Sheffield Hallam University | Centre for Behavioural Science and Applied Psychology

Cambridgeshire County Council

Vaping amongst young people in Cambridgeshire

Phase one report: Insight gathering and intervention recommendations

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Authors: Danielle Paddock, Piyali Misquitta, Rachael Thorneloe, Helen Humphreys
Centre for Behavioural Science and Applied Psychology, Sheffield Hallam University
Contact: H.Humphreys@shu.ac.uk

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Executive Summary

Sheffield Hallam University were commissioned by Cambridgeshire County Council and Peterborough City Council to undertake research to understand the barriers and facilitators for seven health behaviours.

In Cambridgeshire, we explored:

- Physical activity, Diet, Smoking in adults, Alcohol consumption, Uptake of NHS health checks, and Vaping in young people

In Peterborough, we explored:

- Uptake of routine childhood vaccinations

This report presents the findings from the **vaping in young people** workstream in Cambridgeshire. The findings for other health behaviours in Cambridgeshire are presented in separate reports.

The aim was to:

- Identify the barriers and facilitators for vaping and/or quitting vaping amongst young people in Cambridgeshire
- Make recommendations for interventions that have the potential to address these needs

Our approach

We used the Capability, Opportunity and Motivation – Behaviour (COM-B) [1,2] model to explore factors influencing vaping amongst young people.

We reviewed findings from local surveys of young people and carried out focus groups with young people in Cambridgeshire to explore the barriers and facilitators for vaping and/or quitting vaping.

We conducted a rapid evidence review using the Behaviour Change Wheel (BCW) [2] to understand what types of interventions have been implemented to prevent or reduce vaping amongst young people.

Informed by the BCW, we made intervention recommendations to address those identified barriers.

We used the APEASE evaluation criteria [3] to explore which intervention recommendations are likely to be acceptable, practical, effective, and affordable for young people to receive and for wider stakeholders to deliver, and whether receiving and/or delivering these interventions are likely to result in unintended consequences or impact on inequalities.

Key findings – local surveys

We originally planned to conduct a survey of young people living in Cambridgeshire to ask about vaping behaviour but our discussions with local stakeholders highlighted several planned and ongoing surveys asking young people locally about their views towards vaping and their current behaviours. Those conducting the surveys shared their findings with us, providing an overview of vaping behaviour amongst young people.

One key survey was the Cambridgeshire Youthwatch Vaping Survey [4]. Key findings were that:

- Prevalence rates (i.e., the number of young people who say that they have tried vaping and/or currently vape) in Cambridgeshire are similar to national prevalence rates.
- The Youthwatch survey highlighted that social influence/peer pressure was the main reason given to explain why young people start vaping.
- The Youthwatch survey reported that young people thought it would be difficult to stop vaping or cut down.
- It also reported that the majority of young people perceived vaping to be harmful for health.

Access the Youthwatch report here: https://www.healthwatchcambridgeshire.co.uk/report/2025-01-21/youth-vaping-under-spotlight-new-report-reveals-alarming-trends-and-calls-action

Key findings – interviews

17 young people who regularly vape took part in small focus groups to talk about their views on vaping and quitting. Young people were recruited via youth workers and lived in either Fenland or Huntingdonshire. Participants ranged in age from 14-25; ten of the participants were aged 16 or below.

We identified barriers and facilitators for quitting vaping, including:

Social influence and peer pressure from friends (B)

Enjoyment and desire to keep vaping (B)

Concerns about short-term withdrawal and/or the loss of emotional comfort from vaping (B)

Lack of strategies and skills to self-regulate vaping behaviour (B)

Ease of access to vaping products (B)

Desire for, but lack of, supportive and non-judgemental conversations about reasons for vaping and benefits vs. risks (B)

Physical health and fitness as a reason to quit (F)

Belief that quitting would be hard (B)

Belief that you are not addicted and don't need support to stop (B)

Concerns about accessing support to quit vaping (B)

Key findings – rapid evidence review

We conducted a rapid evidence review to identify what types of interventions have been tested to prevent or reduce vaping amongst young people.

We conducted systematic searches and screening, resulting in 29 included studies that described individual or organisational-level interventions including service provision, communications and environmental planning.

Previously tested interventions were often complex and used a wide range of behaviour change approaches and strategies to prevent or reduce vaping.

The majority of interventions included components designed to shape knowledge and persuade young people about the negative consequences of vaping. Some had elements of social comparison either directly through peer modelling or more commonly via education - designed to persuade young people that vaping is socially unacceptable/not a normative behaviour.

Interventions with an interactive component(s) (whether delivered to groups or individuals) provided training, skills and/or enablement, providing support and increasing young people's capability to refuse or stop vaping. A variety of approaches had been used including peer modelling, gamified learning using virtual characters or in-person educator-led training sessions. These interventions provided instruction, demonstration and/or opportunities for behavioural practice.

The majority of interventions appeared to target either psychological capability (knowledge or skills) or reflective motivation. Fewer studies sought to address antecedents to the behaviour e.g., identifying and reducing factors that contribute to vaping behaviour such as negative emotions, or restructuring the physical or social environment to reduce exposure and cues (opportunity and/or automatic motivation).

The most commonly reported intervention functions were:

- persuasion (n=20)
- education (n=19)
- training (n=13)

The most commonly reported behaviour change techniques were:

- Information about health consequences (n=16)
- Information about social and environmental consequences (n=11)
- Salience of consequences (n=11)
- Behavioural practice/rehearsal / Demonstration on how to perform the behaviour / Instruction on how to perform the behaviour (n=10)
- Remove access to the reward / Restructuring the physical environment (n=7)
- Credible source (n=5)

Our recommendations

Intervention recommendation 1:

Using co-design with young people to develop an intervention about reducing peer pressure and social norms around vaping

Co-design is particularly important in developing an intervention to reduce peer pressure and social norms around vaping. Social influence was a prominent theme from our focus group discussions, with peer pressure described as one of the key reasons for starting and continuing to vape. Many young people had the perception that everyone around them use vapes and this reinforced beliefs that quitting would be difficult.

We recommend that interventions need to address social influence from peers, but that young people are best positioned to design the content and mode of delivery of such an intervention, to ensure that it is young person-centred and more likely to be effective.

Intervention recommendation 2:

Using physical fitness and sports as a goal to help young people to cut down vaping

A common theme from our focus groups was around young people's concerns and perceptions around how vaping impacts their ability to engage in sports and physical fitness. This theme was especially prevalent among boys with most highlighting improved ability to engage in sport as a potential benefit of quitting vaping. Some young people identified non-vapers as 'sportier' and could identify people they knew who choose not to vape because of sports; this was considered a credible and acceptable reason for saying no to vaping.

We recommend an intervention designed to use young people's desire to improve their physical fitness as a positive and achievable goal to support them in cutting down or quitting vaping. This may include supporting young people to set fitness or sport-related goals alongside reducing vaping behaviour. The intervention should support young people to self-monitor and receive feedback on their progress and could consider a graded approach to reducing vaping. The intervention could be supported by local sports and leisure providers if appropriate.

Our recommendations cont.

Intervention recommendation 3:
Supporting young people to develop skills to cut down vaping

Many young people who took part in our focus groups described a preference to self-manage their own vaping behaviour (as opposed to receiving information from professionals or teachers). They also varied in their experiences of environments and triggers where they found it difficult to resist vaping. Some described vaping at home, when bored or under emotional stress; others described vaping more in social situations and/or with friends.

