



THE ONTARIO
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DE RECHERCHE
SUR LE TABAC
DE L'ONTARIO

E-Cigarette Social Sources: Theory, Evidence and Regulatory Policy

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April 2021

Citation: Taylor E, O'Connor S, Schwartz R. *E-Cigarette Social Sources: Theory, Evidence and Regulatory Policy*. Special Report. Toronto ON: Ontario Tobacco Research Unit; April 2021.

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Executive Summary

Literature Review

E-Cigarette Social Sources

- Most underage Canadian youth are accessing their vaping products from social sources.
- Similarly, studies have shown that most youth in the U.S. and England access vaping products primarily through social sources.
- Interventions to address social sources of e-cigarettes are under-developed.
- Health Canada's recent reports on additional regulations under consideration did not include measures specifically targeted at social sources.

Conventional Tobacco Social Sources

Importance of Social Sources

- There is strong evidence from conventional tobacco that social sources are an important factor in youth initiation and progressing from experimentation to addiction.
- As youth consumption increases, social sources remain important, along with commercial sources, to maintain a steady supply.

Who Is Supplying Youth, and How Are They Accessing Tobacco?

- Youth exhibit reciprocity in their exchange of cigarettes; daily smokers are more likely to supply cigarettes to other youths.
- Adolescents that provide cigarettes to peers primarily purchase cigarettes from retailers, and social sources are used to expand the reach.
- Commercial sources are important to older youth (e.g., 12th grade); whereas, most younger youth obtain their cigarettes via social sources.
- Youth living in jurisdictions with restrictive retail laws were more likely to develop complex systems for obtaining cigarettes including asking strangers to purchase cigarettes and scavenging cigarette butts off the ground.

What Are the Potential Measures for Reducing Social Sources of Conventional Tobacco?

- Measures that cut off youth access to retail sales, such as increasing the minimum age and increasing compliance and enforcement measures, are likely to reduce the overall supply available for exchange and distribution via social sources.
- There is some evidence for both media campaigns to reduce social sources and fines for youth who supply to other youth.
- Experts suggest the need for research to develop evidence-based interventions to address social sources. Specific suggestions include interventions to address teen-to-teen exchange, reducing social environments for exchange, interventions focusing on youth that are heavy smokers, and school-based interventions.

Alcohol Social Sources

- Youth are more likely to access alcohol from adults over the age of 21 than from other teens.

Interventions to reduce social supply of alcohol to youth include: police enforcement of underage drinking at parties, requiring kegs to be registered, social host laws to allow third parties to sue social providers in the case of death or injury, and community interventions to provide alcohol free events for youth. Little research has been done to test the effectiveness of these approaches.

Several community wide initiatives have included interventions to reduce social sources of alcohol.

Cannabis Social Sources

- Little is known about the importance of social sources in youth access to cannabis; however, in-person dealers play an important role in youth access. We are not aware of any evidence about interventions to address social sources of cannabis.

Jurisdictional Scan

Canadian Federal Regulations

- There are no federal policies in place aimed specifically at reducing social sources of e-cigarettes.
- Health Canada's report on potential regulatory measures acknowledges the issues of social sources but does not put forward potential solutions.

Canadian Provincial Regulations

- Some provinces have laws in place to restrict adults from providing e-cigarettes to youth (Ontario, Newfoundland and Labrador, Nunavut, Prince Edward Island, Quebec and Yukon).
- Only Quebec has fines for both adults and youth who provide e-cigarettes to underage youth.

U.S. Federal Regulations to Reduce Social Sources

- No regulations to reduce social sources in the U.S. were found.
- Findings from conventional tobacco suggest that increasing the minimum age and ramping up enforcement measures may decrease the overall social supply available to youth.
- Other interventions that have been used to reduce social supply of conventional tobacco include campaigns and fines for youth who supply to peers, which are examined in more depth below.

Campaign to Reduce E-Cigarette Social Sources

- Effects: There is limited evidence that media campaigns are effective in increasing awareness and changing behavioural intentions to share cigarettes among youth (Zhang et al., 2015).
- Technical Feasibility: Campaigns to address social supply of e-cigarettes are feasible and could build on successful campaigns from conventional tobacco including the *Bad Ways*

to be Nice campaign.

- **Political Viability:** There is likely to be strong political support for campaigns to reduce social sources of e-cigarettes.
- **Alignment with International Trade Obligations:** There are no known obligations that would interfere with a campaign to reduce social sources of e-cigarettes.

Fines for Youth Who Supply to Peers

- **Effects:** There is no evidence that fining youth who supply e-cigarettes to peer will reduce youth access. Findings from conventional tobacco show that penalties for youth who supply to peers may be counterproductive by undermining more appropriate and effective methods of youth discipline and may divert attention away from retailers and the tobacco industry (Campaign for Tobacco Free Kids, 2020).
- **Technical Feasibility:** Quebec has fines for youth who supply tobacco to peers, indicating that this approach is technically feasible.
- **Political Viability:** While Canadians perceive that vaping is harmful and are worried about the number of kids vaping (Angus Reid, 2020), there is no evidence that there would be strong support for measures that penalize youth. As with youth possession laws, it is unlikely that the public health community in Canada would support this approach.
- **Alignment with International Trade Obligations:** There are no known obligations that would interfere with fines for youth who supply to peers.

