E-cigarette use in mental health settings

Debbie Robson, RMN, PhD
Mental Health Nurse & Senior Post Doctoral Researcher in Tobacco Addiction
Overview

- Effectiveness of e-cigarettes for helping people to stop smoking
  - General population
  - People with a mental health condition
- Considerations for e-cigarette use in mental health settings
Among the general population in England, EC have been the most **popular** quitting aid since 2013.....but just because they are popular, does it mean they help people quit?
E-cigarettes or varenicline were more effective than not using any support. NRT bought from a shop did not increase the chance of quitting and NRT on Px, was only effective in smokers over 45 years.

As e-cigarettes are much more popular among smokers trying to quit smoking = helped more smokers quit
Randomised controlled trial of e-cigarettes vs NRT (in Stop Smoking Services)

N=886

12 month quit rate

10%

12 month quit rate

18%

Hajek et al 2019 NEJM

A Randomized Trial of E-Cigarettes versus Nicotine-Replacement Therapy

Peter Hajek, Ph.D., Anna Phillips-Waller, B.Sc., Dinja Przulj, Ph.D., Francesca Pesola, Ph.D., Katie Myers Smith, D.Psych., Natalie Bisal, M.Sc., Jinshuo Li, M.Phil., Steve Parrott, M.Sc., Peter Sasieni, Ph.D., Lynne Dawkins, Ph.D., Louise Ross, Maciej Goniewicz, Ph.D., Pharm.D., Qi Wu, M.Sc., and Hayden J. McRobbie, Ph.D.

ABSTRACT

E-cigarettes are commonly used in attempts to stop smoking, but evidence is limited regarding their effectiveness as compared with that of nicotine products approved as smoking-cessation treatments.

METHODS

We randomly assigned adults attending U.K. National Health Service stop-smoking services to either nicotine-replacement products of their choice, including product combinations, provided for up to 5 months, or an e-cigarette starter pack (a second-generation refillable e-cigarette with one bottle of nicotine e-liquid [18 mg per milliliter]), with a recommendation to purchase further e-liquids of the flavor and strength of their choice. Treatment included weekly behavioral support for at least 4 weeks. The
**English Stop Smoking Services 2015-2017:** 690,007 set a quit date. 51% quit

## Self-reported 4-week successful quitters by pharmacotherapy type

<table>
<thead>
<tr>
<th>Pharmacotherapy Type</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>25,409</td>
</tr>
<tr>
<td>NRT and/or Bupropion and/or Varenicline consecutively</td>
<td>14,867</td>
</tr>
<tr>
<td>Combination NRT</td>
<td>228,371</td>
</tr>
<tr>
<td>Single NRT</td>
<td>168,965</td>
</tr>
<tr>
<td>No medication or EC</td>
<td>46,728</td>
</tr>
<tr>
<td>Bupropion only</td>
<td>2,584</td>
</tr>
<tr>
<td>Licensed medication and an EC concurrently</td>
<td>15,971</td>
</tr>
<tr>
<td>EC only</td>
<td>5,711</td>
</tr>
<tr>
<td>Varenicline only</td>
<td>174,530</td>
</tr>
<tr>
<td>Licensed medication &amp; an EC consecutively</td>
<td>3,964</td>
</tr>
</tbody>
</table>

Objective: Evaluate the safety and effect of using EC to help people who smoke achieve long-term smoking abstinence.
Risk ratio = 2.29 (1.05-4.96)

Caponetto 2013
- 300 smokers not intending to quit
- EC with and without nicotine
- 12 month follow-up

Bullen 2013
- 657 smokers wanting to quit
- EC with nicotine, EC without nicotine, NRT (patches)
- 6 month follow-up

Conclusion ‘may increase the chances of stopping smoking within six to 12 months, compared to using an electronic cigarette without nicotine’

Hartmann-Boyce et al, 2016
# E-cigarettes studies in smokers with a mental health condition

