

Relapse prevention interventions for smoking cessation

NICE has developed the Cochrane Quality and Productivity (QP) topics to help the NHS identify practices which could be significantly reduced or stopped completely, releasing cash and/or resources without negatively affecting the quality of NHS care. Each topic has been derived from a Cochrane systematic review that has concluded that the evidence shows that the practice is harmful or ineffective and should not be used, or that there is insufficient evidence to support widespread use of the practice.

Summary

NICE summary of review conclusions

Evidence shows that the majority of relapse prevention interventions for smoking cessation are not effective and should not be used.

There is not enough evidence to recommend behavioural methods routinely to prevent smoking relapse in people who have achieved abstinence for circumstantial reasons; such as pregnancy, being an inpatient in hospital or recruited into the military; or decided to quit unaided. There is also little evidence that bupropion or nicotine replacement therapies are effective in preventing relapse. However, varenicline does seem to show benefit when given for a further 12 weeks after the quit date.

The 'Implications for practice' section of the Cochrane review stated:

“The available evidence does not support the use of any specific behavioural component or intervention for helping smokers who have successfully quit for a short time to avoid relapsing to smoking again. The conclusion of a lack of efficacy concerns specifically the traditional treatment focusing on identifying and resolving tempting situations, and minimal interventions using one-off sessions and written materials. There is hardly any evidence available on alternative approaches. Until new positive evidence becomes available, it may be more efficient to focus resources on supporting initial cessation attempts rather than on extended relapse prevention interventions. Regarding pharmacotherapies, extended treatment with varenicline may prevent relapse. Extended treatment with bupropion is unlikely to have a clinically important effect.”

Details of Cochrane review

Cochrane review title

Relapse prevention interventions for smoking cessation

Citation

[Hajek P, Stead LF, West R, Jarvis M, Lancaster T. Relapse prevention interventions for smoking cessation. Cochrane Database of Systematic Reviews 2009, Issue 1. Art. No.: CD003999. DOI: 10.1002/14651858.CD003999.pub3](#)

When the review content was assessed as up to date

18 August 2008

Cochrane Quality and Productivity topics

QIPP category

Right care

Relevant codes

OPCS

ICD10

HRG

n/a

F17.1–F17.3

T12

Programme budget

Healthy individuals

Evidence

Relevance to the NHS

Interventions to help people to quit smoking investigated to date include pharmacological treatments, (such as nicotine replacement therapy, some antidepressants and nicotine receptor partial agonists) and behavioural approaches. Although these interventions increase long-term quit rates compared with control interventions, there are fewer data available on interventions that can help to maintain cessation. This review assessed randomised or partially randomised trials of interventions for relapse prevention with a minimum follow-up of 6 months from the quit date. Three types of participants were considered: people who had quit smoking on their own, people undergoing enforced abstinence (for example because of pregnancy or joining the military) and smokers participating in cessation programmes.

Altogether 54 studies were included. Studies that randomised abstainers before and after their quit date were analysed separately. Seventeen studies examined populations other than smokers seeking treatment, including pregnant and postpartum women, hospital inpatients and army recruits. Many of these used minimal face-to-face contact and relied predominantly on written material and/or phone calls. Eight trials of interventions during pregnancy and 12 trials in the postpartum period did not demonstrate a significant benefit of brief and 'skills-based' relapse prevention methods. There was also no benefit of intervention in patients in hospital who had not smoked in hospital. Enforced abstinence in military recruits did not give rise to a higher quit rate than the spontaneous rate expected in young people, except in one study on a specific group that demonstrated a statistically significant effect by exploiting the contrast between expected and actual behaviours in the Air Force.

There was no evidence of a benefit of interventions to prevent relapse in people who had initially quit unaided but most of the interventions were low-intensity self-help. There was also no long-term benefit from skills-based interventions in which abstaining smokers were randomised after they had taken part in a formal treatment programme.

