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The school community's role in addressing vaping: Findings from qualitative research to inform pedagogy, practice and policy

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Abstract

Issue Addressed: E-cigarettes are a significant concern in schools due to their rising use by adolescents. This research aimed to identify current and preferred intervention strategies to respond to vaping in the Western Australian school setting.

Methods: Interviews and focus groups were held with 15 school professionals (leaders, teachers and nurses), parents ($n = 12$) and students aged 13–17 years ($n = 32$). Discussions were transcribed verbatim, anonymised and thematically analysed using a deductive approach aligned to the Health Promoting Schools Framework.

Results: Participants suggested that limited and varied attention has been directed towards policy in response to vaping in the school setting. Teaching and learning opportunities existed for students, parents and school professionals, albeit somewhat ad hoc in their approach. Additional training would benefit the whole-school community (students, parents and staff) to raise awareness of e-cigarette harms, increase knowledge and build skills in responding to student vaping.

Conclusions: Clearly articulated policies are needed to guide school strategies and actions towards vaping. There needs to be a dedicated, developmentally appropriate, cross-subject vaping curriculum for students that incorporates mental health outcomes and social skills reinforcement; professional development for school staff; awareness of and access to school-based health services for help and information; visual cues to de-normalise vaping and parent and community involvement to support vape-free school environments.

So What? Comprehensive prevention activities are required to reduce the uptake of vaping among adolescents. Building students', school professionals' and parents' awareness of vaping and strategies to prevent use will contribute to de-normalising and reducing this practice among adolescents.

KEYWORDS
e-cigarettes, education, health promoting schools, policy, vaping

1 | INTRODUCTION

Australia has strict e-cigarette regulations for vaping products, compared to some other countries[1,2] whereby nicotine-containing vapes are only legally available by prescription from pharmacies.[3] In Western Australia, where this study was conducted, a court ruling determined that non-nicotine vapes are also prohibited from sale, however at the time of this study, this law was not being actively enforced.[4] Other Australian states and territories currently allow non-nicotine vapes to be legally sold at retail outlets to people 18 years and over. The sale of vapes to individuals under 18 years (regardless of nicotine content) is not permitted in Australia.[5] Australia is a large country with Western Australia (WA) being the largest state by total land area.[6] Perth is the capital of WA with few neighbouring cities. Due to the growing concern about e-cigarette use, particularly among adolescents, we have recently seen the passing of the Federal Government's new Public Health (Tobacco and Other Products) Act,[7] which aims to further reduce the appeal of e-cigarettes and limit the ability of the tobacco industry to advertise them. In addition, the importation of all e-cigarettes is restricted under the Customs Legislation Amendment (Vaping Goods) Regulations (Cth), 2023.[8] While these restrictions will impact the availability of e-cigarette products, currently, adolescents are still accessing these products, including via alternative channels, such as social media.[9,10]

According to the 2022/2023 Australian Secondary Students' Alcohol and Drug Survey,[11] 15.7% of 12–17 year olds reported using an e-cigarette in the previous month, a significant increase since 2017 (4.2%).[12] This is in contrast to tobacco smoking which has seen a decline from 7.5% in 2017 to 3.4% in 2022/2023 in the same age group.[12] E-cigarettes often contain hundreds of puffs of high concentrations of nicotine, are not accurately labelled and contribute to short-[13,14] and long-term[15,16] harms. Yet despite these known risks, mixed messages exist regarding the harms associated with e-cigarettes,[17,18] and the perception among young people that vaping is a prosocial behaviour[19] is reinforced by marketing and promotional messaging.[20,21]

The social environment of a young person is made up of multiple settings, where prosocial behaviour and health education can be supported and encouraged.[22] The interrelationships and interactions across these settings are key to promoting behaviour change within and between settings.[23] The school environment is an ideal setting to focus health promotion activities due to the large amount of time adolescents spend there[12,24,25] and the relationships that are developed therein.[26] The World Health Organisation's Health Promoting Schools (HPS) Framework[27] supports the promotion of health through a structured and multi-faceted approach, based on eight key domains[28]: (1) government policies and resources; (2) school policies and resources; (3) school governance and leadership; (4) school and community partnerships; (5) school curriculum; (6) school social–emotional environment; (7) school physical environment and (8) school health services (see Figure S1).[28]

Australian examples of school-based tobacco control programs exist.[29–31] Commonly, tobacco control programs have been a whole-school response, involving all school community members (staff, students and parents), whilst acknowledging the social, political, economic and demographic contexts in which individual schools operate.[27] Beyond the school and the influence of parents, the broader school community provides important reinforcement of the messages delivered within school health promotion programs. Consistent messaging across multiple settings is important to influence perceived risks, severity of risks and consequences of health behaviours.[32]

The recent insurgence of e-cigarettes, commonly referred to as vapes, indicates the need for renewed attention to be directed at tobacco control, particularly in the area of e-cigarettes, to prevent the uptake of these products[33,34] in an increasingly overloaded school health curriculum.[29] In light of the relative recency of the introduction of e-cigarettes, limited evidence is available about school-based vaping prevention strategies in Australia. This research aimed to identify current and preferred intervention strategies to respond to e-cigarette use by young people in the school setting, from the perspective of school professionals, parents and students located in WA schools.

2 | METHODS

A socio-ecological[22] approach informed data collection and the HPS Framework[27,28] guided data analysis. This study was approved by the Curtin University Human Research Ethics Committee (HRE2021-0676). The reporting of this study has been guided by the Standards for Reporting Qualitative Research (Table S1).[35]

2.1 | Research team

The study was conducted at a large public university located in Perth, WA. The research team comprised academics with expertise in public health, social media, marketing, tobacco control and qualitative research.

2.2 | Sampling

The researched cohorts comprised (a) students aged 13–17 years who had used and never used e-cigarettes; (b) parents and guardians of 13–17 year old students and (c) school professionals (leadership staff, nurses and teachers) servicing Western Australian secondary schools. All cohorts resided in the Perth metropolitan area.