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Schizophrenia</td>
<td>Schizophrenia or bipolar</td>
<td>Px’d mental health meds</td>
<td>Psychosis</td>
<td>Dual diagnosis</td>
<td>Schizophrenia</td>
</tr>
<tr>
<td><strong>Sample size</strong></td>
<td>14</td>
<td>19</td>
<td>86</td>
<td>50</td>
<td>43</td>
<td>40</td>
</tr>
<tr>
<td><strong>Intention to quit smoking</strong></td>
<td>Unwilling to stop</td>
<td>Wanted to quit</td>
<td>Wanted to quit stop</td>
<td>Unwilling to stop</td>
<td>No intention of quitting soon</td>
<td>Unwilling to stop</td>
</tr>
<tr>
<td><strong>EC type</strong></td>
<td>Rechargeable Categoria</td>
<td>Rechargeable N Joy</td>
<td>Elusion</td>
<td>Disposable NJOY</td>
<td>Rechargeable Joytech</td>
<td>Rechargeable JUUL</td>
</tr>
<tr>
<td><strong>Nicotine strength</strong></td>
<td>7.5mg</td>
<td>?</td>
<td>16mg vs 0mg vs 21mg NRT patch</td>
<td>30mg</td>
<td>12-24mgs or 27mgs</td>
<td>50mg</td>
</tr>
<tr>
<td><strong>Quit rate</strong></td>
<td>14% (1yr)</td>
<td>10% (4 weeks)</td>
<td>6% (6mo)</td>
<td>7% (6 weeks)</td>
<td>7% (4 weeks)</td>
<td>40% (3mo)</td>
</tr>
<tr>
<td><strong>Reduction rate (by at last 50%)</strong></td>
<td>50%</td>
<td>89%</td>
<td>65%</td>
<td>37%</td>
<td></td>
<td>55%</td>
</tr>
</tbody>
</table>
E-cigarettes: balancing the risks and opportunities

- Prevent uptake & use by children & young people

Maximise potential for harm reduction in adult smokers
E-cigarettes: balancing the risks and opportunities in mental health settings

- Prevent uptake in CAMHS
- Mitigate unintended consequences

Maximise potential for harm reduction in adult smokers
Equitable access
Tobacco dependence is a chronic relapsing condition - TREATABLE
Smokers and staff need every available tool to help smokers manage their tobacco
dependence whilst in hospital and the community
Licensed medication  behavioural support  e-cigarettes
ASH survey of mental health Trusts in England (2018)

39/54 mental health Trusts in England responded to the survey

33/39 (84%) of the Trusts that responded allow vaping

15/33 (45%) Trust allow vaping in single use bedrooms
Considerations for using e-cigarettes in mental health inpatient settings

Case example

South London & Maudsley NHS Foundation Trust
Systems approach: SLaM & Addictions Dept, King’s College London

**Improved infrastructure**
- Smokefree grounds & policy
- New hospital tobacco dependence treatment service
- Making recording in health records easier
- Electronic referral system

**Treatment pathway**
- Quick & easier access to evidence based medicines
- Behavioral & psychological support
- Supportive policies to allow the use of e-cigarettes

**Staff training pathway**
- E-Learning training about smoking
- Classroom based advanced skills training

**Understanding & addressing barriers to implementation**
- Lack of time
- Fears violence will increase if service users could not smoke
SLaM E-cigarette policy timeline (in relation to smokefree policy)

- **2011**: SLaM Smokefree Strategy
- **October 2012**: SLaM Forensic Services sell disposable E-cigarettes in hospital shop in preparation for smokefree pilot in 2013
- **Oct 2013-Sept 2014**: Simultaneous implementation:
  1. Smokefree policy
  2. Tobacco dependence treatment pathway
  3. E-cigarette Policy
- **Oct 2014**: SLaM Smokefree Policy Steering Group develop:
  1. Smokefree policy
  2. Tobacco dependence treatment pathway
  3. E-cigarette Policy
- **Feb 2017**: Trust wide policy review – more relaxed approach to use of e-cigarettes.

