McMaster University | HEALTH FORUM

Appendices

Rapid synthesis appendices

Policy approaches to reduce the recreational use of tobacco and nicotine products

23 December 2024

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Appendix 1: Methodological details

Background to the rapid synthesis

This rapid synthesis mobilizes both global and local research evidence about a question submitted to the McMaster Health Forum's Rapid Response program. Whenever possible, the rapid synthesis summarizes evidence drawn from existing evidence syntheses and from single research studies in areas not covered by existing evidence syntheses and/or if existing evidence syntheses are old or the science is moving fast. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select, and appraise research studies, and to synthesize data from the included studies. The rapid synthesis does not contain recommendations, which would have required the authors to make judgments based on their personal values and preferences.

The Forum produces timely and demand-driven contextualized evidence syntheses such as this one that address pressing health and social system issues faced by decision-makers (see our website for more details and examples). This includes evidence syntheses produced within:

- days (e.g., rapid evidence profiles or living evidence profiles)
- weeks (e.g., rapid syntheses that at a minimum include a policy analysis of the best-available evidence, which can be requested in a 10-, 30-, 60-, or 90-business-day timeframe)
- months (e.g., full evidence syntheses or living evidence syntheses with updates and enhancements over time).

This rapid synthesis was prepared over a 60-business day timeframe and involved six steps:

1) submission of a question from a policymaker or stakeholder (in this case, the British Columbia Ministry of Health)
2) engaging subject matter expert
3) identifying, selecting, appraising, and synthesizing relevant research evidence about the question
4) conducting and synthesizing a jurisdictional scan of experiences about the question from other countries and Canadian provinces and territories
5) drafting the rapid synthesis in such a way as to present concisely and in accessible language the research evidence
6) finalizing the rapid synthesis based on the input of at least two merit reviewers.

Engaging subject matter experts and citizen partners

At the beginning of each rapid synthesis and throughout its development, we engage a subject matter expert to help scope the question and ensure relevant context is taken into account in the summary of the evidence.

Identification, selection, quality appraisal, and synthesis of evidence

For this rapid synthesis, we searched PubMed, Web of Science, and Google Scholar for evidence syntheses. The search was restricted to reviews published in the last five years (2019 to 2024) to capture the most current, innovative, and relevant policies. We took this approach because many tobacco control policies (e.g., smoke-free workplaces, plain packaging) covered under the Framework Convention on Tobacco Control (FCTC) have already been adopted nationally in Canada.

We searched PubMed using MeSH terms and a filter for the last 5 years.

Search: (((“tobacco use cessation” OR “cigarette smoking” OR vaping OR “electronic nicotine delivery system*”[MeSH Terms]) AND (“United Kingdom” OR “United States” OR “New Zealand” OR “Australia”[MeSH Terms]))) AND (systematic review [Title/Abstract]) Filters: in the last 5 years

We searched the Web of Science using keywords and a filter for the last 5 years.

Search: ((government policy OR public policy OR policy [topic]) AND (nicotine use reduction OR tobacco use reduction OR cigarette use reduction OR e-cigarette use reduction OR vap* use reduction OR smoking cessation [topic]) AND (systematic review [abstract])) Filter: in the last 5 years

We did four individual searches on Google Scholar using the following keywords. The first 20 pages were screened for relevant systematic reviews.
— “review” tobacco
— “review” cigarette
— “review” e-cigarette
— “review” vaping

We later repeated the Google Scholar search using a more target approach to see if we could identify literature where important gaps were noted. This yielded an additional four systematic reviews focusing on vulnerable populations.
— “review” tobacco vulnerable populations, pregnancy, youth, Indigenous
— “review” cigarette vulnerable populations, pregnancy, youth, Indigenous
— “review” e-cigarette vulnerable populations, pregnancy, youth, Indigenous
— “review” vaping vulnerable populations, pregnancy, youth, Indigenous

Each database was screened by one of two team members, the principal investigator or senior researcher. A final inclusion assessment was performed independently by both team members and disagreements were resolved through consensus during a virtual meeting. We screened 111 evidence syntheses of which 68 were excluded based on a title and abstract review. Another 17 documents were excluded after a full-text review because they did not provide direct evidence that a given tobacco control policy, regulatory or nonregulatory, was or was not effective. The excluded documents can be found in Appendix 6. This process resulted in 26 evidence documents included.

For the policy scan, we hand searched the websites of key organizations (World Health Organization, International Tobacco Control Policy Evaluation Project, Campaign for Tobacco-Free Kids, American Lung Association, the Royal College of Physicians) and the governments of Aotearoa New Zealand, Australia, the U.K, and the U.S. for documents related to their national tobacco and e-cigarette strategies, most current control policies, and policy briefs.

Each source for these documents was assigned to one team member who conducted hand searches (when a source contains a smaller number of documents) or keyword searches to identify potentially relevant documents. A final inclusion assessment was performed both by the person who did the initial screening and the lead author of the rapid synthesis, with

disagreements resolved by consensus or with the input of a third reviewer on the team. The team used a dedicated virtual channel to discuss and iteratively refine inclusion/exclusion criteria throughout the process, which provided a running list of considerations that all members can consult during the first stages of assessment.

For each evidence synthesis we included, we documented the dimension of the organizing framework with which it aligns, key findings, living status, methodological quality (using AMSTAR), last year the literature was searched (as an indicator of how recently it was conducted), availability of GRADE profile, and equity considerations using PROGRESS PLUS.

Two reviewers independently appraised the methodological quality of evidence syntheses that are deemed to be highly relevant using the first version of the AMSTAR tool. Two reviewers independently appraise each synthesis, and disagreements were resolved by consensus with a third reviewer if needed. AMSTAR rates overall methodological quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. High-quality evidence syntheses are those with scores of eight or higher out of a possible 11, medium-quality evidence syntheses are those with scores between four and seven, and low-quality evidence syntheses are those with scores less than four. It is important to note that the AMSTAR tool was developed to assess evidence syntheses focused on clinical interventions, so not all criteria apply to those pertaining to health-system arrangements or implementation strategies. Furthermore, we apply the AMSTAR criteria to evidence syntheses addressing all types of questions, not just those addressing questions about effectiveness, and some of these evidence syntheses addressing other types of questions are syntheses of qualitative studies. While AMSTAR does not account for some of the key attributes of syntheses of qualitative studies, such as whether and how citizens and subject-matter experts were involved, researchers' competency, and how reflexivity was approached, it remains the best general quality-assessment tool of which we're aware. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, an evidence synthesis that scores 8/8 is generally of comparable quality to another scoring 11/11; both ratings are considered 'high scores.' A high score signals that readers of the evidence synthesis can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the evidence synthesis should be discarded, merely that less confidence can be placed in its findings and that it needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1): S8.)

Preparing the profile

Each included document is cited in the reference list at the end of the rapid synthesis. For all included evidence syntheses, we prepared a small number of bullet points that provide a summary of the key findings, which are used to summarize key messages in the text. We then drafted a summary that highlights the key findings from all highly relevant documents (alongside their date of last search and methodological quality).

For primary research (when included), we documented the dimension of the organizing framework with which it aligns, publication date, jurisdiction studied, methods used, a description of the sample and intervention, declarative title and key findings, and equity considerations using PROGRESS PLUS. We then used this extracted information to develop a synthesis of the key findings from the included syntheses and primary studies.

During the above process we included published, pre-print, and grey literature. We did not exclude documents based on the language of the document; however, the four jurisdictions of interest were English-speaking countries, so all documents are in English. All of the information provided in the appendix tables was taken into account by the authors in describing the findings in the rapid synthesis.

Appendix 2: Key findings from evidence syntheses and policy scan for cigarettes and e-cigarettes

Cigarettes

Policy Domain in the framework	Policy Subdomain in the framework	Policy Description & Jurisdiction	Policy Effectiveness
Pricing policies	*Taxes*	All four jurisdictions, Aotearoa New Zealand, Australia, the United Kingdom, and the United States use taxes as part of their tobacco control strategy. • Australia increased its excise taxes by 12.5% per year from 2017 to 2020.(1) As a result, Australia now has some of the highest cigarette taxes in the world with taxes comprising about 75% of the retail value.(2, 3) • Aotearoa New Zealand's excise tax on cigarettes increases by inflation plus 10% each year.(4) • For comparison in 2023, a pack of 20 Marlboro cigarettes, in USD, costs around $25.88 in Australia, $22.00 in Aotearoa New Zealand, $15.88 in the U.K., and $9 in the U.S.(5) • Tobacco taxes vary substantially by state in the U.S., providing opportunities for tax avoidance and evasion across state lines.(6) • Both Aotearoa New Zealand and Australia have lowered their duty-free allowance on tobacco products (7, 8) to 50 cigarettes in Australia and 25 grams (any form) in Aotearoa New Zealand. • The U.K. has a tax escalator for cigarettes resulting in annual excise tax increases for combustible tobacco products equal to the rate of inflation plus 2%.(9, 10) Factory-made cigarettes have multiple taxes applied – a VAT plus £316.70/1,000 sticks, plus ad valorem tax of 16.5% of the retail price.(10)	• Several high-quality evidence syntheses provided consistent evidence that raising the tax on cigarettes was one of the most effective policies for reducing the prevalence of smoking and promoting smoking cessation (11, 12) in both the short and long run.(13) *Priority Populations* • Price and tax measures were equity-positive policies and, as such, have the potential to reduce health disparities.(11) (14) • Tax increases had a greater influence on lower socio-economic status (SES) individuals and children and youth.(11, 12) (13) • One evidence synthesis cautioned that tax increases were likely to have a financial impact on some vulnerable populations who continue using tobacco, but the health benefits due to reduced consumption were expected to be substantial and progressive in income.(13)
	Pricing policies	• The U.K. has a minimum excise duty on cigarettes equal to the *higher* of either the specific price (£) per 1,000 sticks plus 16.5% of the retail price or the minimum excise tax (£) per 100.(15, 16) To prevent manufacturers from circumventing this policy by	*We were unable to identify any evidence syntheses that met our inclusion criteria that evaluated the effectiveness of minimum price policies for cigarettes.* • A 2019 evidence brief that examined area-level disparities in prices of tobacco and vaping products in Ontario and

