

IQOS: Will this really change everything?

Earlier this year Philip Morris International (PMI) re-branded its website and unveiled its new Smoke-Free Manifesto. "How long will the world's leading cigarette company be in the cigarette business?" it asks. The cover of PMI's 2016 annual report features an image of an IQOS accompanied by the statement "This changes everything."



"We will be far more than the leading cigarette company. We're building PMI's future on smoke-free products that are a much better choice than cigarette smoking. Indeed, our vision – for all of us at PMI – is that these products will one day replace cigarettes...."

"Society expects us to act responsibly. And we are doing just that by designing a smoke-free future.... In changing times you can always choose to do nothing. Instead, we've set a new course for the company. We've chosen to do something really big."

~PMI website, 2017

IQOS is a cross between a cigarette and an electronic cigarette—a tobacco "heat-not-burn" product that is the first platform of four smoke-free offerings by PMI that the company purports to be "reduced risk". Tobacco "HeatSticks," stubby looking cigarettes comprised of reconstituted tobacco plugs, are heated to less than 350°C via an electronic blade housed within the IQOS device. The heat releases the nicotine and the flavour from the tobacco in a vapour, but there is no combustion and therefore no smoke.ⁱ The device's charge is designed to last for 6 minutes or 14 puffs, and the product reportedly offers a similar experience to smoking in terms of duration and flavour, with each HeatStick delivering the same amount of nicotine as a regular cigarette.

Like the other big multinational tobacco companies, PMI has been working on potentially-reduced exposure products (PREPs) for decades. "Accord," which was introduced in 1998 and marketed as a low tar "cigarette smoking system" that heated tobacco instead of burning it, was discontinued after 8 years because of low sales. Other PREPs invented by Big Tobacco in recent decades have suffered the same fate: they didn't deliver nicotine in a satisfying way and weren't embraced by smokers.ⁱⁱ It was the advent of the electronic cigarette in 2003 that changed everything.

Not since the invention of the Bonsack cigarette-making machine in 1880 has the tobacco industry faced such upheaval as that presented by the disruptive technology of the e-cigarette. The Bonsack machine marked the beginning of the end for the chewing tobacco industry and today, Big Tobacco is scrambling to create a smoke-free exit strategy that assures continued profits. According to PMI, 2016 was a pivotal year for the company in its transition from a cigarette company into a high-tech purveyor of tobacco and nicotine products.

However, one may ask why PMI is pouring money and resources into heat-not-burn technology when e-cigarettes, which heat a nicotine-infused liquid instead of tobacco and are potentially even less harmful, are so popular? As explained by one media source, “tobacco-based inventions give the cigarette industry a considerable advantage over the fragmented, e-cigarette start-up world, because the companies are already well-positioned to manufacture rolled leaf on a massive scale.”ⁱⁱⁱ

How much reduced risk?

This is a good question, and one which does not yet have a reliable, scientifically-proven answer. There are currently no independent third party studies available to confirm or negate PMI's claims. Rothman's Benson & Hedges (RBH), 100% owned by PMI in Canada, asserts that with IQOS, there is a 90%-95% reduction in the level of chemicals in the vapour compared to cigarette smoke, that the company has had 170 studies published in peer-reviewed journals, and that it is very confident that the science on IQOS will speak for itself. In December 2016, PMI submitted over 2 million pages to the U.S. Food and Drug Administration (FDA) in support of its application to have IQOS recognized as a “Modified Risk Tobacco Product.”

Given that there is no combustion involved, it is likely that IQOS will prove to be less harmful than cigarettes.

However, the big question remains “how much less harmful?” This won't be known until there is credible, independent research to verify the claims being made by Philip Morris International.

If use of IQOS proves to be half as harmful as smoking, for example, and all current smokers in Canada switched exclusively, there could still be 18,000 deaths per year. While any reduction in the death rate is something to celebrate, this would be an end-point for RBH: the company is not interested in Canadians quitting tobacco entirely. Nonetheless, there could be a net benefit for public health if IQOS proves to be dramatically less harmful than cigarettes and if Canadians switch exclusively in large numbers. The benefits erode if smokers don't completely switch to IQOS (i.e. if smokers dual use cigarettes and IQOS), if IQOS eliminates the motivation in some smokers to quit tobacco who might otherwise have done so, and if the market expands beyond current smokers to new tobacco users.

Could the future really be smoke-free?

Here in Canada and in other developed countries where the smoking epidemic is trending downwards, there is an excellent chance that the future could indeed be smoke-free, especially if there are alternatives to combustible cigarettes that are proven to be markedly less harmful for smokers who've been unable to quit. There is also much that the federal government could do to help incentivize smokers to choose them.

However, Philip Morris's Smoke-Free Manifesto states that its success in the cigarette business is providing the resources it needs to fund its ambitious reduced risk product agenda. The company also solemnly reiterates the World Health Organization's dire prediction that there will be more than a billion smokers worldwide by 2025, as if this is some sort of tragic, unavoidable fact that will unfold naturally, as opposed to an outcome directly tied to the tobacco industry's aggressive promotional activities and lobbying efforts to undermine tobacco control measures.