2.3 | Recruitment

Students and parents were recruited through social media, sporting clubs, youth centres and snowballing techniques. School professionals were recruited through professional associations and a professional development event for teachers. Information by way of a flyer invited potential participants to contact a researcher to register their interest in participating in the study. Potential participants were provided with

an information sheet and if willing to participate a suitable time was arranged for an in-person or online individual interview or focus group (an option available to some student participants).

2.4 | Instrumentation

A structured discussion guide was developed for use with the sample of (a) students, (b) parents and (c) school professionals. The discussion guides were informed by a desktop review, project advisory panel and the socio-ecological model[22] to explore individual, interpersonal, organisational, community and societal factors associated with accessing e-cigarettes and their use by adolescents. The discussion guides focussed broadly on the experience of e-cigarette interventions currently implemented in schools and the needs of each cohort in furthering vaping prevention strategies within and beyond schools (see Table S2). The discussion guides were pilot-tested with people recruited through the networks of two researchers.

2.5 | Data collection

Data collection activities were facilitated by trained interviewers between April and August 2022. Fourteen individual interviews (average 18 min; range, 11–28 min) were conducted with students aged 13–17 years, and a further 18 students participated in focus group discussions (average 35 min; range 21–54 min), comprising 3–5 students per group. Previous research has indicated the use of individual interviews with focus groups can enhance the trustworthiness of the collected data,[36] while others have identified no difference in the findings between individual and group discussions.[37] Young people who were currently vaping, or had ever used a vape were not jointly interviewed with young people who had never vaped. All stakeholder discussions were held independent of each other. Twelve individual interviews were completed with parents, which ranged from 15 to 42 min duration (average 28 min). Thirteen individual interviews were completed with school professionals and one further interview comprised two school professionals from the same school (average 41 min; range, 20–59 min). While the number of discussions held were restricted by resourcing, facilitators noticed similar responses emerging from the quota of discussions.

All participants provided demographic data (e.g., age, gender, residential and school postcode). At the conclusion of the discussion, participants were provided with a gift voucher in appreciation of their time (30 AUD for students and 50 AUD for adults). Interviews and focus groups were digitally recorded and the audio files were transcribed verbatim. Data checking involved listening to the audio file and ensuring the accuracy of text relative to speech.

2.6 | Data analysis and interpretation

Demographic data were analysed using descriptive statistics (Microsoft Excel). Thematic analysis followed six steps as outlined by Braun and Clark[38]: (1) becoming familiar with the data; (2) generating initial codes; (3) searching for themes; (4) reviewing and (5) defining themes; and (6) compilation of findings. L.T. reviewed the transcript files to gain familiarity and established the original coding structure. Deductive coding was used to align the responses to the HPS Framework[27,28] using NVivo to assist with data organisation. Initial codes were assigned (L.T.) and reviewed by K.M. to confirm. K.M. deductively coded all data in respect to the domains of the interview guide and was thus familiar with the data. L.T. and K.M. met to discuss discrepancies as they arose. Findings related to each component of the HPS Framework[27,28] were defined, summarised and related to the available literature. There were no significant differences noted between groups in awareness of or recommendations for vaping prevention and education strategies. De-identified quotes from participants were used in the presentation of the data. Not all participant groups identified strategies relating to each component of the HPS Framework.

3 | RESULTS

Student participants ($n = 32$) were adolescents aged 13–17 years; and parents ($n = 12$) were mostly female ($n = 11$, 92%) and aged 35–54 years. School professionals ($n = 15$) held positions of leadership ($n = 5$, 33%; age range 44–70 years), were school nurses ($n = 5$, 33%; age range 46–57 years) and health education teachers ($n = 5$, 33%; age range 26–37 years) (see Table S3).

The qualitative data are presented under the eight components of the HPS Framework[27,28] and subsequent sub-themes: (1) Government commitment through policies and resources (sub-themes: Department of Education policy; Government resources, educators' capacity and knowledge); (2) school commitment through policies and resources (sub-themes: school policy responses, supportive behaviour strategies and clear and consistent policies); (3) school governance and leadership; (4) school and community partnerships (sub-themes: shared vaping approach, school community support); (5) school curriculum (sub-themes: insufficient and too late, education opportunities, external education support); (6) school social–emotional environment; (7) school physical environment (sub-themes: student vaping behaviour, challenges detecting vaping, physical aides—identify and prevent) and (8) school health services (sub-themes: information provision, incident reporting).

3.1 | Government commitment through policies and resources

3.1.1 | Department of Education policy

The discussion with school professionals reflected their awareness of government policies or curricula available to support schools with responses to vaping. Parents and students did not raise governmental policies related to the school setting; however, broader contextual strategies were raised (discussed elsewhere[39]). One school professional acknowledged the need for 'each school to have one [drug

policy] probably inline with Department [of Education] policies' [ID05, School Professional], and another school professional suggested enquiries by schools regarding vape detector installation in bathrooms may need to 'spark a bigger conversation within the Department of Education' [ID09, School Professional].

3.1.2 | Government resources

Curriculum content is beginning to become available from state education departments across Australia in relation to e-cigarettes as noted by one school professional, '[service provider name redacted] have a few bits and pieces on e-cigarettes. Like when we've done the Year 9 drug programme … But it would have been like one lesson, at best, or part of a lesson. But other than that, no specific resources spring to my mind that I know of' [ID01, School Professional]. Alongside these resources are professional learning opportunities which have been accessed by some participants who reported, 'a couple of people in our school department did [training] through the Education Department on vaping' [ID01, School Professional].

