Safeguarding public health

To: All interested organisations

1 February 2010

Dear Sir/Madam

CONSULTATION LETTER MLX 364

THE REGULATION OF NICOTINE CONTAINING PRODUCTS

Introduction

1. We are writing to consult you on whether to bring all nicotine containing products (NCPs) – with the exception of tobacco and tobacco products - within the medicines licensing regime, which would require all currently unlicensed NCPs on the market, such as electronic cigarettes containing nicotine and nicotine gels, to apply to the Medicines and Healthcare products Regulatory Agency (MHRA) for a medicines marketing authorisation (MA).

2. This consultation should be read in conjunction with the draft Impact Assessment (IA). We would welcome views on whether to bring unlicensed NCPs within the medicines licensing regime. All replies will be considered before a final decision is made.

Application to England, Wales, Scotland and Northern Ireland

3. This consultation is being made available in England, Wales, Scotland and Northern Ireland. Any requirement for unlicensed NCPs to be brought within medicines licensing would apply throughout the United Kingdom.

Background

4. The NHS Plan published in 2000[1] included a number of measures to reduce smoking including a proposal for wider availability of products containing nicotine presented with therapeutic indications. These products have always required MAs and are widely referred to as Nicotine Replacement Therapy (NRT). Reducing the public health impact of smoking remains a high priority for Government and over several years the MHRA and Department of Health have been in liaison with interested parties to discuss appropriate actions necessary for the effective regulation of nicotine delivery products. This evolving approach has focussed on use of legal classification tools to widen access to new formulations and extension of use in vulnerable populations.

5. A step-wise approach to the licensing of products containing nicotine has been followed. By 2001 general sale (GSL) availability of some NRT products was approved. By 2009, all

[1] www.dh.gov.uk

Medicines and Healthcare products Regulatory Agency
Market Towers 1 Nine Elms Lane London SW8 5NQ
T 020 7084 2000 F 020 7084 2353 www.mhra.gov.uk

NRT products were GSL. An Expert Working Group of the Committee on Safety of Medicines (CSM) was set up in 2005 to review how usage of NRT could be extended to certain patient categories and recommended that restrictions on use for all NRT products should be minimised for pregnant and breast feeding women, patients with heart disease, patients with kidney/liver problems, patients with diabetes, and children aged 12 to 18 years.

6. Since then the indication for NRT has been extended to 'cut down to quit' and 'temporary abstinence', introduced in 2005 and 2006. Available trials have indicated that NRT may be an effective intervention in achieving sustained smoking abstinence for smokers who have no intention or are unable to attempt an abrupt quit. Importantly there are now data from long-term smoking reduction studies showing that this does not prejudice eventual successful quit attempts.[2] [3] [4] [5] [6] [7] [8]

NRT and Harm reduction approach – advice from Commission on Human Medicines

7. An application to extend the indication to include harm reduction for Johnson & Johnson's (J&J's) Nicorette Inhalator product was received by the MHRA and considered by the re-established Expert Working Group on NRT, now reporting to the Commission on Human Medicines (CHM). The indication in full is:

> "Nicorette inhalator relieves and/or prevents craving and nicotine withdrawal symptoms associated with tobacco dependence. It is indicated to aid smokers wishing to quit or reduce prior to quitting, to assist smokers who are unwilling or unable to smoke, and as a safer alternative to smoking for smokers and those around them.
>
> Nicorette inhalator is indicated in pregnant and lactating women making a quit attempt.
>
> Nicorette inhalator should preferably be used in conjunction with a behavioural support programme".

8. The Group met on 14 October and strongly supported the concept of harm reduction and advised that the extended indication for NRT should be approved and that the extended indication should be applied to other forms of currently licensed NRT products. The CHM endorsed this view when it met on 15 October 2009[9]. The extended indication for the Nicorette Inhalator product was granted on 11 December 2009 and other companies wishing to incorporate this indication to their currently licensed NRT products are invited to do so.

The impact of smoking on public health

9. Smoking remains the primary cause of preventable morbidity and premature death, accounting for over 80,000 deaths a year in England alone. The Health Development

[2] Bjornson et al 1997
[3] Carpenter et al 2004
[4] Fagerstrom 2005
[5] Falba et al 2004
[6] Farkas 1999
[7] Hughes 2000
[8] Hughes & Carpenter 2006
[9] www.mhra.gov.uk

Agency calculated that in England, smoking causes an average of over 1,663 deaths per week, or 237 deaths every day, or nearly 10 deaths an hour[10].

10. The Royal College of Physicians (RCP) says that it is the components of cigarette smoke collectively that explain its health impacts. Smoke contains over 4,000 chemicals, approximately 500 in the vapour phase (including carbon monoxide, ammonia, nitrogen oxides, hydrogen cyanide and various hydrocarbons) and over 3,500 in the particulate phase (including "tars" and most of the carcinogenic agents). Nicotine appears in both phases. Nicotine is the predominant addictive chemical, and the reason why smokers continue to smoke[11]. While the risks to health from smoking tobacco are well established, a body of evidence is emerging that suggests that nicotine, while addictive, is actually a very safe drug.

11. There is a growing body of evidence that supports a harm reduction approach to nicotine addiction and for several years there has been a call for a process by which an individual limits, to the greatest extent possible, the risks to their health and the health of others by reducing or ideally eliminating exposure to tobacco smoke. The most recent (January 2009) is from the BMA Board of Science which has produced a policy position entitled '*Harm reduction a tobacco free approach* supporting those smokers struggling to quit'. They consider that, in terms of harm reduction, effective alternatives need to be considered that allow an individual to obtain nicotine without being subjected to the risks of smoked tobacco, and that pure nicotine products currently available as NRT are considerably safer than smoked or smokeless tobacco products.

12. In May 2008 the Department of Health published a consultation on the future of tobacco control[12], which included a chapter on helping people who are not able to quit and the concept of harm reduction. The Department of Health has today launched a comprehensive Tobacco Control Strategy for England, 'A Smokefree Future: making tobacco history'[13]. Assisting smokers to quit is one of the goals of the DH strategy, together with preventing young smokers starting and reducing harms to wider society. The 'harm reduction' approach to the use of NRT is a significant plank of the wider tobacco strategy.

