warnings for tobacco packages. Brussels: European Commission Directorate General for Health and Consumers; 2009 (http://ec.europa.eu/health/tobacco/docs/warnings_report_en.pdf).
 18. Tobacco control in practice. Article 11: packaging and labeling of tobacco products. Case studies of implementation of the WHO Framework Convention on Tobacco Control in the WHO European Region. Copenhagen: WHO Regional Office for Europe; 2013 (http://www.euro.who.int/__data/assets/pdf_

file/0004/185584/Tobacco-Control-in-Practice-Article-11.pdf?ua=1).

19. Hammond D et al. Text and graphic warnings on cigarette packages. Findings from the International Tobacco Control Four Country Study. *American Journal of Preventive Medicine*. 2007;32(3):202–209 (<http://www.who.int/fctc/guidelines/ArtElevenHammondTwo.pdf>).
20. Showing the truth, saving lives: the case for pictorial health warnings. Geneva: World Health Organization; 2009 (http://whqlibdoc.who.int/publications/2009/9789241598040_eng.pdf).
21. Hammond D et al. The impact of cigarette warning labels and smoke-free bylaws on smoking cessation evidence from former smokers. *Canadian Journal of Public Health*. 2004;95:201–204 ([http://www.davidhammond.ca/Old Website/Publication new/Smokefree & Warning Labels \(Hammond et al. CJPH 2004\).pdf](http://www.davidhammond.ca/Old Website/Publication new/Smokefree & Warning Labels (Hammond et al. CJPH 2004).pdf), accessed 6 October 2014).
22. Consultation on the introduction of picture warnings on tobacco packs. Report on consultation. London: Department of Health; 2006 (http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_077962.pdf).
23. Shanahan P, Elliott D. Evaluation of the effectiveness of the graphic health warnings on tobacco product packaging 2008. Canberra: Australian Government Department of Health and Ageing; 2009 ([http://www.health.gov.au/internet/main/publishing.nsf/Content/8BBDECAFF43D134CCA257BF0001D7450/\\$File/hw-eval-full-report.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/8BBDECAFF43D134CCA257BF0001D7450/$File/hw-eval-full-report.pdf)).
24. Witte K, Allen M. A meta-analysis of fear appeals: implications for effective public health campaigns. *Health Education and Behavior*. 2000;27:591–615 (<http://www.mnt.ee/public/Fear.pdf>, accessed 9 July 2014).
25. Hammond D et al. Canadian warning labels and adverse outcomes: evidence from Canadian smokers. *American Journal of Public Health*. 2004;94(8):1442–45. (<http://www.who.int/fctc/guidelines/ArtElevenHammondEleven.pdf>).
26. The use of technology to combat the illicit tobacco trade. Coding, verification, tracking and tracing of tobacco products and tax stamps. Geneva: Framework Convention Alliance. (http://www.fctc.org/publications/bulletins/doc_download/123-technology-and-the-fight-against-illicit-tobacco-trade).
27. The Tobacco Products Directive: myth busting. London: Cancer Research UK; 2011 (http://www.eph.org/IMG/pdf/Mythbusting_EU_TPD_Oct_2011FINAL.pdf).

28. HM Revenue & Customs, UK Border Agency. Tackling Tobacco Smuggling - building on our success. A renewed strategy for HM Revenue & Customs and the UK Border Agency. London: HM Revenue & Customs; 2011 (http://customs.hmrc.gov.uk/channelsPortalWebApp/channelsPortalWebApp.portal?_nfpb=true&_pageLabel=pageLibrary_MiscellaneousReports&propertyType=document&columns=1&id=HMCE_PROD1_031246).
29. Agreement on trade-related aspects of intellectual property rights (TRIPS agreement). Geneva: World Trade Organization; 1995 (http://www.wto.org/english/tratop_e/trips_e/trips_e.htm).
30. McGrady B. TRIPS and trademarks: the case of tobacco. *World Trade Review*. 2004. 3(1):53-82 (<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=228885>).
31. Katz J, Dearden R. Plain packaging and international health treaties. In: Luik J, editor. *Plain packaging and the marketing of cigarettes*. Henley-on-Thames: Admap Publications; 1998.
32. The text of the general agreement on tariffs and trade. Geneva: World Trade Organization; 1986 (http://www.wto.org/english/docs_e/legal_e/gatt47_e.pdf).
33. GATT Panel report. Thailand – restrictions on importation of and internal taxes on cigarettes, DS10/R, adopted 7 November 1990, BISD 37S/200. Geneva: World Trade Organization; 1990 (http://www.wto.org/english/tratop_e/dispu_e/90cigart.pdf).
34. Agreement on technical barriers to trade. Geneva: World Trade Organization; 1994 (http://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm).

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

Albania
Andorra
Armenia
Austria
Azerbaijan
Belarus
Belgium
Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Luxembourg
Malta
Monaco
Montenegro
Netherlands
Norway
Poland
Portugal
Republic of Moldova
Romania
Russian Federation
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Tajikistan
The former Yugoslav
Republic of Macedonia
Turkey
Turkmenistan
Ukraine
United Kingdom
Uzbekistan

World Health Organization Regional Office for Europe

UN City, Marmorvej 51, DK-2100 Copenhagen Ø, Denmark
Tel.: +45 45 33 70 00. Fax: +45 45 33 70 01.

E-mail: contact@euro.who.int. Website: www.euro.who.int

Original: English