



Welcome to the **Positive Choices Webinar Series**

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Australian Government
Department of Health
and Aged Care



THE UNIVERSITY OF
SYDNEY
—
Matilda Centre



Acknowledgement of country

I'd like to begin by acknowledging the Traditional Custodians of Country throughout Australia and their connections to land, water and community. I am currently on the land of the Gadigal people of the Eora Nation and pay my respects to Elders, past and present. I further acknowledge the Traditional Owners of the land on which you are and pay my respects to their Elders, past and present.

I would also like to acknowledge any Aboriginal and Torres Strait Islander people joining us for the webinar today.



Housekeeping

1 Listen only mode.

2 This webinar is being recorded and will be made available on the Positive Choices website.

3 We will have a Q&A session at the end of the webinar. Please add questions to the Q&A box available.



What is Positive Choices?

positivechoices.org.au



Teachers & Schools

Evidence based teaching programs and activities, webinars for teachers, and resources for your students



Parents & Families

Parenting advice and information to help you talk to your children about drugs and alcohol



Students

Facts, advice and interactive tools to help you find out information about drugs and alcohol and make positive choices



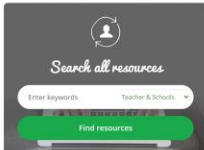
Culturally & Linguistically Diverse Peoples

Evidence based drug education resources for individuals from culturally and linguistically diverse communities



Aboriginal & Torres Strait Islander Peoples

A collection of culturally appropriate resources based on research and consultation with people from Aboriginal and Torres Strait Islander communities



- Central access point for trustworthy, up-to-date drug and alcohol information and educational resources.
- Developed by the Matilda Centre in consultation with teachers, parents and students. Funded by Australian Government Department of Health and Aged Care.
- Learning resources, factsheets, videos, webinars and games to engage young people with drug education.
- Access to classroom-based drug prevention programs that are proven to reduced drug-related harms.



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A school-based approach to vaping prevention: The OurFutures Prevention Model

Dr Amy-Leigh Rowe, Postdoctoral Researcher, the Matilda Centre for Research in Mental Health and Substance Use, the University of Sydney

Annabelle Hawkins, Research Assistant, the Matilda Centre for Research in Mental Health and Substance Use, the University of Sydney


21st February 2024



A school-based approach to vaping prevention: The OurFutures Prevention Model

Dr Amy-Leigh Rowe & Ms Annabelle Hawkins
The Matilda Centre
University of Sydney, Australia






**No conflicts of interest to declare
and
No receipt of funding from tobacco, vape, or
pharmaceutical companies**



Webinar Overview

1. E-cigarettes/vaping background
 2. Practical strategies for vaping prevention
 3. What works in school-based prevention
 4. Development of the OurFutures Vaping program
 5. Evaluation of the program and Early Access Program
- 

Background

- vapes, e-cigarettes, mods, vape pens, e-hookah, JUUL, STIGs
- the act of inhaling and exhaling an aerosol produced by an electronic cigarette



Why is adolescent vaping a concern?

- Nicotine addiction
- Exposure to harmful chemicals
- Health risks (Banks et al. 2022)
 - Respiratory
 - Cardiovascular
 - Poisoning and seizures
 - Burns and injuries
 - Nausea and vomiting



What about mental health?

- Causality not established
- Links have been demonstrated between adolescent vaping and (Becker et al. 2021; Khan et al. 2023):
 - depression
 - suicidality
 - disordered eating
 - ADHD
 - conduct disorder
 - impulsivity
 - perceived stress
 - anxiety (limited/ mixed evidence)
- Sleep disturbances (Caviness et al. 2019)
- Self-medication



Nicotine and the developing brain

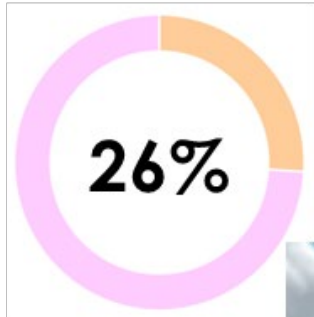
Impacts on: (Castro et al. 2023; Dwyer et al. 2008)

- Cognitive function
- Brain structure
- Neurotransmitter levels

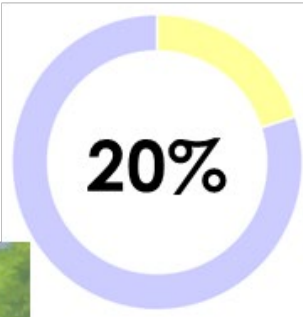


How many young people are vaping?