Unlicensed nicotine containing products (NCPs)

13. There are a number of products (including nicotine containing electronic cigarettes, topical gels and oral forms) purporting to contain nicotine, that are widely and easily available but are not licensed medicines. Currently, any NCP that claims or implies that it can assist in the cessation of smoking is deemed by the MHRA to be a medicinal product. However, this approach has allowed NCPs that do not make similar claims to be used and sold as substitutes and partial substitutes for smoking.

14. The MHRA has taken the opportunity to review its current policy on the application of the definition of a medicinal product in the context of nicotine[14]. Recent legal advice is that all products which contain nicotine which appreciably affect metabolism in normal usage may be within medicines legislation in terms of pharmacological action (medicinal by function).

[10] Health Development Agency (2004). *Smoking epidemic in England*. HDA,
[11] Royal College of Physicians (2007). *Harm reduction in nicotine addiction.* RCP, London
[12] www.dh.gov.uk/tobacco
[13] www.dh.gov.uk
[14] Directive 2001/83/EC as amended by Directive 2004/27/EC Article 1.2

As an extension of the indication to include harm reduction has been granted for the Nicorette Inhalator product by presentation, the Licensing Authority is obliged to consider the regulation of unlicensed NCPs currently on the market by presentation. If all products containing nicotine were, however, to be regulated by function, presentation and the indications for such products would automatically be regulated as well. Regulating nicotine in this way, by its function, represents a major departure from relying on the regulation of these products by claim – and not regulating them if no claim is made. The change in Agency stance takes due regard of developments in time, such as the accepted need to take proactive action to reduce smoking and to protect public health from the greatly increased availability of NCPs that have not been assessed for safety, quality and efficacy.

15. There are currently six different forms of licensed medicinal NRT on the UK market. These are gum, patch, nasal spray, inhalator, sublingual tablet/microtablet and lozenge/pastille, and all are available on general sale. There are, however, a number of products (including some electronic cigarette, topical gels and oral forms) purporting to contain nicotine (NCPs), that are widely and easily available but are not licensed medicines. Because of their "legal status", it is difficult to get information on quality, safety and/or efficacy of these NCPs, and to know whether the clear benefit to risk that has been established for NRT products can be attributed to them.

16. From the very limited data available (summarised in **Annex A**), NCPs cannot guarantee quality*;* the release of nicotine from the same NCP over time can vary with reduction over time indicating instability throughout its shelf life and the amount of nicotine/product might not be the same from batch to batch. In terms of efficacy there can be widely differing amounts of nicotine from the same format (i.e. patch, orally, via an electronic cigarette) with one form delivering what could be an effective therapeutic dose, another a "placebo" dose. With regards to safety, toxic elements may be included and unexpectedly high doses of nicotine could produce adverse effects, particularly in some vulnerable patient groups such as those with cardiovascular disease. We know from work done by the Food and Drug Administration (FDA) in the United States that laboratory analyses of e-cigarette samples were found to contain carcinogens and toxic chemicals, against which general product safety legislation could not protect. Bringing all current unlicensed NCPs into regulation would eliminate these issues and ensure that smokers had products of the requisite quality, efficacy and safety to eliminate or reduce the harm from smoking.

17. If a decision is made to regulate unlicensed NCPs, manufacturers of unlicensed NCPs wishing to continue their presence on the market would have to go through the process of licensing those products. This would bring into regulation a range of products, such as electronic cigarettes containing nicotine and nicotine gels, which have not previously been caught by regulation. There would also be a challenge to ensure that we capture within regulation nicotine containing products without impacting on tobacco products. This, however, needs to be weighed against the (unknown) risk to public health of the continuing availability of products which have not been assessed for safety, quality and efficacy, and do not have the same safeguards in place i.e. the obligations of MA holders.

Options

18. In order to ensure there is no risk to public health from unlicensed products on the market that have not been assessed for safety, quality and efficacy and in the light of the developing extent of their use and familiarity we are consulting to elicit views on whether and how to bring all products containing nicotine into regulation.

Option 1 – Whether products containing nicotine should be considered by the Agency to be medicinal products by function and, if so, whether all unlicensed NCPs should be removed from the market within 21 days. Currently, MHRA operates a strict practice regarding the period of notice operators are allowed to comply with under the Marketing Authorisation Regulations following the classification of a product as medicinal. Given that these Regulations do not make explicit provisions for a staged withdrawal from the market of an unlicensed medicinal product, immediate cessation of the sale or supply is usually required by the Agency, with written confirmation of the same within 21 days.

Option 2 – Whether products containing nicotine should be considered by the Agency to be medicinal products by function and, if so, whether a notice should be issued to manufacturers that all marketing must cease by a certain date e.g. June 2011. After this date enforcement action would be taken against manufacturers not holding an MA for any such product on the market. This would effectively allow manufacturers a year from the end of public consultation to produce relevant evidence to support an application for an MA, submit it to the MHRA for approval and get the newly licensed products on to the market.

Option 3 – Do nothing and allow these unregulated products containing nicotine that have not been assessed for safety, quality and efficacy to remain on the market.

19. The MHRA's preferred option is option 1, which is in line with current practice.

Summary of comments sought

20. We would welcome views on the options outlined above and to receive any further views that responders would wish to make. We are unclear as to how many unlicensed products there are on the market and how many manufacturers this will affect. We would therefore welcome views on this and on the draft Impact Assessment.

21. This consultation follows the Cabinet Office Code of Practice on Consultation - the criteria for which are set below.

1. Consult widely throughout the process, allowing a minimum of 12 weeks for written consultation at least once during the development of the policy.

2. Be clear about what your proposals are, who may be affected, what questions are being asked and the timescale for responses.

3. Ensure that your consultation is clear, concise and widely accessible.

4. Give feedback regarding the responses received and how the consultation process influenced the policy.

5. Monitor your department's effectiveness at consultation, including through the use of a designated consultation co-ordinator.

6. Ensure consultation follows better regulation best practice, including carrying out a Regulatory Impact Assessment if appropriate.

The full code of practice is available at: www.cabinet-office.gov.uk/regulation/Consultation

Impact Assessment

22. You are also invited to comment on the possible impact on business of the proposals and options and a draft partial IA is attached. Copies of the final version would be made available to Ministers, Parliament and to the public. It would therefore be helpful if you could identify and quantify any direct or indirect costs (recurring or non-recurring) or any profits which would be likely to arise for business in your sector if these changes are made.