We recommend developing a toolkit to support young people to set their own personal goals or commitments around reducing vaping, by identifying specific times or places that they would like to reduce vaping and developing IF-THEN action plans to manage likely barriers that might arise to meet that commitment.

Intervention recommendation 4:
Using behavioural substitution to support young people to cut down vaping

Young people in our focus groups described various ways in which vaping serves as a source of emotional support. Some described vaping as a way of relieving negative emotions such as stress or anxiety; others due to boredom. In many cases young people, especially girls, described how simply holding their vape or knowing where their vape was felt comforting.

We recommend providing young people with alternative options to provide emotional comfort and to substitute the behaviour of vaping. Substituted behaviours could include flavoured toothpicks (an example provided by the young people in the focus groups), alternative breathing devices (e.g., stress relief breathing necklaces) or an alternative activity (e.g., exercise, reading). This intervention could be designed as a self-directed toolkit which could involve identifying emotional triggers and creating an action plan for how and when to substitute vaping behaviour for their preferred alternative.

Our recommendations cont.

Intervention recommendation 5:
Training for adults to have supportive conversations with young people about vaping

A notable theme from our focus groups with young people who vape was a dislike of the way that adults approached the topic of vaping. Young people had concerns about school policies around vaping and some teachers' confrontational approaches, and some reported that parents either did not talk to them about vaping or that parents' approaches towards vaping were unhelpful. Some expressed a desire for more honest and balanced conversations about vaping in which they could discuss their behaviour, including their underlying reasons for vaping, its perceived benefits and drawbacks, without fear of punishment.

We recommend training in how to have supportive conversations about vaping that might support young people to consider cutting down, quitting and/or to access support, or simply to feel less stigmatised by their behaviour. The training could be designed to suit a range of adults including teachers, youth workers, parents or older siblings.

Intervention recommendation 6:
Messaging and communication to dissuade young people from sharing and offering vapes with friends and peers

The topic of social influence and peer pressure was widely discussed by young people in our focus groups, particularly those of school-age (16 and below). Young people talked about being offered vapes at school, parties and whilst socialising and feeling a substantial pressure to try this. In particular, they talked about the perceived social etiquette of "sharing your vape", recalling experiences of feeling pressured to share their own vape and/or expecting others to do so.

We recommend developing messaging or communications designed to reframe this social practice as anti-social, highlighting the harms this could do to friends. As with our broader recommendation about tackling social pressure, any messages must be designed with young people to maximise their acceptability, effectiveness and minimise negative effects.

Conclusions

This mixed-method research has identified key capability, opportunity, and motivational barriers and facilitators for quitting vaping amongst young people in Cambridgeshire who regularly vape. The range of different factors influencing young people mean that several different interventions are needed to address this issue.

We have made a series of recommendations about how to support vapers in Cambridgeshire, including both harm reduction approaches and support to quit. Our recommendations emphasise the importance of co-designing interventions with young people, to optimise their acceptability and likely effectiveness. Recommendations include behavioural substitution, action planning, goal-setting and training adults to have supportive conversations with young people about vaping behaviours.

Recommended citation:

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Contact: h.humphreys@shu.ac.uk

Vaping amongst young people: Main report

Background

- Use of e-cigarettes and vapes are increasingly promoted as a smoking cessation tool [5] for adults. However, vaping among young people is a growing public health concern and recent years have seen a drastic increase in the number of young people vaping.
- In 2021, 18% of 15-year-olds reported using e-cigarettes or vapes [6].
- Data from Action on Smoking and Health (ASH) reports that in 2023, 20.5% of children had tried vaping. This figure had risen from 15.8% in 2022 and 13.9% in 2020. There had also been an increase in children trying vaping once or twice, from 7.7% in 2022 to 11.6% in 2023. [7]
- A Smokefree GB Youth survey in 2024 revealed that the rate of youth vaping had stabilised but highlighted that it remained a serious cause for concern, with close to a million young people having tried vaping [8].

Resources to reduce vaping

- Action on Smoking and Health have produced resources for local authorities, schools, and parents on vaping among young people [7].
- In Cambridgeshire and Peterborough, the Healthy Schools Stop Smoking and Vaping service (‘Catch My Breath’) aims to provide a free school-based smoking and vaping prevention programme for young people in primary (Year 5/6) and secondary school [9].
- However, without an in-depth understanding of the barriers and facilitators to vaping and quitting vaping, it is unclear what else may be needed to address the prevalence of vaping amongst young people, particularly for those who are regular and dependent vapers.

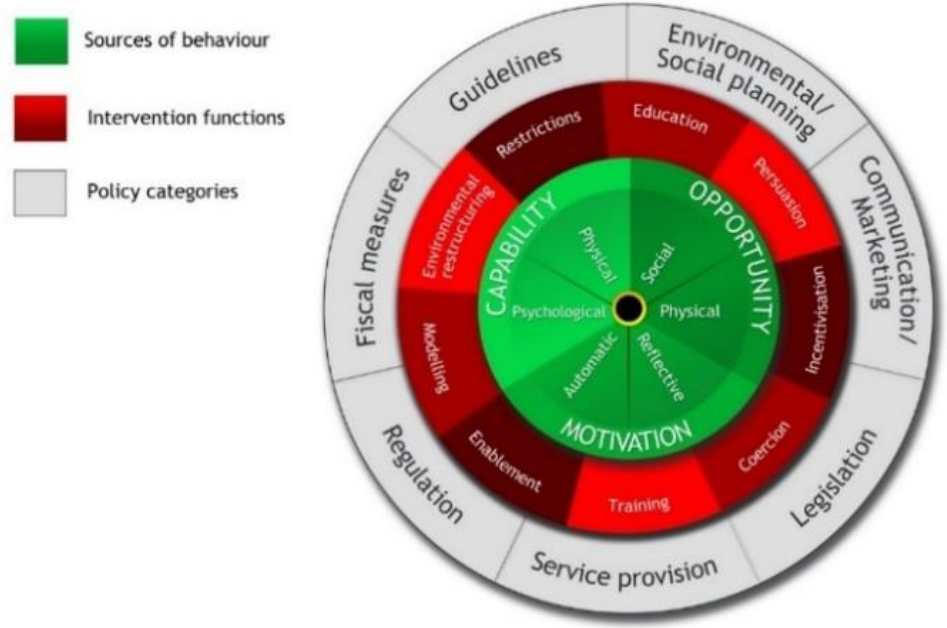
How we used behavioural science in this context

Theoretical approach

We used the Behaviour Change Wheel [2] to make theory-informed intervention recommendations for preventing or reducing vaping amongst young people. This involved:

- Understanding the barriers and facilitators for vaping and/or quitting using the capability-opportunity-motivation model of behaviour (COM-B) (green circle) and the Theoretical Domains Framework (TDF) [10]
- Matching the types of intervention functions that are likely to address those identified barriers and facilitators (red circle)
- Matching the types of policy categories that can help to deliver those identified interventions (grey circle).

We described the content of the intervention recommendations in terms of its Behaviour Change Techniques (BCTs), which are the 'active ingredients' of the intervention [11].



We used the APEASE evaluation criteria [3] to explore which intervention recommendations are likely to be acceptable, practical, effective, and affordable, and whether receiving and/or delivering these interventions are likely to result in unintended consequences or impact on inequalities.