Policy Domain in the framework	Policy Subdomain in the framework	Policy Description & Jurisdiction	Policy Effectiveness
		creating cheaper products through reduced pack sizes, the minimum pack size is 20.(10) • Several U.S. states have enacted minimum price laws. Price promotion and incentive program are restricted under minimum price laws.(17) New York City has the most stringent state setting a single price floor below which cigarettes cannot be sold ($13 in 2018).(16)	Quebec pointed to limited evidence that supported minimum price laws since such laws were associated with higher prices, particularly concerning discount cigarettes. An important equity consideration and conclusion of the policy brief was that "[i]mposing a minimum price may reduce (but not eliminate) neighbourhood-level price differences, at the lower end of the price distribution".(17)p. 25) • The evidence brief identified a review that examined the effect of price interventions or policies such as minimum unit pricing on alcohol consumption, which concluded that price-based alcohol policy interventions such as minimum unit pricing were likely to reduce alcohol consumption, and alcohol-related morbidity and mortality.(18)
	Financial incentives to support cessation	*Financial incentives* • In the U.K., expectant mothers are offered £400 to support smoking cessation. (19, 20) • In Australia, the Incentive to Quit (I2Q) pilot program is also considering the use of financial incentives along with cessation advice to eligible participants who smoke but the current status of the initiative is unknown.(21) *Subsidies* • The U.K.'s Swap to Stop campaign is intended to encourage cigarette smokers to swap to vapes as a pathway to quit smoking. The initiative includes a free vape kit.(20, 22) The majority of local government stop-smoking services provide e-cigarettes as a standard treatment for tobacco dependency.(10)	*Financial incentives* • The policy scan revealed an evaluation of the U.K.'s financial incentive program for expectant mothers and it provided evidence that, while financial incentives may be effective during pregnancy, most women relapse shortly after their child was born.(23) • A high-quality meta-analysis and systematic review of systematic reviews examining of a broad range of cessation interventions for expectant mothers concluded that financial incentives had a moderate association with smoking cessation and was among the most effective non-pharmaceutical interventions. Subgroup analysis pointed to differences between women from lower relative to higher SES groups. The evidence suggested that financial incentives were statistically significantly associated with smoking cessation for women from high SES groups but not from low SES groups.(24) • A Cochrane review of financial incentives as a smoking cessation tool reported that guaranteed financial incentives consistently increased the odds of smoking cessation. Guaranteed financial incentives, with tailoring and a focus on how and why to quit, was reportedly the most effective approach.(25)

Policy Domain in the framework	Policy Subdomain in the framework	Policy Description & Jurisdiction	Policy Effectiveness
			Subsidies *We were unable to identify any evidence synthesis that met our inclusion criteria and examined the Swap to Stop policies or similar population-level policy. Such policies remain controversial due to the lack of research on the long-term impact of e-cigarettes on health and the attraction e-cigarettes have in terms of youth initiation and future smoking behaviour.(26, 27, 28) A U.K. government policy paper acknowledged the trade-offs and challenges of their current vape policy (Swap to Stop) due to the rapid uptake of youth vaping in the U.K. This is in part the impetus for their smoke-free generation legislation currently under consideration in the U.K.(20)*
Sales regulations	*Age restrictions*	*Minimum age* • All four jurisdictions, Aotearoa New Zealand, Australia, the U.K., and the U.S., have age restrictions on the sale of cigarettes and other tobacco products. • Aotearoa New Zealand, Australia, and the U.K. minimum age is 18.(29, 30) To that end, the U.K. also prohibits proxy sales.(30) • In the United States, the minimum age to purchase cigarettes is 21 and retailers must check ID for everyone under age 27.(31, 32) *Smoke-Free Generation* • The state of South Australia is considering a Smoke-Free Generation policy that will prohibit the sale of tobacco products to anyone born before 2007.(33) • In Aotearoa New Zealand, a Smoke-Free Generation Bill was enacted in December 2022 but later repealed by the new federal government in 2024.(34) • The U.K. introduced a Smoke-Free Generation bill in March 2024 but the current status of the bill is unknown at this time.(35)	*Minimum age* • A network meta-analysis of population-level tobacco policies found no evidence of an association between age restrictions and smoking prevalence.(11) • A narrative systematic review of the U.S.'s Tobacco 21 law, which raised the minimum legal sales age to 21 in 2019, found medium-quality evidence that the tobacco age law reduced smoking prevalence and cigarette sales among 18- to 20-year-olds. The law appeared to have a weaker effect for 11 to 17 year olds.(36) *Priority Populations* • The impact of the Tobacco 21 law was greater on individuals with lower educational backgrounds (both parental and individual).(36) • There was inconclusive evidence that the Tobacco 21 law disproportionately benefited white non-Hispanic groups over others.(36) *Smoke-Free Generation* Since no jurisdiction has successfully implemented this policy, we were unable to identify any evidence syntheses that met our inclusion criteria.
	Retail availability	*Number of retail outlets*	*Number of retail outlets*

Policy Domain in the framework	Policy Subdomain in the framework	Policy Description & Jurisdiction	Policy Effectiveness
		• In 2022, Aotearoa New Zealand passed legislation that would significantly reduce the number of retail outlets by 90%; however, the legislation was later repealed by the new federal government in 2024.(34) • San Francisco, California has a policy that restricts the issuance of new tobacco retail outlet licenses within 500 feet of a school, another tobacco retailer, a pharmacy, a tobacco shop, or businesses primarily focused on food or beverage consumption. It also limits the number of new tobacco retail outlet licenses per population. Maximizing the distance between tobacco retail outlets has been implemented in several U.S. jurisdictions, including Huntington Park, California, Santa Clara County, California, and San Francisco, California.(37)	• A medium-quality evidence synthesis on retail density policy reviewed two U.S.-based studies (New York City, Philadelphia) and found that banning the sales of cigarettes in pharmacies was associated with reduced retail density.(38) • A high-quality evidence synthesis with predominantly U.S.-based studies provided moderate evidence that proximity near home was associated with youth smoking behaviour; proximity to youth home or school was not statistically significant.(37) • A high-quality meta-analysis of retail density and proximity of tobacco outlets in OECD countries reported a statistically significant association between "tobacco outlet retail density and proximity" and tobacco use. It also reported that retail density was higher in lower SES areas.(39) *Priority populations* • A high-quality narrative analysis of youth (12–25 years) tobacco use and "tobacco retail density and proximity" reported mixed results. The evidence synthesis suggested that adolescents made use of social sources of cigarettes, which may have limited their dependency on, and exposure to, tobacco outlets.(40) • A high-quality evidence synthesis and meta-analysis with predominantly high-quality studies concluded that tobacco retail density was positively associated with smoking prevalence. The association was larger for adults than youth, which may suggest that community-level restrictions addressing overall retailer density might be more effective than restrictions targeting school and youth neighbourhoods. Furthermore, higher density of tobacco retail outlet licenses in communities with large chain pharmacies selling both tobacco and pregnancy-related products was associated with higher smoking behaviour among pregnant women.(41)
	Retail restrictions/bans	*Free Samples* • The U.K. and the U.S. prohibit free samples of cigarettes.(20)	

Policy Domain in the framework	Policy Subdomain in the framework	Policy Description & Jurisdiction	Policy Effectiveness
		Internet • The U.K.'s Data Protection and Digital Information Bill, currently going through parliament, seeks to reduce underage online retail purchases of tobacco and vapes through improved age verification and eligibility requirements.(20, 42)	
Product regulations	*Ingredient restrictions/bans*	*Nicotine Concentration* • In 2022, Aotearoa New Zealand enacted legislation to reduce the nicotine for cigarettes to very low levels; however, it was later repealed by the new federal government in 2024.(43, 44) • The U.S. Food and Drug Administration has signalled its intent to reduce nicotine levels in cigarettes to a minimal or non-additive level.(32, 45). *Flavouring* • In the U.K., characterizing flavours (e.g., fruit, spice, herbs, alcohol, candy, menthol, or vanilla) is prohibited for cigarettes.(46) In the U.S., cigarette flavours other than tobacco and menthol are banned and the Food and Drug Administration has signalled the intent to extend the flavour ban to menthol for cigarettes.(47)	*Nicotine Concentration* Since no jurisdiction has successfully implement policy to reduce nicotine concentrations to very low levels, no evidence syntheses were identified. However, clinical trial suggests that this could be a successful strategy.(48, 49) *Flavouring* A meta-analysis and narrative synthesis of population-level tobacco policies indicated that menthol flavour bans were associated with higher odds of smoking cessation and quit attempts.(11)
Targeted interventions	*Cessation programs*	*Cessation Programs* • Australia listed nicotine gums and lounges as well as other pharmacology on the Public Benefits Scheme (PBS) in 2019.(2, 20) • The U.K. has invested £35 million to support National Health Service (NHS) tobacco treatment services. The program aims to offer all patients admitted to hospital-funded quit services. Pregnant women receive specialist opt-out support as part of the maternity pathway (i.e., if a woman is referred to cessation services, she must specifically opt out). Routine carbon testing is done at booking to identify smokers.(20) • Some English Stop Smoking Services combine behavioural supports with a trained advisor and a 12-	*Cessation Programs* • A meta-analysis and narrative synthesis of population-level tobacco policies reported a statistically significant positive association between free or subsidized nicotine replacement therapies (e.g., gum, transdermal patches, nasal spray, inhalers, and oral tablets/lozenges) and "quit rates." Free nicotine replacement therapy combined with physician advice amplified the effect by nearly double.(11) *Cultural tailoring* • A high-quality evidence synthesis and meta-analysis that investigated the effectiveness of culturally tailored interventions on smoking cessation for a minimum of three months found consistent evidence, with low to moderate

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		week supply of medicines or stop-smoking products at no cost (e.g., Ken Community Health).(50) • The Affordable Care Act requires most health plans to cover a full set of cessation benefits without cost sharing; however, this is currently facing a court challenge.(51) The comprehensiveness of benefits varies across states. Medicaid, in most states, covers individual counselling, group counselling, nicotine patches, nicotine gum, nicotine lozenge, nicotine nasal spray, nicotine inhaler, bupropion, and varenicline.(52)	certainty, that tailored smoking cessation interventions were effective strategies compared to non-tailored interventions. The analysis by program type (surface tailoring versus deep tailoring) suggested that surface-level tailoring, defined as culturally congruent providers, translated material, and counselling in a preferred language was sufficient as opposed to deep tailoring defined as the incorporation of deeper cultural practices and norms.(53) • Similarly, a narrative synthesis of smoking cessation interventions for Indigenous peoples found inconclusive evidence to support that cultural tailoring, defined as existing cessation intervention modified to include Indigenous beliefs, language, or specific Tribal stories or a novel cessation tool created with integrated Indigenous beliefs, language, or specific Tribal stories, was an effective smoking cessation strategy.(54) *Priority Populations* *Quitlines* • A medium-quality narrative synthesis that assessed the use of quitlines to support smoking cessation for historically disadvantaged populations in the U.S. found mixed results for both Indigenous groups and groups with lower SES.(55) • Although marginalized populations (racial/ethnic minorities, lower-SES individuals) utilized quitlines more frequently than their counterparts, they tended to experience lower success with smoking cessation compared to white or higher-SES individuals.(55) *Priority Populations – Indigenous peoples* • A narrative synthesis focused on Indigenous peoples examined several interventions such as pharmaceutical aids, behavioural health interventions, culturally tailored interventions, telephone calls, texting, online media, and integration of Indigenous personnel. Although the number of studies was limited, it provided some evidence that collaboration with Tribal communities, evidence-based

Policy Domain in the framework	Policy Subdomain in the framework	Policy Description & Jurisdiction	Policy Effectiveness
			individual counselling, and free pharmaceutical aids may be effective tools for smoking cessation. The addition of cultural tailoring defined as the inclusion of tribal beliefs, language or specific tribal stories, use of Indigenous coordinators and counsellors was not associated with smoking cessation. The results may be due, at least in part, to the limited number of studies and differences in interventions.(54) *Priority Populations – expectant mothers* *Interventions for pregnant women with addiction* • A high-quality systematic review of reviews and meta-analysis concluded that counselling demonstrated a small to moderate positive association with smoking cessation. Although the systematic review did not find evidence to support the use of nicotine replacement therapy in the short-term, it showed promise as a long-term strategy. Other interventions, pharmacological interventions, bupropion, digital interventions, biochemical feedback, social support, and exercise did not have a statistically significant association with smoking cessation.(24) • A narrative synthesis focused on expectant mothers with substance abuse disorders was unable to derive a conclusion due to the paucity of evidence.(56) *Priority populations – lower-SES adults* • A systematic evidence synthesis that explored smoking cessation intervention for older adults from deprived neighbourhoods concluded it was unable to identify an optimal behavioural intervention due to the paucity of literature. The review noted that targeted interventions such as one-on-one supports, financial incentives, and group-based services held promise.(57) *Priority populations – adults living with HIV* • A Cochrane systematic review that examined smoking interventions for people living with HIV found evidence to support the use of the pharmaceutical varenicline as a