Comments

23. You are invited to comment on these proposals and options, and the Impact Assessment, and a form is attached for your reply. This consultation letter is being sent to those organisations listed either in hard copy or via email. Copies of the consultation are also available from our website (www.mhra.gov.uk) and replies are welcome from all interested parties. Comments should be addressed to Amanda Bryan, in room 14-212 or by email (Amanda.bryan@mhra.gsi.gov.uk), to arrive by **4 May 2010**. Contributions received after that date cannot be included in the exercise. The MHRA will not enter into any correspondence about these proposals during the period of the consultation.

Making Copies of the Replies Available to the Public

24. To help ensure there is an informed debate on the issues raised by this consultation, and within the terms of the Freedom of Information Act 2000, the Agency intends to make publicly available copies of comments that it receives. Copies will be made available as soon as possible after the public consultation has ended. The Agency's Information Centre at Market Towers will supply copies on request. An administrative charge, to cover the cost of photocopying and postage may be applied. Alternatively, personal callers can inspect replies at the Information Centre by a prior appointment (telephone 020 7084 2351). It will be assumed that your comments can be made publicly available in this way, *unless* you indicate that you wish all or part of them to be treated as confidential and excluded from this arrangement.

Yours faithfully

Dr June Raine
Director, Vigilance & Risk Management of Medicines Division

To: Amanda Bryan
MHRA
Room 14-212, Market Towers
1 Nine Elms Lane
LONDON SW8 5NQ

From: _____
_____
_____
_____
_____

CONSULTATION LETTER MLX 364: THE REGULATION OF NICOTINE CONTAINING PRODUCTS

* 1. We have no comments to make on the proposals in MLX 364

* 2. Our comments on the proposals in MLX 364 are below/attached.

*Our reply may be made freely available
*Our reply is confidential
*Our reply is partially confidential (indicate clearly in the text any confidential elements)

Signed: _____
*Delete as appropriate

Date: _____

CONSULTATION LIST

ActiQuit
ADFAM
Addiction Help Services
Advanced Formulations
Advisory Council on the Misuse of Drugs
Advertising Association
Advertising Standards Authority
Association of British Pharmaceutical Industry
All Party Pharmacy Group
Amazing Health
Arkopharma (UK) Limited
Arrow Generics Limited
Association of British Healthcare Industry
Association of Chief Police Officers
Association of Independent Multiple Pharmacies
Association of Pharmaceutical Importers
Association of Traditional Chinese Medicine
Asthma UK
Auravita Limited
Bear St Pharmacy
bemoneywise
Boots Pharmacists Association
British Association of European Distributors
British Association of European Pharmaceutical Distributors
British Association of Pharmaceutical Wholesalers
British Association of Pharmaceutical Physicians
British Complementary Medicines Association
British Dental Association
British Dental Trade Association
British Diabetic Association
British Generic Manufacturers Association
British Geriatric Society
British Heart Foundation
British Homeopathic Association
British Institute of Regulatory Affairs
British International Doctors Association
British Medical Association
British Pharmacological Society
British Pregnancy Advisory Service
British Retail Consortium
British Standards Institute
British Toxicological Society
Bunker Bound Limited
Cambridge Healthcare Laboratories

Carers National Association
Care Quality Commission
Cancer Research UK
Central Medical Advisory Committee
Chemist and Druggist
Child Safe Packaging Group
Cigstar
Cigtronics Limited
CN Creative Limited
College of Pharmacy Practice
Committee for Practitioners & Health Visitors Association
Community Pharmacy Magazine
Community Services Pharmacy Group
Company Chemist Association
Consolidated Communications
Co-operative Pharmacy Technical Panel
Consumers Association
Consumers for Health Choice
Consumers in Europe Group
Department of Health, MPI Division
Department of Health, Social Services and Public Safety, Northern Ireland
Department of Health Tobacco Control Policy Team
Department of Trade and Industry – Small Business Service
Dispensing Doctors Association
Doctor Magazine
Dream Internet Ltd
Drug Information Pharmacists Group
Drug Safety Research Unit
Drug and Therapeutics Bulletin
DQ Limited
Ebay UK Limited
Ecuk Distributions
Electronic Smoking
Electronic Cigarette shop
Ecigarette store
Ecigonline
eCigs Online
E-cigs
e-cig
Ezeequit Ltd
Faculty of Pharmaceutical Medicine
G Nostics Limited
General Dental Council
General Medical Council
Glaxosmithkline Consumer Healthcare
Gower Enterprises
Guild of Healthcare Pharmacists
GX Design Engineers

Harmonology Centre
Health E Smoking
Health Protection Agency
Health Professions Council
Health Promotion England
Health Service Commissioner
Health Which
Health Your Way Associates
Home Office
Hosh Star (UK) Limited
Hhs Trading (UK) Plc
Intellcig
Ismokeanywhere
I want one of those
Java Electronics
La Pleasures Limited
Johnson & Johnson
Life style Innovation
Long Term Medical Conditions Alliance
Maans Products India
Mayhem UK Limited
Medical Defence Union
Medical Protection Society Ltd
Medical Research Council
Medical Toxicology Unit
Medical Womens Federation
Meldex International
Mirage cigarettes
MIMS
MIND
Moheedin enterprise
National Assembly for Wales
National Association of Health Stores
National Consumer Council
National Institute for Health and Clinical Excellence
National Institute for Mental Health
National Patient Safety Agency
National Pharmaceutical Association
National Treatment Agency
Neonatal and Paediatric Pharmacists' Group
Nettexmedia.com Limited
NHS Direct
NHS Alliance
NHS Confederation
Nicobrevin UK
Nicocigs Limited
NicoPipe Ltd
Nico Worldwide Inc

Nicogel Limited
North West Medicines Information Centre
No Limited
Novartis Consumer Health UK
Nursing and Midwifery Council
Meldex International
My e cigarette
Office of Fair Trading
OTC Bulletin
OTC Business News
Paediatrics Chief Pharmacists' Group
Patients Association
Paramount Zone
Patash Limited
Paxes
Pharmaceutical Journal
Pharmaceutical quality Group
Pharmaceutical Society of NI
Pharmasol
Parexel
Pierre Fabre Medicament
Prescription Pricing Authority
Primary Care Pharmacists' Association
Proprietary Association of Great Britain
Pharmaceutical Services Negotiating Committee
Puffin Nicotine Indoor Products
QDL Limited
Rosen Holdings Ltd
Royal College of General Practitioners
Royal College of Nursing
Royal College of Paediatrics & Child Health
Royal College of Physicians (London)
Royal College of Physicians and Surgeons of Glasgow
Royal College of Physicians and Surgeons
Royal College of Psychiatrists
Royal College of Surgeons (Edinburgh)
Royal College of Surgeons (England)
Royal Pharmaceutical Society of Great Britain
Royal Society for the Promotion of Health
Royal Society of Chemistry
Ruyan E Cigarette
SANE
Safesmoker
Safe-smoking
Scottish Executive
Scottish Pharmaceutical General Council (SPGC)
Scottish Wholesale Druggists Association
SCRIP

