Priorities for Vaping Research: An Update
Declaration of interest

• I have no links with any e-cigarette manufacturers
• I have received no funding from the tobacco or pharmaceutical industries
• My research is funded by Cancer Research UK, National Institute of Health Research, Roy Castle, Chief Scientist’s Office, the EU and other government and charitable bodies.
Outline

• Why tobacco harm reduction research is so important
• UKECRF
• Pregnancy
• Cancer Patients
• Mental Health
• Cardio-vascular disease
• Periodontal disease
• Next steps
A global pandemic

The number of people killed globally by tobacco
EVERY YEAR

6 million

600,000 of these are killed by second-hand smoke

One person dies from tobacco every
6 SECONDS

100 MILLION
The number of deaths from tobacco in the 20th Century

72 MILLION
The number of deaths from war in the 20th Century
(including WW1 and WW2)


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Source: Jonathan Gornall BMJ 2015;350:bmj.h2052
‘Nicotine without Smoke’ key points from Chapter 2 (RCP, 2016)

- Smoking prevalence has been falling for decades in the UK in all age groups and in both men and women.
- Since 2007, this decline has been particularly marked in children.
- Uptake of smoking has in fact been falling progressively for decades.
- This contrasts with quit rates among adults who have become regular smokers, which have remained relatively constant over time.
- Smoking remains much more prevalent among the socio-economically disadvantaged and those with mental health problems.
- Therefore the approximately 8.7 million smokers in the UK today include a high proportion of the most disadvantaged individuals in society.
- Higher levels of addiction in these groups make quitting smoking particularly difficult.
- Helping established smokers to quit or else reduce the harm caused by smoking is therefore a key public health priority.
Smoking prevalence by age and gender, Britain 1974-2013

RCP, 2016 (Fig 2.2 p13)
Our work
• Identifying the problem is one thing, but doing something about it as a research community is something else.

• Since the first E-cig Summit, we have made concerted efforts to grow the volume and quality of research on tobacco harm reduction, particularly e-cigarettes.

• We need to bring in new researchers to the field and support high quality studies that answer important research questions.
• Along with PHE, our centre and Cancer Research UK established UKECRF just under 2 years ago
• Researchers and policy and practice colleagues from all parts of the UK meet 3x per year. Next meeting is in Edinburgh, Jan 19th 2017
• We also provide a monthly evidence briefing of the latest studies from a range of countries. Sent out by email from CRUK – contact Alyssa.Best@cancer.org.uk if you are interested in being added to the list.
New & ongoing research with priority groups
Pregnancy

• Qualitative study led by Prof Michael Ussher, interviews with 30 women including those using e-cigs during pregnancy (CRUK funded)
• National survey now underway to assess prevalence of use in pregnancy, led by Dr Sue Cooper (CRUK funded)
• Large RCT to start next year, led by Prof Peter Hajek (NIHR funded)
Pregnancy

• Smoking in Pregnancy Challenge Group established in 2012, coordinated by ASH, chaired by Francine Bates (Lullaby Trust) and I

• Along with PHE, we’ve prepared practical materials on e-cigs in pregnancy which are proving hugely popular amongst midwives

• Information for women to be published this month
E-cigarettes in pregnancy

Are e-cigarettes safe to use?
- E-cigarettes aren’t risk free, but they are much less harmful than smoking
- If using an e-cigarette helps you stay smokefree, it is much safer for you and your baby than smoking

Can I still smoke a bit of tobacco?
- NO - Every cigarette harms you and your baby
- The only way to stop this is to stop smoking tobacco completely
- You can use your e-cigarette as often as you need to stay smokefree

Can I use an e-cigarette to help me quit smoking?
- The safest products to use are nicotine replacements such as patches and gum
- If you find an e-cigarette helpful, it is far safer than continuing to smoke

Is nicotine harmful for my baby?
- Nicotine alone is relatively harmless
- The main harm from smoking comes from the thousands of chemicals in tobacco smoke

