

**Title:** Tobacco industry claims about transformation are inconsistent with combustible cigarette innovations: The case of flavour capsule cigarettes.

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**Tobacco industry claims about transformation are inconsistent with combustible cigarette innovations: The case of flavour capsule cigarettes.**

**Introduction**

Tobacco companies maintain that they do not target their products at those under the minimum legal age of purchase, with some multinationals such as Philip Morris International ([www.pmi.com/our-transformation/delivering-a-smoke-free-future](http://www.pmi.com/our-transformation/delivering-a-smoke-free-future)) also publicly announcing their vision for a smoke-free future, and others, such as British American Tobacco ([www.bat.com/strategy#](http://www.bat.com/strategy#)) and Japan Tobacco International ([www.jti.com/news-views/building-brighter-future](http://www.jti.com/news-views/building-brighter-future)) implicitly suggesting a move away from cigarettes by indicating a focus on reduced-risk products. It is argued that such rhetoric is solely about profit maximisation, and the adoption of harm reduction in tobacco companies' public relations initiatives and marketing communications cannot be achieved if new users and nicotine addicts are being brought into the market.<sup>1</sup> Critical investigation of transformation claims suggest there is no evidence of substantial progress towards eliminating the production and sale of combustible tobacco products, or the design and marketing of youth-appealing products, or opposition to policies aimed at protecting the public.<sup>2</sup> We add to this debate by describing how the promotion of flavour capsule cigarettes, a product with high youth appeal and one which is helping drive combustible tobacco sales, is antithetical to youth protection and industry transformation.

**Global developments**

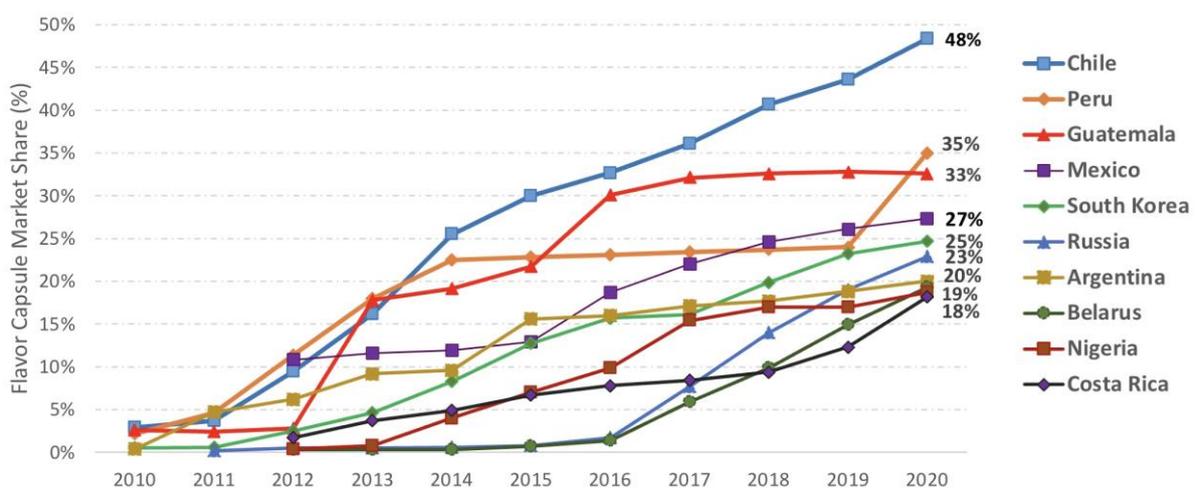
Flavoured cigarettes increase the likelihood of experimentation, facilitate progression to established smoking, and reduce cessation.<sup>3,4</sup> The growing popularity of flavoured cigarettes in many countries is due to the inclusion of frangible capsules with liquid, gel or solid material (e.g., powder)<sup>5</sup> in the filter. Smokers can crush these capsules, by applying pressure to the filter, to change the flavour of the smoke. Since the 1960s flavour capsules have been incorporated into filters, either as a single capsule or multiple microcapsules,<sup>6</sup> but it was not until this century that their marketing potential was realised.

The flavour capsule market has grown significantly since 2007,<sup>7</sup> accounting for 3.3% of the global market in 2020<sup>8</sup> and estimated to continue to grow until 2026.<sup>9</sup> They have been one of the fastest growing segments of the global tobacco market.<sup>7</sup> Capsule cigarettes have proved extremely popular in some regions. As shown in Figure 1, in 2020 six of the ten countries with the largest market share for capsule cigarettes were in Latin America, including the top four (Chile, Peru, Guatemala and Mexico).<sup>8</sup> Market share in these four countries (ranging between 27% and 48%) increased by over 50% in each since 2015. Significant growth has also been evident in the Commonwealth of Independent States (CIS), with a sharp rise in capsule market share in several CIS countries between 2015 and 2020 (from 1.4% to 19.3% in Belarus; 0.7% to 16.8% in Kazakhstan; 0.8% to 22.9% in Russia; 4.5% to 14.8% in Ukraine; 0% to 15.7% in Uzbekistan).<sup>8</sup> This suggests that, like Latin America, tobacco companies have made a concerted effort to increase capsule sales in this region. The pattern in African and Asian markets, where data is available, is less clear, although there is strong growth in Nigeria (7.0% in 2015 to 18.7% in 2020), Hong Kong (1.0% in 2015 to 13.3% in 2020) and South Korea (12.7% in 2015 to 24.7% in 2020).<sup>8</sup>