Shenzhen China
Skinlight
Slimming Solutions Limited
Society of Pharmaceutical Medicine
Small Business Service
Smart Smoker
Smoke without Fire
Smoking Cessation Research Network
Smokefree Action Coalition
Supersmoker Limited
Superdragon TCM UK Limited
Swevan Electronic Cigarettes
The Body Pharmacy
The Dragons Pen
The Electronic cigarette company (UK) Limited
The Elixir Shop
The Windsor Group
Thames Pharmaceuticals Limited
UK Centre for Tobacco Control Studies
UK Clinical Pharmacy Association (UKCPA)
Urban Blue
Venus Agents for Stop Smoking
Victory Catering Supplies Limited
UK Smoore
Winovation Limited
Wrafton Laboratories
Welsh Assembly
Your health foodstore

Annex A

UNLICENSED NICOTINE CONTAINING PRODUCTS

There are currently six different forms of licensed medicinal nicotine replacement therapy (NRT) in the UK – gum, patch, nasal spray, inhalator, sublingual tablet/microtablet and lozenge/pastille, and all are available GSL. However, there are a number of products (including the electronic cigarette, topical gels and oral forms) purporting to contain nicotine (NCPs), that are widely and easily available but are not licensed medicines. Because of their "legal status", it is difficult to get information on quality, safety and/or efficacy of these NCPs, and to know whether the clear benefit to risk that has been established for NRT products can be attributed to them. Some of the limited data available are summarized below.

Efficacy

Unlicensed lozenges

- Belcher et al (*BMJ* 1989;298:570-1) reported a 38y old man who noted that lozenges (Stoppers – no longer marketed in the UK) straight from the factory "were stronger" than those bought from the pharmacist. This was checked and the following found
  - After 22 lozenges supplied by the pharmacist taken over 5.5 hours – plasma nicotine 14.6 micrograms/L
  - After 17 lozenges supplied directly from the factory taken over 4 hours – plasma nicotine 22.3 micrograms/L
  - The plasma nicotine concentrations increased by a mean of 4.6 micrograms/L (range 3.6 to 5.2) over 30 mins in 3 subjects who took 2 lozenges directly ex factory

The authors concluded that these specific lozenges may have some therapeutic potential as absorption from 2 lozenges from the pharmacy was roughly similar to that from one piece of 2mg NRT gum but they noted that lozenges directly from the factory delivered more nicotine (equivalent of 4mg gum).

Note The original formulation of Stoppers contained nicotine as a free base and the difference between lozenges straight from the factory and those obtained from a pharmacy indicate a shelf life problem (ie loss of effect with storage over time)

- Foulds et al (*Addiction* 1998;93(**9**):1427-31) evaluated the effects of 3 unlicensed lozenges containing nicotine (all subsequently withdrawn from the UK market).
  - **Stoppers** - the formulation had been changed from those evaluated in 1989 (see above) and now contained nicotine as a salt with 1.23mg of nicotine hydrogen tartrate (equivalent 0.4mg free base nicotine). Taken over 2 hours 8 lozenges produced an increment in blood nicotine concentration of 8-15ng/mL
  - **Super 25** – claimed to contain purified tobacco extract rather than nicotine. It was found that 8 of these produced an increase in mean nicotine concentrations from 0.2ng/mL to 4.6ng/mL in 3 subjects
  - **Stubit** – claimed each lozenge contained 1.1mg nicotine base. In 4 volunteers 8 lozenges produced an increase in mean nicotine concentrations from 0.3ng/mL to 6.4ng/mL

Unlicensed patches

In a letter to the British Medical Journal, Jarvis et al (*BMJ* 1993:**306**:647) cited several brands of unlicensed patches purporting to deliver nicotine or "nicotine extract" that were available by mail order. The authors analysed several of these and one type delivered 0.4mg of nicotine/patch and the other 4mg/patch (the licensed NRT patches first authorised in 1992 contained between 25 and

100mg/patch). When measuring plasma nicotine, from the first type of unlicensed patches there was virtually no absorption. In the second type, after 8 hours, plasma nicotine levels of 1.8 micrograms/L and 5.4 micrograms/L were noted in 2 subjects whereas with medicinal nicotine containing patches the levels were 8.6 and 20.0 micrograms/L. The authors concluded that

- These unlicensed patches make unwarranted claims of therapeutic efficacy, yet they either are placebos or deliver nicotine in amounts unlikely to relieve withdrawal significantly
- Their marketing and brand names were similar to licensed products thereby seeming to rely on difficulties consumers may have in distinguishing between NRT and NCPs

Electronic cigarettes (e-cigarettes)
On 22 July 2009 the FDA notified HCPs and patients that because these products have not been submitted to the FDA for evaluation or approval, at this time the agency has no way of knowing, except for the limited testing performed, the levels of nicotine that may be delivered to the user. The lab analysis of 2 leading brands identified the following

- The electronic cigarette labelled as containing no nicotine had low levels in all samples except one
- 3 different e-cigarette cartridges with same label emitted markedly different amounts of nicotine/puff (2.68 to 43.2 mcg/100mL puff)
- One high-nicotine cartridge delivered twice as much nicotine to the user than came from a FDA approved device authorised for smoking cessation

Safety

- The WHO (Draft Abbreviated Advisory of the WHO Study Group on Tobacco Product Regulation – September 2008) recommends that electronic nicotine delivery systems (ENDS) should be regulated as nicotine delivery systems not as tobacco products and that claims implying health benefits or reduced harm relative to cigarettes should be prohibited unless the safety of these devices when used as intended are proven scientifically to the satisfaction of regulatory authorities, as should claims that they aid smoking cessation

- In the FDA document (see above) the lab analysis of 2 leading brands identified the following
    - Diethylene glycol (constituent of antifreeze: toxic to humans, found (at c 1%) in 1 sample
    - Nitrosamines (human carcinogens in tobacco) found in 50% of the samples
    - Tobacco-specific impurities in most of samples

Conclusion

From the very limited data available, NCPs cannot guarantee

- *Quality*
    - The release of nicotine from the same NCP over time can vary with reduction over time indicating instability throughout its shelf life
    - The amount of nicotine/product might not be the same from batch to batch

- *Efficacy*
    - There can be widely differing amounts of nicotine from the same format (ie patch:orally: via an electronic cigarette) with one form delivering what could be an effective therapeutic dose, another a “placebo” dose. Users getting sub-therapeutic doses of nicotine may consider that all nicotine-containing products (including medicinal forms) are “useless”, and so make it more difficult for themselves to make a successful quit attempt.