For pharmacological interventions, extended treatment with varenicline significantly reduced relapse in one trial (relative risk [RR] 1.18, 95% CI 1.03 to 1.36). Pooling of five studies of extended bupropion treatment did not detect a significant treatment effect (RR 1.17, 95% CI 0.99 to 1.39). Pooling two large trials of nicotine gum detected a small effect (RR 1.24, 95% CI 1.04 to 1.47). However, the period of unassisted abstinence was short as opposed to longer period studies of gum and inhaled nicotine replacement therapy that did not detect a significant long-term effect. Compliance with oral nicotine replacement therapy was noted to be low.

Many of the included trials were small and therefore had limited powers to detect realistic differences in quit rates. Power was further reduced in trials with randomisation before the quit date. A relatively small number of the trials included in this review actually had sample sizes adequate to detect an expected effect. There could be benefit of extended treatment with varenicline, which is licensed for a further 12 week course to maintain abstinence. In the

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extended treatment licensing trial relapse rates decreased from 63% to 56% by the end of the first year.

None of the five bupropion trials reached significance and the meta-analysis was not significant. It is therefore unlikely that a clinically significant effect was missed.

Relevant NICE guidance

[Smoking cessation services in primary care, pharmacies, local authorities and workplaces, particularly for manual working groups, pregnant women and hard to reach communities – NICE public health guidance 10](#)

(Published: February 2008; partial update currently in progress)

Covers cessation of smoking but relapse prevention is not within the scope of this guideline.

[Varenicline for smoking cessation – NICE technology appraisal 123](#)

(Published: July 2007)

1.1 Varenicline is recommended within its licensed indications as an option for smokers who have expressed a desire to quit smoking.

Other accredited guidance

[Varenicline and suicidal behaviour: cohort study provides some reassurance – MHRA Drug Safety Update Oct 2009, vol 3 issue 3:11](#)

[Nicotine replacement therapy and harm reduction – MHRA Drug Safety Update Feb 2010, vol 3 issue 7: 6](#)

Other information

[Varenicline associated with a possible increased risk of CV events – NPC MeREC Rapid Review 18 July 2011](#)

Potential productivity savings

Estimate of current NHS use

There are no absolute data available on the number of smokers who have relapsed, or the number of relapsers who sought further interventions or which interventions they sought. Just over 670,000 people in England set themselves a quit date per annum and of these approximately 50% successfully stop smoking. It is known that only 58.3% of smoking cessation managers provide relapse interventions and of these 21.4% prescribe bupropion. Therefore the maximum number of people being prescribed bupropion for smoking relapse is just over 41,000. Take-up may be much lower than this and will depend on local circumstances.

Level of productivity savings anticipated

The cost of a 9 week course of bupropion is £94.60 and varenicline is £163.80 for a 12 week course (British national formulary [BNF] 62). As bupropion and most other relapse prevention strategies do not show any benefit, stopping their use beyond the treatment duration recommended in the BNF after cessation is achieved will result in cost savings. Local health authorities and primary care organisations will need to adjust potential savings based on the smoking levels in their populations, the number of cessation managers available and whether or not they also look at relapse and the proportion of time bupropion is prescribed for

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smoking cessation relapse. There will also be savings from not using non-pharmacological approaches.

Conceivably, if everyone switched from using these strategies to using varenicline there would be a cost implication in the short term as varenicline costs 50% more than bupropion for a full course. However this cost will be offset in the long-term by the overall cost of treating smoking-related diseases in the 7% of abstainers who would otherwise relapse.

Type of saving

Cash releasing

Any costs required to achieve the savings

There is unlikely to be a cost barrier to change, other than relapsers may like to try another alternative. Currently research does not exist to recommend an alternative intervention. Any savings will need to be offset if an alternative measure is offered.

Other information

Main impact will be upon community prescribing budgets.

Potential impact on quality of NHS care

Impact on clinical quality

Clinical quality will be improved resulting in better outcomes anticipated for patients

Impact on patient safety

Not anticipated to have any impact on patient safety

Impact on patient and carer experience

Improved patient and carer experience anticipated

Likely ease of implementation

Time taken to implement

Can be achieved quickly: 0–3 months

Healthcare sectors affected

Affects a whole organisation across a number of teams or departments

Stakeholder support

Likely to achieve good buy-in from key influencers