Ever use



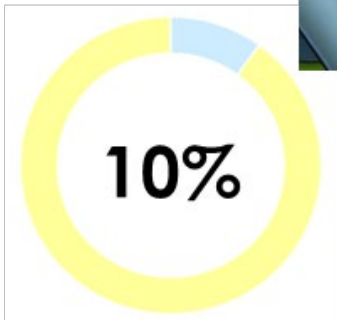
12-month use



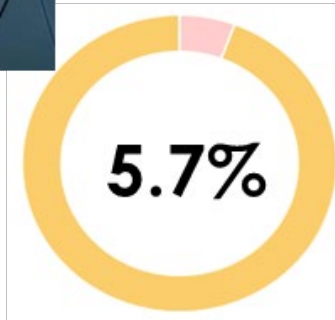
Average age of first vape = 14

more common among boys and non-binary participants

no differences based on remoteness or SES



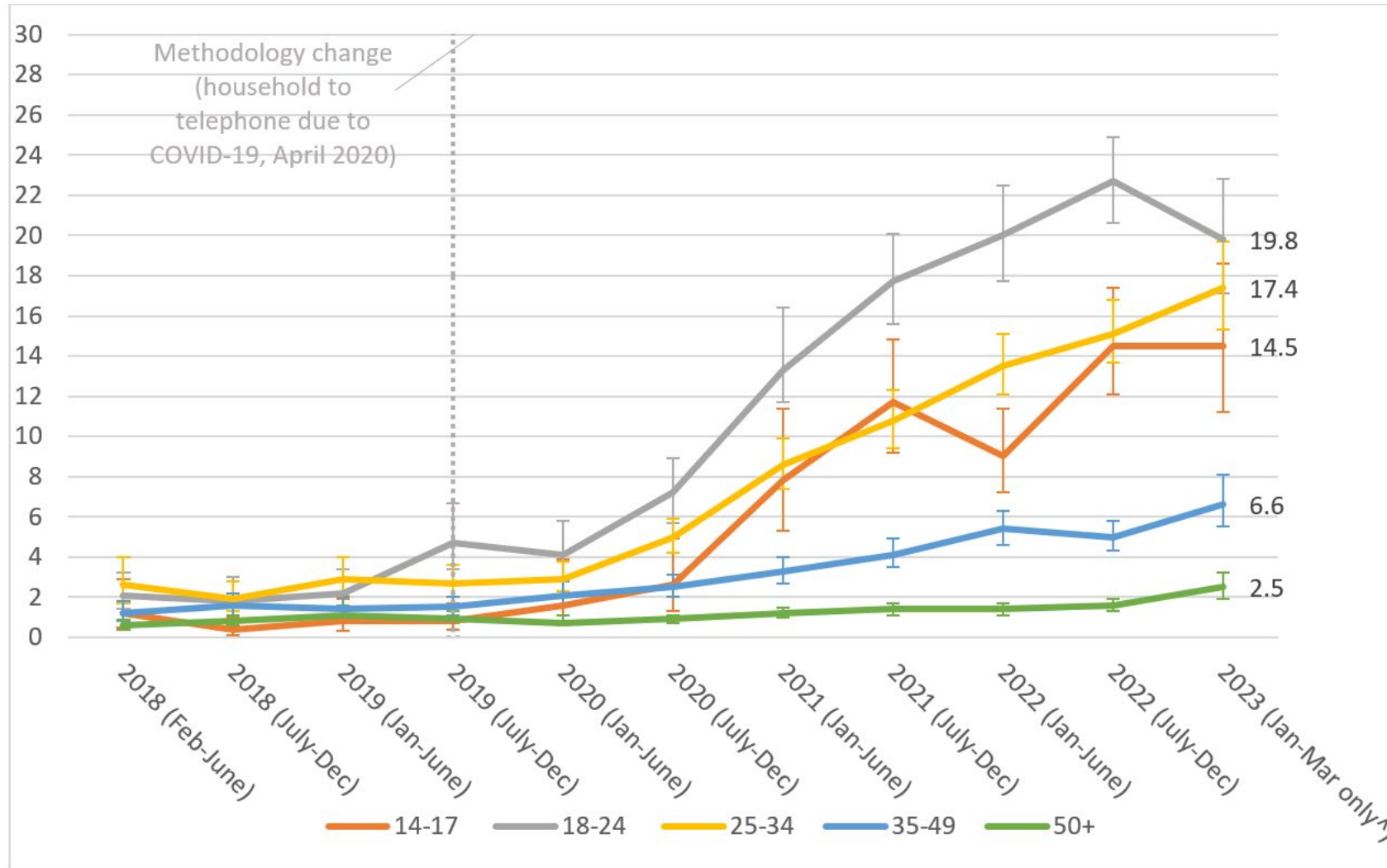
Current use



Regular use



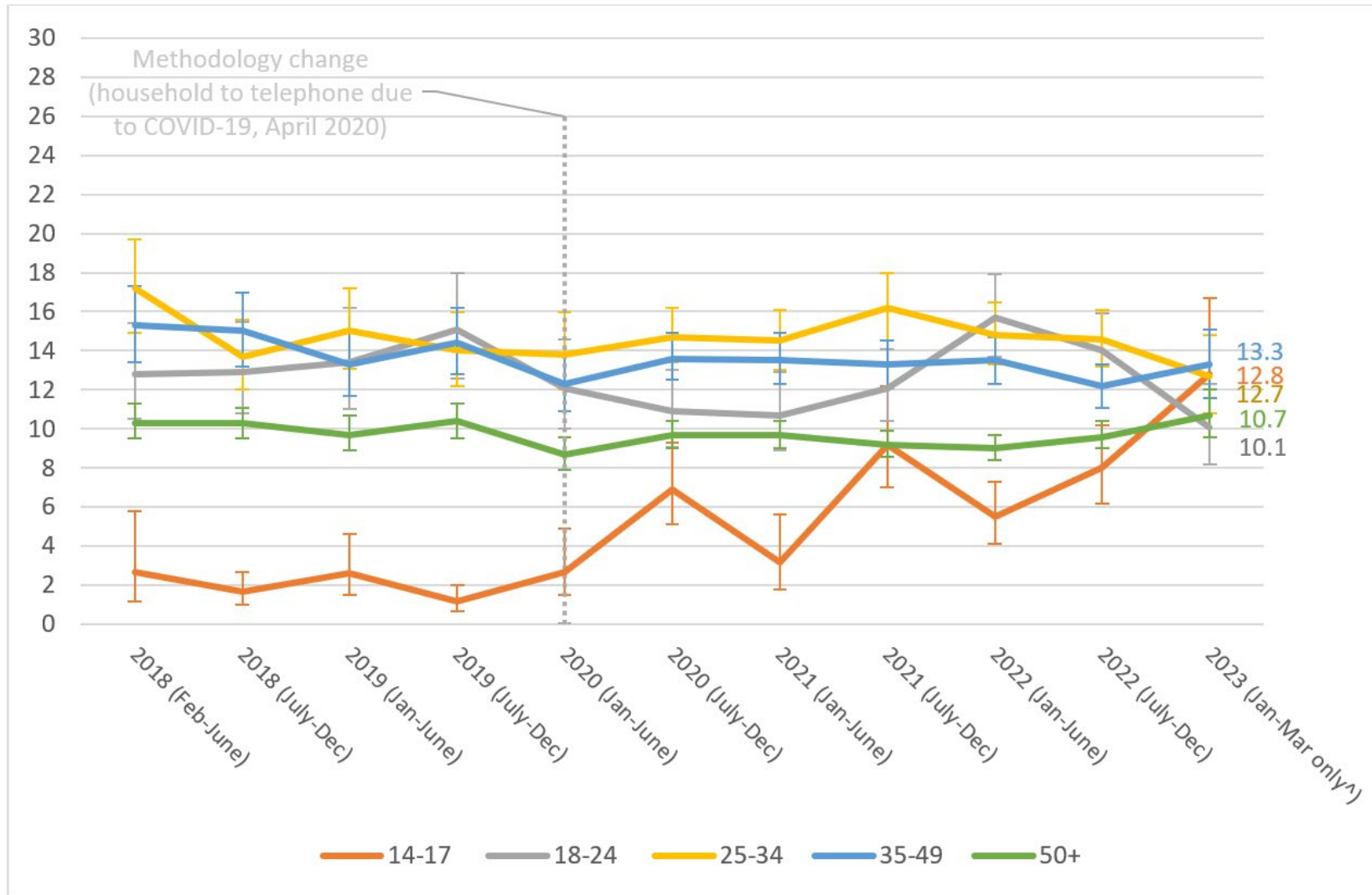
Vaping trends



Prevalence of current vaping by age group from 2018 to 2023 (weighted %).