- *Safety*
  - Toxic elements may be included
  - "unexpectedly" high doses of nicotine could produce adverse effects (particularly in some vulnerable patients groups such as those with cardiovascular disease)

Bringing all current unlicensed NCPs into regulation would eliminate these issues and ensure that smokers had products of the requisite quality, efficacy and safety to eliminate or reduce the harm from smoking.

Summary: Intervention & Options

Department /Agency:	Title:	
MHRA	Impact Assessment of the Regulation of Nicotine Containing Products (NCPs)	
Stage: Consultation	**Version:** 1	**Date:** 01/02/2010

Related Publications: **'A Smokefree Future: making tobacco history. A Comprehensive tobacco Control Strategy for England (Department of Health 1 February 2010)**

Available to view or download at:

http://www.mhra.gov.uk

Contact for enquiries: Amanda Bryan **Telephone:** 020 7084 2366

What is the problem under consideration? Why is government intervention necessary?

There are a number of products purporting to contain nicotine (including some electronic cigarettes and topical gels), that are widely available but are not licensed medicines and have therefore not been tested for safety, quality and efficacy. In addition, following advice from the Commission on Human Medicines (CHM), an extended indication to include a 'harm reduction' element for nicotine replacement therapy (NRT) products has been approved. The extension of the indication to include harm reduction marks a major shift in approach in medicines regulation. NRT has to date not been licensed for harm reduction and the decision to do so raises the question of the regulation of other nicotine containing products (NCPs). The MHRA is consulting on whether to bring all these products within medicines legislation.

What are the policy objectives and the intended effects?

One option being consulted upon is to bring unlicensed NCPs into medicines regulation, thus protecting public health from products that have not been assessed for safety, quality and efficacy. The effect of the proposal would be that all unlicensed NCPs will either be removed from the market or manufacturers will have to license them as medicines by a specific date.

What policy options have been considered? Please justify any preferred option.

The following options have been considered and are subject to public consultation. These are:

Option 1 – Whether all NCPs should be classified as medicinal products and all unlicensed NCPs be removed from the market within 21 days.

Option 2 – Whether all NCPs should be classified as medicinal products and notice be issued to manufacturers that all marketing must cease by a certain date e.g June 2011. After this date enforcement action would be taken against manufacturers of unlicensed products still on the market.

Option 3 – Do nothing

The Government supports Option 1, which is in line with current practice. Views are being sought on these options.

When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?

The MHRA/CHM continuously monitors the safety of all medicines, which will enable the impact of the action to be kept under review.

Ministerial Sign-off For Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister:

..... Date:

Summary: Analysis & Evidence

Policy Option: 2	Description: Regulation of Nicotine Containing Products (NCPs)

COSTS

ANNUAL COSTS	Description and scale of **key monetised costs** by 'main affected groups'
One-off (Transition) **Y**	One off costs of application and manufacturing licence fees and annual fees including inspections, annual and GSL periodic fees for 50% of NCPs. Details and calculations are in the Annex.
£ 1,475,324	
Average Annual Cost	**Total Cost** (PV) **£ 1,572,544**
£97,200	

Other **key non-monetised costs** by 'main affected groups'

Manufacturers who withdraw their products from the market may lose the revenue from their products, which has yet to be assessed.

BENEFITS

ANNUAL BENEFITS	Description and scale of **key monetised benefits** by 'main affected groups'
One-off **Y**	It is difficult to estimate the exact benefits of this proposal, but the views of both the CHM and its Expert Working Group are that NRT products pose less harm than smoking. There will also be a better chance of a successful quit attempt on licensed products and the new indication for NRT will increase the number of people who reduce their risk from smoking through harm reduction. In addition, as there will be more chance of a successful quit with products that have been assessed for safety, quality and efficacy, than unlicensed NCPs, use of licensed products will reduce the number of people who are exposed to smoke, passive smokers. All of these benefits will lead to public health gains.
£ NA	
Average Annual Benefit (excluding one-off)	**Total Benefit** (PV) **£**
£	

Other **key non-monetised benefits** by 'main affected groups'

People who permanently quit smoking will gain an average of 3.59 life years.

Key Assumptions/Sensitivities/Risks

It is assumed that 50% of NCPs will become licensed. A potential risk is the sale of the NCPs from foreign market advertised on the internet as there are virtually no controls on importation for personal use and so it is not possible to prevent products advertised on non-UK websites being sold and supplied to the UK, unless we had a Banning Order in place.

Price Base Year	Time Period Years	**Net Benefit Range** (NPV) **£**	**NET BENEFIT** (NPV Best estimate) **£**

What is the geographic coverage of the policy/option?	UK
On what date will the policy be implemented?	June 2010
Which organisation(s) will enforce the policy?	MHRA and Trading Standards
What is the total annual cost of enforcement for these organisations?	£ negligible
Does enforcement comply with Hampton principles?	Yes
Will implementation go beyond minimum EU requirements?	No
What is the value of the proposed offsetting measure per year?	£ inc total benefit
What is the value of changes in greenhouse gas emissions?	£ n/a

Will the proposal have a significant impact on competition?			No	
Annual cost (£-£) per organisation (excluding one-off)	Micro	Small	Medium	Large
Are any of these organisations exempt?	No	No	N/A	N/A

Impact on Admin Burdens Baseline (2005 Prices) (Increase - Decrease)

Increase of £ NA Decrease of £ NA **Net Impact** **£** NA

Key:	**Annual costs and benefits: Constant Prices**	**(Net) Present Value**

Evidence Base (for summary sheets)

1. Title of Proposal

Regulation of all Nicotine Containing Products (NCPs)

2. Rationale for Government Intervention

There are a number of products containing nicotine (including electronic cigarettes and topical gels), that are increasingly available but are not licensed medicines. Any nicotine containing product (NCP) that claims or implies that it can assist in the cessation of smoking is already deemed by the MHRA to be a medicinal product by presentation: termed Nicotine Replacement Therapy (NRT). However, until now, this allowed NCPs that do not make similar claims to be used and sold as substitutes and partial substitutes for smoking.