Is it OK for others to use e-cigarettes around me?
- It is far safer than allowing smoking
- Secondhand tobacco smoke is very harmful to you and your baby
- There is no evidence of harm to others from e-cigarette vapour

Using an e-cigarette is far safer than smoking
- E-cigarettes allow you to inhale nicotine through a vapour rather than smoke
- E-cigarettes don’t burn tobacco, and don’t produce tar or carbon monoxide
- Vapour contains much lower levels of harmful chemicals than smoke

For more information on quitting smoking ask your midwife, GP or pharmacy team or search NHS Smokethru.
Cancer Patients

- Feasibility and single arm pilot study began earlier this year with lung cancer patients undergoing chemotherapy (RCLCF funded)
- Patients introduced in their own homes to a 2\textsuperscript{nd} generation device and choice of flavours and nicotine content
- Home visits conducted by researchers and a network of experienced vapers recruited by NNA (Andy Morrison)
Feasibility & acceptability of electronic cigarettes as an aid to smoking cessation for lung cancer patients

Progress to date:
• 11 of 15 patients approached agreed to participate
• 9 patients enrolled & all started using e-cig
• Committing to switch date ‘challenging’ for this group
• All patients reported reduction in tobacco use in early weeks
• 4 pts reached final 16wk follow up
  - 2 CO validated quitters continuing to use e-cig
  - 1 continued smoker (no longer using e-cig)
  - 1 not obtained

6 qualitative interviews conducted-
  Motivation to use e-cig heavily influenced by day-to-day health
Mental Health

- Ongoing programme of work at King’s College London (Ann McNeill, Debbie Robson & colleagues)
- PhD research by Dr Pasquale Caponnetto in the USA & Italy – University of Catania
  - Qualitative interviews with patients with schizophrenia (n=15 motivated to quit, n=15 not motivated) about to start (ethical approval in place)
  - Pilot trial for smoking cessation in Sicily and New York, starting next year (40 smokers with schizophrenia not willing to quit) (recruitment Jan 2017)
  - Developing Protocol for multicenter (Sicily and New York) large (n=300) RCT, based on results emerging from qualitative and pilot studies (recruitment Jan 2018)
CVD: The VAPOUR Pilot Study

The CardioVascular ImPacts of Electronic Cigarettes in COMparison to the Use of Nicotine Replacement Patches

Aims: To investigate the short term cardiovascular and respiratory effects of electronic cigarettes in comparison to nicotine replacement patches in smokers undergoing smoking cessation

Design: Randomised control pilot study
Status: Recruiting

Chief Investigator: Miss Daniele Kerr (University of Glasgow)
Principle Investigator: Professor Christina Delles (University of Glasgow)

Funder: BHF Centre of Research Excellence Award
NHS Sponsor: NHS Greater Glasgow and Clyde
Periodontal Disease

• Title: A mixed methods feasibility study of electronic cigarette use by patients with periodontitis.

• 80 participants- tobacco smokers + severe chronic periodontitis.

• Pilot RCT- ‘Usual Care’ (Brief Advice Intervention) V’s ‘Usual Care + e-cigarette Provision and Training’ + qualitative process evaluation.

• Recruitment: Sept 2016- Sept 2017

• Chief Investigator: Richard Holliday, Principal Investigator: Professor Philip Preshaw & Co-investigators: Professor Elaine McColl, Vicky Ryan, Professor Falko Sniehotta, Dr Nick Jakubovics, Professor Linda Bauld, Suzanne McDonald.
Conclusions

- Research on tobacco harm reduction and e-cigarettes needs to focus not only on the general population but also priority groups where smoking rates are highest
- Since the first E-cigarette Summit, we have established a number of unique new studies in the UK
- While many research funders are now contributing, Cancer Research UK has provided leadership in this area, particularly through the establishment of UKECRF with PHE and UKCTAS
- Many studies are now actively involving vapers through the NNA – invaluable for recruitment but also how results will be used
- New researchers are now active in the field and a priority is to keep building this capacity
- Watch this space - soon these studies will yield results useful not only in the UK but internationally
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