Underpinned by audits, quality improvement projects, evaluation and research
## E-cigarette policy: How it has evolved

### Oct 2014- Jan 2017
- Staff should offer licensed stop smoking meds first
- E cig use should be documented in **care plan**
- **Can** be used in
  - single use bedrooms
  - in the grounds
- **Not** to be used
  - in communal areas
  - during therapeutic conversations
  - in ward gardens
- **Risk assessment if bringing in own rechargeable**
- Rechargeable products need to be **PAT tested and staff must do the recharging**
- Disposed of correctly
- Stored safely

### Feb 2017-present
- Same as 2014 guidance, now allowed **all types**
- Disposable e-cigarettes may be the most suitable option for those who present with a high risk profile, whilst rechargeable and re-fillable e-cigarettes will be suitable for most patients
- Depending on risk assessment, the patient may be supervised when re-filling his/her device
Risk considerations

• Assess capacity and risk of using an e-cigarette in the hospital environment.

• Eg how chaotic is the pt, will they remember how to use it correctly, are they a high risk of adding anything?

• Ensure Trust infection control policy is followed and advise the e-cigarette should be for personal use only.

• Ensure patients do not use -cigarettes near oxygen.
Preliminary findings from a survey of staff and clients in mental health & addiction services in South London, England

Data collected: June-Sept 2018
Respondents n=360

**Clients (n=185)**
- Mental health services (inpatient & community) n=102
- Addiction services (community) n=83

**Staff (n=175)**
- Mental health services (inpatient & community) n=138
- Addiction services (community) n=42

Robson, Spaducci, McDermott, Brose, Yates, McNeill (in preparation)
Ever smoked or vaped

Current smoking and vaping

Current exclusive smokers: 47%
Current exclusive vapers: 10% 10%
Concurrent users: 21

How does this compare with the general population in England?

Current smokers: 13.7-17.3%
Vaping in ex-smokers: 10.3-11.3%
Concurrent users: 14.9-19.7%
Higher smoking rates among clients in Addiction Services vs Mental Health services
Higher vaping rates among clients in Mental Health Services vs Addiction services
Higher smoking & vaping rates among Addictions staff vs Mental Health staff
What type of e-cig devices are patients and staff using?

<table>
<thead>
<tr>
<th></th>
<th>MH in-patients</th>
<th>MH staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposable</td>
<td>34%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Rechargable prefilled</td>
<td>26.8%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Rechargable refillable (tank)</td>
<td>19.5%</td>
<td>41.1%</td>
</tr>
<tr>
<td>Rechargable mod</td>
<td>4.9%</td>
<td>28.3%</td>
</tr>
</tbody>
</table>

Main reason for use among in-patients

- Temporary abstinence = 48.8%
- To quit smoking = 34.1%
- Other reasons include -
  - To cut down or relapse prevention

How do people access them?
1. Bring their own
2. Sold in hospital shops and canteens
Smokefree & e-cigarette policy 5 years on

Identification & recording of smoking status
2011 = 11%
2019 = 91%

Uptake of support to quit or temporarily abstain
2011 = 17%
2019 = 59%

Those with the poorest health & social functioning are taking up the offer of support.

Widening the E-cig policy to allow all types

Overall violence
- 39% (IRR 0.61, 95% CI 0.53-0.70)

Patient toward staff
- 47% (IRR 0.53, 95% CI 0.44-0.63)

Patient toward patient
- 15% (IRR 0.85, 95% CI 0.80-0.92)

FIRES
Fire alarms/
False alarms
Summary

• E-cigarettes are the most popular quitting aid in England and are effective for helping smokers quit.

• Small evidence base that they are effective for help smokers with a mental health condition reduce smoking

• The majority of mental health Trusts in England allow the use of e-cigarettes
The challenge of getting the balance right between **treating** smokers and **maintaining** a smoke free site

To have a successful policy, Trusts need to invest in resourcing both treatment and implementation. If you get the treatment right, compliance with the policy becomes much easier for service users and staff.
Thank you

deborah.robson@kcl.ac.uk

Acknowledgements
Prof Ann McNeill, Gilda Spaducci, King’s College London: Mary Yates, SLaM