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The 'filter fraud' persists: the tobacco industry is still using filters to suggest lower health risks while destroying the environment

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Received 17 September 2020
Revised 1 February 2021
Accepted 5 February 2021
Published Online First 26 April 2021

To cite: Evans-Reeves K, Lauber K, Hiscock R. *Tob Control* 2022;**31**:e80–e82.

FILTERS AND HARM

Despite being labelled the "deadliest fraud in the history of human civilisation",[1] filter tips now feature on almost every mass-produced cigarette smoked across the globe.[2] After filters first appeared in the 1860s as an attempt to protect against tobacco flakes entering the mouth,[3] the tobacco industry introduced modern cellulose acetate cigarette filters in the 1950s to alleviate public concerns about smoking-related lung cancer.[4] Filters and innovations to filters have been consistently marketed as a means to reduce smoking-related health risks,[5] with the very name 'filter' suggesting reduced harm.[6] For instance, filter perforations introduced in the 1970s and 1980s to create 'light' and 'mild' cigarettes produced lower machine-tested yields of tar and nicotine. When smoking, however, the perforations are blocked by smokers' fingers,[7 8] serving to increase rather than decrease harm as smokers take more frequent and deeper puffs to satisfy nicotine cravings.[9] The overwhelming majority of independent research shows that filters do not reduce the harms associated with smoking[7–9]—a fact understood by tobacco industry scientists in the 1960s.[4] In fact, filters may increase the harms caused by smoking by enabling smokers to inhale smoke more deeply into their lungs.[8] Furthermore, toxic fibres shed from the cut end of the filter are inhaled and ingested by smokers.[3] A recent research letter reporting a study with contradictory findings[10] has been criticised for a non-representative sample[11] and failing to take into account confounding factors such as socioeconomic status.[12]

In addition, cigarette filters are an environmental hazard and are among the 10 most common plastics in the world's oceans. Every year, an estimated 4.5 trillion cigarette filters are deposited into the environment. Discarded filters are commonly made of cellulose acetate, a plastic[13] losing on average only 38% mass in two years of decomposition,[14] and contain a number of toxic substances which may leach into the environment.[15 16] In 2019, many single use plastics were banned in the EU. However, early proposals for Member States to reduce plastic waste from cigarettes by 50% by 2025 and 80% by 2030 were rejected in favour of weaker measures.[17] Instead, tobacco companies must help raise public awareness of the plastic in their cigarette filters and contribute to the costs of clean-up, collection and waste treatment of disposed filters.[18] Even these measures were resisted by the tobacco industry and its associates.[19]

Now tobacco companies are exploring the possibility of biodegradable filters. However, this should be regarded with caution. First, biodegradable filters would still leach harmful chemicals into the environment if discarded improperly[16] and second, it is likely that the tobacco industry will use biodegradable filters as both a Corporate Social Responsibility and a marketing opportunity. The potential unintended consequences would be reputation rehabilitation and consumers and non-consumers alike believing that filtered cigarettes are less harmful without plastic in their filters. Given that we know that tobacco companies are already marketing their filter innovations to retailers in a way that connotates health benefits, biodegradable filters are likely to be no exception and the filter fraud will be enabled to adapt and persist once more.

EXPLOITING REGULATORY LOOPHOLES

To reduce misperceptions about the relative harm of tobacco products, EU and UK tobacco packaging and product legislation prohibits the use of words such as *smooth* (*light* and *mild* have been prohibited in the UK since 2002) or any descriptors of taste or health (eg, *natural*, *organic*) from cigarette packs and all characterising flavours are banned.[20 21] However, filter designs and innovations have been largely omitted from the legislation (with the exception of flavour features such as capsules). The tobacco industry is exploiting these loopholes by further innovating cigarette filters in order to differentiate its products and promotes these strategies to investors (figure 1).