Making a COM-B diagnosis: reviewing local quantitative evidence

We originally planned to conduct a survey of young people living in Cambridgeshire to ask about vaping behaviour but our discussions with local stakeholders highlighted several planned or ongoing surveys that asked similar questions of young people about their vaping behaviour and other related topics.

Local stakeholders shared the findings of these surveys with us, and they provided an overview of young people's vaping behaviour across Cambridgeshire.

One key survey was the Cambridgeshire Youthwatch vaping survey – designed and delivered by young people who were Youthwatch volunteers [4]. Findings of this survey are discussed briefly.

Youthwatch Survey Findings

This survey, designed by young people who are members of Youthwatch, recruited 778 young people aged 11-25 years across Cambridgeshire and Peterborough. In addition to the survey, they also conducted a focus group to provide a more in-depth understanding after the survey findings [4].

Vaping behaviours:

- Overall, 37% of young people in this survey had used vapes
- Of those who vape, most used vapes everyday with 43% reporting 11 or more puffs per day
- 42% of young people used single-use vapes
- 66% of young people had their first vape between ages 13-16 years

Perceptions of vaping:

Over half of young people (58%) reported the main reason for starting vaping was due to peer pressure/social habit. Other common reasons were relaxation/stress, flavours and because vaping is less harmful than smoking.

Nearly half (45%) of young people felt they would struggle to stop or give up vaping, and 92% perceived vaping to be harmful to their health.

93% of young people thought vapes were harmful to the environment.

Youthwatch focus group findings:

Youthwatch conducted a focus group with 8 young people aged 13-17 years. All were non-smokers and non-vapers.

Influences on vaping behaviour:

Young people discussed a range of factors influencing other young people to vape, including:

- Flavours being appealing
- Seeing vapes in your house
- Trying to fit in
- Easily accessible
- Social/peer pressure
- Perceptions about safety of vaping

Harms of vaping:

The Youthwatch report found that young people discussed harms relating to the environment (e.g., “people who vape don’t care about the environment). Focus group participants did not believe that vaping is safer than cigarettes, although they recognised that this may influence other young people to start vaping. They also believed that vaping can be harmful on your lifestyle (e.g., drain on finances, bad for health).

Recommendations:

The Youthwatch report highlights recommendations made by the young people. Some examples include:

- A ban on illegal sales
- Health warnings on vape packaging

Summary – local survey evidence

- Local surveys conducted by organisations in Cambridgeshire provide useful insights into young people's vaping behaviours across the Cambridgeshire area.
- A national report by Action on Smoking and Health (ASH) revealed that in 2023 20.5% of young people had tried vaping [7].
- Local survey data suggests that prevalence rates in Cambridgeshire are largely comparable to national prevalence rates.
- The Youthwatch survey highlights that social influence/peer pressure is the main reason given by young people to explain why they start vaping.
- The Youthwatch survey also highlighted that young people think it would be difficult to stop vaping or cut down, and shows that the majority of young people perceive vaping as harmful for health.

Access the Youthwatch report here: https://www.healthwatchcambridgeshire.co.uk/report/2025-01-21/youth-vaping-under-spotlight-new-report-reveals-alarming-trends-and-calls-action

Our next step was to gather qualitative insights from young people living in Cambridgeshire, to understand in more detail the factors influencing their vaping behaviour and attitudes towards quitting. We specifically sought to interview young people who vape regularly.

Making a COM-B diagnosis: qualitative interviews with young people in Cambridgeshire who vape

We conducted small focus groups to explore the barriers and facilitators for vaping and/or quitting amongst young people in more depth. Our objectives were to:

(1) explore the barriers and facilitators to vaping and/or quitting vaping

(2) explore what support young people think is needed to help reduce vaping or promote quitting and their views on existing interventions

Sampling and recruitment

Participants were recruited between January – March 2025 via local youth workers. Eligibility criteria were participants aged between 13-16 years, or 16-25 with special educational needs or disabilities or care leavers; living in Cambridgeshire; regularly vaping now or very recently. All participants were offered a £20 gift voucher as a thank you for their participation.

Ethical approval

Ethical approval was granted by Sheffield Hallam University Research Ethics Committee (ID ER70014571) and Cambridgeshire County Council. All participants provided informed consent before participating in the interview. Parents were informed about the research via local youth workers and given the opportunity to opt their child out.

Data collection

Focus groups took place face-to-face in settings familiar and comfortable to the young people, and with their youth worker present. A semi-structured topic guide was developed in partnership with local professional stakeholders and consultation with local youth council members. Questions explored young peoples' views and experiences of vaping and quitting or cutting down, perceived support needs and opinions of existing interventions.

Analysis

Data were audio-recorded, transcribed, and anonymised. Framework analysis was used to code the data (12) using NVivo. The transcripts were coded into domains, using the 14 TDF domains as a framework. Text was coded under the domain (theme) that best matched the content. Text relating strongly to more than one TDF domain was coded in both. The types of statements under each TDF domain were than analysed using inductive content analysis. Sub-themes arising from the data (under each TDF domain) were identified to create sub-categories.

Qualitative interview findings – Participants

In total, 17 young people in Cambridgeshire took part in a focus group:

Participants ranged in age from 14-25 years old, with 10 participants aged between 14-16

Nine participants were male; 6 were female and 2 preferred not to say

Ten participants lived in Huntingdonshire and 7 lived in Fenland

Eleven participants identified as being White British, 3 as White Other and 3 as Mixed or Multiple ethnicities

Participants said their age when they had first used vapes ranged from 7 – 18 years old

10 participants had a sibling that vaped; 4 did not and 3 didn't know or preferred not to say

Qualitative interview findings

What are the barriers/facilitators to vaping and/or quitting vaping?

Young people reported the following **capability** barriers (B) and facilitators (F) for quitting vaping:

Knowledge

- 16–25-year-olds have some knowledge about who to talk to about accessing support to quit vaping (F)
- Lack of knowledge/education on vaping (B)

> ... you can't even bring up vaping in front of other people. I would say it's different, though, from teacher to teacher. I know some teachers who would be so loving and kind and like, "Oh, amazing." I know some teachers would immediately kick you out the school if they caught you vaping. There's like, that difference, but then also, like the regulation they have to go through too... honestly, I'd say maybe vaping, it's talked about, but not in the way that it should be. [FG3]

Behavioural regulation

- Lack of planning or behavioural strategies to regulate vaping (B)
- Lack of conscious control or self-monitoring of vaping (B)

> It's like a reflex because you're just bored. So you just go through a whole vape in a couple of hours and you don't even realise, do you? [FG1]

> I don't like getting a food shop because I'm spending it all on vapes. Yes, I'm not good like that with the budgeting and stuff like that, I'm trying to work on it ... I prioritise vapes over anything [FG1]

What are the barriers/facilitators to vaping and/or quitting vaping?