3.1.3 | Educators' capacity and knowledge

Importantly, some school professionals did not appear overly confident in providing vaping education to students and indicated this was due to their insufficient vaping knowledge, '… we teach this [vaping education] in health at school. It's in our Year 9 curriculum. And you know, it's something that's still relatively new to a lot of us at school. Yes, we see it, we hear about it. But actually teaching it is a whole … different kettle of fish' [ID03, School Professional]. Staff professional development was seen as an opportunity to upskill and build confidence in their ability to address vaping with students:

> [Training about vaping] *provided to staff on masse would be really good to show them* [staff] *the outline of it* [vaping curriculum] *because then at their own pace, they can work through it and upskill.* [ID09, School Professional]

> *I know a lot of Phys Ed* [Physical Education] *teachers have done some professional learning around it* [vaping] *so that they can actually talk about the newest data. The problem we have is that they're only mandated to do health once a week or once a fortnight, so there's just not enough health classes to cover it all.* [ID09, School Professional]

3.2 | School commitment through policies and resources

3.2.1 | School policy responses

School professionals' responses to the presence of a specific e-cigarette policy were mixed, suggesting schools have followed different pathways in implementing policy responses. Some school professionals noted the existence of a relevant policy, 'using the same policy as with any other prohibited substance' [ID04, School Professional], typically covered in existing behaviour management policies, while others were confident that no such policy existed. In those schools where e-cigarette policies existed, punitive responses including triage to upper management and suspension were common, and expulsion and confiscation of offending product/s were also noted. In one school, students were required to meet a set of conditions before returning to school from a suspension, such as a 're-entry [meeting], where we review contracts [required behaviour] and parents get involved' [ID08, School Professional]. In another school, students lost their 'good standing', resulting in their inability to attend 'anything that's pleasant … a reward activity, or the school ball or dance or disco, or … sports carnival. They can't go for 10 weeks' [ID07, School Professional].

3.2.2 | Supportive behaviour strategies

Supportive strategies were considered to be those that seek to facilitate behaviour change. For example, supportive strategies documented in one school e-cigarette policy included notification of parents, vaping prevention education and increased monitoring of the student. One school professional explained that it had taken a '*whole-school approach*' (ID13, School Professional) (i.e., staff, students and parents) to establish policies for vaping and respond to the overnight explosion of the issue. However, some students reported being unclear of the existence of policy, saying 'there needs to be a clear rule because no one actually knows what the consequences are' [ID02, Student]. Students shared ideas for additional supports for existing and/or new e-cigarette policies for targeted and universal vaping education for students. For example, a mandatory vaping diversion programme for students found to be using e-cigarettes and/or distributing them and ensuring the school's e-cigarette policy was visible and clear to all students.

3.2.3 | Clear and consistent policies

Professionals at schools where no policy was reported indicated they would like to see the development and introduction of a specific policy for e-cigarettes. School professionals noted that the policy should specify the consequences for students found to have an e-cigarette in their possession, using an e-cigarette and/or distributing them. Some school professionals identified the need for additional authority to detect, confiscate and destroy e-cigarettes located on school premises, also suggesting that such capabilities may help to deter young people from bringing e-cigarettes to school.

Students supported the enforcement of clear and consistent processes for those found vaping, or in the possession of e-cigarettes and noted opportunities to publish this information for student reference including, 'in my planner, you've got the code of conduct or whatever and on the back it's got all the uniform rules and stuff. I think they

could add in a section about vaping and smoking and stuff' [ID01, Student].

Conversely, some students said their school had warned them of the severe consequences that would occur should students be found vaping or in possession of e-cigarettes; however, according to the students, schools were not following through on their warnings and/or being more lenient depending on who the student was and previous behavioural intervention. This inconsistency in policy application represented a source of frustration for some students:

> *People will be doing drugs and vaping, but then if you, … wear the wrong uniform, it's as bad.* [ID02, Student]

> *If it's a student who's supposedly really good and doesn't do much wrong then they're like, oh, okay. Just have a warning. But then if it's someone who fails all their classes, never wears the right uniform they're like right. Now first offense, you're out.* [ID01, Student]

3.3 | School governance and leadership

School professionals in leadership positions were involved in responding to vaping incidents, for example, meeting with students/parents following vaping detection and/or distribution. In addition, there was evidence that vaping was a topic of discussion among the teacher leadership group, with one school professional asking teachers to 'put it [vaping] into the curriculum; because we were already discussing this at leadership and I asked if he could do some research into what the US [United States] are doing because they've had it [vaping] for longer' [ID07, School Professional].

3.4 | School and community partnerships

3.4.1 | Shared vaping approach

School professionals expressed the need for support from parents within the home environment to assist schools in managing vaping in the academic arena as '… it's really paramount to students' success that the parents are invested in some of these issues as well, and it's not just either side [parents or teachers] trying to outsource who deals with it [vaping]. It's more of a community effort because these are community problems' [ID09, School Professional]. Some school professionals said their school was in regular communication with, and provided vaping education to, the school community (i.e., staff, parents and students) through a variety of means. There were examples of parent and community engagement, included providing parents with the school's e-cigarette policy and sharing e-cigarette information through newsletters, online communication systems and information sessions. Parents confirmed they were eager to be involved in responses to vaping and

would appreciate vaping education and information delivered by the school.

School professionals noted that 'parents have a massive role to play' [ID03, School Professional] in vaping prevention. Suggestions from school professionals regarding ways parents could support schools to address vaping included providing prevention information to their children; enforcing zero-tolerance expectations; frequent dialogue about the issue; being vigilant of e-cigarette products entering the home and conducting vape checks and parents upskilling themselves by participating in vaping education, whether that be through events facilitated by the school, wider community, or self-directed (credible) learning and research. While schools 'can give this information out … that [vaping prevention] message should also be reinforced at home. But in order for it to be reinforced at home, the parents have also got to have that information themselves, and actually understand what's going on' [ID03, School Professional]. This was confirmed by some parents who commented on the importance of 'communicating [with children] why you have a particular standpoint' [ID16, Parent] regarding vaping so family expectations are clear. In addition, 'modelling [of non-vaping] from the adults in the community … there's also the modelling of the people that they [students] follow and admire in the public eye' [ID18, Parent] would serve to reinforce denormalisation messages.

Students were supportive of parent involvement in educating adolescents about e-cigarettes, through the creation of supportive environments and role modelling of positive behaviours.

