

Burning Questions

How safe are e-cigarettes—and are they introducing a new generation to nicotine addiction?

BY SUSANNAH HICKLING

JUST A MINUTE'S WALK from the school in the bustling centre of La Seyne-sur-Mer in southern France, a brightly lit electronic-cigarette shop is pulling in customers. A neon sign promotes special offers alongside colourful displays of bejewelled e-cigarette paraphernalia. And there's a wide selection of cigarette flavours on offer—including fresh strawberry, blueberry cobbler, cherry limeade and bubblegum.

The notices stuck on the shop's windows are reassuring: a report of a survey showing that e-cigarettes helped people give up smoking, testimonies from those who have done so and even the claim that an anti-tobacco group has given its blessing to this new alternative to real cigarettes.

Nicotine hit: there are an estimated 2.1 million e-cigarette users in the UK

ALAMY

This is one of five similar shops that have recently opened in this town of 60,000 inhabitants, reflecting the soaring popularity of e-cigarettes not just in France, but also in the UK and across Europe, where there are thought to be a total of seven million regular users. Last year the e-cigarette industry in the UK was estimated to be worth £193m and the Electronic Cigarette Industry Trade Association claims that the global industry is increasing by 20–30 per cent a month.

An e-cigarette is a device designed to mimic smoking. The very first e-cigarettes were dubbed “cigalikes” because they resembled conventional tobacco cigarettes—and for this reason, they remain popular.

The cigalikes were followed by a second generation of mid-size e-cigs, such as the eGo range. These sometimes resemble colourful pens, are more cost-effective, and allow the smoker to mix flavours and adjust nicotine strength. The most recent luxury models—known as advanced personal vaporisers (APVs)—come in many shapes and sizes, with additional features and settings.

Every e-cigarette has three basic components: a battery, an atomiser and an e-liquid cartridge. This contains propylene glycol (used in products as diverse as medicines and aircraft de-icer) or sometimes glycerine, as well as a flavouring and, in most cases, nicotine, the chemical that makes cigarettes addictive.

An e-cig might have an LED light at its tip and it can work manually or automatically. Some are disposable; the majority now are refillable. When you inhale, the atomiser heats up the e-liquid and emits a vapour that you feel on the back of the throat, giving a similar “hit” to smoking. It’s called vaping.

Originally marketed as an aid to giving up normal cigarettes, e-cigs have become a lifestyle choice. A sub-culture has developed and internet forums are devoted to what’s seen by many as a hobby. Members discuss the best equipment to use and where to buy it, and even how to make DIY e-liquids using propylene glycol bought from pharmacies.

THE JURY IS OUT on the safety of e-cigarettes. They’re certainly better for you than real cigarettes, which contain hundreds of toxic substances, and they’re a boon for those wanting to give up tobacco.

“It certainly worked for me,” says one customer, reviewing his e-cig experience online. “I bought my original eGo with a strong Marlboro-flavour liquid. It gives you the same kick in the throat that strong tobacco gives you, without all the poisons.”

But there are good reasons to worry about this runaway craze. A study of short-term use by the University of Athens and exchanges in vaping chat rooms are already flagging up health fears, such as breathing problems and

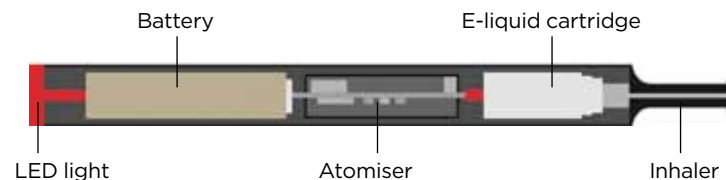
mouth and throat irritation. Nicotine is known to cause anxiety and raise blood pressure. Evidence is emerging that it damages blood vessels and cells in the heart, increasing the risk of heart attacks and stroke.

No one knows just how harmful vaping could be. Most e-cigs and e-liquid ingredients are made in China, but as yet there are no mandatory quality controls. The safety of many toxicants formed when the e-liquid is heated has yet to be investigated.

Research Centre for Prevention and Health at Glostrup Hospital near Copenhagen. “Smokers of normal cigarettes also mostly experience no or few adverse events for years—health damage accumulates and disease occurs decades later.”

MOST DISTURBING IS THE FACT that e-cigarettes are marketed in a way that appeals to young people. Advertisements depict users as cool, sexy and healthy, just as early

A SECOND-GENERATION E-CIGARETTE



“E-cigarette emissions are not purely water vapour,” says Dr Phillip Gardiner, a nicotine expert at the University of California. “They are a new source of volatile organic compounds, nicotine and heavy metals. The health hazards associated with this level of exposure have yet to be determined.”

“As with conventional cigarettes, we need a follow-up of many thousands of users over decades before we can state whether e-cigarettes are safe or not,” explains Dr Charlotta Pisinger, a public-health expert from the

cigarette ads did before science proved that cigarettes are responsible for killing half of those who use them.

Celebrities such as Johnny Depp and Leonardo DiCaprio and singer Katy Perry have been pictured puffing on e-cigs. The E-Lites brand managed to secure a product-placement deal in Lily Allen’s “Hard Out Here” video.

Add exciting flavours targeting teenagers and there’s a real danger that e-cigarettes will create a new generation of nicotine addicts.

Even young kids may be attracted to e-cigarettes. Elizabeth Baker from

Cardigan in Wales has been using them to quit smoking, but she was horrified when her two children, aged 11 and 14, started to show an interest in her e-cigs. "They've always been anti-smoking and know how difficult I've found it to give up, but there they were asking if they could try my e-cigarettes."

Deterred from smoking tobacco, young people could instead be unwittingly setting themselves up for future health problems triggered by e-cigarettes. Or they may turn to tobacco cigarettes, once hooked on the nicotine in the electronic variety.

