



Statement on Tobacco 21 from the European Respiratory Society Tobacco Control Committee

Des W. Cox ^{1,2}, Lauren Rodriguez³ and Jonathan Grigg ⁴ on behalf of the Tobacco Control Committee of the European Respiratory Society

¹Respiratory Department, Children's Health Ireland, Dublin, Ireland. ²University College Dublin, Dublin, Ireland. ³Institute of Public Health, Dublin, Ireland. ⁴Centre for Child Health, Blizard Institute, Queen Mary University of London, London, UK.

Corresponding author: Des W. Cox (des.cox@olchc.ie)



Shareable abstract ([@ERSpublications](#))

The ERS Tobacco Control Committee supports the Tobacco 21 initiative <https://bit.ly/3YbqKP4>

Cite this article as: Cox DW, Rodriguez L, Grigg J. Statement on Tobacco 21 from the European Respiratory Society Tobacco Control Committee. *Eur Respir J* 2023; 61: 2300134 [DOI: 10.1183/13993003.00134-2023].

Copyright ©The authors 2023.
For reproduction rights and
permissions contact
permissions@ersnet.org

Received: 20 Jan 2023
Accepted: 22 Feb 2023

Background

Tobacco consumption is the most significant cause of premature death across the European Union (EU) and is responsible for 700 000 deaths every year. Smokers are more likely than nonsmokers to develop lung cancer, COPD, coronary artery disease, stroke, diabetes, infertility and many other conditions [1]. According to Eurostat, 18.4% of people aged 15 years and over in the EU were daily smokers in 2019 [2]. Across Europe, the minimum age of sale of tobacco products is 18 years as per the obligations of the World Health Organization's Framework Convention on Tobacco Control (WHO FCTC). Data from the US Department of Health suggest that 90% of smokers begin smoking before the age of 18 years and we know that, overall, the average age to start smoking is 16 years of age. Furthermore, many young people in the upper age range of 18 to 21 years in some European countries, start smoking regularly after 18 years of age [3]. For many years, tobacco companies marketed their products to entice initiation by young people. Since most EU countries have now introduced strict bans on the packaging, advertising and marketing of tobacco products, the European tobacco control policy needs bolder measures to decrease adolescent and young adult smoking rates and protect a new generation from the dangers of tobacco smoking. Many countries are examining tobacco endgame policies, which aim to rapidly reduce smoking prevalence to minimal levels. One such policy is raising the tobacco age-of-sale to 21 years, widely referred to as "Tobacco 21" (T21).

Why introduce a Tobacco 21 law?

Article 16 of the WHO FCTC states that "each party shall adopt and implement effective legislative, executive, administrative or other measures at the appropriate government level to prohibit the sales of tobacco products to persons under the age set by domestic law, national law or eighteen". It is important to note that WHO FCTC provisions are a minimum requirement since Article 2.1 of the WHO FCTC states: "in order to better protect human health, parties are encouraged to implement measures beyond those required by this Convention and its protocols" [4]. Although tobacco smoking among adolescents continues to decline in most EU countries, and in some other European countries such as Ukraine [5], it still remains a major problem. Across EU countries, more than one in six (18%) 15-year-olds reported having smoked cigarettes at least once in the past month in 2018 [6]. The brains of children and adolescents are uniquely vulnerable to the effects of nicotine and nicotine addiction. The parts of the brain responsible for decision-making, reward processing and emotional regulation continue to develop at least until the age of 25 years [7]. An increase in age of smoking initiation is significantly associated with a decreased likelihood to smoke later in life, and decreased harm from the detrimental health effects of smoking [1, 8]. It is therefore of crucial importance that we prevent tobacco use in young people to protect them from lifelong addiction and its extensive adverse health effects. The aim of T21 is to decrease the availability of tobacco products to adolescents and young adults. Studies have shown that children still find it easy to get tobacco products [9]. Apart from purchasing cigarettes themselves where there is poor retailer

compliance with the age-of-sale law, adolescents commonly ask friends over the age of 18 years to buy cigarettes for them [10]. Therefore, the introduction of T21 would deter adolescents and young adults from attempting to purchase and discourage proxy purchases by young adults for adolescents if age-of-sale for tobacco products was set at 21 years, and age verification was rigorously enforced by retailers. The policy would signal to society the dangers tobacco poses to young people, would lead to a delay in the initiation of tobacco use and result in the further denormalisation of tobacco products.