Following advice from the Commission on Human Medicines (CHM) and an Expert Working Group of the CHM, an extension to the indication for nicotine replacement therapy (NRT) products has been approved. The indication now includes a 'harm reduction' approach, which represents an extension of use to include both substitution and partial substitution of smoking with NRT in those not currently intending to make an immediate quit attempt.

The decision to approve a harm reduction component of the indication marks a major shift in approach in medicines regulation. The Legal advice received by the Agency is that in granting the extension to the indication, the Licensing Authority is obliged to consider the regulation of unlicensed NCPs currently on the market. There are currently six different forms of licensed medicinal NRT on the UK market available on general sale. There are, however, a number of products (including some electronic cigarettes) purporting to contain nicotine that are widely and easily available but are not licensed medicines. Because of their "legal status", it is difficult to get information on quality, safety and/or efficacy of these NCPs, and to know whether the clear benefit to risk that has been established for NRT products can be attributed to them.

The MHRA is consulting on whether action should be taken to bring all these products within medicines legislation by function in the light of the current usage of NCPs.

3. Background

1. The NHS Plan published in 2000 included a number of measures to reduce smoking including a proposal for wider availability of products containing nicotine presented with therapeutic indications. These products have always required MAs and are widely referred to as Nicotine Replacement Therapy (NRT). Reducing the public health impact of smoking remains a high priority for Government and over several years the MHRA and Department of Health have been in liaison with interested parties to discuss appropriate actions necessary for the effective regulation of nicotine delivery products. This evolving approach has focussed on use of legal classification tools to widen access to new formulations and extension of use in vulnerable populations.

2. A step-wise approach to the licensing of products which contain nicotine has been followed. By 2001 general sale (GSL) availability of some NRT products was approved. By 2009, all NRT products were GSL. An Expert Working Group of the Committee on Safety of Medicines (CSM) was set up in 2005 to review how usage of NRT could be extended to certain patient categories and recommended that restrictions on use for all NRT products should be minimised for pregnant and breast feeding women, patients with heart disease, patients with kidney/liver problems, patients with diabetes, and children aged 12 to 18 years.

3. Since then the indication for NRT has been extended to 'cut down to quit' and 'temporary abstinence', introduced in 2005 and 2006. Available trials have indicated that NRT may be an effective intervention in achieving sustained smoking abstinence for smokers who have no intention or are unable to attempt an abrupt quit. Importantly there are now data from long-term smoking reduction studies showing that this does not prejudice eventual successful quit attempts.

4. An application to extend the indication to include harm reduction for Johnson & Johnson's (J&J's) Nicorette Inhalator product was received by the MHRA and considered by a re-established Expert Working Group on NRT, now reporting to the Commission on Human Medicines (CHM). The Group met on 14 October and strongly supported the concept of harm reduction and advised that the extended indication for NRT should be approved, and that the extended indication should be applied to other forms of currently licensed NRT products. The CHM endorsed this view when it met on 15 October 2009. The extended indication for the product was granted on **11 December 2009** and other companies wishing to incorporate this indication to their NRT products are invited to do so.

5. There are, however, a number of products (including some electronic cigarettes and topical gels) purporting to contain nicotine, that are widely and easily available but are not licensed medicines. Currently, any NCP that claims or implies that it can assist in the cessation of smoking is deemed by the MHRA to be a medicinal product. However, this approach has allowed NCPs that do not make similar claims to be used and sold as substitutes and partial substitutes for smoking.

6. The extension of the indication to include harm reduction marks a major shift in approach in medicines regulation. MHRA has taken the opportunity to review its current policy on the application of the definition of a medicinal product in the context of nicotine. Legal advice is that prima facie nicotine falls within medicines legislation in terms of its pharmacological action (medicinal by function). Whether or not a nicotine containing product falls to be considered as a medicinal product by function depends on factors going beyond the product having an appreciable effect on metabolism. These include the manner in which the product is used, the extent of the products distribution, its familiarity with consumers and the risks which its use may entail. Regulating nicotine in this way, by its function, represents a major departure from regulating products by claims made – and not regulating them if no claim is made. The change in Agency stance takes due regard of developments in time, such as the accepted need to take proactive action to reduce smoking and to protect public health from the greatly increased availability of NCPs that have not been assessed for safety, quality and efficacy.

7. There are currently six different forms of licensed medicinal NRT on the UK market. These are gum, patch, nasal spray, inhalator, sublingual tablet/microtablet and lozenge/pastille, and all are available on general sale. There are, however, a number of products (including the electronic cigarette, topical gels and oral forms) purporting to contain nicotine (NCPs), that are widely and easily available but are not licensed medicines. Because of their "legal status", it is difficult to get information on quality, safety and/or efficacy of these NCPs, and to know whether the clear benefit to risk that has been established for NRT products can be attributed to them.

8. From the very limited data available, NCPs cannot guarantee quality*;* the release of nicotine from the same NCP over time can vary with reduction over time indicating instability throughout its shelf life and the amount of nicotine/product might not be the same from batch to batch. In terms of efficacy there can be widely differing amounts of nicotine from the same format (i.e. patch, orally, via an electronic cigarette) with one form delivering what could be an effective therapeutic dose, another a "placebo" dose. With regards to safety, toxic elements may be included and unexpectedly high doses of nicotine could produce adverse effects, particularly in some vulnerable patients groups such as those with cardiovascular disease. We know, from work done by the Food and Drug Administration (FDA) in the United States, that laboratory analysis of e-cigarette samples were found to contain carcinogens and toxic chemicals, against

which general product safety legislation could not protect. Bringing all current unlicensed NCPs into regulation would eliminate these issues and ensure that smokers had products of the requisite quality, efficacy and safety to eliminate or reduce the harm from smoking.

9. If a decision is made to regulate unlicensed NCPs manufacturers of unlicensed NCPs will have to go through the process of licensing their products, or withdraw them from the market. This will bring into regulation a range of products, such as electronic cigarettes and nicotine gels, which have not previously been caught by regulation. There would also be a challenge to ensure that we capture within regulation nicotine containing products without impacting on tobacco products. This, however, needs to be weighed against the (unknown) risk to public health of the continuing availability of products which have not been assessed for safety, quality and efficacy, and do not have the same safeguards in place e.g. the obligations of MA holders.

