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## Editorial

# Tobacco Marketing by Stealth

Reducing the prevalence of tobacco use requires both efforts to encourage cessation among existing smokers, and to reduce uptake among young people. One area of success is the growth in restrictions on tobacco advertising in a number of countries, which now includes the introduction of standardized (also known as “plain”) tobacco packaging. However, there remain a number of relatively unregulated channels through which tobacco brands, and tobacco-related imagery more generally, can be promoted. These include social media, movies, television, and video games, among others. However, the evidence regarding the prevalence and impact of tobacco marketing via these channels is uneven; for example, there is a far larger literature on smoking in movies than in other domains. In this issue, Forsyth and Malone<sup>1</sup> address this gap by reviewing the literature on smoking imagery in video games.

There is now substantial evidence that smoking in movies is associated with tobacco use initiation in young people<sup>2</sup>. Much of the evidence comes from cross-sectional studies, where determining a temporal order is obviously not possible. However, there is also a growing number of prospective studies, recently summarized by Leonardi-Bee and colleagues<sup>2</sup>, which provide stronger support for the possibility that exposure to smoking in movies may indeed contribute to subsequent tobacco use initiation. This relationship appears to depend on the degree of exposure, with the most exposed young people 40% more likely to become smokers than the least exposed<sup>2</sup>. Given that tobacco imagery is relatively common in movies, and therefore exposure among young people is high, it is plausible (particularly as other forms of promotion have been removed) that this exposure is now a substantial driver of tobacco use uptake. Indeed, the US Surgeon General has concluded that the evidence is sufficiently strong to conclude that there is a causal relationship between smoking in movies and tobacco use uptake in young people<sup>3</sup>.

In this context, it is likely that similar imagery in other media, such as video games, will show similar associations. Nevertheless, it is still necessary to develop an evidence base around this question in order to inform policy. In this context the review by Forsyth and Malone is both timely and important. They conclude that research into the associations between tobacco imagery in video games and

tobacco use and attitudes in young people remains in its infancy. However, they also highlight methodological difficulties specifically related to video game research. For example, while tobacco use occurs in various video games, the nature of this imagery may be very different, from characters who are smokers and who smoker regularly, through to brief static images. Moreover, video game play is interactive, so that the degree of exposure will depend very much on engagement with the game, including length of time spent playing it, and progress through it.

Until recently, most tobacco marketing occurred through channels relatively amenable to regulation and codes. Movies could be given ratings that reflected their content (although in the context of tobacco imagery this was often applied unevenly), television programmes could be shown after a certain time, and so on. However, more recent technologies have proven increasingly difficult to regulate. Movies and television programmes can be watched online, allowing age and time restrictions to be more readily circumvented, while social media channels are difficult, if not impossible, to regulate. Video gaming, in particular, is rapidly becoming a major form of entertainment for young people, but as Forsyth and Malone report their age ratings typically do not reflect tobacco imagery content. Understanding this important but rapidly changing landscape is critical if we are to continue the success of attempts to reduce exposure to tobacco marketing among young people. The review by Forsyth and Malone is an important step towards addressing this.

Marcus Munafò  
Editor-in-Chief

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