Young people reported the following **opportunity** barriers (B) and facilitators (F):

Environmental context and resources

- Cost of vapes makes them more accessible for young people (B)
- Young people have easy access to vapes (B)
- Easy to vape anywhere (B) and/or conceal vaping (B)
- Colours and flavours make vapes appealing and attractive (B)
- Social environments encourage vaping (B)
- Being busy and distracted reduces vaping (F)
- Vaping to relieve boredom (F)

Because if I'm working on something, if I'm busy working, my mind's not on the vape, my mind's on the task... then when it's died down, then I'm like, "Well, I'm going for a vape now just to de-stress."[FG1]

When I'm drunk. When I'm drunk, yes....If I'm not sober, that's when I need it. [FG1]

[F asked about the ban on disposable vapes]
P3: That will literally change nothing.
P2: Because the current banned ones you can still get them, you can still get them on websites, order them, even [online retailer] sells vapes.
P1: Because 20ks are banned, I'll get 20ks through a friend. [FG1]

P1: Literally, could go to the shop right now, come back, and we'd have, like, a whole pack.
P2: Yes, or even [online retailer]. I could literally go on [website] and they say they check at the door for your age. But I could go to the door and get it, because they really don't care they don't have enough time to check it. Or even, like, I could text an older friend to be like, "Okay, I'll give you £15, go to the shop, get me this." And do that. Like, literally, just so easy. [FG3]

It's because...you see all these colours and you see all these flavours, it's very eye-drawing to young kids. Like grape and guava or stuff like that, it sounds nice. [FG1]

Yes, could literally, like, ask your parent, "Oh, can I have a tenner?" Or your friend will just lend it to you. Or, if you're friends with them, or if they think you're cute, it's free, like, simple... But I would say it's so accessible. You can get one. You can even buy a used one for like, £2. [FG3]

What are the barriers/facilitators to vaping and/or quitting vaping?

Young people reported the following **opportunity** barriers (b) and facilitators (f):

You can't really describe a vaper. Everyone vapes. Probably half the UK vapes. You can't really describe. It's the UK. [FG4]

If I sat at home all day yeah, I would be able to not vape but if I went out and everyone was vaping, it just makes me want to do it again so I've got to be without no-one to stop. [FG5]

Social influences

- Perceived peer pressure around vaping (B)
- Social norms that everyone vapes (B)
- Having conversations with people about vaping behaviour (B / F)
- Having parents and siblings who vape (B)
- Having parents who are against vaping (F)
- Some parents have little influence on vaping behaviour (B)
- Not influenced by other people (F)
- Having friends who are quitting at the same time (F)

She got really pressured. She got cornered in and people gave her a vape and she had a vape in her hands. And they were like, "Take a puff, take a puff." And they were egging her on. And they wouldn't leave her alone until she'd done it. [FG1]

FAC1: Has anyone ever talked to you about your vaping? And what did they say?

PAR2: Yes, my mum told me not to smoke, but she smokes as well, so it doesn't really, it doesn't really change my mind about it. [FG2]

But the thing is, I feel like [younger sister] would be a vaper anyway, because her dad smokes, her step-mum smokes, her step-brother smokes, me, I smoke, my mum smokes. She's surrounded by smokers. And I feel like that's why I got into it, because I was just surrounded by it...Like everyone in my family either has a vape or a cigarette. [FG1]

[My mum] now realises how expensive it is because my sister vapes and she funds for my sister. Because my sister's only 14. The most job she could get is paper round. Yes, so what my mum makes her do is just do chores and she buys her a vape. But my mum's like, "How much do you spend a month?" And I tell her and she's like, "I'm spending at least double that on [name]." My sister's bad for it. I only pay £25, well £50 a month, £25 every other week. And my mum's spending at least £100, £110. [My sister] doesn't like the big puffs because she gets bored of them. So she buys a new one every week. [FG1]

What are the barriers/facilitators to vaping and/or quitting vaping?

Young people reported the following **motivation** barriers (B) and facilitators (F):

Beliefs about consequences

- Belief that smoking is better than vaping (B)
- Belief that vaping is better than smoking (B)
- Concerns about how vaping impacts how much they engage with sports/exercise (F)
- Having no concerns about vaping (B)
- Belief that they will get in trouble with parents/school for vaping (B)
- Perceived concerns about the contents of a vape (F)
- Dislike how much money is spent on vapes (F)
- Perceived negative/positive consequences of quitting vaping (B / F)
- Negative perceptions of accessing support services to quit vaping (B)
- Perceived negative consequences of vaping (F)

F: Do you ever wish you didn't vape?
P16: Yeah. A hundred percent.
F: Why?
P16: Sports. [FG5]

P2: I would also say more freedom, because when you smoke and vape, you can't run. Yes, so if you quit, then over time you could go for runs, you could do the London Marathon if you could. It gives you more freedom.

F: In terms of your ability to do exercise?

P2: Yes, because you're so short of breath

[FG1]

P11: Well no, it's bad that it's addicting, isn't it, but that's about it. Oh, and the cancer.

R12: It's because of all the stuff in it, rat poisoning, tar but still, it makes you addicted. [FG4]

If I went to one of my teachers right now and say, "I vape." They'd call my parents and go, "She's vaping. She's just admitted it." It's like, there's a reason I didn't tell my parents [FG3]

F: What would you lose if you quit vaping completely?

P1: My mind.

P2: My soul mate.

P3: Flavours. [FG1]

P4: Even if I were [to access help], I probably wouldn't call [cessation support services] just because they're probably like, I don't know, it seems a bit degrading.
P5: It feels weird to talk and try and get help from vaping. People do that for alcohol and everything.
P4: [sarcastically] *Yes, I just go to an AA meeting for my vape. I'm really addicted to these 600 puff vapes that I get from [shop].* [FG2]

Young people reported the following **motivation** barriers (B) and facilitators (F):

Emotion

- Feeling lost without a vape, vape as a comforter (B)
- Stress and worry about quitting vaping (B)
- Vaping to relieve negative emotions (B)

I genuinely don't think I can [quit] because even sometimes a thought of not having one stresses me out, to, what's the point, where I have to start [vaping]. [FG1]

I started when I was about 13, 14, and I was going through a really bad time, and some of my other friends, they were doing it, and it was helping them. I was feeling like, oh, they were not really focusing on it. So then I was like, "Oh, it's a good idea." And I started doing it. [FG3]

It's a comfort thing to know that you have it and you can puff it at any time. [FG1]

...I could go a couple days without, but the minute I got one, I wouldn't put it down. It would always be with me, even if it was, like, dead or something, I still have it with me, just to have it with me. You know, that's when I realised that, like, it might be a problem. [FG3]

Intention

- Future desire to cut down or quit vaping (F)

F: So you do feel like in the future you might quit?
P2: Yes, maybe. Maybe in the future. Not right now, no. Not while I'm in [supported accommodation]. Maybe when I get my own place because then I'm not around it.
P1: I think I would like to cut down before I give up. [FG1]

P5: I can't leave it at home. If I lose it, literally, sofas are getting turned over. Everything is bad. But it's not like, if I find it, I'll then have a toke on it, it's literally just knowing where it is and having it. So it's not like I'm dying for a toke on my vape.
... I'm not catting for it, it's just having it.
F: Like for my comfort?
P5: Having it, yes. [FG2]

Young people reported the following **motivation** barriers (B) and facilitators (F):

Reinforcement

- Having negative health experiences from vaping (F)
- Having negative experiences around vaping in schools (e.g., getting suspended) (B)
- Having negative social experiences from vaping (F)
- Having negative experiences of trying to quit vaping (B)
- Having positive experiences from previously quitting vaping (F)
- Having positive experiences from vaping – enjoyment (B)

P2: What made me realise I had to cut down, because I did cut down a lot, didn't I? Yes, I had to go into hospital I did, because I couldn't breathe properly. Yes, so I went to the GP and they said, "Go to the hospital, because it's not normal." And they said that I had pneumonia, because I had liquid in my lungs, and the vaping was making it worse. Yes, so that made me realise, like, "[swearing], I need to cut down like badly."

F: So that did help you then, cut that?

P2: I cut it down a lot. Like, I was going through like, two vapes a day, I was. But now I have one and it lasts me a week.

