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Two Cochrane Reviews to be published this week in The Cochrane Library 2007, Issue 1, report on smoking cessation:

- **A recently licensed nicotine receptor stimulant trebles the odds of stopping smoking**

The new anti-smoking drug varenicline was first licensed for use in the UK on 5th December 2006. An early Cochrane Review of its effectiveness shows that it can give a three-fold increase in the odds of a person quitting smoking. Varenicline is the first new anti-smoking drug in the last ten years, and only the third, after NRT and bupropion, to be licensed in the USA for smoking cessation.

- **New evidence boosts the conclusion that some antidepressants can double a smoker's chance of quitting**

The most recent Cochrane review concluded antidepressants bupropion (Zyban) and nortriptyline double a person's chances of giving up smoking and have few side-effects, but selective serotonin reuptake inhibitors (SSRIs) such as fluoxetine (Prozac) are not effective.

A recently licensed nicotine receptor stimulant trebles the odds of stopping smoking

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People become addicted to smoking tobacco partly because nicotine in the smoke stimulates receptors in the nervous system that cause a release of the feel-good hormone dopamine. Varenicline partially stimulates these nicotine receptors and enables a low-level release of dopamine, which reduces withdrawal symptoms. It also partially blocks nicotine from being absorbed by the receptors, making continued smoking less satisfying. This reduces a person's need to smoke, and may help them to quit completely.

This conclusion was drawn by a group of Cochrane researchers after they studied data from six trials that compared the effects of giving people either varenicline or a

placebo. Together the trials involved 2451 people on varenicline and 2473 people on placebos.

Pooling the data showed that people taking varenicline increased their odds of quitting approximately three-fold for 12 months or longer compared with those on placebo drugs .

Data from some of the trials also showed that people given varenicline increased their odds of quitting more than 1½-fold compared with those given bupropion, an antidepressant drug that roughly doubles a person's chance of stopping smoking (see: next press release.)

“What we need now are some trials that make direct comparisons between varenicline and nicotine replacement therapy” says Lead Review Author Kate Cahill, who works in the Department of Primary Health Care at Oxford University.

New evidence boosts the conclusion that some antidepressants can double a smoker's chance of quitting

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Although nicotine medications are known to help people quit smoking, not everyone is helped by them or wants to use them. One possible alternative is to use antidepressants. The rationale for this is that some people may smoke to combat depression and that stopping smoking could trigger depressive symptoms in some smokers.

A Cochrane review first published in 1997 (and last updated in 2004) showed that the antidepressants bupropion and nortriptyline increase a person's chances of giving up smoking, but selective serotonin reuptake inhibitors such as fluoxetine (Prozac) do not. An updated version of the review published in Jan 2007 now adds 17 more trials to the dataset, and now shows that bupropion and nortriptyline double a person's chance of quitting - again SSRIs have no effect.

“Since bupropion and nortriptyline appear to work as well in non-depressed as depressed persons, this suggests they help smokers quit in some way other than as antidepressants,” says John Hughes, a Professor in the Department of Psychiatry at the University of Vermont, Burlington, USA.

- Ends -

Notes for editors

1. Cahill K, Stead LF, Lancaster T. Nicotine receptor partial agonists for smoking cessation. Cochrane Database of Systematic Reviews 2007, Issue 1. Art. No.: CD006103. DOI: 10.1002/14651858.CD006103.pub2.

2. Hughes JR, Stead LF, Lancaster T. Antidepressants for smoking cessation. Cochrane Database of Systematic Reviews 2007, Issue 1. Art. No.: CD000031. DOI: 10.1002/14651858.CD000031.pub3.

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^a Jadad AR, Cook DJ, Jones A, Klassen TP, Tugwell P, Moher M, et al. Methodology and reports of systematic Reviews and meta-analyses: a comparison of Cochrane Reviews with articles published in paper-based journal.