Where has T21 been introduced?

Currently four countries have introduced T21 laws. USA introduced the law first at regional and state level across 19 states from 2003 to 2019 [11]. T21 law then became national legislation in 2019. Singapore phased in the measure, first increasing the age of sale to 20 years in 2020 and then 21 years in 2021. Sri Lanka and Kuwait have also raised the age of sale of tobacco products to 21 years. In December 2021, New Zealand introduced a Smokefree 2025 Action Plan to be smoke free by 2025 by banning the sale of tobacco products to anyone born after 2009 [12]. While no EU member state has yet introduced the measure, there is no legal obstacle to individual member states in setting domestic policy on legal age of sale.

What is the evidence for effectiveness of T21?

The National Academies of Sciences (formally known as the Institute of Medicine) conducted modelling studies on the potential effectiveness of T21 legislation [13]. These data were analysed using the SimSmoke and the Cancer Intervention and Surveillance Modelling Network smoking population models. The modelling evidence predicts that T21 legislation can result in fewer tobacco attributable deaths, specifically 223 000 premature deaths prevented among people born in the USA between 2000 and 2019, including 50 000 fewer deaths from lung cancer. Modelling also suggests that increasing the legal age of tobacco products to 21 years will reduce tobacco initiation, particularly in adolescents aged 15–17 years. In addition to these modelling data, we now have real world data measuring the effects of T21 policy. In Needham, Massachusetts, a greater reduction in past 30-day smoking among adolescents was recorded compared with adolescents in surrounding areas following the implementation of T21 law [14]. FRIEDMAN and Wu [15] examined smoking rates among 18- to 20-year-olds in US metropolitan areas and found a 1.2% reduction post introduction of T21 laws. Survey data from Cleveland, Ohio reported a reduction in tobacco use among high-school children once T21 legislation was introduced [16]. After implementation of T21 law in California in 2016, a purchase survey demonstrated a reduction in tobacco products sales among 15- to 16-year-olds [17]. The survey also found that there was a significant decline in illegal tobacco sales among 15- to 16-year-olds. Prior to the introduction of T21 there had not been a change in illicit tobacco sales since 2009, suggesting that the T21 legislation may have played a part in the reduction in illicit tobacco consumption. A nationwide rapid evaluation of the T21 legislation in the USA found that 11- to 18-year-olds were less likely to perceive that it was easy to purchase tobacco products from a store following the introduction of the measure [18].

Is there public support for T21?

In England, the All-Party Parliamentary Group on Smoking and Health launched a report entitled “Delivering a Smokefree 2030: The All-Party Parliamentary Group on Smoking and Health Recommendations for the Tobacco Control Plan 2021” [19]. The report highlighted YouGov Survey data that found that 54% of 18- to 24-year-olds supported the T21 measure. Overall, 63% of adults supported increasing the age when it becomes legal to purchase tobacco from 18 to 21 years. Public support for T21 legislation has been studied using population level data in the USA. In a survey of 3000 respondents, 70.5% of adults supported raising the legal age of sale, with the strongest support found among never smokers, females, African Americans, and adults over 45 years of age [20]. In May 2022, a survey on public views on tobacco endgame policies was published in Ireland. This survey found that a majority (70.6%) aged 15 years and older supported raising the legal age-of-sale to 21 years [21].