> *Mum, always told us as kids like never vape, never smoke. It kills your lungs … That's where I get all my information from and I've just been brought up as 'don't vape' because it's gonna kill your lungs. 'Don't smoke', it's gonna kill your lungs. So I feel like parents should also be informed.* [ID03, Student]

3.4.2 | School community support

Some school professionals expressed the need for additional support from the broader school community to manage vaping, such as more staff within schools and parental and community support to identify students using e-cigarettes; coordinated direction from the Department of Education; networking and communication among schools to share successes and challenges of implementing policy; prevention and detection strategies; and psychological and health support for students. Parents reinforced the need for multifaceted approaches:

> *Social media, the televised media … news, online and all those sorts of things and going through those using research-based approaches that we know would work, getting stuff into schools, even youth centres, youth programs.* [ID23, Parent]

3.5 | School curriculum

3.5.1 | Insufficient and too late

The need for education and health skills development relating to vaping was a strong recommendation arising from these discussions. Students said their school was not providing sufficient curriculum-based vaping prevention education, if at all, and drug education was still focused on tobacco smoking and 'hardcore drugs, you do like [learn about] cocaine and heroin and stuff in school, but I feel like if it [vaping] was talked about more, it'd be less attractive, if you're looking at the effects' [ID04, Student].

Furthermore, some students felt that vaping education was occurring too late. Therefore, it was important not only to include vaping prevention education within the curriculum but to start developmentally-appropriate education early, prior to students commencing vaping.

I think we didn't really get educated on vapes, like at school. It was always cigarettes ... Everyone's like a bit scared of smoking, but they'll have so much vapes. It's like you can see that contrast of knowledge. [ID05, Student]

Then I think in a certain year at high school. I can't remember what one it was. Someone comes in and talks to you about it [vaping]. *But I feel like they do that way too late and people have already started* [vaping]. [ID03, Student]

This sentiment regarding the need for early education in schools about vaping was repeated by both parents and school professionals.

So, early intervention before they get addicted, is what we need. And we need the facts as quickly as possible. [ID24, Parent]

And there's probably strength in having resources that go from K-12 [primary to secondary school]. *So we're starting to talk to kids about developmentally-appropriate levels very explicitly. I think that's really important too.* [ID06, School Professional]

3.5.2 | Education opportunities

Despite student perceptions of limited opportunities to learn about vaping, several school professionals stated that vaping education was included in their school's curriculum, within the health education programme. However, no school professional expressed that the topic is adequately covered, and some suggested the need for cross-curricula application to increase the prominence of education on this issue.

So not only talking about it [vaping] *in health, but we're talking about it in society and environment as part of the environmental programme. Let's talk about the impact that vapes have. So where it fits contextually into other parts of their lives.* [ID06, School Professional]

Year 8 was the lowest year level that school professionals said vaping education was introduced, with other schools not discussing the topic until Grades 9 or 10. Challenges schools faced with including vaping education within the curriculum included trying to find space within an already overloaded curriculum; having no standalone strand for vaping meaning that the topic is glossed over within drugs, smoking and alcohol education and the limited number of mandated health education classes for students.

So we do drugs and alcohol [content] *and we do mention vaping and all that, but we don't really go into too much detail about it* [vaping], *that early on. Year 9 is the year where we really knuckle down and talk about it.* [ID03, School Professional]

Several school professionals commented that hard-copy workbooks and interactive experiences are preferred to static online websites/applications because students 'learn through activities and interactive experiences' [ID04, School Professional]. Some school professionals perceived students had disengaged from online learning after their COVID-19 experience with lockdowns and home schooling and were easily distracted when using internet-connected technology.

Even more just like ideas around how to tie in the facts and the risks with discussion questions. A lot of my health lessons just become discussion-based, nothing wrong with that, it's the best to keep the kids engaged. As soon as you start doing an online, filling in the online workbook, you just kind of lose kids. [ID01, School Professional]

3.5.3 | External education support

Outsourcing vaping education through engagement with guest speakers was an option available to schools, as a credible, factual source of vaping information for students. Guest speakers were also seen by school professionals and parents as a useful resource in engaging with and informing parents and students about vaping. As one school professional suggested:

I have in the past organised for [expert drug educator] *to come and speak to the students ... So, it's also about the health promotion to the parent on masse so they at least have got an understanding about vaping and how it impacts their children so they can also educate at home.* [ID13, School Professional]

If they [schools] *had people that had health issues or something from it* [vaping] *actually go and visit the schools and say, 'I did it* [vaping] *and this is what's happened to me' and they can physically see or hear the impact that it's had. Maybe that would make a difference.* [ID27, Parent]

3.6 | School social–emotional environment

Most participants directed limited attention towards strategies that could enhance the school's social environment. However, supportive student–staff relationships was acknowledged by some school professionals as an opportunity to provide prevention initiatives that would complement other strategies across the school as 'any teacher that builds up a good connection with a kid in terms of that really positive teacher/student relationship, those conversations via a teacher that a student trusts are usually far more beneficial than someone coming in either at the associate level [Deputy Principal] or year leader level' [ID09, School Professional]. This was reinforced by another school professional who commented:

… it's really important to have a good rapport with kids. I feel like that's the best, for me, with a good rapport or relationship with a student I've sort of got them where I want them. And then for me, it's a lot easier to actually teach them these things. But each student is also very different. [ID03, School Professional]

Students identified that vaping by adolescents was used as a coping strategy and a way to 'fit-in' with peers, "the people who do vape now a lot think it's because it makes them look cool. So a lot … is about your image and how others perceive you' [ID43, Student]. Inclusion of social competence, social influence and coping strategies, for example, 'they could educate more about mental health' [ID02, Student], were seen as opportunities to help facilitate positive social–emotional environments.

3.7 | School physical environment

3.7.1 | Student vaping behaviour

Some school professionals noted increased monitoring of bathrooms and having 'permission, as groups of students come out of the bathrooms, to say we're doing a vape check' [ID06, School Professional]. The rules governing this vape check were described as an assessment of suspicious behaviour, with multiple school staff being present, and communication with students an expectation that this is the course of action that will be followed if vape checks are deemed necessary. Before and after school, as well as during lunch breaks, were identified by staff and students as opportune times for e-cigarette use, and thus, there was additional monitoring by school staff at these time points.