Current vaping: used e-cigarettes in the past month.

Tobacco trends



Six-monthly prevalence of current smoking by age group, 2018 to 2023 (weighted %).

Current smoking: used cigarettes in the past month.

Dual use

- 10.7% of 14–17-year-olds
- Most common among 14-17y/o, followed by 18-24y/o and 25-34 y/o
- Many young people report vaping before smoking – but causality not established
- While vapes might be considered less harmful than tobacco cigarettes, that's *only for those who already smoke.*
- **Vapes are not harmless and prevention is critical!**



How to start a conversation about vaping?

Gather information

Brainstorm questions

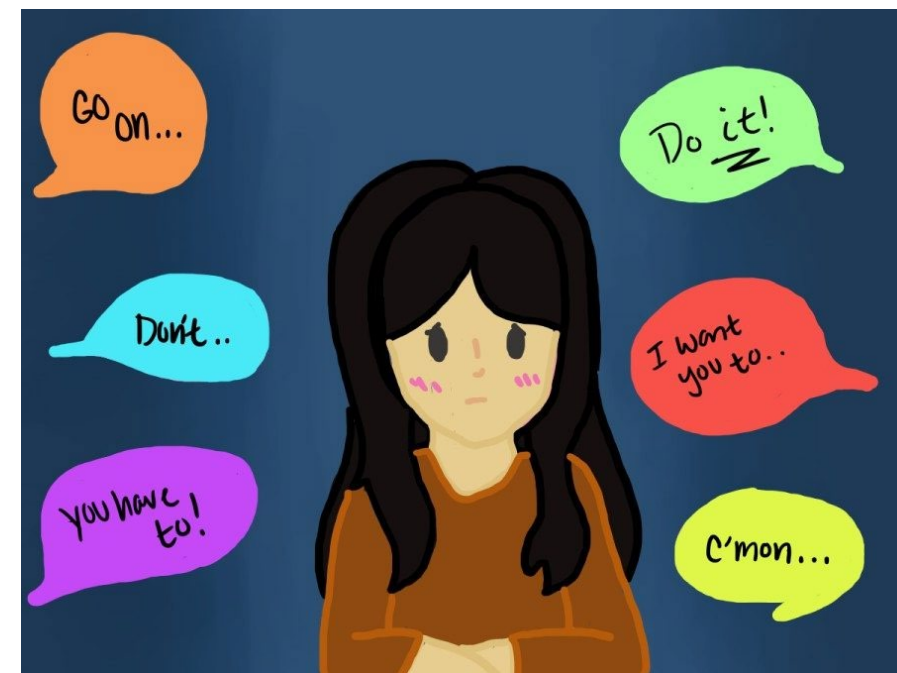
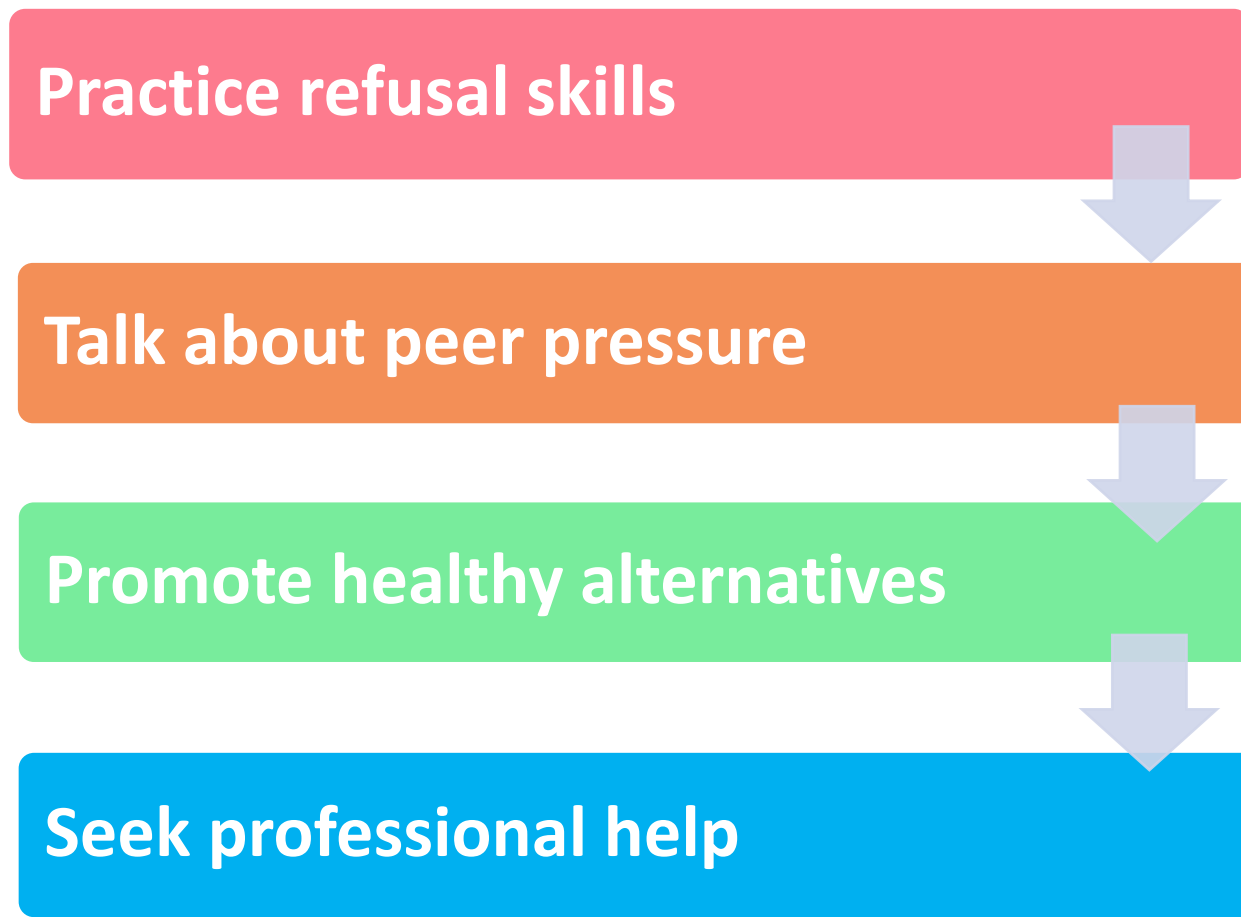
Non-judgemental approach