## **Product changes**

There has been considerable diversification in the design of capsule cigarettes. A single cigarette stick can contain up to three capsules in the filter (Supplementary Figure 1), thus allowing for eight possible flavour options. Capsules can be fixed within the filter or free-moving. The latter is intended to increase multisensorial appeal by allowing consumers to feel the vibration and hear the rattle of the capsule as it moves within the filter.<sup>10</sup> There can be as many as five different capsule flavours in a single cigarette pack, and for some of these ‘mixed packs’ (such as ‘Marlboro Shuffle’) the flavour in each cigarette stick is unknown prior to bursting the capsule. There is a plethora of flavours available, although most include a menthol or mint profile.<sup>11</sup> In China, for example, although capsule cigarettes were only introduced in 2014 there are now as many as 80 varieties, with flavours including liquor, wine, coffee, tea, ginseng, ginger, vanilla ice cream, sticky rice, and dried tangerine.<sup>12</sup> Tobacco industry journals, incidentally, suggest a focus on providing ‘Generation Z’ smokers in China capsule cigarettes with fun flavours.<sup>13</sup>

**Figure 1:** Countries with highest capsule market share



Flavour capsules are driving the global specialty filter industry<sup>14</sup> and, incongruous with the idea of an industry moving away from cigarettes, capsule innovation is set to continue.

Tobacco companies have patented, but have yet to market, capsule cigarettes with adjustable flavour release systems, airflow manipulation features, transparent filters (so that consumers can see the flavour being released when they burst the capsule), and additives including nicotine/tobacco extracts for an on-demand nicotine hit.<sup>6</sup> It is unlikely this will be the end of the capsule innovation pipeline.

**Supplementary Figure 1:** Cigarettes with one, two or three capsules in the filter



## Research

Despite being one of the most successful product innovations in the tobacco field for decades, a recent literature review identified only 20 published studies exploring use or perceptions of capsule cigarettes.<sup>15</sup> Even so, the review shows these products to be particularly appealing to, and used most by, young people.<sup>15</sup> This is consistent with tobacco industry documents and journals.<sup>6,13</sup> Among young people, capsule cigarettes are viewed as cool, high-tech and fun, and liked as they allow for interaction and customisation.<sup>15</sup> Studies published since this review confirm these findings.<sup>16-20</sup> Indeed, a large school survey in Wales in 2019 with 11-16

year olds (n=119,388) found that 42.5% of current smokers asked about capsule cigarettes reported using them in the past 30 days.<sup>19</sup> The popularity of capsule cigarettes, and their likely role in recruiting and retaining a new generation of smokers, casts serious doubt on the credibility of tobacco companies' claims about seriously working towards a smoke-free future or transitioning away from cigarettes.

### **Marketing**

A review of the literature provides insight into how tobacco companies market flavour capsule cigarettes.<sup>21</sup> Unsurprisingly, they use whatever tools are permitted to promote them.<sup>21</sup> The retail environment, including tobacco displays (Supplementary Figure 2), and the packaging, are key channels for raising awareness of, and capturing interest in, capsule cigarettes. Cigarette pack designs typically include symbols and/or descriptors to signal the presence of capsules (see Supplementary Figure 3), as do cigarette sticks. As consumers see the stick as it is taken from the pack or given to them, and when it is lit or in an ashtray, it is an important way for the industry to create appeal and influence product perceptions. Where single cigarettes are sold, a practice most common in low and middle-income countries, young people are exposed not only to the attractive packaging but also to the capsule symbols on filters which are visible inside the pack and serve as a reminder of the different on-demand flavours (Supplementary Figure 4).

### **Supplementary Figure 2: Retail display in Albania**



**Supplementary Figure 3:** Packs of capsule cigarettes: top row (UK), rows 2 and 3 (multiple European countries), row 4 (the Americas and Caribbean), bottom row (Asia and Africa)



Where plain (or standardised) packaging has been implemented, often in countries with comprehensive bans on tobacco advertising and promotion (including the open display of tobacco products in retail outlets), it is much more challenging for the industry to create interest in their products because the promotional role of the pack and stick is significantly diminished. Brand and variant names are important for cigarettes in all markets, but in the context of plain packaging they assume greater importance and, where flavoured cigarettes are permitted, are used to identify capsule cigarettes. For the cigarette stick, tobacco companies in countries with plain packaging, except Israel, are not able to display a symbol on the stick to show consumers where the capsule is for them to crush.<sup>22</sup> This is because they can only include a brand variant name or alphanumeric code on the stick (Supplementary Figure 5); in Uruguay no markings are permitted at all.<sup>22</sup> Despite the difficulty in communicating with consumers, in the United Kingdom (UK) in 2019, 20 months after plain packaging left brand variant name on packs as the only means of promoting capsule cigarettes, and even though a flavour ban would come into force in 2020, tobacco companies continued to introduce new capsule brand variants. While legal to do so, this expansion of flavour capsule varieties in the lead up to the flavour ban does not give the impression of an eagerness to move away from cigarettes.