Policy Domain in the framework	Policy Subdomain in the framework	Policy Description & Jurisdiction	Policy Effectiveness
			smoking cessation strategy. The evidence was assessed as moderately certain, but the studies were predominantly U.S. based. There is inconclusive evidence to support behavioural interventions for this particular group.(58) *Priority populations – adults experiencing homelessness* • A Cochrane systematic review that examined smoking interventions for people experiencing homelessness reported that there was insufficient evidence to assess if any of the interventions (e.g., behavioral interventions, pharmacotherapies, contingency management, and text- or app-based interventions) were effective. However, there was some evidence to support the use of intensive behavioural interventions (as opposed to less intense) but the certainty of the evidence was assessed as low and the included studies were almost exclusively U.S. based.(59)
	Health education campaigns	*Prevention Programs* • Australia Tobacco Tackling Indigenous Smoking Program (TIS) is a comprehensive prevention program that uses evidence-informed methods, community engagement, and locally tailored and Indigenous-led initiatives. This multi-component program uses best practices approaches to tobacco control, collaboration, place-based programming, and flexibility.(2, 60) *Public Awareness Campaigns* • All four jurisdictions, Aotearoa New Zealand, Australia, the U.K., and the U.S., have public health campaigns that warn of the dangers of smoking and nicotine use.(2, 20, 44, 45) • In the U.K., public awareness campaigns are used to help direct smokers to support services.(20) In 2012, the Stoptober campaign was launched to inspire people to quit from October 1 to October 28 (28 days).(20)	*Prevention Programs* *Although we were unable to identify any evidence synthesis that assessed the Australia Tobacco Tackling Indigenous Smoking Program, we did find a program review of the program during the policy scan. It reported the following:* • The Tobacco Tackling Indigenous Smoking Program team reported reaching 14% of their target populations including youth, pregnant women, and Elders. The evidence of effectiveness in preventing uptake among community members was minimal and data collection in this metric was scant. • The program was targeted and multi-components including community education, peer-to-peer messaging, and youth-based interventions, quit support via culturally adapted quitlines and in-person groups, availability of nicotine replacement therapies, especially in remote areas, engagement with local leaders and health workers in program design and delivery, peer support, and local role models to drive positive norms around quitting.(61)

Policy Domain in the framework	Policy Subdomain in the framework	Policy Description & Jurisdiction	Policy Effectiveness
			Public Awareness Campaigns • A meta-analysis and narrative synthesis of population-level tobacco policies reported that media campaigns were among the most effective policies to promote smoking cessation. The analysis suggested that mass media campaigns were associated with a small to moderate increase in the odds of "intentions to quit," "attempts to quit," and "quitting" smoking. A meta-analysis reported non-significant result which may be due to variations in campaign design.(11) • An umbrella review of systematic reviews of population-level policies to address smoking behaviour in youth reported mixed results. While one of the included reviews reported mixed results, another reported a positive association between media campaigns and cigarette use.(12) *Priority Populations* • The equity impact of mass media campaigns was mixed with some studies finding a larger association among lower-SES individuals and others a larger association among those with higher-SES.(14)
	Enforcement	*Underaged Sales* • Aotearoa New Zealand uses Instant fines for retailers selling cigarettes to minors. In 2012, the fine was increased to NZ$2,000.(8) • The U.K. government has increased resources for enforcement by £30 million with the intent to introduce spot fines for underage sales, and proxy sales.(20, 46) Such powers already exist in Scotland and Northern Ireland.(46) Proceeds from the fines are to be reinvested in tobacco control activities.(46) These initiatives are currently going through parliament.	*Underaged Sales* No evidence syntheses were identified for the enforcement of underaged sales.
Supply-side policies	*Illicit cigarette/trade*	*Smuggling* • In Aotearoa New Zealand, a permit is required to import any tobacco product including leaf or refuse (scraps). Prohibited products are destroyed. Tobacco cannot be received as a gift.(62)	Two reports that did not meet our inclusion criteria (a 2009 comprehensive report prepared by the Ontario Tobacco Research Unit and a scoping review of the supply side of the illicit tobacco market) highlighted several measures or strategies to limit illicit tobacco trade. Supply chain controls

Policy Domain in the framework	Policy Subdomain in the framework	Policy Description & Jurisdiction	Policy Effectiveness
		• In Australia, there are strict penalties for smuggling or growing illicit tobacco; duties and tax liabilities must be paid at the border; illicit tobacco products are immediately destroyed; and tobacco is monitored throughout the supply chain.(2) *Track and Trace* • In Aotearoa New Zealand, cigarettes have printed codes for tracking.(63) • In Australia, tobacco is monitored throughout the supply chain.(2) • The U.K. uses a trace and trace system that tracks cigarettes from the manufacturer to the retailer.(20) In England, all tobacco products have unique identifiers to counter illicit trade (track and trace).(30) *Tax Stamps* • In the U.S., cigarettes have stamps that ensure taxes have been paid but in many jurisdictions, the stamps are easily counterfeited.(64) The U.K. introduced stamps in 2022.(65)	• Licensing of all operators along the supply chain, from tobacco leaf farming to the retail sales of manufactured cigarettes. • Tracking and tracing – tracking (monitoring the route taken by-products through their supply chains) and tracing (recreating the route taken by-products through their supply chains). • Restrictions on the distribution of cigarettes and other tobacco products through the postal service and through private delivery service. • Enhanced enforcement (investigations/seizures, border controls, inspection penalties). Utilizing the tax system • Tax markings/stamps to ensure taxes have been paid and the product has reached its intended destination. • Export taxation and harmonization. • Taxation agreements with First Nations communities. • Introducing excise/import tax on key ingredients such as acetate tow and cigarette paper.(6)

E-Cigarettes

Policy Domain	Policy Subdomain	Policy Description & Jurisdiction	Policy Effectiveness
Pricing policies	*Taxes*	• In the U.K., e-cigarettes are taxed at a lower rate than combustible cigarettes to encourage switching among cigarette smokers.(46) The rationale is that products deemed the most hazardous (e.g., combustible cigarettes) are taxed at the highest rates whereas products deemed the least hazardous (e.g., nicotine replacement products) are taxed at the lowest. Therefore e-cigarettes are taxed at the same rate as other consumer products (20% VAT) with no excise tax.(10) However, the U.K. is considering adding an excise tax to e-cigarettes due to increases in youth vaping.(10) • In the U.S., tax policy varies by state jurisdiction. Thirty-two states tax e-cigarettes of which 13 states tax based on millilitres of liquid or consumable material, and six states tax closed systems (prefilled cartridges) per millilitre of liquid and open system (refillable) on percentage of costs. Puerto Rico taxes disposable devices and per millilitre for cartridges.(66) • The Aotearoa New Zealand health minister cut the excise tax on heated tobacco products by 50% to encourage switching.(67) The excise tax on cigarettes is $NZ1,773.02 per kilo tobacco content whereas the excise is $NZ886.51 per kilo tobacco content for heated tobacco products.(68)	• High-quality evidence syntheses concluded that increasing e-cigarette taxes or prices was an effective policy for reducing e-cigarette use, but warned the studies were often of moderate to low quality.(69, 70) • A meta-analysis and narrative synthesis of population-level tobacco policies found that tax increases had a statistically significant modest association with e-cigarette use.(11) • A synthesis of three primary studies that assessed the association between e-cigarette tax increases and e-cigarette sales reported a statistically significant decline in e-cigarette sales and moderate and statistically significant reductions in use.(70) • An evidence synthesis comprised predominately of U.S. studies of low to moderate quality suggested that higher taxes were associated with lower vaping prevalence.(69) • A medium-quality evidence synthesis and meta-analysis that assessed own- and cross-price elasticity of e-cigarettes reported that an increase in e-cigarette prices were associated with a decrease in e-cigarette use whereas increases in cigarette prices were associated with increases in e-cigarette use suggesting that e-cigarettes and cigarettes were substitutes. The results were based predominantly on U.S. studies and there was considerable variability in study designs, methodologies, and effect sizes.(71) *Priority Populations* • One evidence synthesis flagged a U.S.-based study that did not find a statistically significant association between higher taxes and vaping sales for youth in grades 9–12, suggesting that while tax policies may be effective at reducing e-cigarette use among adults, it may be less effective for adolescents in grades 9–12. This conclusion should be considered with caution as it was based on a single study.(70)
	Pricing policies		*Priority Populations* We were unable to identify evidence synthesis that met our inclusion criteria and examined minimum prices. However, a systematic evidence synthesis that examined price manipulation by the e-cigarette industry

Policy Domain	Policy Subdomain	Policy Description & Jurisdiction	Policy Effectiveness
			found compelling evidence that the industry targeted vulnerable populations through price manipulation, furthering that regulations such as minimum price laws can mitigate such behaviour.(72)
	Financial incentives to support cessation	• Australia has announced plans to offer financial incentives along with cessation advice to eligible participants who vape, but the status of this plan is unknown (as of November 2024).(21)	
Sales regulations	*Age restrictions*	Age restrictions • Aotearoa New Zealand prohibits the sale of all notifiable products defined as vaping products, smokeless tobacco products, and herbal smoking products to minors under 18 years.(73) • In Australia, vaping products are only available in pharmacies for the purpose of smoking cessation.(67, 74) • The U.K.'s age restrictions legislation for non-nicotine e-cigarettes is currently going through parliament.(20, 75) • The U.S. has a minimum age of 21 to purchase e-cigarettes and retailers are required to check ID for everyone under age 27.(31, 32)	*Age Restrictions* • Two high-quality evidence syntheses reported mixed evidence for age restrictions.(69, 70) • One concluded that age restrictions were neither strongly associated with an increase nor a decrease in youth vaping.(69) • The other suggested the mixed results were likely due to the easy access by minors to illicit vapes in some jurisdictions due to non-compliance by retailers (e.g., fake IDs, retailers not checking IDs, lack of age verification online).(70) • A meta-analysis of population-level tobacco policies found inconclusive evidence to support that youth access laws reduced e-cigarette consumption.(11)
	Retail availability	*Number of retailers* • In Australia, prior to 2024, e-cigarettes, pods, and liquids were only available through prescription; however, as of 2024, vapes no longer require a prescription.(2) Vapes, including non-nicotine vapes, are only available through a pharmacy after consultation with the pharmacist.(67, 74) *Retail Sales Licenses* • In the U.S., legislation in 34 states require a retail license to sell e-cigarettes.(66) *Free Samples* • The U.S. prohibit free samples of e-cigarettes. • U.K.'s prohibition on free samples of e-cigarettes is currently going through parliament.	*Number of retailers* No evidence syntheses were identified that evaluated the effectiveness of restricting the number or e-cigarette retail outlets. *Retail Licences* • Two evidence syntheses (based on a few studies) indicated that retail licenses were associated with lower e-cigarette use and lower odds of initiation.(69, 70)