Indeed, while PMI's smoke-free aspirations generate free publicity and goodwill, it is still employing tactics in developing countries to delay, diminish and defeat tobacco control measures—tactics that have been banned in Canada for years. Cigarettes are Big Tobacco's bread and butter, and will continue to be in the foreseeable future: the 2017 global market for cigarettes is estimated at \$717 billion vs. \$11.2 billion for all vapour and heated tobacco products combined.^{iv} Philip Morris International clearly needs to keep addicting new smokers somewhere in the world and keep them smoking so that adult smokers in Canada and elsewhere can have what they claim are less harmful choices.

Smoke-free, but not tobacco- or nicotine-free

What is absolutely certain is that the future will not be tobacco- or nicotine-free. It would be naïve to believe that RBH's vision of a smoke-free Canada involves all adult smokers quitting tobacco or nicotine outright—their business model relies on smokers *switching* products. It would also be equally naïve to believe that a company with a fiduciary responsibility to maximize profits for shareholders would willingly limit its market to *existing* adult smokers in the name of public health. Philip Morris International recently re-branded its HeatSticks from Marlboro to HEETS. This is significant, as Marlboro is PMI's most important and iconic brand with instant recognition worldwide. The Marlboro name would presumably facilitate an easier transition for smokers comfortable with the brand to the new and uncharted territory of heat-not-burn products. The re-branding to HEETS, a largely unknown name, speaks volumes: PMI is betting that its smoke-free future lies as much, or even more so, with a new fan base of cosmopolitan and tech-savvy consumers who seek to set themselves apart from the stigma of conventional smoking.

HeatSticks selling like hotcakes

According to PMI, IQOS now has more than 1.4 million regular users. Approximately one million are in Japan alone where the product was first tested in select cities and remains the only launch market with national availability. Conversion rates of 70%-80% are reported by PMI, defined as the estimated number of legal age IQOS users (18+) that used HeatSticks for 70%-94.9% (predominant conversion) or 95% or more (full conversion) of their daily tobacco consumption over the past seven days.^v

Since June 2016 the company has actually had to limit IQOS device sales in Japan because demand for HeatSticks was outstripping manufacturing capacity. The company is currently expanding its manufacturing footprint and retro-fitting existing factories to ramp up production from 7.4 billion units to more than 32 billion units in 2017 for markets in over 30 countries.^{vi}

Jaw-dropping conversion rates deserve a healthy dose of skepticism

In considering these IQOS conversion statistics, note that:

- Nicotine e-cigarettes and e-juice are heavily regulated and not easily accessible in Japan, meaning that IQOS might not have much competition from other smoke-free alternatives;
- One week is an extremely short time period to confidently announce full conversion; and
- Japan is a unique country with a very high affinity for all things high-tech—the popularity of IQOS there may not necessarily translate in Canada.

Extremely healthy profits

IQOS may not only be a potentially less harmful option for smokers, but could also be a potentially extremely lucrative product for PMI that could help to make up for declining cigarette sales in developed countries. The electronic component of IQOS retails for \$125 CAD and a carton of 160 HeatSticks (8 packages of 20) is \$79 CAD. HeatSticks are manufactured with just one-third the amount of tobacco of a conventional cigarette, are priced the same as the company's premium cigarettes, and enjoy the competitive advantage of being taxed as "manufactured tobacco other than cigarettes and tobacco sticks" as per the *Excise Act, 2001, Schedule 1*. In other words, less than 10% of the price of a HeatStick is comprised of excise tax compared to approximately 70% of the price of a cigarette. Given that RBH is pricing HeatSticks the same as premium cigarettes, the company is pocketing the difference and grossing approximately twice the profit of conventional cigarettes.^{vii} Since the January 2017 announcement of the company's new Smoke Free Manifesto, PMI's share price has jumped 22%.^{viii}

Regulation of IQOS

Health Canada has confirmed that because the HeatSticks used with IQOS contain tobacco, they are regulated federally as a tobacco product and all the tobacco regulations apply regarding packaging, labelling, advertising and promotion. Note that because HeatSticks are recognized as "manufactured tobacco other than cigarettes and tobacco sticks," graphic health warnings are not required on the packaging and, as stated earlier, the excise tax rate is dramatically lower. Nonetheless, rather than being regulated as a tobacco product, RBH wants the government to define and regulate IQOS as a vaping product. If this were to happen, the company would be able to advertise the product as well as take advantage of other less restrictive promotional opportunities, once the federal *Tobacco Act* is amended by Bill S-5 to become the *Tobacco and Vaping Products Act*. As it stands, RBH states that placing heated tobacco products in the same category as combustible cigarettes will limit their ability to one day replace cigarettes.^{ix}

In Ontario, the Ministry of Health and Long-Term Care (MOHLTC) has advised that because the device produces a vapour instead of smoke, IQOS falls under the definition of an e-cigarette and is therefore regulated under the *Electronic Cigarettes Act (ECA)*.^x Much of the ECA has yet to be proclaimed and at present just three provisions are in force: a prohibition on the sale and supply of e-cigarettes and component parts to anyone under 19; a requirement to post new signage at retail; and a prohibition on selling products and component parts in vending machines. Until the rest of the Act is proclaimed, there is no provincial prohibition against using IQOS in enclosed public places and workplaces.

