

# **Report of the meeting to review the latest scientific evidence on the impact of cigarette ventilation on cigarette use**

18–19 November 2019

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## Contents

|  |    |
|--|----|
| Executive summary  | v  |
| 1. Introduction  | 1  |
| 2. Summaries of findings, gaps and recommendations in the background papers              | 3  |
| 2.1 Introduction to cigarette ventilation and possible implications for public health    | 3  |
| 2.2 Cigarette ventilation mechanisms, market availability and prevalence of use          | 4  |
| 2.3 Potential effects of cigarette ventilation on human smoking topography and behaviour | 5  |
| 2.4 Effects of cigarette filter ventilation on machine-measured yields                   | 6  |
| 2.5 Influence of cigarette filter ventilation on product appeal and consumer use         | 7  |
| 2.6 Potential effects of cigarette filter ventilation on smokers' health                 | 9  |
| 2.7 Regulatory considerations of policy on ventilated cigarettes and policy implications | 10 |
| 3. Discussion of the strength of the evidence for findings and regulatory considerations | 13 |
| 4. Research gaps   | 19 |
| 5. Next steps  | 21 |
| 6. Report to the Ninth Session of the Conference of the Parties                          | 21 |
| Annex 1. Summaries of the written background papers                                      | 22 |
| Annex 2. Meeting agenda  | 29 |
| Annex 3. List of participants  | 32 |



## Executive summary

This report is of a meeting held on 18–19 November 2019 in Bilthoven, Netherlands, to review the latest scientific evidence on the impact of cigarette ventilation on cigarette use, in accordance with decision FCTC/COP8(21) of the Conference of the Parties (COP) to the World Health Organization Framework Convention on Tobacco Control (WHO FCTC). The objectives of the meeting, circulated to participants before the meeting, were to:

- review the latest scientific evidence on cigarette ventilation, presented in a series of background papers;
- collect relevant information on the potential and actual impact of cigarette ventilation on cigarette use;
- extract information to give regulators a better understanding of the use of ventilation in cigarettes; and
- obtain information that could be used by Parties to strengthen implementation of Articles 9 and 10.

The meeting, organized by the Secretariat of the WHO FCTC (Convention Secretariat) and WHO, was supported by The Netherlands. Participants were identified from a wide range of expertise, as specified in decision FCTC/COP8(21). The chairs of the WHO Study Group on Tobacco Product Regulation (TobReg) and the WHO Tobacco Laboratory Network (TobLabNet) also participated.

Seven background papers were commissioned by WHO from experts in cigarette ventilation to inform the debate on translating findings and evidence into policy and recommendations. They were drafted according to terms of reference drawn up by WHO. The titles of the papers were:

- Paper 1: Introduction to cigarette ventilation and possible implications for public health
- Paper 2: Cigarette ventilation mechanisms, market availability and prevalence of use
- Paper 3: Potential effects of cigarette ventilation on human smoking topography and behaviour
- Paper 4: Effects of cigarette filter ventilation on machine-measured yields
- Paper 5: Influence of cigarette ventilation on product appeal and consumer perception and use
- Paper 6: Potential effects of filter ventilation on smokers' health
- Paper 7: Regulatory considerations of policy measures for ventilated cigarettes and policy implications

Paper 3 was delivered only as a presentation. The other papers were also summarized in presentations.

The Partial Guidelines for Implementation of Articles 9 and 10 of the WHO FCTC, in appendix 2, provide a list of design features of cigarettes that might have policy implications for Parties, one of which is ventilation. The meeting therefore provided a platform for discussing policy implications of cigarette ventilation, with a view to further strengthening implementation and developing the Partial Guidelines on Articles 9 and 10. The Partial Guidelines recommend that Parties collect

data from manufacturers and importers on product characteristics, including design features, to understand the impact of those characteristics on levels of smoke emissions, interpret the measurements and be aware of the latest changes in cigarette design. The Partial Guidelines also recognize that the tobacco industry makes tobacco products more attractive to different segments of society by modifying or introducing new design features, which should be regulated by Parties.

The background papers describe the harm associated with cigarette ventilation,<sup>1</sup> including reducing the perception of risks and increasing appeal, potential exacerbation of risk for diseases such as certain type of lung cancer and non-cancer outcomes such as emphysema and chronic bronchitis, and how the tobacco industry targets specific segments of the society. The experts noted that the tobacco industry has a long-standing history of engineering and manipulating its products, including changing their characteristics to modify the delivery of toxicants and nicotine. One example is cigarette ventilation, which can make cigarettes attractive to different target groups. This includes increasing the porosity of cigarette paper or putting holes in filters to dilute the smoke yields measured by smoking machines and purportedly delivered to users, most of whom are oblivious to this deceptive technology. The technology is deceptive because, even though the tar and nicotine yields as measured by machines are reduced, smokers compensate for the reduced nicotine by smoking more intensely or covering the ventilation holes to achieve satisfying levels of nicotine. The greater intensity of smoking results in the same levels of tar and nicotine as in higher-tar-yield cigarettes. Those targeted by ventilated cigarettes include health-conscious smokers, women and potential new users, such as adolescents. Filter ventilation may facilitate uptake and maintenance of cigarette use and also deter cessation attempts.