Policy Domain	Policy Subdomain	Policy Description & Jurisdiction	Policy Effectiveness
		Internet • The U.K.'s Data Protection and Digital Information Bill, currently going through parliament, seeks to reduce underage online retail purchases of e-cigarettes through improved age verification and eligibility requirements.(20, 42)	
	Retail restrictions/bans	*Restrictions or bans* • Aotearoa New Zealand has announced a plan to ban disposable vapes but this is more about their environmental impact as opposed to health concerns.(8) • The U.K. has a proposed ban on disposable e-cigarettes currently going through parliament.(20, 75) • In Australia, the importation, domestic manufacture, supply, commercial possession, and advertisement of disposable single-use and non-therapeutic e-cigarettes is prohibited.(74)	*Restrictions or bans* • A meta-analysis and narrative synthesis of population-level tobacco policies identified a single study that examined e-cigarette bans. The study found a statistically significant but small negative association between e-cigarette bans and e-cigarette consumption.(11)
Product regulations	*Ingredient restrictions/bans*	*Nicotine concentration* • Aotearoa New Zealand has a 28.5 mg nicotine limit on e-cigarettes.(8) *Flavour Bans* • Aotearoa New Zealand prohibits the colouring in vapes and flavours or smells other than tobacco, menthol, or mint.(76) • In the U.K., legislation that would prohibit certain ingredients such as vitamins, colourings, or additives, including those which impart a particular flavour, smell, or taste for vaping products are prohibited is currently going through parliament.(46)	*Nicotine concentration* • A narrative synthesis that examined the association between e-liquid flavours and concentration and use or appeal concluded that, although higher concentration of nicotine in e-liquids was associated with greater switch potential from combustible cigarettes to e-cigarettes, it was also associated with greater dependency and duration of use.(77) *Flavour bans* • A high-quality narrative evidence synthesis that assessed flavour bans or restrictions concluded that overall flavour bans were associated with a decrease in youth vaping but that may be offset by increased use in neighbouring jurisdictions where such restrictions were not in place. Additionally, one study reported a substitution to a non-banned flavour (mint).(69) • A high-quality evidence synthesis concluded it could not quantify a policy effect due to the substantial variation in the methodologies of the included studies. Of interest, one of the included studies looked at retail sales following flavour restrictions at the local level and reported a statistically significant decrease in total e-cigarette sales but an increase in sales of tobacco-flavoured e-cigarettes (a small

Policy Domain	Policy Subdomain	Policy Description & Jurisdiction	Policy Effectiveness
		• In the U.S., very few states ban all flavoured e-cigarettes;(51) however, the FDA has not approved any e-cigarettes with flavours other than tobacco or menthol.(10) • In the U.S., the FDA approved menthol e-cigarettes to encourage switching.(67)	substitution effect). Other studies examined restricting flavoured e-cigarettes to adult populations of which one study reported a short-term decline in youth vaping, but it was not statistically significant at six months. Two other studies also reported a decline in youth vaping after targeted flavour restrictions.(70) • A narrative synthesis that evaluated the e-liquid flavours and concentration on their non-therapeutic use or appeal concluded that it was unclear whether flavours encouraged switching from combustible cigarettes to e-cigarettes and cautioned that flavours were associated with higher use. Although candy/dessert, fruit, and mint/menthol were generally preferred flavours, dual user status and increasing age were associated with a preference for tobacco flavour.(77) *School-based e-cigarette ban* • A high-quality narrative evidence synthesis that examined intervention targeting youth aged 21 and under found inconclusive evidence that school-based vape-free policies or bans reduced youth vaping. This conclusion was based on a small number of studies.(78)
	Packaging regulations	*Packaging regulations* • Aotearoa New Zealand has restrictions on e-cigarette packaging, such as no cartoon characters, to discourage youth vaping.(20) • In the U.K., legislation is currently going through parliament that would prohibit the use of colour and imagery on packaging for vaping products.(46) *Graphic health warning* • Although the U.K. and the U.S. do not require e-cigarettes to have a pictorial health warning, e-cigarettes must have a text health warning.(79) The plain packaging and health warning regulations for e-cigarettes are underdeveloped but there may be lessons from those adopted for cigarettes. • In Australia, cigarettes must be sold in olive green packages with graphic health warnings covering 75% of the front and 90% of the back of the	*Graphic health warning* • A meta-analysis and narrative synthesis of population-level tobacco policies identified a single study that examined health warnings. This study did not find a statistically significant association between health warnings and e-cigarette consumption. *Plain packaging and graphic health warnings* Although we were unable to identify any evidence syntheses that examined plain packaging policies for e-cigarettes, a meta-analysis and narrative synthesis of population-level tobacco health warnings concluded that plain packaging and graphic health warnings were among the most effective policies to promote cigarette smoking cessation. Pictorial/ text-based health warnings were associated with a modest increase in the odds of “intentions to quit,” “attempts to quit,” and “quitting” smoking. The review noted that the effectiveness of health warnings varied across regions likely due to variation is the size of the graphic warning.(11)

Policy Domain	Policy Subdomain	Policy Description & Jurisdiction	Policy Effectiveness
		package.(2, 7) Additionally, packages may not have inserts, make a noise, or produce a scent.(29) • In Aotearoa New Zealand, cigarettes must be sold in plain packaging. The package must display one of 14 approved pictorial health warnings and text covering 75% of the front of the package and 100% of the back.(8) The health warnings must be in English and te reo Māori and the Quitline logo must cover 100% of the back of the package.(29) Internet retailers are also prohibited from showing packages or brand images and must have health warnings.(8) • In the U.K., cigarettes must be sold in standardized packaging with a pictorial warning on 40% of the package back.(20, 30) • In the U.S., graphic warning labels have been approved at the federal level. However, the regulation that the package must display one of 11 warnings and cover 50% of the front and rear panels of packaging has not been (as of November 2024).(32, 51) Additionally, some jurisdictions regulate package size to limit industry manipulation of pricing policies • In Aotearoa New Zealand the sale of individual cigarettes or small packages is prohibited.(29) • In Scotland, cigarettes must be sold in their original package and cannot be broken into smaller components. Similar legislation is in progress in the broader U.K.(46)	
Advertising and marketing regulations	*Advertising/marketing restrictions/bans*	*Advertising Restrictions* • Australia has comprehensive bans on nearly all forms of e-cigarette advertising on television, radio, and in print. Australia is currently considering legislation that would restrict product placement in films, episodic series on TV or streaming services, and computer games.(2)	*Advertising Restrictions* A high-quality evidence synthesis that examined vaping exposure in films and on TV reported a positive association between exposure and greater "uptake" or "ever trying" e-cigarettes. The evidence was assessed as low or very low certainty.(82)

Policy Domain	Policy Subdomain	Policy Description & Jurisdiction	Policy Effectiveness
		• In the U.K., the advertising of e-cigarettes on TV and radio and the advertising of tobacco of any kind to children online or on social media is prohibited.(20) • Wales prohibits the advertising and promotion of e-cigarettes in print media, the internet, radio, and television but outdoor advertisement, direct mail, or domestic sponsorship is allowed.(29) *Reduced harm claims* • In the U.K., e-cigarettes or their refill products cannot make reduced harm claims.(20) • Aotearoa New Zealand permits approved reduced harm messaging only (e.g., completely replacing your cigarette with a vape will reduce harm to your health).(80) • The U.S. allows manufactures to apply a modified risk label to e-cigarettes.(81)	*Priority populations* • A high-quality evidence synthesis that examined the equity impact of sales and marketing policies such as local sales bans, plain packaging, health warnings, and inserts reported such policies had a minimally equity-negative association, suggesting such policies had a larger impact on individuals with higher SES.(14)
Targeted interventions	*Cessation programs*		
	Health education campaigns	*Education campaigns* • The U.K. has developed an education resource pack on vaping for school.(20)	*Education campaigns* • A high-quality narrative evidence synthesis that examined interventions targeting youth (aged 21 and under), reported that most studies did not find a statistically significant association between school educational interventions and vaping behaviour. • Two programs, however, did report a positive reduction in e-cigarette use: 'Above the Influence of Vaping,' which used peer leaders to deliver vaping content, and 'INCLUSIVE' (INitiating Change Locally in bUllyIng and aggression through the School EnVironment).(78) • A high-quality narrative evidence synthesis that assessed interventions targeting youth (aged 21 and under) reported mixed evidence regarding the use of community-based interventions such as social media messages and mass media campaigns. For example, although the mass media campaigns "The Real Cost" and "The Truth" were not associated with a reduction in e-cigarette use, they were associated with a decrease in vaping initiation intent and greater negative perceptions about vaping. The one social media messaging study also reported an association with reduced intentions to vape in

Policy Domain	Policy Subdomain	Policy Description & Jurisdiction	Policy Effectiveness
			the future. However, these results were based on a limited number of studies.(78) *Public awareness campaigns* • A meta-analysis and narrative synthesis of population-level tobacco policies that examined media campaigns found inconclusive evidence of an association with lower e-cigarette use.(11)
	Enforcement	*Underage sales* • The U.K. government has increased resources for enforcement by £30 million with the intent to introduce spot fines for underage sales, and proxy sales.(20, 46) Proceeds from the fines are to be reinvested in tobacco and vape control activities.(46) These initiatives are currently going through parliament.	
Supply-side policies	*Illicit e-cigarette trade*		A recent scoping review, which did not meet our inclusion criteria, examined supply-side policies to prevent illicit trade in e-cigarettes and related products. • The scoping review highlighted a paucity of research that examined illicit trade in the context of e-cigarettes. • Few studies indicated substantial non-compliance among internet retailers, particularly concerning nicotine concentrations and flavours.(83)
	New nicotine product approval/notification	*New product approval* • In the U.K., the Medicine and Healthcare Products Regulatory Agency (MHRA) must be notified if a company wants to bring vape products into the U.K.(20)	

Appendix 3: Details about each identified policy evidence synthesis for cigarettes and e-cigarettes

Cigarettes

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
Pricing policies • Taxes Priority populations • Children and youth • Individuals with lower socio-economic status Primary outcome • Cigarette use – sales	The relationship between the price and demand of alcohol, tobacco, unhealthy food, sugar-sweetened beverages, and gambling: An umbrella review of systematic reviews (13) • This literature synthesis and meta-analysis assessed several consumer products of which nine of the included studies specific to tobacco. • The jurisdictions of the included studies were not specified. Most of the studies were deemed low quality or of unclear quality. • The evidence suggests that tobacco taxes were an effective policy tool in both the short and long run for reducing the demand for tobacco. • Although limited by the available data, the meta-analysis suggested a 10% increase in price was associated with a 5.4% decrease in demand (*note: this result should be considered cautiously as only two studies were used in the analysis and the methods not adequately described*). • The inverse price-demand relationship holds across different income levels, but tax increases were likely to have a greater effect on youth and children and lower socio-economic status (SES) individuals. • While the review had concerns about the financial impact of tax policy on vulnerable groups, the health benefits of reduced consumption were expected to be substantial.	High	No	7/11	2023	No	Youth, SES
Pricing policies • Taxes Advertising/marketing regulations • Advertising/ marketing restrictions Targeted investment • Cessation programs	Impact of population tobacco control interventions on socio-economic inequalities in smoking: A systematic review and appraisal of future research directions (14) • This narrative synthesis examined the equity impact of tobacco control policies such as price/taxation measures, mass media campaigns, sales and marketing controls, and population-level cessation support. • This was an update of a previous review by Brown et al. 2014. • Overall, the equity impact of tobacco control policies based on SES was predominantly mixed/unclear.	High	No	7/11	2018	No	Yes