Challenges of implementing T21

As much of the evidence supporting T21 laws is derived from US studies, can these data be extrapolated to Europe? Over the course of the past 20 years, most European countries have raised the age-of-sale from 16 to 18 years. Further increases in the age-of-sale to 21 years would need to be driven at national level rather than at EU level, so this may hamper widespread adoption of T21 law. Given the strong public support for T21 across a number of countries, public representatives could be more readily persuaded to prioritise T21 in their legislative agenda. In contrast to the USA, where federal legislation can be enacted on a national level, the EU could adopt T21 as part of its Tobacco Products Directive (TPD).

Another difference between USA and Europe is the age-of-sale of alcohol. The legal age for consuming alcohol is 18 years in most European countries, so there would be a discordance between this law and T21.



FIGURE 1 Exposure of children and young people to tobacco advertising in a supermarket in Bavaria, Germany. Above the display there are several video screens displaying filmed tobacco advertising.

This discordance would likely be the subject of public debate in countries attempting to implement a T21 policy [22], but can be counterbalanced by the fact that one in two smokers will die of a tobacco-related disease. No other consumer product currently on the market kills half their users. A strong media campaign educating the public on the impact of T21 would assist with addressing these arguments and increase the success of bringing the measure into law.

Another challenge to T21 is in the area of enforcement [23]. Data from US jurisdictions where T21 had been implemented show that enforcement gaps can be attributed to multiple factors, including lack of retailer education, and lack of support for enforcement and regulation [24, 25]. A recent study identified disparities in T21 adoption, retail inspections, and retail compliance across different US jurisdictions [26]. A clear strategy in respect to enforcement would be required to ensure retail compliance with T21 in each country [27]. In developing countries, where the tobacco industry has used such measures to derail and distract from the introduction of other important tobacco control measures, enforcement and compliance with T21 may well prove challenging.

The online retail environment for tobacco products represents a significant challenge to the effectiveness of T21 legislation. Evidence suggests that underage purchasers are able to access tobacco products from online vendors who can mail products to an individual residence or other location [27, 28]. Restriction of online sales of tobacco products needs to be delivered through the EU and national legislation to protect children and young people. A logical accompanying step should be to prevent children and young people from viewing tobacco advertising at point of sale. For example, children in Germany are exposed in supermarkets not only to brightly coloured cigarette logos, but also filmed advertisements (figure 1). Notwithstanding these challenges, the substantial health benefits from declining youth smoking rates across Europe as a result of T21 make it a worthwhile legislative measure to pursue.

Electronic nicotine delivery systems

The use of electronic nicotine delivery systems (ENDS) has dramatically increased over the past 10 years, in particular among young people [29]. The European Respiratory Society (ERS) has previously outlined its position on ENDS in its statements on “tobacco harm reduction” [30] and, with the Forum of International Respiratory Societies, on “electronic cigarette use in youths” [29]. The ERS does not support

their use as a tobacco cessation aid as evidence of their effectiveness is insufficient and because of the serious concerns regarding their long-term safety. There is now evidence that adolescents who use ENDS are more likely to take up tobacco smoking compared with those who have never used ENDS [31]. For countries who do not share these concerns and decided to promote ENDS to the public as a smoking cessation aid, age-of-sale of both ENDS products and tobacco products should be raised. This would prevent an anomaly in the market where there is access to ENDS but not tobacco products and will mitigate ENDS uptake by adolescent and young people.

Conclusion

In summary, as more countries press forward with the tobacco endgame agenda, T21 is likely to be an important milestone in the journey towards a tobacco-free generation. Where introduced, raising the age-of-sale of tobacco products to 21 years has resulted in decreased prevalence of tobacco use by adolescents and delayed smoking initiation. T21 has strong support publicly and there is now mounting evidence for policy-makers across Europe to implement this measure into law. The Tobacco Control Committee of the ERS therefore strongly recommends that governments introduce T21 policies, and that ERS members advocate T21 in their own countries.

