

# Call of Abstracts - "International conference on the E-Cigarette: patterns of use and health impacts"



## Call of abstracts

"International conference on the E-Cigarette: patterns of use and health impacts" - Paris, on 5-6th December 2022

### Submission form

Poster & oral presentation

### Contact details of the corresponding author

#### Title

Mr

#### First name

Jonathan

#### Last name

Foulds

#### E-mail

jfoulds@psu.edu

#### Institution / company

Penn State College of Medicine

#### Unit / department

Center for Research on Tobacco and Health

#### Address

Cancer Institute, 500 University Drive  
Hershey, PA 17033  
United States

### Background information

#### Type of submission

Oral or poster

#### Theme of conference

Patterns of use

## Keywords

Addiction

Nicotine/nicotine salts

Patterns of user

## Abstract title

Why are electronic cigarettes less addictive than cigarettes? A narrative review of the evidence

## Author's contact details :

### Title

Mr

### First name

Jonathan

### Last name

Foulds

### E-mail

jfoulds@psu.edu

### Institution / company

Penn State College of Medicine

## Co-author's contact details :

### Number of co-authors

0

## Abstract details (poster & oral)

### Background, method, results and conclusions

Background: Most of the serious harms from nicotine products result from long term use, and so addictiveness is an important driver of total harms to health. Most comparative studies find users of electronic cigarettes (e-cigs) to be less addicted than cigarette smokers, including studies of users of e-cigs capable of delivering nicotine like cigarettes. So why might e-cigs be less addictive?

Method: Triangulation of published evidence from various sources: pk studies, clinical trials, and studies of patterns of e-cig use were used to assess potential reasons for lower measures of addiction among e-cig users than cigarette smokers.

Results: Pharmacokinetic studies over the past decade find that most e-cigs deliver a lower C<sub>max</sub> than cigarettes (e.g. 8 ng/ml v 18 ng/ml), whether on standardized or ad-lib puffing, but some device/liquid combinations can provide a nicotine boost comparable to a cigarette in experienced users (e.g. 15 ng/ml v 18 ng/ml). However, even experienced users of high nicotine e-cigs typically have lower addiction scores (e.g. 8.4 v 14.5 on the Penn State Electronic Cigarette Dependence Index). There is evidence that e-cig dependence increases over the first 2-3 years of use, but flattens thereafter at a lower level than typical for cigarettes. Studies of patterns of use find that e-cig users do not vape in concentrated bouts of 10-15 puffs within 4-8 minutes like smokers do (because the cigarette will burn out in that time). Rather they take 1-4 puffs at a time on a frequent but intermittent basis.

Conclusions: It is possible that mean addiction scores of exclusive e-cig users will continue to increase over time as a function of improvements in device technology and user experience, but it appears likely they will remain lower than cigarette smokers. This may be partly related to lower

nicotine absorption from a standard 10-puff use, but the differing pattern of use may be an important factor making e-cigs less reinforcing and addictive.

## Main messages

Main Messages: E-cigs can be addictive. However, as typically used, e-cigs deliver a smaller nicotine boost, are used less intensively in each bout of use, and users have lower scores on questionnaire measures of addiction, than cigarette smokers

## Type of study / research

Human study

## Geography of the study

International (including Europe)

## Funding of study

### Federal source

Yes

### State source

No

### Nonprofit Grant Funding Entity Source

Yes

### Nonprofit Grant Funding Entity Source

Yes

### Academic Institution Source

No

### Pharmaceutical Industry Source

No

### Tobacco/E-Cigarette Industry Source

No

## Declaration of interest

The submitter declares that during the past 5 years have a direct nor indirect link (professional\*, personal or financial\*\*) with the tobacco and e-cigarette companies

No