Yes, I was late to a lot of classes... especially if you went into [the] toilets with someone else doing something. But for me, it was also, the more I did it, the sicker I got. I have very weak lungs and every time I did it, I actually I got, like, not tuberculosis, but I got literally a form of it, and I was really, really, really sick, and it really affected me from it [FG3]

...I mean, I was at someone's party, and I couldn't even blow up a balloon, not that I could before anyway. I literally don't even have the lung capacity for that. Like, I used to be a sprinter when I was younger, like I could run so far, and now I can barely do 100 metres, and it really hurts me. [FG3]

P9: It kind of felt like being a kid again, you know, or some, like, an adult would have Lego, but then you would have, like, the little, big blocks and that's kind of what they were like.
P10: Yes, with the Christmas presents, like, just opening the package, getting, like, satisfied from opening it, fresh, brand new, then taking a first drag, being like, "Oh, new flavour, new this." [FG3]

Young people reported the following **motivation** barriers (B) and facilitators (F):

Beliefs about capabilities

- Belief in their own ability/inability to change their addictive behaviours to vaping (B/F)
- Belief that quitting would be easy (F) or difficult (B)

F: Why would you say 50/50 in terms of being addicted? P13: For me it's like I can stop whenever and at the same time not, that's 50/50. [FG5]

I mean, I wouldn't say it's an addictive thing. You can really just kind of get out of it whenever you want to. Like, I wouldn't really say I'm heavily into it. But because of the headaches and stuff. [FG2]

Social role / identity

- Vaping is something young people do (B)
- Vapers are viewed as less "sporty" (F)
- Perceived social judgement for vaping in public spaces (F)
- Non-vapers are viewed as quiet and good at school (B)

Yeah. I think when I walk around the streets with a vape, I think I look like a [expletive]. It is though, isn't it? Everyone that doesn't vape just thinks what is even the point, I guess. [FG4]

The kind of...the kind of nerdy people, It sounds so bad, but the ones that never get in trouble, like I don't get in trouble at school, but like the ones that are very good grades, they do extra sports. They do all this, and that's what, for me, that's what a non-vaper looks like, someone that's very smart, very prepared in life, knowing what they're doing. Don't be going through much. [FG3]

Yes, probably like a typical vapor would be somebody, like, maybe my age or a bit older...like, not addicted, I would say, like someone who does it recreationally. Would probably be, like, just somebody who goes out with their friends, does it a couple times, goes home and it's fine. And obviously, like a non-vaper, [is] just a non-vaper. [FG3]

No, I'm not, to be fair. I don't get addicted to anything really, but I have a strong mindset where I can just say right now, if I actually want to quit, I'll do it. But I don't want to. [FG1]

What do young people think would help support reduction or prevention of vaping?

- Vapes should not be as appealing – young people suggest removing the colours and variety of flavours.
- Young people believe that banning disposables is not going to be the answer as young people have easy access to unregulated vapes.
- They suggested needing a behavioural substitution (e.g., a flavoured toothpick, exercise).
- There's a preference for vaping interventions to be delivered by a credible source.
- In terms of legislation around vaping, young people discussed a need for policy makers to consult young people.
- They discussed a need for advising young people about vaping rather than 'telling them' – especially in advertising and communications.
- Strong opinions on school-based education:
  - Listen to what young people need when designing education sessions
  - Avoid "scare-tactics" – information needs to be balanced rather than bombardment of health consequences
- Some young people would like quitting vaping to be perceived as "easy"

> ...so much needs to be changed about the school system that they never asked us. If that's the problem, they don't ask us, or they will ask us, but we're not involved in what happens next. They take our suggestions and like, "Okay." And they make it into what they think is best. You're a 40-year-old white man, you're not in school, you're not facing problems we're facing, the pressure, the anxiety, the exams, being told constantly, "You've got 35 days to your exams." That puts so much stress on a student that they're gonna act out. They're gonna start doing stuff that they really [wouldn't] usually do, because they need a way to cope, because the minute you try to talk to someone with it, "Safeguarding that's a safeguard issue. We're calling your parents." I'm not telling my parents because I don't want to tell them. Why do you think you've got that choice to tell my parents about something?

Summary – focus groups

We interviewed 17 young people who live across Cambridgeshire and key capability, opportunity, and motivation barriers and facilitators for quitting vaping.

Capability

Young people described a lack of knowledge about how or where to access support to quit vaping. Whilst they could describe perceived health risks of vaping, they did not have confidence in their knowledge of vaping. Most did not describe specific skills or strategies to consciously control or reduce their vaping, describing it as habitual or unplanned.

Opportunity

Young people spoke widely about how easily accessible vaping products were for young people regardless of their age or other circumstances. Most were adamant that legislation to ban disposable vapes would have little impact on their ability to obtain them, as they were typically accessing vapes (often unregulated) via friends, online or unscrupulous local retailers.

Young people described the wide array of flavours and colours of vaping products as appealing. Meanwhile, the ability to hide and conceal them made it easier to keep using vapes.

Despite strong anti-vaping policies in place, school environments were described as an enabler of vaping and a barrier to quitting because social influence was so strong in these settings. Peer pressure was a commonly cited factor in starting vaping and it was considered highly socially normalised. Many also described intergenerational influences, highlighting parents and older siblings that smoked or vaped and how normalised these behaviour were in their family. Most young people felt that everyone around them vaped, and it would therefore be difficult to avoid. Quitting would require a strong mindset to resist social pressure. Non-vapers were considered either nerdy, sporty, or at the periphery of social circles.

Having parents, teachers or other adults who were supportive and/or non-judgemental about vaping was desirable but rarely experienced in practice.

Summary – focus groups (cont.)

Motivation

Young people varied in their views about the health consequences of vaping. Some believed it was safer than smoking whereas others thought the opposite; regardless they all acknowledged there were long-term health risks and short-term side effects. Young people described concerns about their physical fitness and breathlessness, and many cited sport or physical fitness as a positive reason to quit.

Young people felt that social consequences of vaping included punishment at school or reprimand from parents, however many discussed the ineffectiveness of these approaches in the longer-term, with some believing the consequences to be insignificant.

Identifying as a vaper was considered normal. Non-vaping was associated with being “nerdy or “good” at school, but also something that fit and sporty people might choose.

Some young people expressed a desire to quit vaping but also concerns about quitting, particularly those who experienced emotional comfort from the behaviour, and some worried about physical withdrawal symptoms. Some also raised concerns about accessing support to quit, believing it could be ‘degrading’ or that it wasn’t sufficiently serious an addiction to ask for help with.

Some vapers within our sample did not believe that they were addicted and felt confident in their ability to quit unaided, whenever they wanted to. Others believed that quitting would be hard.

Young people described enjoyment from vaping. Many described emotional comfort and/or relief from stress or anxiety, others enjoyed the flavours and got pleasure from trying new devices. Some simply felt it was ‘just something you do’.

Rapid evidence review of interventions

We conducted a rapid evidence review to identify what types of interventions have been implemented to prevent or reduce vaping amongst young people.

Searches

We conducted systematic searches in electronic bibliographic databases, using relevant search terms for population (e.g., children, young people); terms for intervention (e.g., programme, initiative, service) and terms for vaping (e.g., e-cigarettes). Studies were included in the review if they described an intervention to prevent or reduce vaping amongst young people aged <18 years old and reported outcomes relating to changes in i) intentions to vape or ii) self-reported vaping behaviour.

