The Controversies around e-cigarettes: what we know so far

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Aims

What is an e-cigarette

The Pros

The Cons

E-cigarettes and Asthma

Research for the future
Nearly four MILLION US teens vape cannabis, CDC report reveals

- An estimated 2.6 million middle school or high school students use an e-cigarette for marijuana
- Of high schoolers that use e-cigs, one third uses cannabis in the device
- A quarter of middle schoolers that vape have done so with cannabis
- The CDC's new report is the first of its kind, but its data suggests an increase in cannabis vaping over 2015 rates

E-cigarettes 'should be on prescription'

E-cigarettes 'much better for quitting smoking'
What is an E-cigarette/ENDS/Vape?
I roll my own e-cigarettes.

Some devices have a light-emitting diode on the end to stimulate the glow of a burning cigarette.
What does e-cigarette liquid contain?

• Nicotine

• Vegetable Glycerine (VG)

• Propylene Glycol (PG)

• Flavourings
Nicotine

• Fetal exposure to nicotine has been linked to multigenerational asthma, delayed growth, changes in the lungs and even sudden infant death syndrome

• Nicotine can harm the adolescent brain, in terms of addiction, reduced impulse control, deficits in attention and cognition and mood disorders, and these risks continue into the early to mid-20s.
Flavourings
The debate

Pros

- Helping people to stop smoking
- Patient choice
- Harm reduction

Cons

- Ongoing Nicotine addiction
- Effects on Children/Adolescents
- Unknown long term effects
The Pros
• 886 participants
• NRT vs E-cig
• 9.9% vs 18%
• 80% still using E-cig at 1 year
Nicotine use by never smokers and long-term ex-smokers

E-cigarette use by never smokers remains negligible but use among long-term ex-smokers has grown.
National Surveys

• ASH Survey 2018 shows:
  – There are 3.2 million vapers in Great Britain
  – 2/3 of current smokers have tried an e-cigarette

• E-cigarettes are:
  – Cheap
  – Widely available
  – Patient initiated
The Cons
E-cigarettes are almost certainly better than smoking

But “better than smoking” is not necessarily the same as “good for you”
Being less harmful is not the same as being safe

Are e-cigarettes safe?
- Non-evidence base replacing smoking cessation
- Variability and unregulated nature of devices
- Differences in policy around the world
- Adolescent use
- Fires
- Poisonings
E-cigarette use during a Quit attempt
Regulation

- Technically regulated
- Only one e-cigarette is approved by MHRA...
- ...and is not in production
- Only available to sell to over 18s...
- ...but available to buy in street markets, petrol stations, pound shops, online.
- Otherwise governed by EUTPD
LOVE YOUR LUNGS

SIMPLE REFRESHING SMOKE FREE

SMOKE IN STYLE
With blu Electronic Cigarettes

VIP
Taste the UK’s No.1 E-cig.
Based on current knowledge, stating that vaping is at least 95% less harmful than smoking remains a good way to communicate the large difference in relative risk unambiguously so that more smokers are encouraged to make the switch from smoking to vaping.

BTS acknowledges the report from Public Health England in 2015 and the recommendation that smokers who have tried other methods of quitting without success may want to consider e-cigarettes (ECs) to stop smoking.

E-cigarettes are likely to be beneficial to UK public health. Smokers can therefore be reassured and encouraged to use them, and the public can be reassured that e-cigarettes are much safer than smoking.
‘the safety of e-cigarettes and their alleged superior efficacy in smoking cessation have not been scientifically demonstrated’

‘despite the fact that more research is needed, there is enough evidence implying the immediate health risks in using them (e-cigarettes) brings’

‘The FDA won’t tolerate a whole generation of young people becoming addicted to nicotine as a tradeoff for enabling adults to have unfettered access to these same products.’