However, the Ministry has also advised that because HeatSticks contain tobacco, they are also subject to regulations under the *Smoke Free Ontario Act (SFOA)* regarding the selling, displaying and promoting of tobacco products. Information from public health officials indicates that there are at least 3 physical locations selling IQOS in the Greater Toronto Area—2 new stand-alone specialty shops and the RBH head office—in addition to the website www.iqos.ca. The RBH head office location is registered with the MOHLTC as a tobacconist, which means that the HeatSticks can be displayed, including on countertops, and customers can handle them prior to purchase. Although the other two locations are not registered as tobacconists, there is currently no provincial prohibition against customers handling the electronic component of IQOS prior to purchase. It is reported that shop clerks are demonstrating IQOS for customers prior to purchase, and customers are testing IQOS in the shops after purchase—activities that, for now, respect provincial legislation.

Bill 178, the *Smoke-Free Ontario Amendment Act 2016*, received Royal Assent in June 2016 and enables the government to prescribe other products to which the *SFOA* will apply. In the future, the government could identify IQOS as a prescribed product, thus prohibiting its use (vaping tobacco as opposed to smoking it) in enclosed public places, workplaces and select outdoor environments.

Conclusions

If independent, third party research confirms PMI's claims of dramatically reduced risk, then it will be a public health win to see Canadians who have been unable to quit smoking shift away from cigarettes towards IQOS. However, as the company itself admits, the product is not risk-free. The benefits of Canadians switching will be eroded if (a) future research determines that IQOS is not that much safer than smoking, (b) smokers do not switch completely, and dual use becomes prevalent, (c) the switch reduces or eliminates smokers' motivation to quit tobacco entirely, or (d) the product attracts new tobacco users. Time will tell if Canadians gravitate to IQOS the way people in Japan have.



The arrival of IQOS onto the Canadian market has brought into sharp focus the need for a federal tobacco harm reduction strategy that goes beyond the legalization and regulation of vaping products via Bill S-5. IQOS is a hybrid product that straddles the definition of a tobacco product and a vaping product. If all nicotine products from the most to the least dangerous, and all the next generation products in between, were regulated under a single nicotine regulatory framework, much could be done through a strategy that uses mass media to educate, and policy levers, including price/taxation, packaging requirements, warning labels, and controls on promotion and access, to encourage and incentivize smokers to choose less harmful alternatives.

IQOS is just the tip of the iceberg, and not just from PMI—the parent companies of Canada's other tobacco manufacturers are also pouring money and resources into next generation products. Canadians deserve a modernized, 21st century approach to tobacco and nicotine regulation that will reduce harm and remain relevant in the face of rapidly changing technology and an ever-increasing spectrum of alternative nicotine products.

ⁱ Philip Morris International. <https://www.pmi.com/science-and-innovation/heated-tobacco-products>.

ⁱⁱ Chaiton M & Schwartz R. Heat-Not-Burn Tobacco Products: Claims and Science. OTRU Update. November 2016. Ontario Tobacco Research Unit. http://otru.org/wp-content/uploads/2016/11/update_nov2016.pdf.

ⁱⁱⁱ Bloomberg Newsweek. 8 March 2017. <https://www.bloomberg.com/news/features/2017-03-08/big-tobacco-has-caught-startup-fever>.

^{iv} Bloomberg Newsweek. 8 March 2017. <https://www.bloomberg.com/news/features/2017-03-08/big-tobacco-has-caught-startup-fever>.

^v Philip Morris International. 2016 Philip Morris International Inc. Annual Report. <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NjYzNjk3fENoaWxkSUQ9MzcxOTE0fFR5cGU9MQ==&t=1>.

^{vi} Ibid.

^{vii} Barclays. Equity Research - European Consumer Staples. Philip Morris International Inc.: Transforming for the greater good. 29 March 2017.

^{viii} Ibid.

^{ix} Rothman's, Benson & Hedges Inc. Brief to Canadian Senate Standing Committee on Social Affairs, Science and Technology. 15 March 2017. [https://sencanada.ca/content/sen/committee/421/SOCI/Briefs/RBH\(PeterLuongo\)_e.pdf](https://sencanada.ca/content/sen/committee/421/SOCI/Briefs/RBH(PeterLuongo)_e.pdf).

^x Email sent to Tobacco Control Area Networks from the Tobacco and Smoke Policy and Programs Unit, Health Protection Policy and Programs Branch, Ontario Ministry of Health and Long-Term Care. 8 March 2017.