In total, we identified 53 papers meeting our inclusion criteria.

24 of these papers described interventions being delivered at national or regional policy-level (e.g., legislation and fiscal measures). These were outside the scope of interventions that a UK local authority could deliver.

29 papers described individual or organisational-level interventions including service provision, communications and environmental planning. We proceeded to extract the data from these 29 papers.

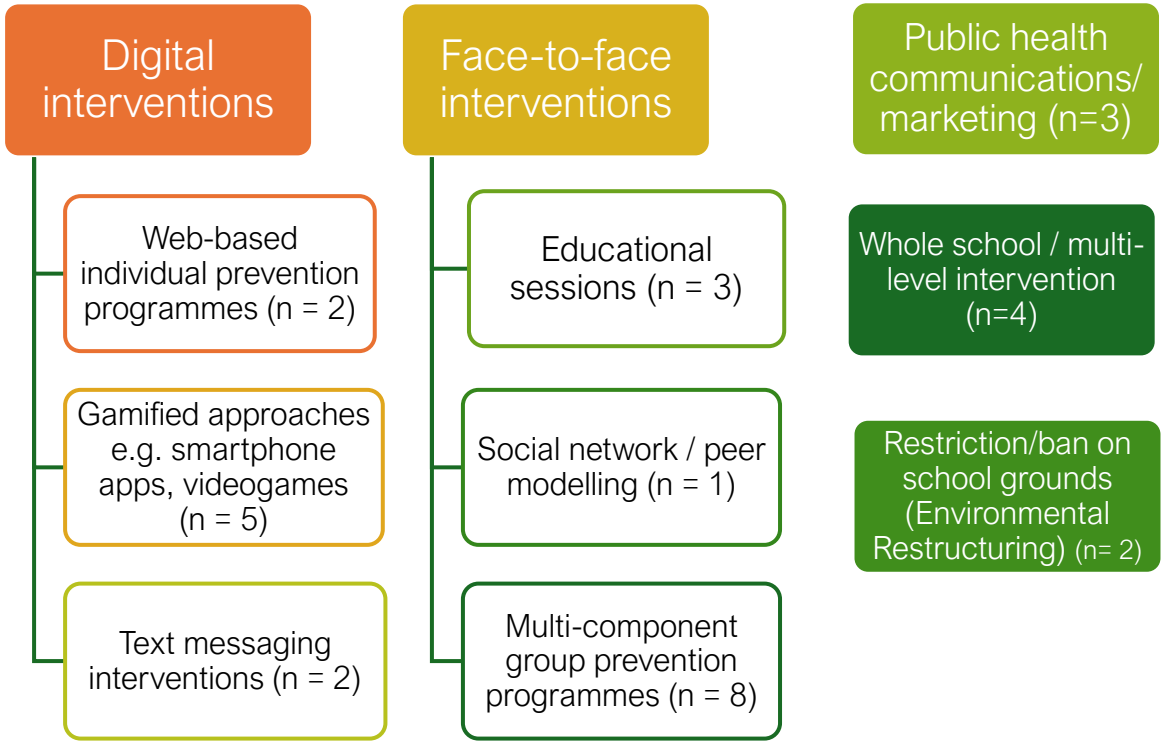
Data extraction

Data relating to the content of the intervention was extracted and classified using the Behaviour Change Wheel [2] and the behaviour change taxonomy [11]. Data were managed in Covidence and Excel.

Rapid evidence review of interventions:

Description of included studies

- Papers were from the US (n=21); Canada (n-3); UK (n=1); Germany (n=1); Netherlands (n=1); France (n=1); Malaysia (n=1)
- Ages of participants ranged from 9 to 24 years. 8 papers targeted early adolescence (11-14 years) and 11 papers targeted middle to late adolescence (14-18 years).
- Included studies evaluated changes in:
  i) Intentions to vape (n=15)
  ii) Self-reported vaping behaviour (n=10)
  iii) Other skills (n=3)*



Strategies used in existing interventions

A total of 9 different intervention functions were identified within the reported content of interventions included in our review:

INTERVENTION FUNCTION		No. of studies
Education	(increasing knowledge or understanding)	19
Persuasion	(using communication to induce positive or negative feelings or stimulate action)	20
Incentivisation	(creating an expectation of reward)	1
Coercion	(creating an expectation of punishment or cost)	2
Restriction	(using rules to increase the target behaviour by reducing opportunities to engage in competing behaviours)	7
Training	(imparting skills)	13
Modelling	(providing an example for people to aspire or imitate)	3
Enablement	(increasing means/ reducing barriers to increase capability)	8
Environmental Restructuring	(changing the physical or social context)	3

Behaviour change techniques used in interventions to prevent or reduce vaping in young people

A total of 32 different behaviour change techniques were identified within the reported content of interventions included in our review:

The most frequently reported behaviour change techniques were:

- Information about health consequences (n=16)
- Information about social and environmental consequences (n=11)
- Salience of consequences (n=11)
- Behavioural practice/rehearsal / Demonstration on how to perform the behaviour / Instruction on how to perform the behaviour (n=10)
- Remove access to the reward / Restructuring the physical environment (n=7)
- Credible source (n=5)

Summary of rapid evidence review

Previously tested interventions were often complex and used a wide range of behaviour change approaches and strategies to prevent or reduce vaping.

The majority of interventions included components designed to shape knowledge and persuade young people about the negative consequences of vaping. Some had elements of social comparison either directly through peer modelling or more commonly via education - designed to persuade young people that vaping is socially unacceptable/not a normative behaviour.

Interventions with an interactive component(s) (whether delivered to groups or individuals) provided training, skills and/or enablement, providing support and increasing young people's capability to refuse or stop vaping. A variety of approaches had been used including peer modelling, gamified learning using virtual characters or in-person educator-led training sessions. These interventions provided instruction, demonstration and/or opportunities for behavioural practice.

The majority of interventions appeared to target either psychological capability (knowledge or skills) or reflective motivation. Fewer studies sought to address antecedents to the behaviour e.g., identifying and reducing factors that contribute to vaping behaviour such as negative emotions, or restructuring the physical or social environment to reduce exposure and cues (opportunity and/or automatic motivation).

Developing our intervention recommendations

Vaping is influenced by a wide range of factors. No single intervention is likely to address all possible influences at once, and they may also vary between young people depending on their individual circumstances. Acknowledging this, we have used the Behaviour Change Wheel [2] to make a range of theory-informed intervention recommendations to support young people who vape in Cambridgeshire.

Creating a heatmap of effective behaviour change techniques

- We considered all the barriers and facilitators identified for quitting vaping in terms of 'Mechanisms of Action' based on the Theory and Techniques tool [13].
- We then used the tool to match the intervention strategies used by the effective interventions identified in our rapid evidence review against our identified barriers and facilitators.
- We also considered what additional behaviour change techniques the tool showed us could be effective for addressing our identified barriers and facilitators, based on wider evidence.
- Based on local survey findings and our focus group analysis, we developed a list of potential intervention ideas that could address the barriers and facilitators for quitting vaping in Cambridgeshire.
- Using the APEASE evaluation criteria [3], we explored the likely acceptability, practicality, effectiveness, and affordability of these interventions (both from the perspective of the young person, and those who would deliver the intervention), and considered whether receiving and/or delivering these interventions were likely to result in unintended consequences or impact on inequalities.
- We also discussed our ideas with local stakeholders, to get their views on likely effectiveness, practicality and acceptability, and any other relevant local contextual information.