Correct misconceptions

Set clear expectations



How to start a conversation about vaping?



How to know if a young person is addicted to nicotine?

Potential signs:

- Vaping in class, frequent toilet breaks, inattention, irritability, fidgetiness, low mood, aggression

Ask 3 simple questions:

- How soon after you wake up do you normally vape?
 - if within 30 minutes = likely dependent
- Do you vape when you're home alone or on your own?
 - if yes = likely dependent
- Do you wake up to vape at night?
 - if yes = likely dependent


Helping a young person to stop vaping?

- Take a strengths-based approach
- Lead by example
- Get curious and non-judgemental
- Listen
- Celebrate healthy choices
- Seek professional help!





Examples of support services

- **Local GP/Doctor**
 - **Youth mental health services**
 - e.g., Kids Helpline
 - **Psychologists & Counsellors**
 - **Vaping Cessation Clinics**
 - e.g., Prof Renee Bittoun at Ramsay Northside (02 9433 3756)
 - **Quitline**
 - **My Quit Buddy app**
- 

Prevention needs to occur early

School is the ideal location

- Practical - spend $> 25\%$ waking lives
- Time when first start to experiment
- Educate prior to harmful exposure
- Tailor messages at developmental levels



Reviews of school-based prevention

Drug and Alcohol REVIEW
Drug and Alcohol Review (September 2012), 31, 731-736
DOI: 10.1111/j.1465-3362.2012.00420.x

REVIEW
Australian school-based prevention programs for alcohol and other drugs: A systematic review
MAREE TEESSON, NICOLA C. NEWTON & EMMA L. BARRETT
National Drug and Alcohol Research Centre, South Wales, Sydney, Australia

Abstract
Issues. To reduce the occurrence and although a number of international schools use and related harms. Given the emphasis currently trialled in Australian schools for alcohol and other drugs. **Approach** obtained from authors, websites and Australia that address prevention of programs were identified. The principles. All were universal. Findings at follows up. **Conclusion.** Evidence, however, there are only a few substance use is such a significant prevention programs are not programs for alcohol and other drugs.

Key words: alcohol, drugs

Strøm et al. Substance Abuse Treatment, Prevention, and Policy 2014, 9:48
<http://www.substanceabusepolicy.com/content/9/1/48>

REVIEW **Open Access**

Effectiveness of school-based preventive interventions on adolescent alcohol use: a meta-analysis of randomized controlled trials
Henriette Kyrrestad Strøm*, Frode Adolfsen, Sturla Fossum, Sabine Kaiser and Monica Martinussen

Abstract
Background: Preventive interventions for adolescents are an important priority within school systems. Several interventions have been developed, but the effectiveness of such interventions varies considerably between studies.

Drug and Alcohol REVIEW
Drug and Alcohol Review (March 2013), 32, 115-123
DOI: 10.1111/j.1465-3362.2012.00517.x

COMPREHENSIVE REVIEW
A systematic review of school-based alcohol and other drug prevention programs facilitated by computers or the Internet
KATRINA E. CHAMPION, NICOLA C. NEWTON, EMMA L. BARRETT & MAREE TEESSON
National Drug and Alcohol Research Centre, South Wales, Sydney, Australia

Universal school-based prevention programs for alcohol misuse in young people (Review)
Foxcroft DR, Tsertsvadze A

THE COCHRANE COLLABORATION®

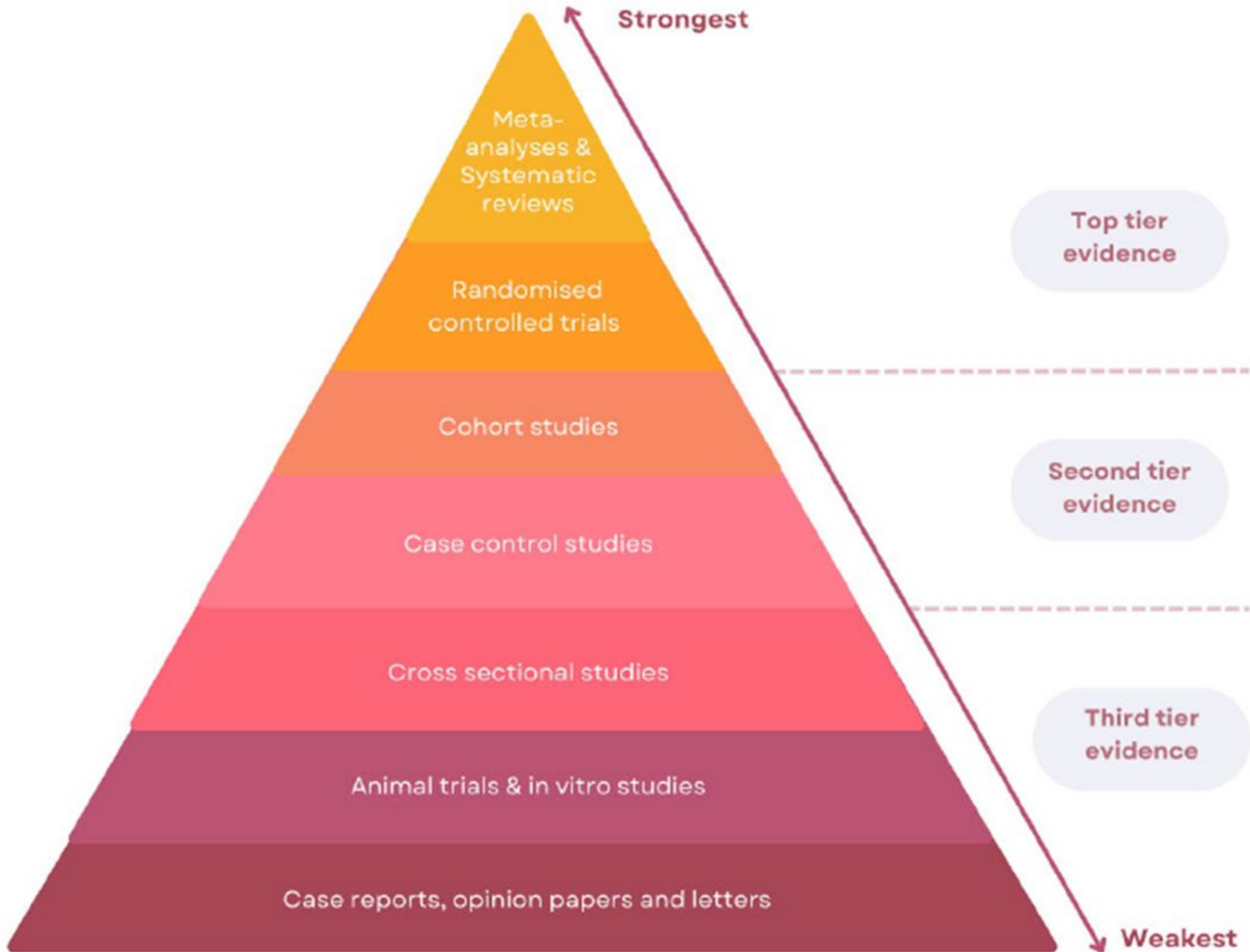
Universal school-based prevention for illicit drug use (Review)
Faggiano F, Minozzi S, Versino E, Buscemi D