Introduction

It is unlikely that a single intervention can eliminate most youth vaping (Braak et al., 2020). Because youth are accessing e-cigarettes in a variety of ways—including from social sources, brick and mortar stores and online retail establishments—a multi-pronged regulatory approach to reduce youth access is required (Baker et al., 2019; Braak, 2020). This report explores the extent to which interventions to address social sources of e-cigarettes are likely to be an important variable.

This report explores the evidence on interventions to address social sources of e-cigarettes, as well as other related substances including tobacco, alcohol, and cannabis. The paper also includes a jurisdictional scan of Canadian, U.S., as well as other notable regulations on social sources from outside of North America. Finally, the paper summarizes the potential effects, technical feasibility, political viability, and alignment with the Canadian policy landscape.

Literature Review

E-Cigarette Social Sources

- Most underage Canadian youth are accessing their vaping products from social sources.
- Similarly, studies have shown that most youth in the U.S. and England are accessing vaping products primarily through social sources.
- Interventions to address social sources of e-cigarettes are under-developed.
- Health Canada's recent reports on additional regulations under consideration did not include measures specifically targeted at social sources.

E-Cigarette Youth Social Sources

From the 2017 ITC Tobacco and Vaping Survey, Braak et al. (2020) surveyed over 12,000 adolescents aged 16-19 in Canada, the U.S. and England to understand sources of vaping products. Among those who had vaped in the last 30 days, most reported getting their vaping products only from social sources (42.5%), 41.4% accessed e-cigarettes only from commercial sources, and 13.4% from both types of sources (Braak et al., 2020).

E-Cigarette Canadian Youth Social Sources

Findings from the International Tobacco Control Youth Tobacco and Vaping Survey found that among underage Canadian respondents who vaped in the past 30 days, over 70% obtained vaping products from social sources (Braak et al., 2020¹). Similarly, past year vapers who reported obtain e-cigarettes from social sources in Ontario, the majority of students (65%) reported obtaining e-cigarettes from social sources such as buying off a friend or someone else, giving money to someone else to buy, and trying or borrowing from a friend (Public Health Ontario, 2018). A much lower percentage of past-year vapers under the age of 19 bought e-cigarettes from a retail source (9%) or vape shop/internet (10%) (Public Health Ontario, 2018). In

¹ Supplemental Table in Braak et al, 2020

exploratory interviews conducted in Ontario, youth reported that they were able to access e-cigarettes from stores willing to sell to minors (e.g., gas stations), from vape shops that don't ask for ID, and from older friends (Borland et al., 2017). Youth perceived that even if commercial sources were cut off, they would still be able to access from an older friend or sibling or buy a used device (Borland et al., 2017). Youth reported that it is easy to navigate exchanges by texting someone, seeing ads on snapchat from another youth selling a device (Borland et al., 2017).

E-Cigarette U.S. Youth Social Sources

Several U.S. reports have also shown that youth are mainly accessing e-cigarettes from social sources (Kong et al., 2017; Meyers et al., 2017; Pepper et al., 2019). A survey of 9,865 adolescents aged 13-17 years in the United States found that 79.6% of those who had used JUUL in the last 30 days obtained the device from a social source (e.g., “someone bought for me”, “someone offered to me”), whereas only 20% bought JUUL products for themselves (McKeganey et al., 2019).

Proposed Regulations

While it is well known that youth are accessing e-cigarettes via social sources, interventions to address this problem are under-developed beyond arguments for raising the minimum age. Some experts suggest that reducing youth access to JUUL products will require greater focus on measures that deter or penalize legal-age purchasers who give or sell products to minors (McKeganey et al., 2019). The effectiveness of such penalties in reducing youth access to e-cigarettes warrants further study. Health Canada's recent reports on additional regulations under consideration did not include measures specifically targeted at social sources.

Importance of Social Sources

- There is strong evidence from conventional tobacco that social sources are important factors in youth initiation and progressing from experimentation to addiction.
- As youth consumption increases, social sources remain important, along with commercial sources, to maintain a steady supply.

Tobacco Social Sources

Who Is Supplying Youth, and How Are They Accessing Tobacco?

- Youth exhibit reciprocity in their exchange of cigarettes; daily smokers are more likely to supply cigarettes to other youths.
- Adolescents that provide cigarettes to peers primarily purchase cigarettes from retailers, and social sources are used to expand the reach.
- Commercial sources are important to older youth (e.g., 12th grade), whereas most younger youth obtain their cigarettes via social sources.
- Youth living in jurisdictions with restrictive retail laws were more likely to develop complex systems for obtaining cigarettes including asking strangers to purchase cigarettes and scavenging cigarettes off the ground.

