

# Nicotine replacement treatment, e-cigarettes and an online behavioural intervention to reduce relapse in recent ex-smokers: a multinational four-arm RCT

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†In memoriam

**Declared competing interests of authors:** Hayden J McRobbie reports personal fees from Pfizer Inc. (New York, NY, USA) outside the submitted work. Ann McNeill is a National Institute for Health Research Senior Investigator. Peter Hajek reports grants and personal fees from Pfizer Inc. outside the submitted work. Stuart G Ferguson reports personal fees from Pfizer Inc., Johnson & Johnson (Johnson & Johnson, Brunswick, NJ, USA), GlaxoSmithKline plc (GlaxoSmithKline plc, Brentford, UK) and Chrono Therapeutics Inc. (Cambridge, MA, USA) outside the submitted work. At the time of the study, Lin Li and Ron Borland worked for Cancer Council Victoria (Melbourne, VIC, Australia), which owns the intellectual property for the Structured Planning and Prompting Protocol that was adapted in this trial. Ron Borland co-developed the Structured Planning and Prompting Protocol intervention as part of his former employment at Cancer Council Victoria. James Balmford co-developed the Structured Planning and Prompting Protocol intervention with Ron Borland as part of his former employment at Cancer Council Victoria. Sarah Lewis was a Health Services and Delivery Research Researcher-Led Board Member (2014–16). Linda Bauld is a member of Public Health Research Research Funding Board (2015–present).

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## Plain English summary

Reducing relapse in recent ex-smokers

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## Plain English summary

**S**top smoking services help people to stop smoking over a short period of time. However, nearly three-quarters of quitters return to smoking (i.e. relapse) within 1 year. Effective relapse prevention strategies are needed.

Traditional behavioural relapse prevention strategies (e.g. teaching techniques to resist having a cigarette) have not proved effective. However, an earlier study showed that an online programme guiding smokers in stopping smoking and remaining abstinent reduced relapse between 1 week and 6 months.

Long-term use of stop smoking medications (e.g. nicotine replacement treatment) can also help, but most successful quitters do not continue to use them. Nicotine mouth spray, lozenges or electronic cigarettes that can quickly help relieve urges to smoke and that ex-smokers can use 'in emergencies' could be a more attractive option.

We planned to test these two interventions, on their own and together, in 1400 participants who had quit  $\geq 4$  weeks previously and who were recruited from English stop smoking services and Australian quitlines. We would then compare these participants with the participants following usual care (i.e. access to stop smoking medications used during the quit attempt for up to 3 months).

Owing to delays in study set-up and difficulties in recruiting, the study recruited only 234 participants ( $n = 131$  in Australia and  $n = 103$  in England).

We studied participants' reactions to the two interventions and to their combination, and how clinically effective the interventions were.

Both interventions were rated positively by most participants. Among the participants in Australia, electronic cigarettes were more popular than medical nicotine products. In England, both products were equally popular. Participants in the online intervention group appreciated the advice on coping strategies, but they rarely completed repeat assessments. In addition, participants who were not in this group used the strategies just as much. There were hints that the interventions may be helpful in preventing relapse. There is an indication that the two interventions combined did not do any better than each on its own, but this requires replication in a larger study. Although the interventions show promise, the small number of participants recruited means that we are unable to make strong conclusions. The study identified areas for future work.



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## This report

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