This article has been revised according to the correction published in the May 2023 issue of the *European Respiratory Journal*.

Members of the ERS Tobacco Control Committee: Jonathan Grigg (committee chair), Arzu Yorgancıoğlu, Elif Dağlı, Charlotte Suppli Ulrik, Kjeld Hansen, Filippos Filippidis, Anna Gilmore, Linnea Hedman and Deborah Sy.

Conflict of interest: D.W. Cox and L. Rodriguez have nothing to disclose. J. Grigg reports grants from OM Pharma and AstraZeneca, and advisory board participation with OM Pharma and GlaxoSmithKline, outside the submitted work.

References

- 1 National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health. The Health Consequences of Smoking – 50 Years of Progress: A Report of the Surgeon General. Atlanta, Centers for Disease Control and Prevention (US), 2014. www.ncbi.nlm.nih.gov/books/NBK179276/
- 2 Eurostat. Tobacco Consumption Statistics. Date last updated: May 2022. Date last accessed: 20 February 2023. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tobacco_consumption_statistics
- 3 Filippidis FT, Agaku IT, Vardavas CI. The association between peer, parental influence and tobacco product features and earlier age of onset of regular smoking among adults in 27 European countries. *Eur J Public Health* 2015; 25: 814–818.
- 4 Convenio marco de la OMS para el control del tabaco [WHO framework convention on tobacco control]. *Rev Esp Salud Publica* 2003; 77: 475–496.
- 5 Unicef. Smoking Among Ukrainian Teenagers Decrease, Though Alcohol Consumption, Drug Use, and Social Media Addiction are Increasing. Date last updated: 10 October 2019. Date last accessed: 20 February 2023. www.unicef.org/ukraine/en/esp2019
- 6 Inchley JC, Stevens GWJM, Samdal O, et al. Enhancing understanding of adolescent health and well-being: the health behaviour in school-aged children study. *J Adolesc Health* 2020; 66: S3–S5.
- 7 Yuan M, Cross SJ, Loughlin SE, et al. Nicotine and the adolescent brain. *J Physiol* 2015; 593: 3397–3412.
- 8 National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health. Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General. Atlanta, Centers for Disease Control and Prevention (US), 2012. www.ncbi.nlm.nih.gov/books/NBK99237/
- 9 Nuyts PAW, Kuijpers TG, Willemsen MC, et al. How can a ban on tobacco sales to minors be effective in changing smoking behaviour among youth? A realist review. *Prev Med* 2018; 115: 61–67.
- 10 Braak D, Michael Cummings K, Nahhas GJ, et al. How are adolescents getting their vaping products? Findings from the international tobacco control (ITC) youth tobacco and vaping survey. *Addict Behav* 2020; 105: 106345.
- 11 Reynolds MJ, Crane R, Winickoff JP. The emergence of the tobacco 21 movement from Needham, Massachusetts, to throughout the United States (2003–2019). *Am J Public Health* 2019; 109: 1540–1547.
- 12 Ait Ouakrim D, Wilson T, Waa A, et al. Tobacco endgame intervention impacts on health gains and Māori: non-Māori health inequity: a simulation study of the Aotearoa/New Zealand Tobacco Action Plan. *Tob Control* 2023; in press [<https://doi.org/10.1136/tc-2022-057655>].
- 13 Committee on the Public Health Implications of Raising the Minimum Age for Purchasing Tobacco Products; Board on Population Health and Public Health Practice; Institute of Medicine. Bonnie RJ, Stratton K, Kwan LY, eds. Public Health Implications of Raising the Minimum Age of Legal Access to Tobacco Products. Washington, National Academies Press, 2015.