Duty teachers go into the bathrooms at lunchtime, and we do a sweep through every duty, every lunch, and before school. [ID07, School Professional]

However, class time was also noted as presenting an opportunity for students to vape. Staff reported the need to 'address the behaviours … in terms of not going to class, and groups going into the bathroom and trying to break that up' [ID09, School Professional]. In addition students and staff reported that schools were restricting both the number of toilet blocks open during class time and the number of toilet breaks permitted; 'we were banned from going to the toilet during class' [ID01, Student].

3.7.2 | Challenges detecting vaping

Some school professionals discussed the challenges they faced in attempting to detect and remove vapes from students, including attending bathrooms where it was evident students were vaping by the aroma in the air. However, upon arrival, the group has dispersed. In addition, some schools do not allow staff to carry out checks of student's pockets and/or personal belongings. Some school professionals were not clear on whether they had the authority to dispose of a student's vape because it is 'technically student property' [ID04, School Professional]; and some students did not fear teachers or potential repercussions that may occur (at school and/or at home) if caught vaping. Students challenged teachers who tried to discipline them, because they were aware that they could not prove that they were vaping without solid evidence (i.e., the vape).

So for us it's [vaping] *an issue about their health. It's an issue about the fact that they do it in breach of school things* [policy] *and it's an issue within, about policing it, because we can't get to them. Because by the time we open the door of the toilet, it's all back in their thing* [underpants] *and they're just sitting there, … but you can't do anything about it.* [ID05, School Professional]

It [vaping] *is getting worse now, every time, every day, everyone's doing it* [vaping] *and they* [teachers] *can't tell people off. They* [students] *just hide it* [vape] *or put it somewhere and they* [teachers] *can't do anything, can't stop anything.* [ID49, Student]

3.7.3 | Physical aides—Identify and prevent

To try and detect when e-cigarettes are being used and alleviate the pressures on staff, some schools have, or were planning to install vaping detectors. However, some school professionals discussed the inherent challenges that have accompanied installation, including the expense, the alarm being activated out-of-hours and not having

available staff to respond to alarm activations and monitoring of detectors.

> *It* [alarm activation notification] *comes to a number of us in Student Services. But I can't rush out in the middle of this* [class] *... and the same goes for all those other* [Student Services] *people. They've all got jobs to do that are time critical. ... I'll be in a class teaching and I'll hear 'ding ding, ding'. I think 'Oh, God I'll check after'. Yeah – ten notifications* [on my e-mail] *and if I'm with my class there's nothing I can do.* [ID07, School Professional]

One student suggested displaying visual cues, such as posters around the school conveying facts about vaping, engaging students passively to promote abstinence messages.

> *Probably in school bathrooms like just graphic pictures that might steer people away.* [ID05, Student]

3.8 | School health services

3.8.1 | Information provision

Limited discussion arose relating to the role of the school-based health services and/or linkage opportunities with local primary health groups. School nurses did not see their role as punitive, rather they felt their role was to support students by providing information and education and being someone to confide in:

> *It's really about educating kids to empower them to then go and make their own choices. And not to police them. We don't ever see our role here as being the police. Because we want to encourage kids to come here and discuss things that are concerning them. So, you know, trying to maintain the confidentiality around that.* [ID15, School Professional]

Students also acknowledged the need for confidentiality, stating that accessing health services at school is 'really convenient for the people that need it because they don't have to organise anything. Their parents don't even need to know. But then as soon as they need to talk about something and then the psychologist say, "Okay. So if you want to talk about that, I actually have to tell your Head of Year or your parents." You're like, "I'm out"'. [ID01, Student].

3.8.2 | Incident reporting

While teachers and school nurses noted their role within the school was not punitive, they were willing to escalate situations where students were found in possession of an e-cigarette. Most school professionals said that they would report the incident '... usually if a teacher identifies the kid, they'll alert the Year Leader first and I'll go and collect that kid and confiscate the vape material, whatever they've got and have a conversation with the Head of School' [ID09, School Professional] and determine appropriate management strategies.

4 | DISCUSSION

From the perspectives of school professionals, parents and students, the findings of this study demonstrate opportunities for school vaping prevention and education intervention across all components of the HPS Framework.[27,28] Prevention and education strategies are important considerations in the context of the increasing vaping behaviour among adolescents and the dynamic regulatory landscape relating to vaping. Since this study was conducted, the Western Australian Department of Education has initiated new prevention and education initiatives,[40] the Public Health (Tobacco and Other Products) Act[7] was recently passed in Australia to limit advertising opportunities, and the Vaping Goods Regulations (Cth) 2023[8] restrict importation to therapeutic vapes only. However, these restrictions have only just been introduced, and the final piece of legislation that will close loopholes that still allows non-nicotine vapes to be sold at retail outlets is under debate with the Australian Senate.[41] At the time of this research, despite the sales ban to minors, adolescents found acquiring vape products easy. This is primarily due to the lack of effective enforcement and legislative loopholes that allow the sale of non-nicotine vapes in shops.[39]

A focus of the discussions with study participants related to the development of school-based policies to guide vaping responses. The responses also included providing teaching and learning opportunities for students and school professionals (including health education teachers and student services teams). Varied responses to vaping between schools has resulted in a fragmented approach which could be better supported by improved communication about broader Government policies. Furthermore, some members of the school community demonstrated a lack of awareness of the existence of school vaping policy, as has been found in other Australian research,[42] and no participants referenced state or national Government policies related to vaping. This suggests communication of established policies needs to be more explicit and targeted. School professionals would benefit from additional training to better enable the implementation of school policies and supportive curriculum resources targeting vaping education, as well as community-based policies and regulations, such as the new Public Health (Tobacco and Other Products) Act.[7]

Evidence indicates that the implementation of clear and consistent policy strategies is an effective response to vaping in the school setting.[43,44] Outlining what, how and by whom strategies should be implemented, provides a clear framework for action. However, it is essential that all members of the school community are aware of the policy, so it can be actioned.[42] Policy communication tools include training school staff on the prevalence, risks and severity of vaping,

awareness of e-cigarette product types, communicating school professionals' roles in addressing vaping behaviours and how to talk to young people about vaping.[44] Students also need to be made aware of existing e-cigarette policy, including the scope of its content, expectations of students and staff, consequences for policy breaches and how additional support can be accessed.

