

Heat-not-burn tobacco products are about to reach their boiling point

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Heat-not-burn tobacco products (HNB), including Reynolds American's (RA) 'Eclipse' and 'Revo' and Philip Morris International's (PMI) 'Heatbar', are devices that heat tobacco to ~500°F, producing an inhalable aerosol. Since 1988, tobacco companies have perennially introduced HNB and marketed them as healthier than conventional cigarettes. These claims, refuted by researchers,¹ failed to lure consumers. Each reincarnation of HNB was commercially unsuccessful, and most HNB products were discontinued shortly after their introduction. Until recently, HNB products were all but unavailable to consumers—but now may be the perfect time for a thriving HNB market.

Recent enthusiasm for e-cigarettes² has captured the attention of researchers and the imagination of tobacco executives. E-cigarette use is buoyed by perceptions that they are less harmful than conventional cigarettes.³ However, recent estimates project decelerating growth for e-cigarettes. According to Euromonitor International, vapour e-cigarettes are now predicted to grow just 51% in 2016, down from expectations of 126%.⁴ Tobacco analysts such as Wells Fargo's Bonnie Herzog cite user distaste for e-cigarettes' use of vapourised, nicotine-infused liquid rather than tobacco—not health concerns. In a *Wall Street Journal* article,⁵ Herzog stated “e-cigs need to mimic cigarettes or users won't switch.” E-cigarette devices ‘fail to deliver nicotine into the bloodstream as quickly as cigarettes and lack the so-called “throat-hit” that cigarettes offer’, provoking some to revert back to conventional cigarettes.⁵

The pervasiveness of e-cigarettes and spreading discontentment with the lack of a throat-hit may open the floodgate for HNB's success. Many e-cigarette users have already accepted the notion that non-combustible devices are safer than conventional cigarettes and may see HNB products as a means of enjoying authentic tobacco taste with lower perceived risk. Smokers initially hesitant to try e-cigarettes may prefer HNB, which contains real tobacco. If positive health claims surrounding HNB effect low-risk perception, non-smokers could be inclined to begin using them; Indeed, HNB could appeal to the ‘medium-risk adolescents’ drawn to e-cigarettes.⁶

Tobacco executives and analysts^{7–9} recognise this opportunity; PMI CEO Andre Calantzopoulos believes HNB is the firm's ‘greatest growth opportunity in the years to come’.¹⁰ Euromonitor International estimates a compound annual growth rate of 42% for HNB until 2019,¹¹ while a Wells Fargo analyst predicts HNB could ‘displace up to 30% of the U.S. combustible cig industry by 2025 [and] increase smoking prevalence’.¹² These projections are already coming true; PMI recently

introduced ‘iQOS’ (‘I Quit Ordinary Smoking’), an HNB device, in Japan, Italy, Switzerland and South Korea. In February 2016¹³ (see online supplementary file), PMI executives revealed that, in 6 months, iQOS captured 2.4% of Tokyo's market share for tobacco with product conversion (ie, percentage of people who switch to the product after trying it) above 50%.¹⁴ A recent independent study,¹⁵ published in *Addiction*, showed that 48.0% of respondents were aware of HNB products and 8.4% had tried iQOS, with 7.8% having tried Japan Tobacco's competitor HNB product, Ploom. This result was magnified for youth, as 19.8% of 15-year to 19 year olds reporting the use of iQOS.

Like PMI, Altria will be a significant player in the HNB space. Altria is seeking FDA reduced-risk product approval for iQOS and has exclusive rights to iQOS in the USA. Researchers should prioritise HNB research and communicate relevant health risks (or harm reduction benefits) as they are discovered and validated. Some recent research indicates HNB products may be less harmful than combustible cigarettes,^{16–17} but others have found that risks of HNB include carbon monoxide and formaldehyde exposure, as well as the potential for side-stream emissions.^{18–19} Tobacco researchers should be prepared to respond to soon-to-come health claims about HNB.

Correction notice This article has been corrected since it was published Online First. ‘Industry watch’ has been removed from the title.

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