

A cluster randomised controlled trial of a school-based eHealth intervention to prevent e-cigarette use: Results from the *OurFutures Vaping* trial

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Introduction: E-cigarette use ('vaping') among adolescents is a global public health concern. Effective behaviour change interventions are urgently needed. Schools offer an ideal setting for delivery and eHealth methodology can increase engagement, intervention fidelity, and scalability. This study aimed to evaluate the efficacy of the *OurFutures Vaping* program, a universal school-based eHealth intervention to prevent e-cigarette use among adolescents.

Methods: A cluster randomised controlled trial (ACTRN12623000022662) was conducted among Year 7 and 8 students in 40 secondary schools across New South Wales, Western Australia and Queensland. Schools were randomly assigned (1:1) to *OurFutures Vaping* (a four-lesson, web-based skills and education programme) or an active control group (usual health education), stratified by state and school gender composition. The primary outcome was past 12-month e-cigarette use, assessed at the 12-month follow-up. Knowledge about e-cigarettes and tobacco was a secondary outcome. Intention-to-treat analyses were conducted using generalised mixed effects regression, with random effects accounting for

participants clustered within schools.

Results: A total of 40 schools with 5157 eligible students (46.0% female; $M_{age}=13.3$, $SD=0.60$) completed the baseline survey. Compared to the control group, participants who received the intervention had reduced odds of past 12-month e-cigarette use ($OR=0.35$; 95%CI: 0.18–0.66, $p<.001$) and higher e-cigarette and tobacco knowledge scores ($b=2.11$, 95%CI: 1.88–2.34, $p<.001$) one year after receiving the intervention.

Discussions and Conclusions: This is the largest trial of a school-based eHealth intervention to prevent e-cigarette use worldwide, and the first of its kind in Australia. The *OurFutures Vaping* program offers an efficacious and scalable approach to prevent e-cigarette use.

Implications for Practice or Policy: The quality and impact of this novel research is evidenced by the Federal Government's investment in a national roll out of the *OurFutures Vaping Program*, committing to making it available to >3,000 secondary schools across Australia.

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