Findings from this study support the provision of educational opportunities for students earlier than is current practice, noting that interventions in late primary and earlier secondary school may contribute to the adoption of vaping, if not well designed.[29] This assertion is supported by other research that suggests late primary to early secondary school years are a critical window of opportunity for tobacco prevention education[25,45] through social competence, social influence and coping skills development.[30,46,47] Furthermore, cross-curricular approaches to vaping education were recommended to address the limited health curriculum in the timetable dedicated to e-cigarettes,[29,48] and for this curriculum to include a focus on mental health and coping strategies,[33] thereby recognising underlying drivers of e-cigarette uptake. Vaping curriculum resources are increasingly becoming available to schools; however, their effectiveness is yet to be tested.[47] Findings from our study suggest that health and addiction risks discussed in existing resources may not be meeting students' needs or expectations. To effectively implement these curriculum and policy responses to vaping, the capacity of the whole-school staff needs to be raised and aligned to curriculum outcomes. Adequate professional training to build staff vaping literacy, best-practice vaping education and skills in implementing supportive responses to vaping is required.[33] In addition, education on the recently introduced Public Health (Tobacco and Other Products) Act,[7] along with other regulations in this field, is needed and should be repeated to ensure up-to-date information is available to all new staff.

In this study, parents were seen by school professionals and students as key players in vaping prevention, to reinforce school action, communicate accurate information to students and establish expectations relating to students' vaping behaviour. Parental rule-setting and regular parent–child communication are effective strategies to support school action towards vaping and provide a protective effect for e-cigarette initiation.[49] Parents noted a lack of knowledge about the school's response to e-cigarettes and often relied on their child's school to provide vaping information to students. While parent information is available (e.g., the Cancer Council,[50] Lung Foundation[51] and Positive Choices[52]), little evidence exists as to the acceptability, suitability and uptake of such information. However, the provision of tailored parent information to clarify vaping misconceptions, how to influence children's attitudes to vaping, along with parent vaping cessation information, is warranted.[32]

Given the status of vaping as a social practice among adolescents,[19] more attention needs to be directed to the school social–emotional environment and the de-normalisation of vaping. School-based interventions that incorporate a social competence and social influence approach seem to be most effective in achieving desired tobacco-related outcomes[30,46] and could be applied to vaping. Social competence relates to drug refusal skills, increased self-control,

self-esteem, coping strategies and decision-making, reflecting Bandura's Social Learning Theory.[53] Social influence skills include developing an awareness of the influences of drug use, and direct and indirect influences, arising from McGuire's[54] persuasive communications theory and Evan et al.'s[55] theory of psychological inoculation. In this regard, reducing the acceptance of vaping among the school community will provide a context to positively influence student vaping behaviour.

Interestingly, the response to vaping detectors in the school bathrooms was not positive, with school professionals reporting detector alerts challenging to respond to due to competing priorities, and on arrival at the bathroom e-cigarettes were not to be seen. There is no empirical evidence on the effectiveness of vaping detector units; however, expert commentary suggests that policing vaping behaviour will not change it; policy and education is required.[56] The Western Australian Department of Education announced that they planned to trial vaping detectors in schools this year (2024).[40] In contrast, this strategy was announced by the NSW Government, and later shelved due to reported limited evidence of effectiveness of this strategy.[57] This policing approach to vaping behaviour change contrasts with current public health approaches[58] and should be reconsidered in WA. It is imperative that evaluation of the impact of vaping detectors accompany their installation.

A strength of this study is the triangulation of perspectives across the whole-school community (school professionals, parents, students) to identify opportunities for vaping prevention within the school environment. These perspectives were gathered prior to the introduction of the 2024 Public Health (Tobacco and Other Products) Act[7] and thus participants' opinion of these regulations could not be obtained. The perspectives presented here, gathered from a small, purposive sample of metropolitan residents may have resulted in a relatively homogenous sample, and may not be generalisable to the broader community. The perspectives of regionally based school professionals, parents and students may differ from those presented here. However, the consistency of these findings with existing evidence for school-based interventions[29] suggests they are not uncommon.

4.1 | Conclusion

The rapid (social) acceptance of e-cigarettes by adolescents has emphasised the need for appropriate and comprehensive responses to reduce exposure to, and further uptake of e-cigarettes. Since the completion of this research, additional regulations have been implemented in Australia. The impact of the 2024 Public Health (Tobacco and Other Products) Act[7] is yet to be determined but will influence community and school activities regarding vaping. The study participants (students, parents and school professionals) generated information on a range of strategies to address this issue in the context of a school environment. The HPS Framework[27,28] is an appropriate approach to the application of strategies in the school setting, involving school professionals, parents, students and the broader community. Having identified fundamental health promotion responses, now

is the time to implement a strategic, multi-faceted whole-school approach to address the current pervasiveness of e-cigarettes that adolescents are currently exposed to and complement the community-level activities being implemented.

CONFLICT OF INTEREST STATEMENT
Jonine Jancey is an Editorial Board member of *HPJA* and a co-author of this article. To minimise bias, they were excluded from all editorial decision-making related to the acceptance of this article for publication. Becky Freeman has received relevant consulting fees from the World Health Organisation, Heart Foundation NSW, Cancer Council NSW, Cancer Council Australia, Cancer Institute NSW and NSW Health and payments or honoraria for lectures/presentations to the Department of Health, the Government of Hong Kong Special Administrative Region, the US Food and Drug Administration and *BMJ Tobacco Control*. She has received relevant research grant funding from the National Health and Medical Research Council, Healthway and the Medical Research Future Fund. She reports support to attend the Oceania Tobacco Control conference and the Australian Public Health Association conference. She was an Expert Member of the National Health and Medical Research Council Electronic Cigarettes Working Committee (paid role). She is also an expert advisor to the Cancer Council Tobacco Issues Committee and a member of the Cancer Institute Vaping Communications Advisory Panel (unpaid roles). Jonine Jancey has received funding from the WA Health Promotion Foundation (Healthway). She is also on the Board of the Australian Council on Smoking and Health (unpaid role).

DATA AVAILABILITY STATEMENT
The datasets generated and analysed during the current study are not publicly available due to ethical constraints. All relevant data are within the paper and its Supporting Information files.

