



# Reaping what you sow: England's drastic reduction in childhood secondhand smoke exposure in two decades

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Being responsible every year for almost 8 million deaths worldwide, tobacco smoking is the single greatest preventable cause of death globally.<sup>1</sup> To the huge number of deaths attributable to smoking among ever smokers, we also have to add almost 1 million deaths per year among non-smokers who die due to secondhand smoke (SHS) exposure.<sup>2</sup>

In 2003 the WHO established the Framework Convention on Tobacco Control (FCTC), a treaty recommending strategies to protect present and future generations from the harmful effects of smoking.<sup>1</sup> Among these strategies, a particular emphasis is given to the protection from tobacco smoke through smoking bans in workplaces and public places. The 2021 WHO report on the global tobacco epidemic shows the steady progress made by European countries on tobacco control.<sup>1</sup> According to the latest version of the Tobacco Control Scale (TCS), which systematically quantifies the implementation of tobacco control policies at country-level across Europe, the UK has the highest implementation of effective tobacco control policies whilst large differences remain across countries.<sup>3</sup>

Using data from repeated cross-sectional studies annually conducted over the last two decades on a total of almost 50,000 children, Tattan-Birch and Jarvis<sup>4</sup> provide robust evidence of the huge public health impact of such tobacco control policies in England. Besides significantly lowering smoking prevalence, these tobacco control measures were successful in letting SHS exposure fall. This study found a substantial reduction (from 41%

to 25%) in the proportion of children having at least one parent smoking, between 1998 and 2018. More importantly, there was a huge increase in the proportion of children living in smoke-free homes (from 63% to 93%). Today, in England practically all children with no smoking parent and three out of four children with at least a smoking parent live in smoke-free homes.<sup>4</sup>

The increase in smoke-free homes showed an apparent acceleration in the years around the adoption in 2007 of the comprehensive legislation banning smoking in public places. This is not surprising: it has already been shown that in Europe, government smoke-free regulations and the information campaigns conducted for their enforcement, besides being successful in decreasing SHS exposure in non-smokers, had also the effect to increase the social unacceptability of SHS, and consequently the adoption of voluntary in-home smoking bans.<sup>5</sup>

One of the main strengths of this study was the availability of saliva cotinine concentration for approximately one third of the study population. Authors had therefore the possibility to validate self-reported data showing that children's exposure to SHS has fallen since 1998: today the average exposure is even ten-fold lower compared to twenty years ago.<sup>4</sup>

As evidenced by this study, we concur with authors that at least in England the elimination of children's exposure to SHS at home appears to be a realistic target for policy. This is likely due to the effective strategies implemented in the UK over the last few decades. These included the huge taxation on tobacco products (among the largest in Europe), the comprehensive restrictions on smoking in workplaces and public places, also extended to private cars when minors are present, the complete ban on the advertising and promotion of all tobacco products, the early adoption of plain packaging legislation and the implementation of support to help dependent smokers stop.<sup>3</sup>

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The example of the UK should be followed by policy makers of other countries. This is urgent since also the European Union set the goal to create a tobacco-free generation in Europe, where less than 5% of people use tobacco by 2040.<sup>6</sup> Whereas smoking cessation and preventing uptake have been considered the most direct pathway to the tobacco endgame, there is no doubt about the benefits smoke-free policies play both in assisting cessation and prevention of uptake, but also in tackling the immediate and urgent need to protect everyone from the harmful effects of SHS.

A limitation of this study is the lack of consideration of electronic cigarettes (e-cigarette). However, concurrently with the spread of e-cigarettes in the country it is possible to observe a halt of the decreasing trend in SHS exposure in children.<sup>4</sup> The aerosol exhaled by the e-cigarette user into the ambient air is the so called secondhand aerosol (SHA).<sup>7</sup> SHA is not simply steam but might be harmful for bystanders. E-cigarette users emit toxicants, including nicotine and ultrafine particles and other potentially harmful substances.<sup>8,9</sup> Thus, beyond SHS, exposure to SHA needs consideration and should be a focus for future research particularly in England - by far the country in Europe with the highest prevalence of e-cigarette users<sup>10</sup> and of exposure to SHA.<sup>7</sup> Despite the generally low prevalence of e-cigarette use in Europe (2.4% of the adult population<sup>10</sup>), daily exposure to SHA is frequently reported by e-cigarette non-users (16.0%<sup>7</sup>). This is likely due to the misperception of European e-cigarette users and non-users that SHA is not harmful for human's health.<sup>8</sup>

In conclusion, Tattan-Birch and Jarvis results show the success of smoke-free legislation in lowering the exposure to SHS among children together with the increase of smoke-free homes. While regulating smoking in homes by legislation is not feasible, the extension of smoke-free legislation to outdoor places (e.g., terraces, parks, bus stops, building entrances, and markets) could have a similar favourable effect, in addition to smoke-free interventions. There is still room for improvement.

## Declaration of interests

The authors declare that the commentary was written in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Author contributions

SG: Conceptualization, Writing – Original Draft and Editing EF: Supervision, Writing-Review and Editing.

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