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Effect

- Evidence
- Development
- Implementation
- Part of
- Use of
- Employment
- **Adoption**

Source:
Foxcroft



2000,

School-based prevention

- Common obstacles to effective implementation

- Insufficient resources
- Adaptation
- Lack of training
- Commercially based packing
- Sustainability



– Poor implementation  poor outcomes



OUR *Futures*

Universal, evidence-based prevention education for secondary school students; empowering them to make positive choices to improve their health and wellbeing.



The OurFutures Prevention Model

- Universal model that adopts a harm minimisation and comprehensive social influence approach
- Uses interactive online cartoon storyboards
- 8 RCTs (240 schools, >21,000 students) showed the OurFutures programs can **prevent the uptake, and reduce the harmful use, of alcohol, cannabis, psychostimulants and emerging drugs during adolescence**, with large lasting effects into adulthood.
- 5 modules now publicly available via the OurFutures Institute (reach >1,300 schools)



Our Proposal

Capitalising on this world-first program of research, we have applied the successful *OurFutures* model to the prevention of e-cigarette use through the *OurFutures Vaping Prevention Program*.

The OurFutures Vaping Program - Development Activities



Systematic Review

- Aim: explore the existence and efficacy of school-based interventions targeting e-cigarettes
- Manuscript under review and pre-print available
- Findings:
 - 11 studies included (N= 36,275)
 - Some school-based interventions prevented or reduced e-cigarette and/or tobacco use, **however some increased use**
 - More high-quality research is needed to develop efficacious interventions, and schools must be supported to adopt evidence-based programs.



First round of focus groups and surveys (Year 9)

– N=34, $M_{\text{age}}=14.85\text{yrs}$, $SD=0.88$; 47% female

Reasons for use ✓	Reasons against use ✗
peer pressure/ to fit in	perceived harms
curiosity	addiction
stress relief	sport
Most common situations...	
at parties	
in the park	
in the school toilets	

Character development

Character 1: Tom (vaper)

Background: Tom is a 14-year-old boy in Year 8. He lives with his mum and has a strained relationship with his biological father. He is the eldest of three kids (one brother and one sister). He loves to play sport and lift weights, he is also particularly talented at football (NRL, AFL, or soccer? – not sure which is more popular with kids these days).

Personality Traits:

- Extraverted
- Impulsive and addictive personality
- Rebellious
- Social
- Warm/ friendly/ charismatic but can be a bully to certain people in certain situations

Strengths:

- Good at sport
- Well-liked
- Attractive

Weaknesses:

- Not very intelligent
- Can be a bully
- Lots of risk taking and impulsive behaviour



Character 3: Eugene (vaper)

Background: Eugene is reserved and shy 14-year-old boy. He suffers from asthma and often gets sick because he does not look after his health. His numerous health issues have caused him to withdraw from social and extracurricular activities and he spends a lot of time alone in his room playing video games and trying to escape reality. He was bullied in his first year of high school and now he often misses school because he is up all-night gaming.

Personality Traits:

- Introverted and shy
- Lacking confidence
- Curious thinker and willing to open up if he trusts someone

Strengths:

- Intelligent
- Kind-hearted
- Tech wiz

Weaknesses:

- Lacking confidence
- Poor health and hygiene
- Social withdrawal and lack of motivation



Character 4: Maddy (vaper)

Background: Maddy is a 14-year-old girl who is impressively dedicated to being cool. Her mother passed away when she was quite young and she has been raised by her father who works a demanding job and is often travelling interstate. Maddy is obsessed with makeup and the latest trends and hangs out with a slightly older more rebellious crowd. Maddy skips school frequently and is often getting in trouble for her antics.