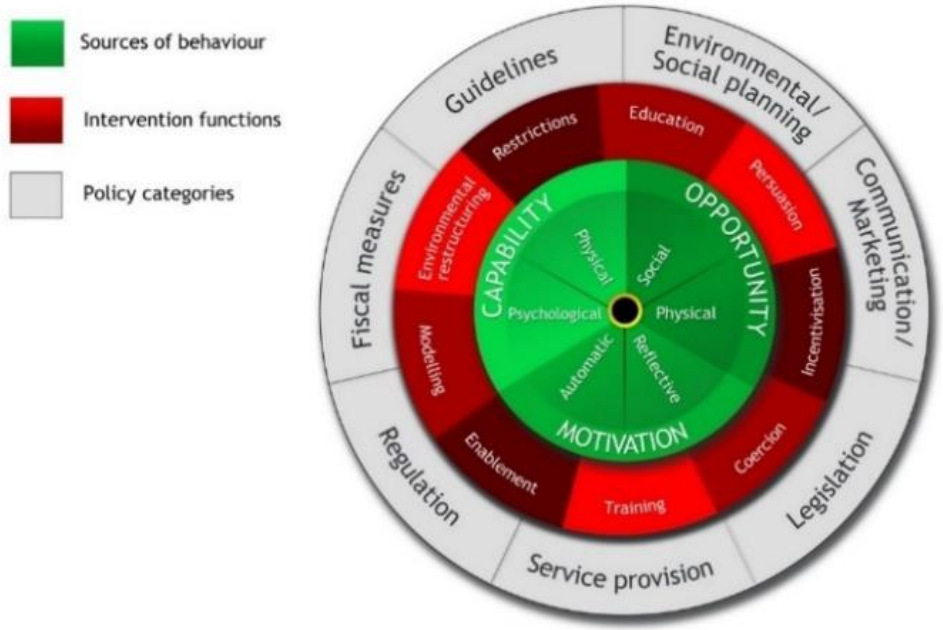
Intervention recommendations

Using the behaviour change wheel [2], we have matched the types of intervention functions (red circle) that are likely to address the identified barriers and facilitators (green circle).

We have also matched the types of policy categories that can help to deliver those identified interventions (grey circle).

We describe briefly the content of the intervention recommendations in terms of suggested Behaviour Change Techniques (BCTs), which are the 'active ingredients' of the intervention [11].

Using the APEASE evaluation criteria [3], we have considered the likely acceptability, practicality, effectiveness, and affordability of the interventions (both from the perspective of the young person, and those who would deliver the intervention), and explored whether receiving and/or delivering these interventions are likely to result in unintended consequences or impact on inequalities.



Using co-design with young people

Many young people in our focus groups described the need for their voices to be listened to when designing and developing interventions to reduce vaping among young people. They discussed some experiences of current interventions around vaping (e.g., school assemblies) aimed at reducing vaping behaviours. However, they believed that some of these interventions did not address the needs of young people, and that some young people are therefore less receptive to them.

We recommend that young people should be directly involved in designing the content of vaping interventions. We suggest that this is considered for all our intervention recommendations.

Intervention recommendation 1: Co-designed intervention to reduce peer pressure and social norms

Co-design is particularly important in developing an intervention to reduce peer pressure and social norms around vaping. Social influence was a prominent theme from our focus group discussions, with peer pressure described as a common reason for starting or continuing to vape. Many young people had the perception that everyone around them used vapes and this reinforced beliefs that quitting would be difficult.

We recommend an intervention to address social influence from peers. **Young people's input is needed to design the content and mode of delivery of such an intervention**, to ensure that it is young person-centred and more likely to be effective. The intervention should include behaviour change techniques likely to be effective including **problem solving, social support, social comparison, information about others' approval and/or self-talk**.

APEASE evaluation criteria:
Young people and professional stakeholders believed this would be an **acceptable** intervention. This approach to intervention development should be **practical** and **affordable**. At this stage, it is difficult to say that this intervention would be **effective** as this is dependent on the type of intervention developed through the co-design process. The codesign process would aim to minimise unintended **side effects,**. To ensure **equity,** young people with varying demographic characteristics would need to be included so that the co-designed intervention was inclusive.

Intervention recommendation 2: Using physical fitness and sports as a goal to help young people cut down vaping

A common theme from our focus groups related to young people's concerns and perceptions about the impact of vaping on their physical fitness and their ability to engage in sports. This theme was especially prevalent among male participants with most describing that the one thing they would gain from quitting vaping would be their ability to engage more with sports. Some young people also identified non-vapers as 'sportier' and could identify people they knew who choose not to vape because of sports, which was considered a credible and acceptable reason for saying no to vaping. Many young people expressed a desire to become more physically fit and part of that would involve quitting vaping (i.e., they notice the impact of vaping on their physical fitness levels). We recommend an intervention designed to use young people's desire to improve their physical fitness as a positive and achievable goal to support them in cutting down or quitting vaping. This may include supporting young people to set goals around doing more physical fitness, including reducing vaping behaviour so that they feel more physically fit. Providing support to self-monitor and receive feedback on their progress could be considered, where feasible, alongside a gradual approach encouraging young people to reduce vaping incrementally to reach their fitness goals. The intervention could be supported by local sports and leisure providers if appropriate.

APEASE evaluation criteria:

Our qualitative work indicated young people's desire to quit vaping so that they could improve their physical fitness and engage in more sports, suggesting that this would be an **acceptable** intervention. If the intervention proved acceptable, it could be delivered in multiple locations making it widely accessible and **equitable**. There are likely **practical** and **cost** implications for the delivery of the intervention. Health survey data suggests that the majority of young people in secondary school are not meeting physical activity guidelines. This intervention could positively promote engagement in more physical activity as well as reducing vaping behaviours **(positive side effects)**.

Identified needs	Behaviour change wheel	Key behaviour change techniques
Concerns about how vaping impacts young people's ability to engage with physical activity Improving beliefs about the positive benefits for cutting down / quitting vaping Improving positive social norms about cutting down / quitting vaping	**Policy category:** Service provision **Intervention functions:** Enablement, Education, Training	1.1 Goal setting (behaviour) 2.2 Feedback on behaviour 3.1 Social support (unspecified) 9.2 Pros and cons 9.3 Comparative imagining of future outcome* 13.2 Framing/ reframing* 13.5 Identity associated with changed behaviour 15.4 Self-talk

Intervention recommendation 3: Supporting young people to develop the skills to cut down vaping

Many young people who took part in our focus groups described a preference to self-manage their own vaping behaviour (as opposed to receiving information from professionals or teachers). They also varied in their experiences of environments and triggers where they found it difficult to resist vaping. Some described vaping at home, when bored or under emotional stress; others described vaping more in social situations and/or with friends. We recommend developing a toolkit to support young people to set their own personal goals or commitments around reducing vaping, by identifying specific times or places that they would like to reduce vaping and developing IF-THEN action plans to manage likely barriers that might arise to meet that commitment.