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
Priority populations • Individuals with lower socio-economic status Primary outcome • Equity impact	• Price and tax measures and population-level cessation supports were significant equity-positive policies. This was consistent with previous results. • The equity impact of mass media campaigns was mixed. • Sales and marketing policies, such as anti-smoking TV commercials, have a minimally equity-negative association suggesting such policies had a larger association on individuals with higher SES. This finding had changed from the previous study which demonstrated a more neutral impact.						
Pricing policies • Taxes Sales regulations • Age restrictions • Retail restrictions/bans Product regulations • Ingredient restrictions/bans • Packaging regulations Priority populations • Individuals with lower socio-economic status Primary outcome • Cigarette use – cessations	A systematic review and network meta-analysis of population-level interventions to tackle smoking behaviour (11) • This meta-analysis and narrative synthesis of population-level tobacco policies compared multiple policy interventions: mass media campaigns, tax increases, tobacco bans, health warnings, age limits, flavour bans, and free/discounted nicotine replacement therapy (NRT). • The included studies crossed multiple jurisdictions including but not limited to the U.S. (225 studies), Australia (28 studies), the U.K. (28 studies), and Aotearoa New Zealand (five studies) or high-income countries. • The studies included a mix of tobacco products (e.g., cigarettes and e-cigarettes). • The evidence suggested that media campaigns, health warnings, and taxation were the most effective policies to promote smoking cessation. • Smoking bans, media campaigns, and taxation were most effective strategies for reducing smoking prevalence. • The analysis of mass media campaigns suggested a significant small to moderate increase in the odds of intentions to quit, attempts to quit, and quitting smoking. However, while some high-quality studies provided evidence of a positive association with cessation, a recent meta-analysis reported a non-significant association with cessation. The review suggested that mixed results were likely due to variations in campaign design.	High	No	9/11	2023	NO	Youth, SES

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
	• Tax/price increases resulted in small to moderate increases in the odds of "attempts to quit" and "quitting" smoking. • The evidence suggested that pictorial/ textual health warnings had a moderate increase in the odds of intentions to quit, attempts to quit, and quitting smoking. However, the effect of health warnings varied across regions likely due to the size of the graphic warning. • The meta-analysis reported a statistically significant and positive association between free or subsidized nicotine replacement therapies (e.g., gum, transdermal patches, nasal spray, inhalers, and oral tablets/lozenges) and "quit rates." Free NRT combined with physician advice amplified the effect by nearly double. Note these results are based on a small number of studies (>3) and the quality of the included studies is unclear. • The evidence suggested that tax increases are particularly salient for low socio-economic groups and young adults due to their higher price sensitivity. Such policies have the potential to reduce health disparities. • The meta-analysis of youth access law (age limits) did not find a statistically significant association with smoking prevalence.						
Pricing policies • Tax Targeted investments • Health education campaigns Priority populations • Children and youth Primary outcome	What public health strategies work to reduce the tobacco demand among young people? An umbrella review of systematic reviews and meta-analyses (12) • The umbrella review of systematic reviews examined two population-level policies to address smoking behaviour in youth. • The jurisdiction was the U.S. • Only one of the included systematic reviews examined the role of price and tax on smoking participation and consumption by youth. This review reported mixed results. Some of the review's included studies suggested that higher cigarette taxes (prices) reduced cigarette use by youth (<25) and adults, furthering that that youth (under	High	No	10/10	2017	No	Youth (<25)

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
• Cigarette use – consumption	age 19 years) were two to three times more price-sensitive than the general population. Others included studies found no significant effect of price increases on youth smoking behaviour. Of note, this review was assessed as critically low quality. • The evidence regarding mass media campaigns was mixed. One high-quality review reported mixed results whereas a lower-quality review found a positive association between reduced tobacco use in youth and media campaigns.						
Pricing Policies • Financial incentives to support cessation Primary outcome • Cigarette use – cessation	Behavioural programmes for cigarette smoking cessation: Investigating interactions between behavioural, motivational and delivery components in a systematic review and component network meta-analysis (25) • This Cochrane review's analysis of financial incentives as a smoking cessation tool reported that guaranteed financial incentives consistently increased the odds of smoking cessation. • Guaranteed financial incentives had a small positive association with smoking cessation when compared to no intervention but when combined with other behavioural supports such as counselling the association became stronger. • The association between non-guaranteed financial incentives (compared to no intervention) and smoking cessation was not statistically significant. • The review concluded that guaranteed financial incentives, with tailoring, and a focus on how and why to quit was the most effective approach. • The mode of delivery (e.g., mobile phone app versus SMS, e-mail) may also be important as it was associated with a modest increase in the odds of cessation. • The lack of detail about the included studies and lack of discussion regarding the durability of this approach warrants caution.	High	Yes	5/8	2020	No	No

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
Pricing policies • Financial incentive Targeted investments to reduce use among vulnerable groups • Cessation programs Priority populations • Expectant mothers Primary outcome • Cigarette use – cessation	Effectiveness of smoking cessation interventions among pregnant women: An updated systematic review and meta-analysis (24) • This high-quality systematic review and meta-analysis assessed several smoking cessation interventions for expectant mothers such as nicotine replacement therapy, digital interventions, counselling, biochemical feedback, financial incentives, social supports, and exercise programs. • Jurisdiction was not specified. • Financial incentive had a moderate and positively association with smoking cessation. However, subgroup analysis found differences between women from lower versus higher SES groups. The evidence suggested that financial incentives were statistically important for women from high SES groups but not for women from low SES groups. • While the evidence did not support nicotine replacement therapy as an effective strategy in the short term, it did show promise in the long term. • Counselling demonstrated a small to moderate positive association with smoking cessation. • The evidence did not support pharmacological interventions bupropion, digital interventions, biochemical feedback, social support, and exercise as effective strategies. • The review concluded that financial incentives appeared to be the most effective strategy. • The review assessed the evidence from the included studies as moderate to high for all interventions.	High	No	10/11	2023	Yes	Expectant mothers
Sales regulations • Age restrictions Priority populations • Children and youth	What is the relationship between raising the minimum legal sales age of tobacco above 20 and cigarette smoking? A systematic review (36) • This narrative synthesis was an evaluation of the U.S. Tobacco 21 (T21) law, which raised the minimum legal sales age to 21 in 2019.	High	No	7/11	2024	Yes	Youth (<21)

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
Primary outcome • Cigarette use – cessation	• The review found moderate quality evidence that age restrictions reduced overall cigarette sales and smoking prevalence among 18 to 20 year olds. • The low-quality evidence for the age group 11 to 17 years indicated a weaker effect. • The evidence suggested the association was greater for individuals with lower educational backgrounds (both parental and personal). • Although the review reported differences in population and study comparators and outcomes, there was no evidence that the policy disproportionately benefited white non-Hispanic groups over others. • The review suggested that weaker enforcement of tobacco laws in lower SES areas may moderate the effect of the minimum age law. • The authors also flagged the potential for youth to substitute e-cigarettes for cigarettes.						
Advertising/marketing regulations • Advertising/ marketing restrictions Priority populations • Children and youth Primary outcome • Cigarette use – initiation	Impact of smoking and vaping in films on smoking and vaping uptake in adolescents: Systematic review and meta-analysis (82) • It is important to note that this meta-analysis and narrative synthesis is not an evaluation of a policy change but rather an evaluation of smoking and vaping exposure in films on youth vaping and smoking behaviours. • Studies were predominantly from the U.S. with a few from the U.K., Mexico, Germany, India, and Argentina. • The meta-analysis of vaping exposure in films or on TV suggested that exposure was associated with "ever trying" or "vaping uptake." However, the evidence was rated as low or very low certainty due to the few numbers of studies. • The meta-analysis of smoking exposure in films or on TV suggested that exposure was associated with a greater risk of "ever trying" or "smoking uptake." The evidence was rated as moderate certainty.	Low	No	7/11	2020	NO	Youth (10-19 years)

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
	• The vaping and results were consistent for both the cross-sectional and longitudinal analysis. • The authors conclude that film classification guidelines were failing in their mission to protect children and recommend that films containing smoking or vaping imagery have an 18+ rating.						
Sales regulations • Retail availability Priority populations • Children and youth • Expectant mothers Primary outcome • Cigarette use – consumption	Tobacco retail availability and smoking – A systematic review and meta-analysis (41) • This evidence synthesis and meta-analysis was not an analysis of a specific policy change but rather an evaluation of the association between tobacco retail outlet density and/or proximity on smoking behaviour. • The review was not constrained to a specific jurisdiction. • The review provided moderate to high-quality evidence that tobacco retail density was positively associated with smoking prevalence. • Adults: Higher tobacco retail outlet density was consistently linked to increased smoking prevalence. The review suggested that adults were more mobile and had more opportunities to encounter tobacco retailers in various locations. • Youth: While higher tobacco retail outlet density near schools or homes was associated with smoking, the overall effect was smaller, suggesting that broader community-level policies addressing overall retailer density might be more effective than school-specific restrictions. The review suggested the smaller association for youth may be because youth often obtain tobacco from sources other than retail outlets near schools, such as family members or peers. • Pregnancy: Increased tobacco retail outlet density, particularly in neighbourhoods or regions with large chain pharmacies selling both tobacco and pregnancy-related products, was associated with higher smoking rates.	High	No	9/11	2023	No	Youth, pregnancy

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
	• Policies targeting tobacco retail outlet density appeared to be more effective than those focusing solely on proximity measures.						
Sales regulations • Retail availability Priority populations • Individuals with lower socio-economic status Primary outcome • Cigarette use – consumption	Retailer density reduction approaches to tobacco control: A review (38) • This medium-quality evidence synthesis on retail density policy reviewed two U.S.-based studies (New York City, Philadelphia). It found that banning the sales of cigarettes in pharmacies reduced retail density, but the policy had a minimal (non-significant) effect on smoking prevalence. • The majority of the included studies were not relevant to the current rapid review.	Low	No	5/11	2019	NO	SES
Sales regulations • Retail availability Priority populations • Children and youth Primary outcome • Cigarette use – consumption	Association between density and proximity of tobacco retail outlets with smoking: A systematic review of youth studies (37) • This evidence synthesis analysed a combination of cross-sectional and longitudinal studies that investigated the association between retail density or proximity (home or school) and smoking among youth (<19). • The studies were predominately U.S. based. • Studies that examined retail density near youth homes found that tobacco retail outlets density around youth homes was associated with increased youth smoking behaviours. However, the evidence provided by studies examining retail outlet density near youth schools was mixed. • Studies that examined the proximity of retail outlets to youths' home or school did not find an association with smoking behaviour. • The mixed results may be due to the study design. For example, studies that examined retail density at the city or county level had inconclusive results.	High	No	8/11	2017	No	Youth (<19 years)