Personality Traits:

- Ambivert (outgoing among her friends but shy and reserved in all other settings)
- Unfriendly
- Stubborn
- Rebellious

Strengths:

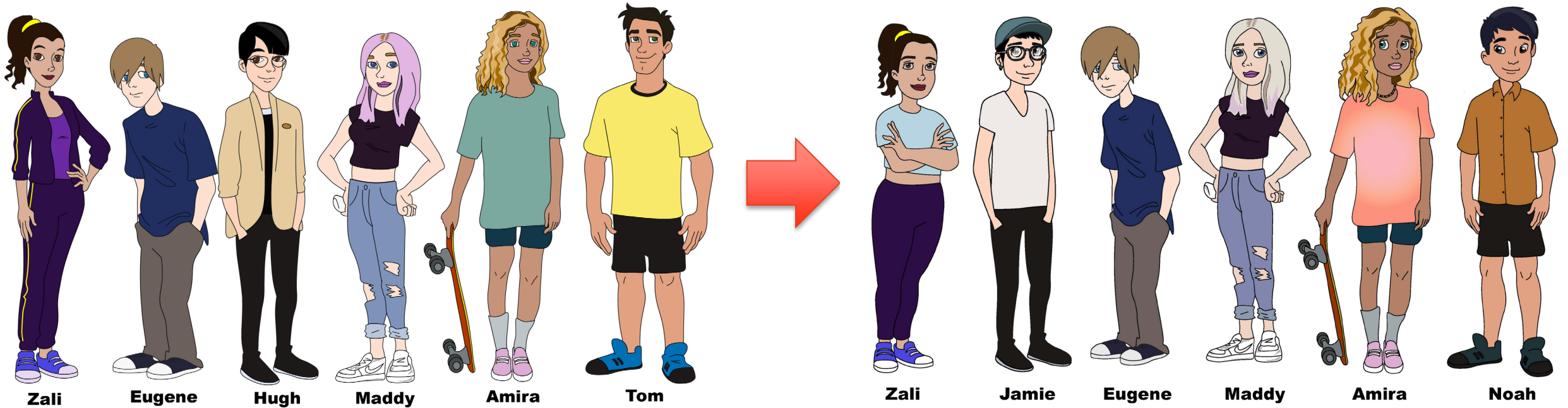
- Street smart and independent
- Kindhearted
- Good at makeup and fashion related things

Weaknesses:

- Doesn't apply herself
- Can be rude/bitchoy
- Lots of risk taking and impulsive behaviour

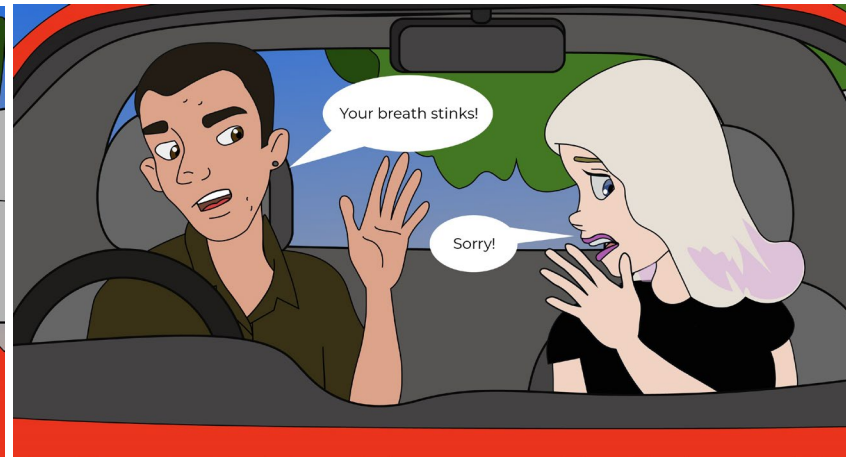


Character development



Script development

- Key drama and key prevention messaging



Student Feedback/ User testing

- **Lesson 1:** Student surveys and focus groups ($n=37$, $M_{age}=13.51$ yrs, $SD=0.51$; 54% female)
- Overall feedback:
 - 81% rated the lesson as good or very good
 - 89% liked the storyline
 - 73% liked the characters
 - 84% found the story to be believable
 - 100% agreeance that year 8 students would understand the content

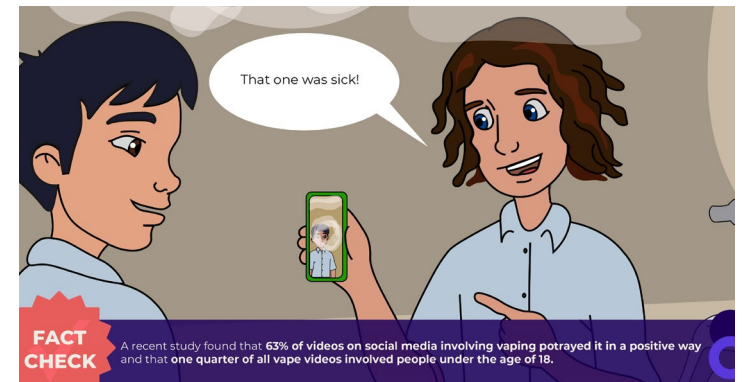
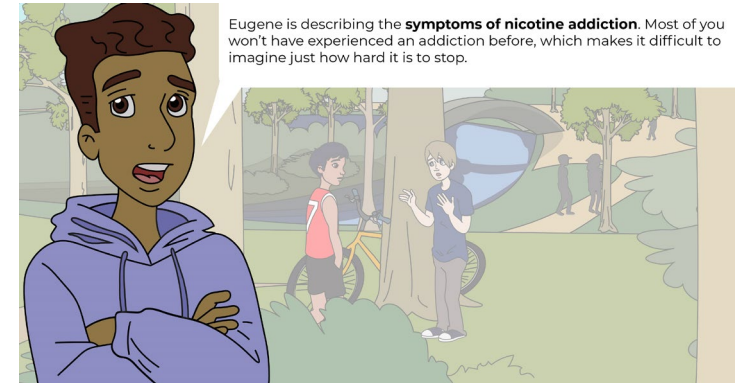
Things affirmed

- Gossiping and conversations were relatable
- Realistic scenarios
- Diversity of characters
- Peer pressure presented well and accurately



Updates based on feedback

- Changes to language
- Changes to clothing
- Incorporating the host more
- Reducing the amount of text
- Adding more emotion to the facial expressions
- Removal of fact-based information coming from young people
- Incorporating social media more



Development and refinement



The OurFutures Vaping Program

- 4x40 min lessons delivered during Year 7/8 health education
 - 20 min online cartoon
 - 20 min activities
 - Summary sheets
 - Teacher resources
- Provides:
 - Evidence-based information
 - Normative education
 - Resistance skills training



Lesson	Key messages
1	<ul style="list-style-type: none">• The harmful chemicals in e-cigarettes• Prevalence and patterns of vaping/cigarette smoking• Short- and long-term consequences of vaping• Reasons young people choose to, or not to, vape• Passive vaping
2	<ul style="list-style-type: none">• The positive portrayal of vaping on social media• Vaping and smoking as ineffective ways to cope• Nicotine and the developing brain• Where to seek help for vaping, smoking and mental health• Assertive communication and refusal skills
3	<ul style="list-style-type: none">• Vaping/smoking and the law• Short- and long-term consequences of smoking cigarettes• Marketing tactics and the influence of social media• The links between vaping and smoking• Help-seeking for vaping, smoking and mental health
4	<ul style="list-style-type: none">• Assertive communication and refusal skills• Signs of nicotine dependence• Where to seek help and strategies to break the cycle of nicotine dependence• The benefits of avoiding or stopping vaping

The OurFutures Vaping Program




Embedded activities & quizzes



Stop & Think!