In the UK, legislation prohibiting all advertising, including pack branding,[22] means that tobacco companies cannot use conventional marketing methods. Therefore, they promote tobacco

Figure 1 Slide from BAT Investor Day 2015 presentation on marketing strategy.[7 26]

Table 1 Examples of filter innovations in the past 5 years (2015–2020)

Tobacco company	Filter innovation	Year first introduced	Example brands*	Filter description/marketing slogan†
Philip Morris International	Firm filter	2017	Chesterfield (Menthol, Silver, Red, Blue)	"Chesterfield with new premium features: Round corner box, firm filter"[34]
	Firm filter	2015	Marlboro (Red, Gold, Silver Blue, Ice Blast, White Menthol, Touch)[35]	Marlboro touch: "Quality blend, firm filter. Unbelievable but true"[33]
British American Tobacco	Tube Filter	2020	Vogue Essence Bleue & Compact Bleue[36]	"tube filter"[36]
	Tube & firm filter ('Taste Plus Filter')	2016	Pall Mall Blue & Silver Capsule[37]	"Improved Pall Mall range with taste plus filter"[38]
Imperial Tobacco Brands	Crush filter	2020	L&B Blue, JPS Players	"cool filter"; "For former Crushball smokers"[24]
	Tube & firm filter	2019	L&B Blue[39]	"bright air filter"[39]
	Firm filter	2018	JPS Real Blue[40]	"firm filter"[40]
	Tube filter ('flow channels')	2018	JPS Silver Stream[40]	"smooth filter"[40]
	Mineral & tube filter ('easy draw channels')	2015	JPS Triple Flow[41]	"Experience our ultimate smooth. Easy Draw channels, smooth tobacco blend, less smoke smell paper"[42]
Japan Tobacco International	Tube filter	2020	Sovereign & Sterling New Dual[43]	"flow tech"[43]

*These are illustrative examples which are focused on the UK market and, as such, do not include all brands covered by the filter innovations listed.
†Marketing slogans are included where a corresponding advert could be identified in UK trade press (2015–2017: The Grocer, Retail Newsagent, Wholesale News; 2018–2020: Retail Newsagent).

products to retailers through adverts in the retail trade press. Many of these adverts include claims of improved filters. *Tube* or flow filters, for instance, have a hollowed or recessed section of filter at the mouth end which distances the discoloured end of the filter from the smoker's lips.[23] *Firm* filters are advertised as retaining their shape better than their conventional alternatives; *mineral* filters, often described only vaguely, are promoted in connection with taste improvements. Most recently, cigarettes with *crush* filters that mimic the now prohibited capsule filters have been introduced and are being marketed as the replacement cigarettes for former capsule smokers (figure 2).[24]

Associated marketing slogans convey connotations of cleanliness and reduced risk by promising improved filtration[25] and hygiene,[26] 'cleaner' stubbing out, 'less smoke smell' and a smoother[27] smoking experience (table 1). Tobacco company investor reports highlight filter innovations as 'modern'[28] and 'progressive'[29] features which improve brand popularity.

CONCLUSIONS

Filter innovations make cigarettes more appealing, in part by conveying a cleaner image. This is a disingenuous campaign led by the tobacco industry, considering that filters may serve to increase rather than decrease harm.[8] Both EU and UK tobacco control legislation have failed to curtail the tobacco industry's filter deception. Furthermore, marketing of cigarette filters in this manner is in stark contrast with the polluting effect disposed filters have on the environment. Although banning them would not only reduce plastic waste, removing ineffective cigarette filters also has the potential to support tobacco control efforts by making cigarettes less palatable, the EU's Single Use Plastic Directive missed a crucial opportunity by excluding cigarette filters from its upcoming ban on some single-use plastics.[17] In the UK, the tobacco industry's new responsibility for smoking related litter clean-up has already been used as an opportunity to have in-person interaction with the government,[30] thereby exploiting this as a loophole in the WHO FCTC treaty. Given the environmental devastation and the continued effort of the industry to use filter tips to 'sanitise' cigarettes for consumers, it is time for the public health and environmental health communities to unite to ban filters for the benefit of both people and planet.

Figure 2 Example cigarette adverts promoting filters as an important feature. Left: Lucky Strike advert (British American Tobacco),[31] middle: JPS Triple Flow advert (Imperial Tobacco Brands),[32] right: Marlboro advert (Philip Morris International).[33]

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Contributors KE-R and KL conceived the original idea for the paper. KE-R wrote the first draft of the paper and all authors contributed to drafting and editing of the paper, developed ideas for policy responses and approved the final version. KL identified filter innovations from trade press cigarette adverts, and KL and KE-R analysed annual and investor reports for mentions of filter innovations.

Funding This work was supported by Bloomberg Philanthropies Stopping Tobacco Organisations and Products project funding (www.bloomberg.org).

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

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