Options

Option 1 - Whether products containing nicotine should be considered by the Agency to be medicinal products by function and, if so, whether all unlicensed NCPs should be removed from the market within 21 days. Currently, MHRA operates a strict practice regarding the period of notice operators are allowed to comply with under the Marketing Authorisation (MA) Regulations following the classification of a product as medicinal. Given that these Regulations do not make explicit provisions for a staged withdrawal from the market of an unlicensed medicinal product, immediate cessation of the sale or supply is usually required by the Agency, with written confirmation of the same within 21 days.

Option 2 – Whether products containing nicotine should be considered by the Agency to be medicinal products by function and, if so, whether a notice should be issued to manufacturers that all marketing must cease by a certain date, e.g. June 2011. After this date, enforcement action would be taken against manufacturers not holding an MA for any such product on the market. This would effectively allow manufacturers a year from the end of public consultation to produce relevant evidence to support an application for an MA, submit it to the MHRA for approval and get the newly licensed products on to the market.

Option 3 – Do Nothing.

10. Option 3 warrants no further investigation as it is neither in the public health interest nor commercial interest to leave the current regulation of NCP/NRT untouched. Option 1 is the Government's preferred option as this is in line with current practice.

Costs associated with the preferred proposal

11. An outline of potential costs arising from the implementation of the proposals is addressed in the following paragraphs. Comments are welcome on the estimated costs and benefits set out in this Impact Assessment. .

Industry

12. Manufacturers of unlicensed NCPs will need to go through the process of licensing their products as medicines or make the decision to withdraw their products from the market. If manufacturers choose to apply for a marketing authorisation (MA) the applications would be regarded as abridged complex applications and currently attract a fee of £28,780. We understand there are around 24 manufacturers that produce unlicensed NCPs that are distributed by around 80 distributors in the UK. We have estimated that there are around 100 unlicensed NCPs that are distributed in the UK and we have assumed that 50% of

manufacturers will go through the process of licensing their products, resulting in the licensing of about 50 products. We would therefore expect to receive 50 applications for MAs at an estimated one-off cost to industry of £1.439 million. This includes the manufacturer's licence, which currently attracts a fee of £3027.

13. There will also be an annual cost for maintaining an MA, which includes an annual periodic fee of £452, inspection fees at a daily rate of £2562 (assuming an average inspection visit of 2 days), and a GSL annual periodic fee of £424. There may also be a consultancy fee for putting the application together and then on a yearly basis for conducting regulatory affairs/pharmacovigilance on behalf of the manufacturer. We have assumed an hourly rate of £60 and that an average of 5 days work per year will be needed. There will also be additional administration costs to comply with the regulation. These have not been estimated here.

14. We have assumed that 50% of the 24 manufacturers would not choose to go through the process of licensing their products and would therefore choose to withdraw their products from the market in the UK. Therefore around 12 manufacturers would lose sales in the UK and this has yet to be estimated. They do, however, have the option of licensing their products rather than lose their sales and the aim of the DH strategy is to increase the use of substitute nicotine products, which will result in greater profits for those who choose to manufacture these products.

15. If unlicensed NCPs are either licensed as a medicine or withdrawn from the market in the UK distributors/wholesalers are likely to lose their sales in the UK. This may have an impact on company revenues and subsequently on jobs. The additional licence required may be a barrier to entry, and especially so for smaller firms, however in the interest of public health the licensing of these products is deemed necessary.

16. These costs do, however, need to be balanced against the benefits of removing products from the market that have an (unknown) risk to public health, which have not been assessed for safety, quality and efficacy, and do not have the same safeguards in place e.g. the obligations of MA holders.

Agency

17. With the assumed 12 manufacturers going through the process of licensing their products, there will be some resource need from the Agency to process the licences and to inspect the manufacturers. This cost will be covered by the above fees and is not expected to disproportionately affect the workings of the Agency.

Patients

18. We do not envisage any increased costs for the public if these unlicensed products are regulated as medicines as the cost of smokeless cigarettes and the cost of an NRT product are around the same price so the public would just need to get their product from either a general sale outlet or a pharmacy.

Benefits associated with the proposals

19. An outline of potential benefits arising from the implementation of the proposals are addressed in the following paragraph.

20. The costs outlined in the paragraphs above need to be balanced against the costs that could occur if unlicensed NCPs continued to be available and the benefits of withdrawing these products from the market. Because of their "legal status", it is difficult to get information on quality, safety and/or efficacy, and to know whether the clear benefit to risk that has been established for NRT products can be attributed to them. From the very limited data available,

NCPs cannot guarantee quality*;* the release of nicotine from the same NCP over time can vary with reduction over time indicating instability throughout its shelf life and the amount of nicotine/product might not be the same from batch to batch. In terms of efficacy there can be widely differing amounts of nicotine from the same format (i.e. patch, orally, via an electronic cigarette) with one form delivering what could be an effective therapeutic dose, another a "placebo" dose. With regards to safety, toxic elements may be included and unexpectedly high doses of nicotine could produce adverse effects, particularly in some vulnerable patients groups such as those with cardiovascular disease. We know, from work done by the Food and Drug Administration (FDA) in the United States, that laboratory analysis of e-cigarette samples were found to contain carcinogens and toxic chemicals, against which general product safety legislation could not protect. Bringing all current unlicensed NCPs into regulation would eliminate these issues and ensure that smokers had products of the requisite quality, efficacy and safety to eliminate or reduce the harm from smoking.

21. As the quality and efficacy of these unlicensed products cannot be guaranteed, users getting sub-therapeutic doses of nicotine may consider that all nicotine-containing products (including medicinal forms) do not work, and so make it more difficult for them to make a successful quit attempt. If as a result of the removal of unlicensed NCPs/licensing of these products as medicines, smokers choose to use a licensed NRT product instead of an unlicensed NCP there could potentially be an increased number of successful quit attempts as a result of the public having access to products that have been assessed for quality and efficacy and by ensuring they also have access to high quality patient information to support their effective use and to highlight the risks of continued smoking. If smokers go on to quit this will have a large public health benefit. This benefit can be calculated as follows. The current DH appraisal value for cost benefit analysis is £60,000 per quality adjusted life year gained, in this case saved as a result of quitting smoking. It is estimated from the British Doctor's study (Doll et al, 2004, BMJ) and Godfrey et al (Addiction, 2005) that people who permanently quit smoking gain an average of 3.59 life years. It is assumed that the proposed regulation will bring about additional smokers who successfully quit using a licensed NRT product. The annex gives the details of the additional quitters using licensed NRT products, with figures from the NHS Information Centre and a Yudkin et al (BMJ, 2003) paper. The calculation estimates that 1,312 individuals will quit using licensed NRT products, which gives a monetary value of the public health benefit of this regulation at £60,000 x 3.59 x 1,312 = £282,511,747. This benefit would cover the cost of providing these medicines whether that is through the NHS, and includes staff time, or products bought over the counter.