What are some healthier ways Eugene could cope with stress?



3. True or False: Most people your age have tried vaping?

a. True

b. False



Summary Sheets & Optional Activities



Student Summary Lesson One

What are e-cigarettes/vapes?

E-cigarettes are battery-operated devices that hold and heat liquids, called 'e-liquids', to create an aerosol which the person breathes in. Although they're often called vapes, it is **not water vapour**.

E-cigarettes are also known as vapes, vape pens, vaporisers, electronic cigarettes, e-cigars, e-pipes, STIGs, pods, Juul, electronic nicotine delivery systems (ENDS), puff bars, e-shisha and e-hookah

What is in a vape?

Vapes **contain thousands of chemicals**, many of which are toxic - see the ["Chemicals in Vapes" additional resource](#) for more details. Flavouring is added to hide the taste of the chemicals. Even though some flavourings may be safe to eat or drink, they are not safe to breathe in. When a vape heats up it can even leak heavy metals into the aerosol which can get stuck in the person's lungs.

Many vapes also contain nicotine, even if it's not listed on the label. Nicotine is the chemical that causes addiction. The amount of nicotine in a single vape can be the same as 50 cigarettes, sometimes much more! We'll cover more on nicotine in Lesson 2.

How many young people are vaping and smoking?

Worksheet: What can I say?

Instructions:

Imagine you are at a party and someone is pressuring you to vape or smoke. In the space provided, create your own example response for each strategy.

Once you have finished filling in the table find a partner. One of you take the role of 'the convincer' and the other take the role of 'the refuser'. The convincer should try to convince the refuser to vape while the refuser uses the techniques from the table to refuse.

Strategy	Explanation	Example
Be assertive	Assertive communication involves standing up for your personal decisions in a calm and positive way. When talking to others, being assertive involves three steps: 1) State your answer (i.e., say 'no') 2) Give your reason 3) Show you understand where the other person is coming from	e.g. "No thanks. I don't feel like vaping. I know you're trying to have fun, but I'm not feeling it tonight"
Make an excuse	Making an excuse can be effective and hard to argue with.	e.g. "No thanks, I've got basketball tomorrow and need to bring my A-game"
Use delay tactics	Engage in a different activity to delay the behaviour with the hopes that you will not be asked again.	e.g. "I'll finish eating first"

Links to curriculum

LESSON 1 - Syllabus content

Students:

Recognise potentially unsafe environments and describe strategies to promote their own and others' health, safety and wellbeing in a variety of real-life situations

- Classify drugs and describe the short-term and long-term effects of drug use on health, safety and wellbeing **I**

Explore the relationship between various health, safety and physical activity issues affecting young people and assess the impact it has on the health, safety and wellbeing of the community

- assess the impact of drug use on young people's decisions and behaviours in various contexts and predict how this might affect the future health, safety and wellbeing of individuals and the community, eg sexual decisions, road user behaviours **S**

Examine factors that influence health and wellbeing

- examine risk-taking scenarios and discuss the outcome of positive and negative risk behaviour on health and wellbeing, e.g. trying out for a sporting team, drinking alcohol at a party, sexting **I**
- investigate reasons why young people choose to engage in positive and negative risk-taking behaviour

Develop health literacy skills and promote health information that is aimed at assisting young people to address health issues

- assess health products, information and advertising to expose myths and fallacies, e.g. understanding food labels, contraceptive products **S**

Examine influences on peoples' behaviours, decisions and actions (ACPPS074)

- discuss the influence of contextual factors on individual decisions and actions, e.g. response to emerging world issues, sexual relationships, drug use, preventive sexual health practices **I**
- Examine the relationship between protective factors, contextual factors, social media, laws and rules in determining decisions and behaviour in relation to road use and/or drug use **S I**

LESSON 1 - Teaching, learning and assessment

Learning intention: Students examine e-cigarette use, the personal and contextual factors that influence use and subsequent consequences.

Online cartoon-based content:

Students read content provided in the Lesson One cartoon, which examines:

- The harmful chemicals in e-cigarettes
- Prevalence and patterns of vaping/cigarette smoking
- Short- and long-term consequences of vaping
- Reasons young people choose to, or not to, vape

Stop & think activities:

Students complete the interactive activity embedded in the online module to describe key concepts

Students consider:

- The possible short- and long-term effects of vaping

Self-guided quiz:

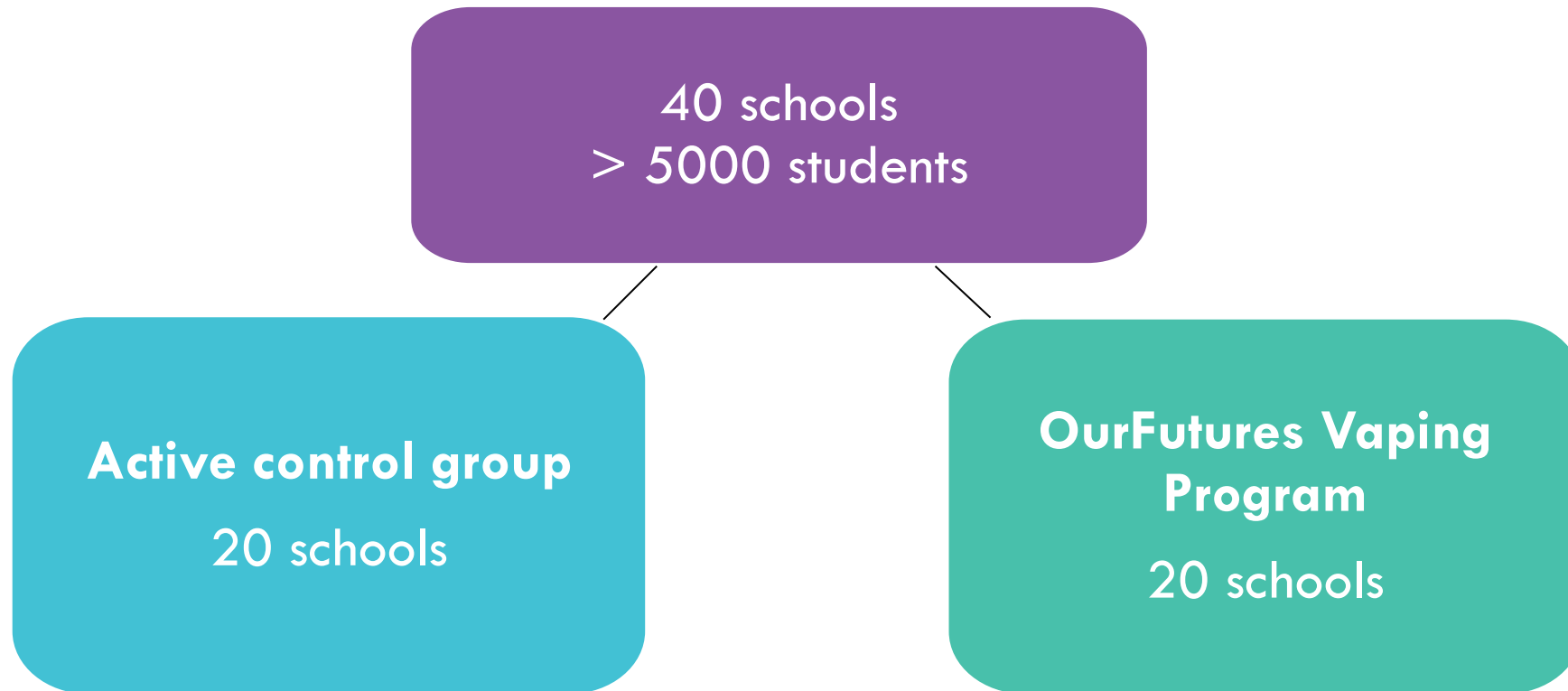
Students complete the self-guided quiz to assess their knowledge and understanding of the key module concepts

Optional activities (choose as appropriate):

- Making healthy choices: Students complete a [group worksheet](#) to critically evaluate the reasons why some young people do and do not vape or smoke cigarettes and come up with healthier alternative activities.
- The broad impacts of vaping: Students complete a [worksheet](#) about the potential consequences of vaping and benefits of not vaping for physical health, mental health, social health and the environment
- Case studies: Students [review case studies and discuss](#) the diverse short- and long-term impacts of vaping.
- Heads or Tails: Students compete in a [heads or tails game](#) to see who can best separate vaping and smoking facts from fiction.
- Sources of pressure: Students [identify and discuss](#) sources of pressure to vape/smoke and brainstorm ways to resist these pressures

Evaluating the program

A two-arm cluster RCT among **Year 7 and 8 students** (approx. 12-14yrs) in 40 high schools across NSW, WA and QLD + economic evaluation



Outcomes

Primary: uptake of e-cigarette use at 12-month follow-up.

Secondary: uptake of tobacco smoking, frequency/quantity of e-cigarettes use and tobacco smoking, intentions to use e-cigarettes/tobacco cigarettes, knowledge about e-cigarettes/tobacco cigarettes, motives and attitudes relating to e-cigarettes, self-efficacy to resist peer pressure and refuse e-cigarettes, mental health, perceived stress, quality of life, and resource utilisation.

Process evaluation

- **Intervention group student evaluations** (acceptability, feasibility, engagement and program feedback)
- **Intervention group teacher evaluations** (student engagement and understanding, acceptability, ease of use, educational quality, barriers or enablers to implementation) + **logbook** (fidelity)
- **Website analytics** (dose and timing of intervention)
- **Control group teacher logbooks** (amount and format of e-cigarette/tobacco cigarette education delivered)

Assessment Timeline

Students assessed over **three years** via self-report surveys:

	Baseline	OurFutures Vaping Program	Post-Intervention	6-month	12-month	24-month	36-month
Time	Term 2/3 2023	Term 2/3 2023	Term 2/3 2023	Term 4, 2023	Term 2/3 2024	Term 2/3 2025	Term 2/3 2026
Age	12-14yrs	12-14yrs	12-14yrs	12-14yrs	13-15yrs	14-16yrs	15-17yrs
Grade	Year 7/8	Year 7/8	Year 7/8	Year 7/8	Year 8/9	Year 9/10	Year 10/11

Early access program



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Vaping Education Program for
High School Students in **Australia.**

Get access to the First Online Vaping Education Program being trialled for High School Students in Australia. Our early access program will be limited to 250 Australian High Schools in 2024.

Register your interest today.

Register Your Interest

Be one of 250 schools in our early access program. Enter your details to register your interest

Full Name*



Conclusions

- This is the *first rigorous evaluation* of a school-based eHealth preventive intervention targeting e-cigarette use in Australia
- Without such intervention, we risk undoing decades of effective tobacco control and having young Australians use nicotine at higher rates than previous generations.
- If effective, the intervention can be readily scaled via the OurFutures platform



The OurFutures Vaping Study Team

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Prof Hayden McRobbie

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A/Prof Nicola Lee

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Thank you

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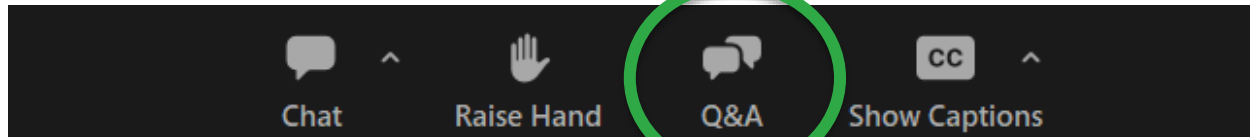


OUR *Futures*



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Questions?





Thank You

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