Several gaps in evidence were identified, including global data on the use of ventilated and un-ventilated cigarettes, further information on smoking topography, tools to measure the overall public health benefit of banning or limiting filter ventilation and uptake of cigarettes with filter ventilation by young people in different countries. Further it was considered that post-implementation research on the impact of a ventilation ban, if implemented by countries that have the necessary regulatory environment, should address its effects on initiation, maintenance, degree of dependence and population prevalence, as well as its impact on health outcomes, such as lung cancer and other end-points.

In the background papers, some authors recommend banning (filter) ventilation, others describe problems with the existing limits set for tar, nicotine and carbon monoxide (TNCO), while others consider that, although the evidence indicates that a ban on cigarette ventilation would be logical, more data should be obtained to determine the effects of a ban and the regulatory measures necessary to minimize any unintended consequences.

On the basis of the background papers and the expertise presented at the meeting, the strength of the evidence for the key considerations was classified as follows.

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<sup>1</sup> Filter ventilation, referred to in some of the papers as “cigarette ventilation”, is a form of cigarette engineering that creates a false impression of a “weaker” cigarette because of the dilution of smoke; it should be noted, however, that filter ventilation is not the only means available to manufacturers to make their cigarettes more attractive and palatable (another is paper porosity, for example).

## Strong evidence

- In evaluating the evidence on the effects of cigarette ventilation on cigarette use, the experts categorized the following as substantiated by strong evidence.
  - Machine yields do not reflect human exposures.
  - Filter ventilation does not reduce disease risk.
  - Filter ventilation promotes appeal and product preference.
  - Removal of pack descriptors is insufficient to eliminate misperceptions of the risks of using ventilated products.
  - Filter ventilation misinforms consumers about the health risks of smoking and reduces consumers' perceptions of the health risks of smoking.
  - Most consumers are either unaware of the presence of vents or their function and unknowingly block them or increase their smoking intensity.
  - Filter ventilation changes combustion and dilutes cigarettes smoke, which changes physical and chemical profiles and biological properties, as assessed in *in vitro* and *in vivo* toxicology tests of smoke (based on machine tests).
  - Filter ventilation enables product elasticity, which leads to compensation and lack of reduction in exposures relative to nicotine and tar yields.
  - The market share of ventilated cigarettes increases as countries move towards high-income status.
  - Other mechanisms, such as menthol and physical parameters can be used to promote smoothness, for example, in addition to filter ventilation.

## Highly suggestive evidence

- In evaluating the evidence on the effects of cigarette ventilation on cigarette use, the experts categorized the following as substantiated by highly suggestive evidence.
  - Filter ventilation increases the risk of lung adenocarcinoma.

## Regulatory considerations

Although the evidence supports adoption of bans on filter ventilation, several regulatory mechanisms would have to be considered in order to limit unintended consequences. Further, countries are at different stages of tobacco control, and several do not apply even basic, proven interventions. Effective communication would prevent the tobacco industry from using any measure introduced to regulate cigarette ventilation to its advantage.

- From the point of view of regulation and enforcement, banning of filter ventilation would be the most practical measure and is better supported scientifically than the more complex approach of setting an allowable degree of ventilation.
- As the attractiveness of products is a feature used by the tobacco industry to deceive the public, this must be included in any regulation in order to decrease the adverse effect on population health by, eventually, reducing the prevalence of smoking.
- Current national laws in some countries that limit TNCO yields should be taken into consideration if policy measures are to be introduced to limit or ban cigarette ventilation.
- Coordination of a regulation banning cigarette ventilation with other regulations to reduce the appeal of tobacco products, such as plain packaging and regulated product descriptors, would increase its effectiveness.

- Communication to the public and decision-makers is a critical component and must be carefully planned before introducing a regulation on cigarette ventilation, to prevent or minimize unintended consequences. Communication should therefore provide the rationale for a policy, send clear messages to appropriate groups to explain the proposed changes and provide the necessary support to ensure effective application.
- All countries could already collect data on cigarette ventilation and the prevalence of use and marketing of such products. The availability of such data could be included in disclosure requirements, especially in countries with such regulations.

Countries must be prepared to respond to any legal challenges by the tobacco industry before taking any regulatory action.

### **Next steps**

- The outcomes of this meeting will be reported to the Ninth Session of the COP (COP9) to the WHO FCTC in a joint report by the Convention Secretariat and WHO and used in the response to request 8 of decision FCTC/COP8(21).

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