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
Sales regulations • Retail availability Priority populations • Individuals with lower socio-economic status Primary outcome • Cigarette use – consumption	Associations of tobacco retailer density and proximity with adult tobacco use behaviours and health outcomes: A meta-analysis (39) • This meta-analysis examined the association between retail density and tobacco use behaviours. • The majority of the studies were U.S. based with an additional two from Australia, four from the U.K. and one from Aotearoa New Zealand as well as other Organisation for Economic Co-operation and Development jurisdictions. • Lower levels of tobacco retailer density and decreased proximity were associated with statistically significant lower levels of tobacco use. • Retail density and proximity was found to be higher in locations with low-income populations relative to high-income populations. Retail density also had a greater association with people who used tobacco more rather than less. • However, variations in the included studies' designs, effect sizes, and outcomes reduce the certainty of the evidence.	High	No	9/11	2020	No	No
Sales regulations • Retail availability Priority populations • Children and youth Primary outcome • Cigarette use – consumption	Association between tobacco outlet density and smoking among young people: A systematic methodological review (40) • This narrative synthesis examined the association between youth smoking behaviour (aged 12–25 years) and tobacco retail outlet density and proximity to school and home. • The studies were predominantly U.S. based with one each from Australia, Aotearoa New Zealand, and the U.K. • The authors reported that the majority of the studies were of poor to moderate quality due to under-adjustment for confounders, poorly fitted models, low participation rates, and potential misclassification of exposure. • Of the higher quality studies the evidence was mixed. Two studies reported mixed results, two studies found a positive association, one found negative association, and three reported non-significant associations.	High	No	7/11	2017	No	Youth (12–25)

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
	• The results from the higher quality studies were largely consistent with the lower quality studies. Lower quality studies also reported many insignificant results. • The review suggested that adolescents made use of social sources for cigarettes, which may limit their dependency on, and exposure to, tobacco outlets.						
Targeted investments to reduce use among vulnerable groups • Cessation programs Priority populations • Indigenous people • Individuals with lower socio-economic status Primary outcome • Cigarette use – cessations	A systematic review evaluating disparities in state-run quitline utilization and effectiveness in the U.S.(55) • This narrative synthesis examined the use of quitlines to support historically disadvantaged populations in the U.S. • Five studies evaluated the effectiveness of state-run quitlines by SES, race/ethnicity, or sex. • No study was found for LGBTQ2+ populations. • The evidence was mixed for Indigenous populations with two studies reporting lower cessation rates and two others reporting no difference when compared to other racialized groups or white populations. • The result for SES was also mixed. One study found an inverse relationship between cessation and lower SES and another found a positive relationship between SES (measured by educational attainment) and cessation and one study reported non-significant results. • Although marginalized populations (racial/ethnic minorities, low SES individuals) utilized quitlines more frequently than their counterparts, they experienced lower success with smoking cessation compared to white or higher SES individuals.	Low	No	4/10	2019	No	SES, Indigenous
Targeted investments to reduce use among vulnerable groups • Cessation programs Priority populations • Expectant mothers	Smoking cessation interventions for pregnant women attending treatment for substance use disorders: A systematic review (56) • This narrative synthesis found few studies. • Most of the studies were considered methodologically weak. Several of the studies were also dated. Two of the included studies were program evaluations and only one included data in the report.	Low	No	7/9	2021	No	Pregnant women with drug dependency

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
Primary outcome • Cigarette use – cessations	• A study that examined counselling interventions reported statistically insignificant results. • The authors concluded the combination of a paucity of evidence and poor-quality studies makes it difficult to make conclusions about effective approaches.						
Targeted investments to reduce use among vulnerable groups • Cessation programs Priority populations • People living with HIV Primary outcome • Cigarette use – cessations	Interventions for tobacco use cessation in people living with HIV (58) • This Cochrane systematic review examined the smoking interventions for people living with HIV. • The studies were predominantly U.S. based (12 of 17). There were no studies from Aotearoa New Zealand, Australia, or the U.K. • The review reported evidence that the pharmaceutical varenicline supported smoking cessation. The evidence was assessed as moderately certain. • There is no evidence to support behavioural interventions.	Low	No	11/11	2022	Yes	People living with HIV
Targeted investments to reduce use among vulnerable groups • Cessation programs Priority populations • Individuals with lower socio-economic status Primary outcome • Cigarette use – cessations	Interventions to reduce tobacco use in people experiencing homelessness (59) • This Cochrane systematic review examined smoking interventions for people experiencing homelessness. • The studies were predominantly U.S. based. One study was from the U.K. • The interventions included behavioral interventions, pharmacotherapies, contingency management, and text- or app-based interventions. • In general, there was insufficient evidence to assess if any of the interventions were effective. • However, there is some evidence to support the use of intensive behavioural interventions (as opposed to less intense) but the certainty of the evidence was assessed as low.	Low	No	11/11	2020	Yes	Homeless
Targeted investments to reduce use among vulnerable groups	Effectiveness of culturally tailoring smoking cessation interventions for reducing or quitting combustible tobacco: A systematic review and meta-analyses (53)	High	No	8/11	2023	No	Indigenous, racial/ethnic

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
• Cessation programs Priority populations • Indigenous • Other racialized groups Primary outcome • Cigarette use – cessations	• This meta-analysis investigated the effectiveness of culturally tailored interventions on smoking cessation for a minimum of 3 months. • The studies were predominantly North American but with a couple from Australia and Aotearoa New Zealand and one from the U.K. as well as several from Asia. • The population was Indigenous and/or other racialized groups. No studies were found for the LGBTQ+ community. • Cultural tailoring was described as either surface level (e.g., culturally congruent provider, translated material, counselling in preferred language) or deep tailoring (e.g., addressed cultural norms, practices, or values, counselling that addressed cultural practices, printed material that address cultural targeting by the tobacco industry). • The evidence suggested that culturally tailored smoking cessation interventions were effective strategies compared to non-tailored interventions. • The analysis by program type (surface tailoring versus deep tailoring) suggested that surface tailoring may be sufficient. However, this conclusion has moderate uncertainty as it is based on only three studies with between-group differences in study design. • There is low to moderate certainty of evidence that culturally tailored smoking cessation interventions are effective strategies compared to non-tailored interventions.						
Targeted investments to reduce use among vulnerable groups • Cessation programs Priority populations • Indigenous peoples	Smoking cessation interventions in Indigenous North Americans: A meta-narrative systematic review (54) • This evidence synthesis examined several smoking cessation interventions for Indigenous populations. • It was based on a small number of studies (10) from the U.S. and Canada. • Overall, the evidence on the effectiveness of the smoking cessation interventions (e.g., pharmaceutical aids, behavioural health interventions, culturally tailored	High	No	6/9	2021	No	Indigenous

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
Primary outcome • Cigarette use – cessations	interventions, telephone calls, texting, and online media, Indigenous personnel) for the Indigenous population was both limited and weak due to loss to follow up and variations in study design and interventions. • However, the review provided evidence that collaboration with Tribal communities, evidence-based individual counselling, and free pharmaceutical aids may be effective tools for smoking cessation. The evidence did not support an association between cultural tailoring (defined as existing cessation intervention modified to include Indigenous beliefs, language, or specific Tribal stories or a novel cessation tool created with integrated Indigenous beliefs, language, or specific Tribal stories) and smoking cessation. • Pharmaceutical aids (five studies): In general, the evidence suggested that pharmaceuticals were associated with smoking cessation. Because three studies combined pharmaceuticals with cultural tailoring or behavioural interventions, it was difficult to determine which intervention drove the results. One study included free pharmaceuticals, but cessation data was not reported. • Behavioural interventions (eight studies): These studies provided either individual or group counselling. Two studies included pharmaceuticals and individual counselling with and without cultural tailoring. The results suggested that cultural tailoring was not associated with higher cessation. Another that compared culturally tailored counselling to evidence-based counselling found no significant difference in smoking cessation. • Culturally tailored (eight studies): two of four studies that reported on cultural tailoring did not reach significance. Differences in interventions and other factors such as loss to follow up inhibited a conclusion on effectiveness. • Telephone calls, text messages, and online interventions (five studies): There was insufficient evidence to reach a conclusion.						

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
	• Indigenous personnel (four studies): Indigenous coordinators or counsellors was not associated with cessation.						
Targeted investments to reduce use among vulnerable groups • Cessation programs Priority populations • Individuals with lower socio-economic status Primary outcome • Cigarette use – cessations	Systematic review of behavioural smoking cessation interventions for older smokers from deprived backgrounds (57) • This is a narrative analysis of smoking interventions aimed at reducing smoking behaviours among older adults from deprived neighbourhoods. • The interventions included a range of provider types, group and individual counselling, and one-to-one behavioural support. • Only 11 relevant documents met the inclusion criteria of which three were U.K. based and five were U.S. based. • Two studies reported found a positive association between financial incentives and quit rates. Older participants and those with the lowest income had higher quit rates. • Two studies reported an association between community-based interventions and quit rates. • Three studies reported an association between group-based services and higher quit rates relative to individual pharmacy-based support or non-attendance. • One-to-one behavioural supports both in person and over the phone were associated with better quit rates relative to no such services. • An association was observed between higher education and smoking abstinence. • Due to data limitations and variations is designs (modality, sample size, intervention timing, and measurement of smoking abstinence), it was not possible to identify an optimal behavioural smoking cessation intervention.	Low	No	7/11	2018	No	Low SES, older age

E-cigarettes

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
Pricing policies • Taxes Sales regulations • Age restrictions • Retail restrictions/bans Product regulations • Ingredient restrictions/bans • Packaging regulations Targeted investments to reduce use among vulnerable groups • Health education campaigns • Cessation programs Priority populations • Children and youth • Individuals with lower socio-economic status Primary outcome • E-cigarette use	A systematic review and network meta-analysis of population-level interventions to tackle smoking behaviour (11) • This meta-analysis and narrative synthesis of population-level tobacco policies examined multiple policy interventions (mass media campaigns, tax increases, tobacco bans, health warnings, age limits, flavour bans, and free/discounted nicotine replacement therapy (NRT)). • The included studies crossed multiple jurisdictions including the U.S. (225 studies), Australia (28 studies), the U.K. (28 studies), and Aotearoa New Zealand (five studies). • The studies were a mix of tobacco products (cigarettes and e-cigarettes). • There was no evidence to support that mass media campaigns reduced e-cigarette use. • The evidence supported that tax increases resulted in a small significant reduction in e-cigarette use. • The evidence supported that e-cigarette ban resulted in a small significant reduction in e-cigarette consumption but note that this conclusion is based on one study. • The meta-analysis suggested that health warnings did not find a statistically significant association with e-cigarette consumption. Note, this conclusion was based on a single study. • The evidence did not support that age limits reduce e-cigarette use but this conclusion was based on a few studies. • Overall, many of the conclusions were based on a very few studies, often a single study, and as such the conclusions of the review should be used cautiously.	High	No	9/11	2023	NO	Youth, SES
Pricing policies	Meta-analysis of e-cigarette price elasticity (71)	High	No	5/10	2022	No	No