‘there is a serious potential threat to health arising from the deep inhalation of fine and ultra-fine particles and nicotine’

‘There is not enough scientific evidence to support ECIGs as an aid to smoking cessation due to a lack of controlled trials...The long-term effects of ECIG use are unknown, and there is therefore no evidence that ECIGs are safer than tobacco in the long term. Based on current knowledge, negative health effects cannot be ruled out.’
Teen vaping continues to rise while other drug use declines, survey finds

By Jacqueline Howard, CNN

Updated 1424 GMT (2224 HKT) December 17, 2018

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FDA News Release

Results from 2018 National Youth Tobacco Survey show dramatic increase in e-cigarette use among youth over past year

Sharp rise in e-cigarette use results in uptick in overall tobacco product use; prompts new, forceful steps by FDA to firmly confront and reverse youth epidemic
• Systematic review and meta-analysis showed significantly higher odds of smoking initiation (OR 3.50) and past 30 day cigarette use (OR 4.28) amongst adolescent/young adult e-cigarette users

• Gateway effect?
• Common liability?
• Adolescent e-cigarette users are at increased risk of cough, wheeze and asthma exacerbations
Tobacco product use among high school students—2018

- Any tobacco product: 27.1%
- E-cigarettes: 20.8%
- Cigarettes: 8.1%
- Cigars: 7.6%
- Smokeless tobacco: 5.9%
- Hookah: 4.1%
- Pipe tobacco: 1.1%
Are long term vapers interested in vaping cessation support?

- 347 current vapers from France, Switzerland, Belgium and other EU countries
- 66% had no thoughts of stopping vaping
- 13% were concurrently smoking

No organisation is recording whether people stop vaping once they have started.
Poisoning

FIGURE 6.12 Number of enquiries about e-cigarettes to the NPIS from 2007/08 to 2013/14

FIGURE 6.14 Route of exposure in enquiries about e-cigarettes to the NPIS

FIGURE 6.13 Age of patients in enquiries about e-cigarettes to the NPIS
Fires
What about asthma?
What do you say when asked about e-cigarettes?

There is evidence that e-cigarettes are less harmful than smoking conventional cigarettes. However, people with asthma tell us that any sort of smoke or substance in the air can trigger their asthma symptoms, including the vapours or smells from e-cigarettes.
• Behavioural Risk Factor Surveillance Survey
• Significant association with asthma among e-cigarette users who were non-smokers (AOR 1.33, p<0.05)

E-cigarette use and respiratory disorder in an adult sample. Wills TA et al. Drug Alcohol Depend 2019 Jan, 1;194:363-370
• Moderate evidence for increased cough and wheeze in adolescents who use e-cigarettes, and an increase in asthma exacerbations.

• Secondhand E-cigarette exposure was associated with higher odds of reporting an asthma attack in the past 12 months (OR 1.37)

Who is doing the research?

• United States of America – 1666 publications (51.9%)
• United Kingdom – 443 publications (13.8%)
• Australia – 156 publications (4.9%)

• The most prolific institutions with e-cigarette publications from 2003-2018 included 9 US institutions and 1 UK institution
What are doctors’ opinions and practices regarding e-cigarettes?

- Online survey with over 400 responses so far
- Shows a great disparity between beliefs of doctors from different specialty, but most agree that patients should be encouraged to quit both
- Demand for more training and information
- Please complete it! – Will be in BTS e-newsletter this week
Conclusions

• Smoking is bad, dangerous and expensive to the NHS
• E-cigarettes are probably safer, but not harmless
• E-cigarettes can help people stop smoking, but will they ever stop vaping?
• Are we introducing a new generation to nicotine addiction?
• There is a lot more to be done before we will know for sure
• We have a responsibility to advise individual patients and promote smoking cessation, so keep up to date!
References


12. *E-cigarettes can emit formaldehyde at high levels under conditions that have been reported to be non-averse to users.* Salamanca, JC, et al., et al. 2018, Scientific Reports, Vol. 8, p. 7559.


References