**Supplementary Figure 4:** Single capsule cigarettes being sold from open packs in the street in Mexico



## Legislation

Flavoured cigarettes are banned in at least 35 countries,<sup>23</sup> primarily the result of the ‘Tobacco Products Directive’ (TPD), which since May 2020 has prohibited characterising flavours in cigarettes and rolling tobacco across all 27 European Union countries and (while it has since exited the European Union) the UK. A flavour ban in Brazil also took effect in 2020, following an eight-year delay in implementation due to tobacco industry interference, litigation, and third-party research.<sup>24</sup> That the tobacco industry has and will very likely continue to challenge bans on flavoured cigarettes, policies aimed at reducing smoking prevalence by encouraging smokers to quit and discouraging relapse and youth uptake, points to a discordance between their actions and claims.

**Supplementary Figure 5:** Capsule cigarette packs and sticks in three countries with plain packaging: Ireland, Australia and the UK



The response of the tobacco industry to flavour bans is not well understood. In Canada, where there is a complete ban on flavours in all tobacco products (except larger cigars), some tobacco companies revised pack colour and descriptors, used novel filters, and directed consumers to non-menthol alternatives.<sup>25-27</sup> Aftermarket products that can be used to flavour cigarettes (such as flavour cards and sprays) are also available.<sup>28</sup> Regarding capsules, one tobacco company introduced a water capsule in the filter, not subject to the ban.<sup>29</sup> In Europe, where the legislation only bans characterising flavours in cigarettes and rolling tobacco,<sup>23</sup> even less is known about the industry response. Tobacco companies have revised variant names on packs (e.g. Pall Mall ‘Red Capsule’ became Pall Mall ‘Flow Red’ in the UK) and introduced cigarettes intended to be menthol replacements (e.g. ‘Silk Cut Choice Green’ in Ireland). Japan Tobacco International admits to adding menthol to Silk Cut Choice Green and some other ‘menthol replacement’ brand variants during manufacturing, but insists that as the ban is on ‘characterising flavours’, and these cigarettes only taste and smell of tobacco, this does not contravene the legislation.<sup>30</sup>

The industry has also introduced new filters and flavour cards, as in Canada, and brought to market capsule cigarillos, capsule filters for rolling tobacco (exempt from the ban),<sup>31</sup> and also loose capsules, which consumers can add to the filter (Figure 2). In Spain, and very likely other European countries, make-your-own cigarettes (cigarette sticks without tobacco) with capsules are also being promoted (Supplementary Figure 6). Aside from these examples, van der Eijk et al<sup>6</sup> explain that tobacco companies developed loose flavour capsule units designed to fit into cigarettes or recessed filters specifically to circumvent flavour bans. Industry efforts to exploit loopholes in legislation are clearly to keep people using combustible products.

**Figure 2:** Capsule cigarillos (Denim [Spain], Burton [UK]), capsule filter tips (Swan [UK], Rizla [UK]), and loose capsules (from left to right [Turkey, Portugal, Spain]) in European countries with a flavour ban



**Supplementary Figure 6:** Make-your-own capsules, in multiple flavours, in Spain post-flavour ban



## Conclusions

Over the last decade or so, the tobacco industry has actively developed and aggressively marketed an array of flavour capsule cigarettes. As such, it is challenging for the tobacco industry to position itself as seeking either a combustible tobacco free future or one in which the focus is on less harmful nicotine alternatives. A tobacco industry metamorphosis may be possible, but with the current focus on promoting youth-friendly, and indeed youth targeted, capsule cigarettes,<sup>6</sup> it has certainly not happened yet. To take industry claims of transformation seriously, industry would firstly need to cease developing and marketing combustible tobacco innovations, such as flavour capsules, and secondly stop challenging flavour bans and other tobacco control policies that reduce the appeal of smoking for youth and facilitate smoking cessation.<sup>2</sup> In terms of the first, governments could pre-empt such action by prohibiting current and future innovative features of smoked tobacco products.

An innovative potential tobacco control measure that has gained recent academic and policy attention is ‘dissuasive’ cigarettes, where the appearance of the stick is designed to deter smoking, particularly among young people who may not necessarily be exposed to packaging at the point of experimentation or consumption, by displaying a warning and/or being an unappealing colour.<sup>32-34</sup> It is about altering stick design so that it reflects the potential harms rather than promotes smoking. This is one potential transformation that does merit attention.

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## **Declaration of interests**

None declared.

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