- 14 Schneider SK, Buka SL, Dash K, *et al.* Community reductions in youth smoking after raising the minimum tobacco sales age to 21. *Tob Control* 2016; 25: 355–359.
- 15 Friedman AS, Wu RJ. Do local tobacco-21 laws reduce smoking among 18 to 20 year-olds? *Nicotine Tob Res* 2020; 22: 1195–1201.
- 16 Trapl E, Pike Moore S, Osborn C, *et al.* Evaluation of restrictions on tobacco sales to youth younger than 21 years in Cleveland, Ohio, area. *JAMA Netw Open* 2022; 5: e2222987.
- 17 Zhang X, Vuong TD, Andersen-Rodgers E, *et al.* Evaluation of California’s “Tobacco 21” law. *Tob Control* 2018; 27: 656–662.
- 18 Agaku IT, Nkosi L, Agaku QD, *et al.* A rapid evaluation of the US federal tobacco 21 (T21) law and lessons from statewide T21 policies: findings from population-level surveys. *Prev Chronic Dis* 2022; 19: E29.
- 19 Action on Smoking and Health. Delivering a Smokefree 2030: The All Party Parliamentary Group on Smoking and Health recommendations for the Tobacco Control Plan 2021. Date last updated: June 2021. Date last accessed: 20 February 2023. <https://ash.org.uk/resources/view/delivering-a-smokefree-2030-the-all-party-parliamentary-group-on-smoking-and-health-recommendations-for-the-tobacco-control-plan-2021>
- 20 Winickoff JP, McMillen R, Tanski S, *et al.* Public support for raising the age of sale for tobacco to 21 in the United States. *Tob Control* 2016; 25: 284–288.
- 21 Health Service Executive (HSE) Tobacco Free Ireland Programme. Bringing the Tobacco Epidemic to an End. Public Views on the “Tobacco Endgame” in Ireland. Date last updated: May 2022. Date last accessed: 20 February 2023. www.hse.ie/eng/about/who/tobaccocontrol/news/tobacco-endgame-report-2022.pdf
- 22 Nuyts PAW, Kuipers MAG, Willemsen MC, *et al.* An increase in the tobacco age-of-sale to 21: for debate in Europe. *Nicotine Tob Res* 2020; 22: 1247–1249.
- 23 Silver D, Macinko J, Giorgio M, *et al.* Retailer compliance with tobacco control laws in New York City before and after raising the minimum legal purchase age to 21. *Tob Control* 2016; 25: 624–627.
- 24 Spivak AL, Monnat SM. Prohibiting juvenile access to tobacco: violation rates, cigarette sales, and youth smoking. *Int J Drug Policy* 2015; 26: 851–859.
- 25 DiFranza JR. Best practices for enforcing state laws prohibiting the sale of tobacco to minors. *J Public Health Manag Pract* 2005; 11: 559–565.
- 26 Dai H, Tamrakar N, Rathnayake N, *et al.* Geographical distribution and social determinants of Tobacco 21 policy adoption and retail inspections in the United States, 2015–2019. *Tob Induc Dis* 2021; 19: 55.
- 27 Levy DT, Meza R. Tobacco 21 laws in Europe: a policy whose time has come. *Nicotine Tob Res* 2020; 22: 1250–1251.
- 28 Gaiha SM, Lempert LK, Halpern-Felsher B. Underage youth and young adult e-cigarette use and access before and during the coronavirus disease 2019 pandemic. *JAMA Netw Open* 2020; 3: e2027572.
- 29 Ferkol TW, Farber HJ, La Grutta S, *et al.* Electronic cigarette use in youths: a position statement of the Forum of International Respiratory Societies. *Eur Respir J* 2018; 51: 1800278.
- 30 Pisinger C, Dagli E, Filippidis FT, *et al.* ERS and tobacco harm reduction. *Eur Respir J* 2019; 54: 1902009.
- 31 O’Brien D, Long J, Quigley J, *et al.* Association between electronic cigarette use and tobacco cigarette smoking initiation in adolescents: a systematic review and meta-analysis. *BMC Public Health* 2021; 21: 954.