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
• Taxes Primary outcome • E-cigarette use – sales, substitution	• This narrative synthesis and meta-analysis concluded that e-cigarettes were a substitution for cigarettes and higher cigarette taxes would encourage switching. • There were several cautions when interpreting the result: the review did not report on the quality of the included studies, the studies were based almost entirely in the U.S., and there was considerable variation in study designs, methodologies, and effect sizes. • The results of the meta-analysis (below) were based on 13 studies, but these results were consistent with the narrative analysis: ○ a 10% increase in e-cigarette price was associated with an 11.5% decrease in sales/purchases and a decrease in use prevalence ○ a 10% increase in cigarette price was associated with a 9.8% increase in e-cigarette, an increase in sales/purchases and an increase in use prevalence ○ a 10% increase in e-cigarette prices was not associated with an increase in cigarette sales/ purchases ○ an increase in e-cigarette price was associated with increased smoking prevalence, propensity, and number of cigarettes smoked. • The review concluded that e-cigarettes were a substitution for cigarettes and that higher cigarette taxes would encourage switching.						
Pricing policies • Taxes Sales regulations • Age restrictions • Retail restrictions/bans Product regulations	Regulatory strategies for preventing and reducing nicotine vaping among youth: A systematic review (69) • The evidence synthesis examined several tobacco control policies including age restrictions, flavour bans, health warnings, tax policies, and sales licensing. • The target population was youth (12–21 years). • The majority of the studies were U.S. based (27) and the rest were from the U.K. (1) and Canada (1). • All studies were evaluated as a moderate to high risk of uncertainty.	High	No	8/10	No	No	Youth

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
• Ingredient restrictions/bans • Packaging regulations Priority populations • Children and youth Primary outcome • E-cigarette use – consumption	• Age restrictions were the most evaluated policy (21 studies). Overall, the evidence for age restrictions on youth vaping was mixed. Age restrictions were not strongly associated with either an increase or a decrease in youth vaping. • Flavour bans or restrictions varied by studies but overall, the evidence suggested that flavour bans were associated with a decrease in youth vaping but that may be offset by increased use in neighbouring jurisdictions where such restrictions are not in place. One study reported a substitution to a non-banned flavour (mint). • Two studies examined retail sales licenses. Although the studies suggested that such licensing was associated with a decline in e-cigarette use and lower odds of initiation, the studies were assessed as low quality. • Two studies evaluated tax or price increases. The U.S.-based studies suggested higher taxes led to a small decline in vaping prevalence when compared to jurisdictions without the tax increase. One study was assed as low quality and one of moderate quality.						
Pricing policies • Taxes Sales regulations • Age restrictions • Retail restrictions/bans Product regulations • Ingredient restrictions/bans • Packaging regulations Priority populations	A systematic review for the impacts of global approaches to regulating electronic nicotine products (70) • This narrative analysis examined several e-cigarette control policies including flavour restrictions, age restrictions, excise tax, advertising restrictions, comprehensive bans, and retail licensing. • Most of the studies were U.S. based (31). The remainder were Europe (11), Canada (4), Asia (2). • The most researched policies were flavour bans (12) or age restrictions (10). • The evidence synthesis concluded it could not qualify a policy effect due to the substantial variation in the methodologies of the included studies. • A few other studies examined restricting flavoured e-cigarettes to adult populations. One study found an	High	No	6/9	2022	No	Youth

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
• Children and youth Primary outcome • E-cigarette use – consumption, sales	initial short-term decline in youth vaping; that effect did not endure. The association between youth vaping and the ban was not significant at six months. Two other studies also reported a decline in youth vaping after targeted flavour restrictions. • The evidence for age restrictions was mixed possibly due to easy access by minors to illicit vapes in some jurisdictions due to non-compliance by retailers (e.g., fake IDs, retailers not checking IDs, lack of age verification online). • The three studies that assessed the association between tax increases and retail sales reported a statistically significant decline in e-cigarette sales. Three of the four studies that evaluated the outcome "e-cigarette use" reported a statistically significant moderate reduction in use. One study did not find evidence of an association between tax and youth vaping for U.S. youth in grades 9–12. • Retail licensing requirement was associated with a statistically significant moderate decline in e-cigarette use, but this conclusion was based on a single study. • The review noted that there was little research on the effectiveness of e-cigarette control policies on vulnerable populations. • The review noted that flavour restrictions intended to reduce e-cigarette use may decrease the likelihood of smokers using e-cigarettes as an alternative to cigarettes. • The conclusion of this review should be interpreted with caution as the majority of the studies were from the U.S., few in number, and assessed as low to moderate quality.						
Product regulations • Ingredient restrictions/bans	The role of nicotine and flavor in the abuse potential and appeal of electronic cigarettes for adult current and former cigarette and electronic cigarette users: A systematic review (77)	High	No	7/10	2020	No	Pregnant women, Indigenous, youth

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
Priority populations • Children and youth • Indigenous peoples • Expectant mothers Primary outcome • E-cigarette use – consumption, substitution	• This narrative synthesis examined e-liquid concentrations and flavours on abuse or appeal potential. • Abuse potential was described as the likelihood that "intentional, nontherapeutic use to achieve a desired psychological or physiological effect" will occur. • Jurisdiction not specified. • Although higher concentration of nicotine in e-liquids was associated with great switch potential from combustible cigarettes, it was also associated with greater dependency and duration of use. • The review cautioned about capping nicotine levels too low since concentrations >12 mg/mL were associated with greater switching from combustible cigarettes to e-cigarettes. • The evidence suggested flavours had a greater abuse potential (encouraged use), but it was unclear whether flavours encouraged switching from combustible cigarettes to e-cigarettes. • Although candy/dessert, fruit, and mint/menthol were generally preferred flavours, dual user status, and increasing age were associated with a preference for tobacco flavour. • The review cautioned that a ban on flavours may discourage young adults from switching from cigarettes according to a survey of young adults. • The majority of the studies were assessed as high quality.						
Advertising/marketing regulations • Product placement Priority populations • Children and youth Primary outcome	Impact of smoking and vaping in films on smoking and vaping uptake in adolescents: Systematic review and meta-analysis (82) • It is important to note that this meta-analysis and narrative synthesis is not an evaluation of a policy change but rather an evaluation of smoking and vaping exposure in films on youth vaping and smoking behaviours.	Low	No	7/11	2020	No	Youth (10–19 years)

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
• E-cigarette use (initiation)	• Studies were predominantly U.S. based with a few from the U.K., Mexico, Germany, India, and Argentina. • The meta-analysis of vaping exposure in films or on TV suggested that exposure was associated with "ever trying" or "vaping uptake." However, the evidence was rated as low or very low certainty due to the low number of studies. • The meta-analysis of smoking exposure in films or on TV suggested that exposure was associated with a greater risk of "ever trying" or "smoking uptake." The evidence was rated as moderate certainty. • The vaping and results were consistent for both the cross-sectional and longitudinal analysis. • The review concluded that film classification guidelines were failing in their mission to protect children and recommend that films containing smoking or vaping have an 18+ rating.						
Targeted investments to reduce use among vulnerable groups • Health education campaigns Priority populations • Children and youth Primary outcome • E-cigarette use – consumption	Interventions for preventing e-cigarette use among children and youth: A systematic review (78) • This narrative analysis was primarily U.S. based with one study from the U.K. and two from Canada. • 19 studies assessed school-based intervention. • Five of the studies were vape-free policies or bans. The results were mixed or inconclusive. • Fourteen studies assess school-based educational and skills-based programs, which consisted of presentations, peer leadership groups, social-emotional skills curricula, and one stand-alone screening and intervention. • The review found little to no evidence that school-based interventions reduced smoking or vaping behaviours in youth. The majority of school educational interventions were either not statistically significant or provided mixed results. The following programs demonstrated a positive and statistically significant reduction in e-cigarette use: Above the Influence of Vaping, which used peer leaders	High	No	9/10	2022	No	Youth (<22)

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
	to deliver vaping content, and 'INCLUSIVE' (INitiating Change Locally in bUllyIng and aggression through the School EnVironment), which stands for initiating change locally in bullying and aggression through the school environment. CATCH My Breath program studies reported mixed results. One study found a positive association with reduced vaping behaviour while another found no evidence of an association. • Six studies assessed community-based interventions such as social media messages and mass media campaigns. Although the mass media campaigns "The Real Cost" and "The Truth" were not associated with a reduction in e-cigarette use, they were associated with a decrease in vaping initiation intent and greater negative perceptions about vaping. • Social media messaging was associated with reduced intentions to vape in the future. • The evidence quality was assessed at low to moderate.						
Targeted investments to reduce use among vulnerable groups • Health education campaigns Priority populations • Children and youth Primary outcome • E-cigarette use – consumption	A systematic review and meta-analysis of school-based preventive interventions targeting e-cigarette use among adolescents (84) • This high-quality narrative synthesis and meta-analysis focused on school-based interventions targeting vaping behaviour. • These interventions included classroom education and skills training, multicomponent programs involving school-wide initiatives, parental involvement, and community engagement. Delivery methods included face-to-face, hybrid, and eHealth programs. • The evidence to support school-based interventions was mixed. • There was no evidence to support that school-based interventions prevented e-cigarette use. • Studies that examined changes in e-cigarette use found a statistically significant reduction in use at three	Low	No	9/11	2023	Yes	Youth

Dimension of the organizing framework	Declarative title and key findings	Relevance rating	Living Status	Quality Amstar	Last year literature searched	Availability of Grade Profile	Equity considerations
	months but due to variation and inconsistencies in studies designs the results should be interpreted as uncertain. • Two interventions were associated with an increase in e-cigarette use. One of the interventions was a theme-week and the other was a school-wide policy. Both policies were broad and did not include specific in-class educations. • The interventions were associated with a small but statistically significant knowledge gain and reduced risky attitudes toward e-cigarettes. • However, some studies suggested there was no evidence that the interventions changed harm perceptions. • The evidence quality was assessed as low to moderate and the review pointed to a need for higher quality research.						

Appendix 4: Documents with Identified Policy Implications

The following reviews were not extracted as they did not meet the inclusion criteria; however, they may be of interest to policymakers.

Cigarettes

Dimension of the organizing framework	Declarative title and key findings
Pricing policies • Pricing policies	Addressing lower-priced cigarette products through three-pronged comprehensive regulation on excise taxes, minimum price policies and restrictions on price promotions (16) • The review concluded that effectiveness of raising excise tax is enhanced when combined with minimum price laws, coupons, and promotional bans because they undermine the industry's ability to manipulate pricing. Evidence brief: Addressing area-level disparities in prices of tobacco and vaping products in Ontario and Québec (2019) • The evidence brief found evidence to support minimum price laws.
Pricing policies • Financial incentives to support cessation	How and why do financial incentives contribute to helping people stop smoking? A realist review (85) • The realist review suggested that financial incentives can be effective when there is a financial need, a person is pregnant, or recently postpartum. It pays to quit: A review of evidence about how financial incentives may improve smoking cessation during pregnancy (86) • The brief evidence review indicated that financial incentives could increase an expectant mother's capacity and motivation to stop smoking.
Sales regulations • Retail availability	Associations of tobacco retailer density and proximity with adult tobacco use behaviours and health outcomes: A meta-analysis (39) • Decreased retail density was associated with lower tobacco use. Tobacco retail availability and cigarette and e-cigarette use among youth and adults: A scoping review (87) • The scoping review concluded a positive association between retail density/proximity and youth and adult cigarette use. Retailer density reduction approaches to tobacco control: A review (38) • The review concluded that policies that reduce retail density hold promise. Policies regulating retail environment to reduce tobacco availability: A scoping review (88) • The scoping review looked at several policies that limit availability and access such as banning tobacco home delivery, retail density or proximity to specific locations, requiring a retail license, banning vending machines, and banning sales that constitute advertising, promotion, and sponsorships. The review concluded that reducing retail outlets reduces impulse purchases.