ETHICS STATEMENT
This research was approved by the Curtin University Human Research Ethics Committee (HRE2021-0676).

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REFERENCES
1. McCausland K, Maycock B, Leaver T, Wolf K, Freeman B, Jancey J. "Is it banned? Is it illegal?": navigating Western Australia's regulatory environment for e-cigarettes. Int J Drug Policy. 2021;94:103177.
2. Jenkins S, Greenhalgh E, Grace C, Scollo MM. 18.14 International regulatory overview. In: Greenhalgh E, Scollo M, Winstanley M, editors. Tobacco in Australia: facts and issues. Melbourne: Cancer Council Victoria; 2023.
3. Scott L, McCausland K, Maycock B, Jancey J. The emergence of e-cigarette retail shops in a regulated tobacco control environment. Health Promot J Austr. 2023;34:185–92.
4. Brierley ME, Yaw SJL, Jongenelis MI. Perceptions of Australia's e-cigarette regulations and recommendations for future reforms: a qualitative study of adolescents and adults. BMJ Open. 2024;14: e081032.
5. Grace C, Greenhalgh E, Smith L, Scollo M. 18.13 Legal status in Australia. Tobacco in Australia: facts and issues. Melbourne: Cancer Council Victoria; 2024.
6. Geoscience Australia. Area of Australia—States and territories. Canberra, Australia: Australian Government. n.d. https://www.ga.gov.au/scientific-topics/national-location-information/dimensions/area-of-australia-states-and-territories
7. Australian Government. Public Health (Tobacco and Other Products) Act, No. 118. 2023 (Cth). Available from: https://www.legislation.gov.au/F2011L02766/latest/text
8. Australian Government. Customs Legislation Amendment (Vaping Goods) Regulations 2023. Available from: https://www.legislation.gov.au/F2023L01666/latest/text
9. Watts C, Egger S, Dessaix A, Brooks A, Jenkinson E, Grogan P, et al. Vaping product access and use among 14-17-year-olds in New South Wales: a cross-sectional study. Aust N Z J Public Health. 2022;46: 814–20.
10. Jongenelis MI. E-cigarette product preferences of Australian adolescent and adult users: a 2022 study. BMC Public Health. 2023;23:220.
11. Scully M, Bain E, Koh I, Wakefield M, Durkin S. ASSAD 2022/2023: Australian secondary school students' use of tobacco and e-cigarettes. Canberra: Australian Government Department of Health and Aged Care; 2023.
12. Guerin N, White V, ASSAD. Statistics & trends: Australian secondary students' use of tobacco, alcohol, over-the-counter drugs, and illicit substances. Victoria: Cancer Council Victoria; 2017. p. 2018.
13. Banks E, Yazidjoglou A, Brown S, Nguyen M, Martin M, Beckwith K, et al. Electronic cigarettes and health outcomes: systematic review of global evidence. Report for the Australian Department of Health. Canberra: National Centre for Epidemiology and Population Health; 2022.
14. Pettigrew S, Miller M, Alvin Santos J, Raj TS, Brown K, Jones A. E-cigarette attitudes and use in a sample of Australians aged 15–30 years. Aust N Z J Public Health. 2023;47:100035.
15. Bircan E, Bezirhan U, Porter A, Fagan P, Orloff MS. Electronic cigarette use and its association with asthma, chronic obstructive pulmonary disease (COPD) and asthma-COPD overlap syndrome among never cigarette smokers. Tob Induc Dis. 2021;19:1–9.
16. Kavousi M, Pisinger C, Barthelemy J-C, de Smedt D, Koskinas K, Marques-Vidal P, et al. Electronic cigarettes and health with special focus on cardiovascular effects: position paper of the European Association of Preventive Cardiology (EAPC). Eur J Prev Cardiol. 2020;28: 1552–66.
17. Sharma A, McCausland K, Jancey J. Adolescents' health perceptions of e-cigarettes: a systematic review. Am J Prev Med. 2021;60: 716–25.

18. Marques P, Piqueras L, Sanz M-J. An updated overview of e-cigarette impact on human health. Respir Res. 2021;22:151.

19. Urman R, McConnell R, Unger JB, Cruz TB, Samet JM, Berhane K, et al. Electronic cigarette and cigarette social environments and ever use of each product: a prospective study of young adults in Southern California. Nicotine Tob Res. 2019;21:1347–54.

20. Jancey J, Carey RN, Freeman B, Leaver T, Wolf K, Bromberg M, et al. E-cigarettes on Instagram: exploring vape content via an Australian vaping influencer. Tob Induc Dis. 2024;22:1–11.

21. Jongenelis MI, Kameron C, Rudaizky D, Slevin T, Pettigrew S. Perceptions of the harm, addictiveness, and smoking cessation effectiveness of e-cigarettes among Australian young adults. Addict Behav. 2019; 90:217–21.

22. Bronfenbrenner U. The ecology of human development: experiments by nature and design. Cambridge, MA:Harvard University Press; 1979.

23. Rosas SR. Systems thinking and complexity: considerations for health promoting schools. Health Promot Int. 2015;32:301–11.

24. Pulimeno M, Piscitelli P, Colazzo S, Colao A, Miani A. School as ideal setting to promote health and wellbeing among young people. Health Promot Perspect. 2020;10:316–24.

25. Greenhalgh E, Scollo M, Winstanley M. Tobacco in Australia: facts and issues. Melbourne: Cancer Council Victoria; 2019.

26. Valiente C, Swanson J, DeLay D, Fraser AM, Parker JH. Emotion-related socialization in the classroom: considering the roles of teachers, peers, and the classroom context. Dev Psychol. 2020;56: 578–94.

27. World Health Organization. Making every school a health-promoting school: global standards and indicators for health-promoting schools and systems. Geneva: World Health Organisation and the United Nations Educational, Scientific and Cultural Organisation; 2021.

28. Sawyer SM, Raniti M, Aston R. Making every school a health-promoting school. Lancet Child Adolesc Health. 2021;5:539–40.