"Nicotine is uniquely addictive—about as addictive as heroin," points out Home Counties-based public-health doctor Peter English.

SOME HEALTH EXPERTS worry that tobacco companies, which have been buying and developing e-cigarette brands, are using them as proxy marketing and creating a gateway product to tobacco.

"With e-cigarettes they can get images that look exactly like smoking into pop videos for kids, into movies; you saw people at the Golden Globes smoking—vaping—with e-cigarettes and that's renormalising the imagery," says Martin McKee, professor of public health at the London School of Hygiene and Tropical Medicine.

Professor Gerard Hastings of the Centre for Tobacco Control Research at the University of Stirling agrees.

"We did an audit last year of all the UK marketing for e-cigarettes," he says. "It's a flashback to the 1960s when tobacco advertising was still very free and easily available: the same sorts of pictures for lifestyle claims, trendiness, coolness, sports sponsorship, celebrity endorsement, pop videos. All these things that the tobacco industry in the past jumped on as fast as it could are now being used for e-cigarettes."

"Electronic cigarettes are a good product to help smokers give up," says Bertrand Dautzenberg, professor of chest medicine at the Pitié-Salpêtrière Hospital in Paris and chair of the French Office for the Prevention of Smoking. "But they're bad for non-smokers and especially young people, who begin smoking a product called a 'cigarette', which produces 'smoke' and contains nicotine."

What makes them likely to try e-cigs? "Young people are curious," says Dr Charlotta Pisinger. "They're the trendsetters and early adopters. They're attracted to new products and they like to experiment."

Surveys demonstrate that this is what young people are doing. A Polish poll of 20,000 students at high schools and universities showed that one in five had tried them. A French survey of more than 3,000 young Parisians found that two in three of the 12- to 14-year-olds who had tried e-cigarettes hadn't smoked tobacco, confirming that they

offer a route into nicotine addiction.

Reader's Digest conducted its own poll of Swedish students aged 16–18. Two in five of the sample had tried an e-cigarette. Five per cent regularly used e-cigarettes with nicotine. Their reasons? They liked the taste and the fact that they could smoke in places where tobacco smoking was banned.

Carl, 16, for instance, doesn't light up in front of his parents, who don't know he smokes. But the Stockholm student still gets his nicotine fix at home by puffing on e-cigs.



"Smokers start to use e-cigarettes in order to quit, but they end up as a supplement to cigarettes"

"It's really practical," he says. "It doesn't smell, it tastes good and you can smoke indoors." This means that his nicotine intake has increased. "I smoke e-cigarettes indoors and then go outside for a cigarette!"

Carl's experience chimes with other research. Data from a survey of nearly 76,000 South Korean teens showed that four out of five e-cigarette users also smoked tobacco. Those who had attempted to pack in smoking were more likely to vape—but less likely to have given up tobacco cigarettes.

Those who vaped tended to smoke tobacco heavily. "So smokers start to use e-cigarettes in order to quit, but e-cigarettes end up as a supplement

to cigarettes—for example, in places with a smoking ban," says Dr Pisinger.

Signs are also emerging that e-cigs can turn non-smokers on to tobacco. At the age of 28, David Rous from Prague had never smoked in his life. Then his girlfriend persuaded him to try one of her e-cigs. A week later, David had abandoned them—for regular cigarettes.

Now aged 30, the business manager smokes between ten and 15 a day and is hooked. Does he rue the day he ever touched an e-cig? "I can't say

I regret it, because I'm enjoying the taste of tobacco and look forward to the next cigarette," he says.

THE EU WANTS TO control the e-cig revolution, and recently approved a new tobacco directive that was extended to cover e-cigarettes. The directive, which member states must introduce by May 2016, imposes health warnings on e-cig packs and outlaws some advertising. It limits the maximum concentration of nicotine in e-cigs to 20mg per ml of liquid, the maximum size of single use cartridges to 2ml, and the maximum volume of re-fillable containers to 10ml. It also offers scope for an EU-wide ban of

specific e-cigs or refill containers if three member countries withdraw a product from the market for justified safety reasons.

Member states remain free to regulate e-cigs as medicinal products. Some countries such as Austria already do this, while others such as Norway simply ban the sale of refills containing nicotine. Belgium, on the other hand, has banned vaping in public places, including restaurants.

Officials in England are calling for a ban on the sale of e-cigs to under-18s.

trains, while the mayor of St Lô in France has put a stop to vaping in all public buildings in the town.

FEW SUPPORT TOTAL PROHIBITION, which would prevent smokers from accessing a convenient and popular way of quitting. And banning the sale to under-18s could prove counter-productive by giving e-cigarettes the allure of “forbidden fruit”.

Nonetheless, some experts want strict regulation. Charlotta Pisinger believes punitive pricing, bans on



Banning the sale to under-18s could prove counter-productive by giving e-cigs the allure of “forbidden fruit”

But a loophole in the British advertising code, which since 1965 has banned TV ads that promote cigarettes, has allowed British American Tobacco to promote its Vype electronic cigarettes on TV and online.

Some local authority and corporate bans have been announced. Various rail companies forbid their use on

selling e-cigs to minors and vaping in public places, as well as regulation as a medicinal product with sales limited to pharmacies, are all measures that are likely to be effective.

Such steps are seen as crucial. As Professor Bertrand Dautzenberg puts it, “E-cigarettes are toxic, addictive and not for young people.” ■

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DAZED AND CONFUSED

From notalwaysright.com, home of odd customer transactions:

Customer: (Putting a bag of dog food on the counter)
“I’d like to return this, please.”

Me: “Certainly. Was there anything wrong with it?”

Customer: “No. I’m pregnant and I’m losing my mind.
I have a cat.”