22. It is assumed that with the new DH tobacco strategy, "A Smokefree Future" and the licensing of these products that numbers of quitters should increase. With these additional quitters, there would be additional savings for the NHS in reduced smoking related admissions, releasing resources to be used in other treatments, which would lead to further health benefits.

23. In addition an increased number of successful quit attempts would reduce the number of people exposed to passive smoking. Several hundred people in the UK die every year due to lung cancer brought on by passive smoking and there are around 17,000 hospital admissions per year for children under 5 years that are attributable to parental smoking. These benefits are harder to quantify, however we can use the Value of Preventing a Casualty of at least £1.5 million. If the removal from the market of unlicensed NCPs with no guarantee of quality and efficacy, results in significant smoke reduction which in turn prevents at least one death from passive smoking this provides a benefit of approximately £1.5 million.

24. Thus if the proposals prevent only a small percentage of people being injured as a result of a failed quit attempt and thus in turn passive smoking, and from the availability of potentially unsafe products, the saving to healthcare services and society is marked and the costs associated with the proposed restrictions are clearly proportionate.

Specific Impact Tests

25. The Agency has considered the potential impact of these proposals and has reached the views in the following paragraphs. Consultation is underway to elicit further information on any direct or indirect costs (recurring or non-recurring) which would be likely to arise in relation to each of these specific impact tests.

Competition Assessment: The MHRA has considered the Competition Filter Test and considers that all businesses would be equally affected by the issues identified within the proposals.

Small Firms Impact Test: The proposals may have an impact on small businesses. Views from small businesses on the impact of the proposals are welcomed during the consultation exercise and we will update this section following our consultation.

Health Impact Assessment: The aim of the MHRA is to safeguard public health. The proposals as laid out in the document above are all in the interest of public health and reducing the health risks from smoking.

Legal Aid, Sustainable Development, Carbon Assessment, Other Environment, Race Equality, Disability Equality, Gender Equality, Human Rights and Rural Proofing: The Agency does not believe that the proposals have any specific impact in these areas.

Specific Impact Tests: Checklist

Use the table below to demonstrate how broadly you have considered the potential impacts of your policy options.

Ensure that the results of any tests that impact on the cost-benefit analysis are contained within the main evidence base; other results may be annexed.

Type of testing undertaken	*Results in Evidence Base?*	*Results annexed?*
Competition Assessment	No	No
Small Firms Impact Test	No	No
Legal Aid	No	No
Sustainable Development	No	No
Carbon Assessment	No	No
Other Environment	No	No
Health Impact Assessment	No	No
Race Equality	No	No
Disability Equality	No	No
Gender Equality	No	No
Human Rights	No	No
Rural Proofing	No	No

Annexes

Costs and Benefits of Regulation

Costs to Industry of regulation

One –off costs for manufacturers of unlicensed NCPs

Fee for an abridged complex application = £28,780 x 50 products (approx 100 unlicensed NCPs and assuming 50% will become licensed) = **£1,439,000**

Fee for a manufacturers license = £3027 x12 manufacturers = **£36,324**

Annual costs for manufacturers of unlicensed NCPs

Annual periodic fee = £452

Inspection fee = £2562 (daily rate) x 2 days = £5124

GSL annual periodic fee = £424

£452 +£5124 + £424 = £6000 x 12 (assuming 50% of manufacturers will licence their products) = **£72,000**

Consultancy fee = £60 p/h x 7 x 5 = £2100 x 12 = **£25,200**

Benefits of the proposal, including savings to the NHS

The current DH appraisal value for cost-benefit analysis is £50,000 to £60,000 per quality adjusted life year saved. It is estimated from the Doctor's study (Doll et al, 2004) and Godfrey et al. ('The cost-effectiveness of the English smoking treatment services: evidence from practice', *Addiction*, 2005) that people who permanently quit smoking gain 3.59 years. We assume that the age profile of users of these NRT products is average and also gain 3.59 years from quitting. Figures from the Information Centre are used as an indication to estimate the public health benefit. The Information Centre for Health and Social Care published the statistics of people using Stop Smoking Services in October 2009 (www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles/nhs-stop-smoking-services). 163,946 individuals set a date between April and June 2009, which gives an assumed annual figure of 655,784. The IC states that 79% of quitters used NRT, some 524,627 individuals. A literature review in analysis by the Department of Health included a Yudkin et al ('Abstinence from smoking eight years after participation in randomised controlled trial of nicotine patch', 2003, BMJ, 327, pp. 28-29) paper, which found that 5% of smokers who quit using NRT remained quit after 8 years, and are assumed quit thereafter. Given the named products will be licensed and approved for safety, efficacy and quality; it is assumed that a similar success rate will be the case for users of these products. The number of quitters that can be estimated to use the newly regulated products alone is assumed to be 5% of the above NRT figure, some 26,231 individuals. Using Yudkin's success rate, this gives 1,312 people successfully quitting using the newly regulated products, giving a public health benefit in monetary terms ranging from £235,426,456 - £282,511,747 (£50,000 - £60,000 x 3.59 x 1,312).

Figures for the cost of quitting range from £120 – £250 per quitter, with the estimated 26,231 costing between £3 million and £6.5 million.

There will be additional benefit to the NHS as smoking reduction and quitting will see a reduction in hospital admissions for smoking related illness. This will see a release of cash spent on these treatments and a reallocation of resource to other treatments that will have further health benefits. These have not been estimated here.

If additional people use smoke-free licensed NRT products there is more chance of a successful quit attempt and this will reduce those exposed to smoke; passive smokers. This will bring about additional benefits to the NHS and using the Value of Preventing a Casualty, we can estimate an additional benefit in avoiding a life lost from passive smoking at approximately £1,500,000.