29. Hanley-Jones S, Letcher T, Wood L. 5.29 School-based interventions. Tobacco in Australia: facts and issues. Melbourne: Cancer Council Victoria; 2023.

30. Thomas RE, McLellan J, Perera R. School-based programmes for preventing smoking. Cochrane Database Syst Rev. 2013;2013: Cd001293.

31. Wood LJ, Dip P, Rosenberg M, Clarkson J, Phillips F, Donovan RJ, et al. Encouraging young Western Australians to Be smarter than smoking. Am J Health Promot. 2009;23:403–11.

32. Egger S, Watts C, Dessaix A, Brooks A, Jenkinson E, Grogan P, et al. Parent's awareness of, and influence on, their 14–17-year-old child's vaping and smoking behaviours; an analysis of 3242 parent–child pairs in Australia. Addict Behav. 2024;150:107931.

33. Liu J, Roberts J, Reynolds MJ, Hanby E, Gundersen DA, Winickoff JP, et al. Barriers and facilitators to address vaping in Massachusetts schools: a mixed-methods study of school-based stakeholders. Transl Behav Med. 2023;13:589–600.

34. Jancey J, Binns C, Smith JA, Maycock B, Howat P. The rise of e-cigarettes: implications for health promotion. Health Promot J Austr. 2015;26:79–82.

35. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med. 2014;89:1245–51.

36. Lambert SD, Loiselle CG. Combining individual interviews and focus groups to enhance data richness. J Adv Nurs. 2008;62:228–37.

37. Guest G, Namey E, O'Regan A, Godwin C, Taylor J. Comparing interview and focus group data collected in person and online [Internet]. Washington (DC): Patient-Centered Outcomes Research Institute (PCORI). 2020. https://doi.org/10.25302/05.2020.ME.1403117064

38. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3:77–101.

39. McCausland K, Booth S, Leaversuch F, Freeman B, Wolf K, Leaver T, et al. Socio-ecological factors that influence youth vaping:

40. perspectives from Western Australian school professionals, parents and young people. Int J Qual Stud Health Well Being. 2024;19: 2322753.

40. Government of Western Australia. Media statement: New initiatives to crack down on vaping in WA schools. Perth, Western Australia: Government of Western Australia. 2023. Available from: https://www.wa.gov.au/government/media-statements/Cook-Labor-Government/New-initiatives-to-crack-down-on-vaping-in-WA-schools--20231107#:~:text=Other%20initiatives%20include%3A-,Mandatory%20programs%20for%20Years%205%20to%207%20students%20designed%20to,10%20introduced%20in%20June%202022

41. Australian Government. Therapeutic Goods and Other Legislation Amendment (Vaping Reforms) Bill 2024. 2024. Available from: https://www.aph.gov.au/Parliamentary_Business/Bills_LEGislation/Bills_Search_Results/Result?bId=r7169

42. Pettigrew S, Miller M, Kannan A, Raj TS, Jun M, Jones A. School staff perceptions of the nature and consequences of students' use of e-cigarettes. Aust N Z J Public Health. 2022;46:676–81.

43. Milicic S, DeCicca P, Pierard E, Leatherdale ST. An evaluation of school-based e-cigarette control policies' impact on the use of vaping products. Tob Induc Dis. 2018;16:35.

44. Patel M, Donovan EM, Simard BJ, Schillo BA. E-cigarette school policy and staff training: knowledge and school policy experiences with e-cigarette products among a national sample of US middle and high school staff. PLoS One. 2022;17:e0264378.

45. Gaiha SM, Duemler A, Silverwood L, Razo A, Halpern-Felsher B, Walley SC. School-based e-cigarette education in Alabama: impact on knowledge of e-cigarettes, perceptions and intent to try. Addict Behav. 2021;112:106519.

46. Stockings EA, Gardner LA, Newton NC. Vaping among young people—our best defence is self-defence. Drug Alcohol Rev. 2023;43: 1–4.

47. Kelder SH, Mantey DS, Van Dusen D, Case K, Haas A, Springer AE. A middle school program to prevent E-cigarette use: a pilot study of "CATCH my breath". Public Health Rep. 2020;135:220–9.

48. Gardner LA, Rowe AL, Newton NC, Aitken T, Stockings E, Thornton L, et al. School-based preventive interventions targeting e-cigarette use among adolescents: a systematic review protocol. BMJ Open. 2022;12:e065509.

49. Szoko N, Ragavan MI, Khetarpal SK, Chu KH, Culyba AJ. Protective factors against vaping and other tobacco use. Pediatrics. 2021;148: e2020048066.

50. Cancer Council NSW. E-cigarettes Sydney: Cancer Council NSW. 2021 Available from: https://www.cancercouncil.com.au/cancer-prevention/smoking/electronic-cigarettes/

51. Lung Foundation Australia. For parents: unveil what you inhale. Milton, Queensland: Lung Foundation Australia. 2023 Available from: https://lungfoundation.com.au/lung-health/protecting-your-lungs/e-cigarettes-and-vaping/for-parents/

52. Stockings E. E-cigarettes and vaping in young people—where to from here? [Webinar] Sydney: University of Sydney. 2022 Available from: https://positivechoices.org.au/parents/webinar-vaping-where-to-from-here

53. Bandura A. Social learning theory. Englewood Cliffs: Prentice Hall; 1977.

54. McGuire WJ. Inducing resistance to persuasion: some contemporary approaches. In: Berkowitz L, editor. Advances in experimental social psychology. Volume 1. New York: Academic Press; 1964. p. 191–229.

55. Evans RI, Raines BE, Getz JG. Applying the social innoculation model to a smokeless tobacco use prevention program with little leaguers. Smokeless tobacco or health: an international perspective. Volume 2. Bethesda: National Institutes of Health; 1995.

56. Harrison S. How wily teens outwit bathroom vape detectors: Wired. 2019 Available from: https://www.wired.com/story/how-wily-teens-outwit-bathroom-vape-detectors/

57. Carnsew N, Lock S. Vape raids nab $12m in goods as school detections axed. Illawarra Mercury. 2024.
58. Connolly H. Responding to vaping at school: approaches that work. South Australia: Commissioner for Children and Young People; 2024.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.