Identified needs	Behaviour change wheel	Key behaviour change techniques
Skills to identify cues and triggers to vaping (e.g. social situations, boredom, stress) Need for distractions or alternative behaviour to help you avoid vaping Desire to self-manage vaping behaviour Desire to quit or cut down vaping	**Policy category**: Service provision **Intervention functions:** Education, Training, Enablement	1.1 Goal-setting (behaviour) 1.2. Problem solving 1.4. Action planning 2.3. Self-monitoring of behaviour 4.2. Information about antecedents 8.1 Behavioural practice/rehearsal

APEASE evaluation criteria:

This would be a novel intervention and young people should be consulted to ascertain its **acceptability** in principle. It would be relatively **practical** and **affordable** for behavioural science researchers at Sheffield Hallam University to develop a prototype toolkit for proof-of-concept testing. If the concept proved acceptable, the intervention could be delivered in a wide range of settings, making it both scalable and potentially **equitable** if distributed widely, although this has obvious cost implications. Providing the toolkit in a range of formats (e.g. digital and manual) would maximise equity, although may be expensive. Young people could use the toolkit relatively independently meaning that they would be empowered to self-manage their vaping behaviour, something that they expressed a desire for as opposed to passively receiving interventions delivered by professionals. Positive **side effects** include the potential to expand the toolkit to encompass other behaviours of interest to young people, and/or making it available for adult smokers or vapers.

Intervention recommendation 4: Using behavioural substitution to support young people to cut down vaping

Young people in the focus groups described in detail the ways in which vaping serves as a source of emotional support. Some young people described vaping as a way of relieving negative emotions such as stress or anxiety, and some young people described vaping as a result of boredom. In many cases, young people, especially girls, described how simply holding their vape or knowing where their vape was felt comforting. We recommend providing young people with an alternative object to provide emotional comfort, to substitute the behaviour of vaping. Ideally young people should be provided with options so they can choose something that will suit them. Substituted behaviours could include using flavoured toothpicks (an example provided by the young people in the focus groups), alternative breathing devices (e.g., stress relief breathing necklaces) or an alternative activity young people enjoy (e.g., exercise, reading). This intervention could be designed as a self-directed toolkit which could involve identifying emotional triggers and creating an action plan for how and when to substitute vaping behaviour for their new alternative.

APEASE evaluation criteria:
From our qualitative findings, providing young people with an alternative behaviour to vaping would be an **acceptable** intervention as most young people described some of these substitutes (e.g., flavoured toothpick). It would be relatively **practical** to deliver this type of intervention as it could be designed as a self-driven toolkit and behavioural substitution has been found to be **effective** in existing interventions. There could be some potential **cost** implications in delivery of this intervention in terms of providing certain substitutions (e.g., breathing devices). Providing young people with a range of choices for behavioural substitution could make the intervention more **equitable** and inclusive, however, to be fully inclusive to all young people the **cost** of providing the substitutes would need to be considered.

Identified needs	Behaviour change wheel	Key behaviour change techniques
Reducing anxiety, stress and worry about quitting vaping Promoting an alternative 'healthier' behaviour to provide emotional support	**Policy category:** Service provision **Intervention functions:** Education, Enablement, Training	1.4 Action planning 4.2 Information about antecedents 7.4 Prompts/cues 8.2 Behaviour substitution 8.3 Habit formation 12.1 Restructuring the physical environment 12.5 Adding objects to the environment

Intervention recommendation 5: Training for adults to have supportive conversations with young people about vaping

A notable theme from our focus groups with young people who vape was a dislike of the way that adults approached the topic of vaping. Young people had concerns about school policies around vaping and some teachers' confrontational approaches, and some reported that parents either did not talk to them about vaping or that parents' approaches towards vaping were unhelpful. Some expressed a desire for more honest and balanced conversations about vaping in which they could discuss their behaviour, including their underlying reasons for vaping, its perceived benefits and drawbacks, without fear of punishment. We recommend training in how to have supportive conversations about vaping that might support young people to consider cutting down, quitting and/or to access support, or simply to feel less stigmatised by their behaviour. The training could be designed to suit a range of adults including teachers, youth workers, parents or older siblings.

APEASE evaluation criteria:

Our qualitative findings indicate that this would be an **acceptable** intervention for young people, and the professionals we consulted found it acceptable in principle. The training would be **practical** to develop and deliver although **affordability** would be contingent on scale and reach. **Practicality** would depend on professionals being available to take part, although a flexible approach to training delivery could be embedded to maximise accessibility. Existing evidence based on similar interventions suggests that such an intervention could be **effective. Side effects** of the intervention should be positive but would be subject to the intervention, and the skills being developed through the training, being delivered as intended. Considerations would need to be made around the reach of the intervention and how to ensure that it was offered across Cambridgeshire and included a range of trusted adults or caregivers, to avoid young people missing out on the benefits due to their location or circumstances **(equity)**.

Identified needs	Behaviour change wheel	Key behaviour change techniques
Young people do not feel able to discuss vaping with many adults Negative experiences associated with school anti-vaping policies is a barrier to seeking help Parental influence can be positive or negative, but vaping is rarely discussed in detail with parents Talking to trusted people about vaping can be a facilitator to quitting	**Policy category**: Service provision **Intervention functions:** Education, Training	3.1 Social support 5.1 Information about health consequences 5.6 Information about emotional consequences 9.1 Credible source 9.2 Pros and cons 10.4 Social reward 11.2 Reduce negative emotions 12.2 Restructuring the social environment

Intervention recommendation 6: Messaging and communication to dissuade young people from sharing and offering vapes with friends and peers

The topic of social influence and peer pressure was widely discussed by young people in our focus groups, particularly those of school-age (16 and below). Young people talked about being offered vapes at school, parties and whilst socialising and feeling a substantial pressure to try this. In particular, they talked about the perceived social etiquette of "sharing your vape", recalling experiences of feeling pressured to share their own vape and/or expecting others to do so. We recommend developing messaging or communications designed to reframe this social practice as anti-social, highlighting the harms inherent in encouraging someone else (e.g., comparing it to offering them a poison). As with our broader recommendation about tackling social pressure, any messages must be designed with young people to maximise their acceptability, effectiveness and minimise negative effects.

APEASE evaluation criteria:
A key first step to evaluate this intervention would be to develop messages with young people and to test their **acceptability** with other young people. Messaging and communication would be **practical** and **affordable** to develop and deliver (dependent on scale and ambition). This would be a novel intervention and therefore **effectiveness** is not known, although our evidence review found that tailored messaging is an acceptable and feasible method of preventing and reducing vaping. Unintended consequences (**side effects**) would need to be explored as part of acceptability testing to ensure that any messaging did not have unintended negative social effects. However, the intervention could be disseminated widely to maximise reach and tailored to ensure it was inclusive (**equity**).

Identified needs	Behaviour change wheel	Key behaviour change techniques
Peer pressure and social influence is a widely cited factor that influences young people to vape School and social environments encourage and enable vaping behaviour Vaping is seen as socially normalised and acceptable	**Policy category**: Marketing / Communications **Intervention functions:** Education, Persuasion	5.5 Anticipated regret 6.2 Social comparison 6.3 Information about others' approval 13.1 Identification of self as a role model 13.2 Framing / reframing

Conclusions

This mixed-method research has identified key capability, opportunity, and motivational barriers and facilitators for quitting vaping amongst young people in Cambridgeshire who regularly vape. The range of different factors influencing young people mean that several different interventions are needed to address this issue.

We have made a series of recommendations about how to support vapers in Cambridgeshire, including both harm reduction approaches and support to quit. Our recommendations emphasise the importance of co-designing interventions with young people, to optimise their acceptability and likely effectiveness. Recommendations include behavioural substitution, action planning, goal-setting and training adults to have supportive conversations with young people about vaping behaviours.

Recommended citation:

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Contact: h.humphreys@shu.ac.uk

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