Dimension of the organizing framework	Declarative title and key findings
Sales regulations • Retail restrictions/bans	Nicotine reduction in cigarettes: Literature review and gap analysis (49) • Randomized controlled trials (RCTs) suggested a nicotine reduction rule could reduce cigarette smoking.
Product regulations • Ingredient restrictions/bans	A review of the evidence on cigarettes with reduced addictiveness potential (48) • Based on evidence from clinical trials, this review of the behavioural science literature concluded limits on the nicotine content of cigarettes could render them less addictive.
Product regulations • Packaging regulations	Consumer response to standardized tobacco packaging in the United Kingdom: A synthesis of evidence from two systematic reviews (89) • This is a synthesis of the evidence from two systematic reviews of the U.K.'s standardized packaging. It concluded that standardized packaging reduced the appeal of cigarettes and made health warnings more salient but the effect on smoking behaviour was unclear.
Targeted investments to reduce use among vulnerable groups • Cessation programs Priority populations • Children and youth	Smoking-cessation interventions for U.S. young adults: Updated systematic review (90) • RCTs suggested that text message interventions, sustained quit and win contests, and behavioural intervention can encourage short-term cessation in young adults (18–24 years).
Targeted investments to reduce use among vulnerable groups • Cessation programs Priority populations • Vulnerable populations	Pharmacotherapy for smoking cessation in schizophrenia: A systematic review (91) • Pharmacological interventions (e.g., varenicline, bupropion, and nicotine replacement therapies) appear to be effective for the treatment of tobacco use disorder in smokers with schizophrenia. Systematic review of behavioural smoking cessation interventions for older smokers from deprived backgrounds (57) • Smoking cessation interventions for older adults from lower socio-economic status (SES) groups demonstrated greater success when they were embedded in the community and combined with intense individualized behavioural counselling with incentives and peer facilitation. Smoking cessation interventions for U.S. adults with disabilities: A systematic review (92) • No conclusion was made due to the paucity of literature. However, the two included studies reported mindfulness procedures showed some promise in reducing tobacco use.

E-cigarettes

Dimension of the organizing framework	Declarative title and key findings
Pricing policies • Minimum prices	Area-level differences in the prices of tobacco and electronic nicotine delivery systems – A systematic review (72) • The systematic review found compelling evidence that the industry targets vulnerable population through price manipulation across geographic areas, furthering that regulations such as minimum price laws can mitigate such behaviour.
Sales regulations • Retail availability	Tobacco retail availability and cigarette and e-cigarette use among youth and adults: A scoping review (87) • The scoping review concluded a positive association between retail density/proximity and e-cigarette use but the evidence is limited due to the small number of studies.
Product regulations • Ingredient restrictions/bans • Packaging regulations	Youth use of e-liquid flavours-a systematic review exploring patterns of use of e-liquid flavours and associations with continued vaping, tobacco smoking uptake or cessation (93) • E-liquid flavours are associated with the uptake and continuation of vaping in the youth population (<18 yrs).
Targeted investments to reduce use among vulnerable groups • Cessation programs Priority populations • Children and youth	A systematic review of experimental and longitudinal studies on e-cigarette use cessation (94) • Vaping cessation programs that utilize mobile health technology to provide individualized services show promise for e-cigarette cessation, but the evidence is limited due to the small number of studies. Interventions to prevent or cease electronic cigarette use in children and adolescents (95) • The Cochrane review concluded that there was no evidence from RCT to assess the effectiveness of e-cigarette interventions on children or adolescents. Non-RCTs were not eligible.
Targeted investments to reduce use among vulnerable groups • Health education campaigns	Does the content and source credibility of health and risk messages related to nicotine vaping products have an impact on harm perception and behavioural intentions? A systematic review (96) • Relative risk messaging (health risks of cigarettes vs. nicotine vaping products [NVP]) decreased perception of NVP health risks. Relative risk messaging seemed to encourage NVP use whereas addiction messaging decreased it. Trust in the source of the information was a mediating factor.

Appendix 5: Jurisdictional scan for cigarette and e-cigarette control policies, regulations, and legislation

Jurisdiction	Document
Aotearoa New Zealand	Andrew A. New Zealand's world-first smokefree legislation 'goes up in smoke': A setback in ending the tobacco epidemic. *Health Policy* 2024; 147: 105123. https://doi.org/10.1016/j.healthpol.2024.105123.
	Donny EC, Hatsukami DK. Why the New Zealand Government should reconsider abandoning denicotinised cigarettes. Public Health Communication Centre Aotearoa; 2024. https://www.phcc.org.nz/briefing/why-new-zealand-government-should-reconsider-abandoning-denicotinised-cigarettes.
	Gendall P, Gendall K, Branston JR, Edwards R, Wilson N, Hoek J. Going 'super value' in New Zealand: Cigarette pricing strategies during a period of sustained annual excise tax increases. *Tobacco Control* 2024; 33(2): 240. https://doi.org/10.1136/tc-2021-057232.
	International Tobacco Control Policy Evaluation Project. New Zealand. https://itcproject.org/countries/new-zealand/.
	International Tobacco Control Policy Evaluation Project. 2024. *The Wave. Volume 14 Issue 5: Jul/Aug /Sept.* University of Waterloo (Waterloo, ON).
	Ministry of Health. Restrictions on colours and flavours of vaping products: Government of New Zealand. Last updated 22 November 2023. https://www.health.govt.nz/regulation-legislation/vaping-herbal-smoking-and-smokeless-tobacco/information-for-importers-manufacturers-and-distributors/restrictions-on-colours-and-flavours#.
	New Zealand Custom Service. Importing or bringing tobacco into New Zealand. 2021. https://www.customs.govt.nz/globalassets/documents/misc/importing-or-bringing-tobacco-into-nz-faqs.pdf.
	Ministry of Health. Smokefree Aotearoa 2025 action plan. 2021. https://www.health.govt.nz/publications/smokefree-aotearoa-2025-action-plan.
	Parliamentary Counsel Office. New Zealand legislation: Smokefree environments and regulated products regulations 2021. Version as of 20 March 2024. https://www.legislation.govt.nz/regulation/public/2021/0204/latest/whole.html.
	Ministry of Health. Display, advertising and packaging of vaping and other notifiable products. Last updated 24 January 2025. https://www.health.govt.nz/regulation-legislation/vaping-herbal-smoking-and-smokeless-tobacco/selling-vaping-or-other-notifiable-products/display-advertising-and-packaging.
	Ministry of Health. Sale of vaping and smoking products to minors. Last updated 24 January 2025. https://www.health.govt.nz/regulation-legislation/vaping-herbal-smoking-and-smokeless-tobacco/selling-vaping-or-other-notifiable-products/sale-of-vaping-and-smoking-products-to-minors.
	New Zealand Custom Service. New excise duty rates for tobacco products, cigarettes and heated tobacco products from 1 January 2025. Important notice, 29 November 2024. https://www.customs.govt.nz/about-us/news/important-notices/new-excise-duty-rates-for-tobacco-products-cigarettes-and-heated-tobacco-products-from-1-january-2025/.
Australia	Department of Health and Aged Care. National tobacco strategy 2023–2030. 2023. https://www.health.gov.au/resources/publications/national-tobacco-strategy-2023-2030?language=en.
	Evans-Reeves K, Trigg J, Bowden J, Edwards R, Bonevski B. "Lifeline for a young, healthy generation": South Australia considers Tobacco-Free Generation age restrictions on product sales. *Tobacco Control* (blog), 2 October 2024. https://blogs.bmj.com/tc/2024/10/02/lifeline-for-a-young-healthy-generation-south-australia-considers-tobacco-free-generation-age-restrictions-on-product-sales/.
	Australian Government. Changes to the regulation of vapes. Last updated 1 October 2024. https://www.tga.gov.au/products/unapproved-therapeutic-goods/vaping-hub/changes-regulation-vapes.

Jurisdiction	Document
	Hirono KT, Smith KE. Australia's $40 per pack cigarette tax plans: the need to consider equity. *Tobacco Control* 2018; 27(2): 229. https://doi.org/10.1136/tobaccocontrol-2016-053608.
	International Tobacco Control Policy Evaluation Project. Australia. https://itcproject.org/countries/australia.
	International Tobacco Control Policy Evaluation Project. The Wave. Volume 14 Issue 5: Jul/Aug /Sept. Waterloo, ON: University of Waterloo; 2024.
	Sharrad KJ, Perveen S, Grammatopoulos T, Phillips-Chantelois D, Carson-Chahhoud KV. Financial incentives for smoking cessation: Protocol for the qualitative evaluation of the incentive to quit (I2Q) pilot. *International Journal of Qualitative Methods* 2023; 22. https://journals.sagepub.com/doi/10.1177/16094069231215185
United Kingdom	Kent Community Health. One You smokefree. NHS Foundation Trust. https://www.kentcht.nhs.uk/service/one-you-kent/one-you-smokefree/.
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	Campaign for Tobacco-Free Kids. Tobacco control laws: Legislation. https://www.tobaccocontrollaws.org/legislation.
	HM Revenue and Customs. Minimum Excise Tax for cigarettes (policy paper). 2017. https://www.gov.uk/government/publications/minimum-excise-tax-for-cigarettes/minimum-excise-tax-for-cigarettes.
	HM Revenue & Customs. Changes to tobacco duty rates from 15 March 2023 (policy paper). 2023. https://www.gov.uk/government/publications/tobacco-duty-changes-to-rates/changes-to-tobacco-duty-rates-from-15-march-2023.
	Department of Health and Social Care. Stopping the start: our new plan to create a smokefree generation (policy paper). 2023. https://www.gov.uk/government/publications/stopping-the-start-our-new-plan-to-create-a-smokefree-generation/stopping-the-start-our-new-plan-to-create-a-smokefree-generation.
	Department of Health and Social Care et al. Smokefree generation one step closer as bill introduced. Press release, 20 March 2024. https://www.gov.uk/government/news/smokefree-generation-one-step-closer-as-bill-introduced.
	International Tobacco Control Policy Evaluation Project. United Kingdom. https://itcproject.org/countries/united-kingdom/.
	International Tobacco Control Policy Evaluation Project. The Wave. Volume 14 Issue 5: Jul/Aug /Sept. Waterloo, ON: University of Waterloo; 2024.
	Klein DE, Chaiton M, Kundu A, Schwartz R. A Literature Review on International E-cigarette Regulatory Policies. Current Addiction Reports. 2020;7(4):509-19. https://doi.org/10.1007/s40429-020-00332-w.
	Lang AE, Kathuria H, Braillon A, Ewart G, Dagli E, Stepp EL, et al. England is handing out e-cigarettes: Is the "Swap to Stop" tobacco control scheme harm reduction or harm production? *Am J Respir Crit Care Med* 2023; 208(10): 1024-5. https://doi.org/10.1164/rccm.202308-1354VP.
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Appendix 6: Documents excluded at the final stages of reviewing

Document type	Hyperlinked title
	Nicotine reduction in cigarettes: Literature review and gap analysis (49) The use of excise taxes to reduce tobacco, alcohol, and sugary beverage consumption (97) The economics of tobacco regulation: A comprehensive review (98) Does the content and source credibility of health and risk messages related to nicotine vaping products have an impact on harm perception and behavioural intentions? A systematic review (96) Interventions to mitigate vaping misinformation: A meta-analysis (99) Restricting supply of tobacco products to pharmacies: A scoping review (100) Price elasticity of demand for cigarettes among youths in high-income countries: A systematic review (101) Tobacco retail availability and cigarette and e-cigarette use among youth and adults: A scoping review (87)

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