What Are the Potential Measures for Reducing Social Sources of Conventional Tobacco?

- Measures that cut off youth access to retail sales, such as increasing the minimum age and increasing compliance and enforcement measures, are likely to reduce social sources.
- There is also limited evidence for both media campaigns to reduce social sources and fines for youth who supply to other youth.
- Experts suggest the need for further innovation and research on new interventions to address social sources. Specific suggestions include interventions to address teen-to-teen exchange, reducing social environments for exchange, and interventions focusing on youth that are heavy smokers, and school-based interventions.

Importance of Social Sources

Like e-cigarettes, studies show that most underage youth obtain conventional cigarettes from social sources (Ma et al., 2003; Katzman et al., 2007). Importantly, many youths get their first introduction to cigarettes via social sources, and this is an important factor in the decision to

take up smoking, and moving from experimentation to addiction (Ma et al., 2003; Katzman et al., 2007). As consumption increases, youth continue to rely on social sources, but often diversify their sources to include commercial sources to maintain a steady supply (Williams et al., 2005; Forster, 2003; Robinson et al., 2006).

Who Is Supplying Cigarettes to Youth and How Are They Accessing Tobacco?

Studies show that it is primarily other adolescents (both older adolescents who meet minimum age requirements and those who purchase illegally) who supply cigarettes to youth thus providing a social source (Wolfson, 1997; Forster, 2003; Pokorny et al., 2006). Youth social suppliers primarily purchase cigarettes from retailers (Wolfson, 1997; Forster, 2003; Pokorny et al., 2006). Therefore, cutting off commercial distribution channels to youth suppliers reduces the overall supply available to youth via social sources, drives up the price, and discourages sharing among peers (DiFranza, 2001; Levinson, 2007).

A Minnesota study by Forster et al. (2003) surveyed over 4124 students aged 13-16 years to understand aspects of social provision and acquisition of cigarettes among respondent who smoked at least one cigarette in the month before the survey. The results showed that almost 90% of students obtained a cigarette from another youth in the past month, and 75% had provided a cigarette to another teen (Forster et al., 2003). Daily smokers were more likely to provide cigarettes to youth who smoked less than daily and had more social sources than lighter smokers. Results also showed that youth who are the recipients of cigarettes via social sources are also most likely to share and provide them, demonstrating reciprocal relationships among teens (Forster et al., 2003). The study found that social exchange is not mutually exclusive from commercial sources, but rather expands the reach of commercial sources to a broader subset of youth (Forster et al., 2003). The study found that the source of most social acquisition are other teenagers rather than adults, and parents were least likely to provide cigarettes to teens (Forster et al., 2003).

Another Minnesota survey showed that commercial sources were important only for 12th grade students, whereas younger students in grades 6 and 9 rely primarily on friends and other

sources (Minnesota Department of Children, Families and Learning, 1999; Minnesota Department of Children Families and Learning, 2001).

Focus groups conducted with youth smokers showed that youth living in jurisdictions with restrictive retail policies were more likely to develop complex systems of obtaining cigarettes involving both friends and strangers who have access to commercial source (Pauls et al., 1998; Rowe et al., 1999).

A qualitative New Zealand study found that as commercial restrictions increase and it becomes more difficult for youth to obtain tobacco, some turn to desperate measures including asking strangers to purchase tobacco for them, picking up butts from the ground and smoking them, and asking random people for cigarettes (Marsh et al., 2013).

Possible Interventions to Reduce Social Sources of Conventional Tobacco

While interventions to address social sources of conventional tobacco remain under-developed and under-studied, experts have suggested the following:

Increase Minimum Age

Interventions to decrease the available retail channels could include increasing the minimum age to cut off social distribution channels to younger youth. One of the arguments against the effectiveness of conventional tobacco age 21 laws is that young smokers in Canada will still have access because they obtain their cigarettes mostly from social sources (Pope et al., 2015; Boak et al., 2018). Experts counter that raising the minimum age may also reduce social sources. A report by the Ontario Tobacco Research Unit argues that increasing the legal age to 21 would make it more difficult for underage smokers to gain access to cigarettes from older youth who would be less likely to remain in the same social networks after high school (Pope, 2015). This is because the small percentage of youth who do purchase cigarettes from stores become the main source of tobacco to their peers (Berman, 2016). By increasing the minimum age to 21, it is argued that those who can legally purchase tobacco would be outside the social circle of most high school students (Berman, 2016). At the same time, if retailers are checking for age 21, it is much less

likely that younger adolescents ages 16-17 would obtain supplies to distribute to their peers (Berman, 2016).

Increase Enforcement/Compliance of Commercial Sources of Tobacco

Cutting off underage youths' access to commercial sources via increased retailer compliance efforts may be another way to drive down social sources of e-cigarettes. While compliance checks on vendors have been shown to reduce sales to minors, their effectiveness has been questioned in the past because youth may obtain cigarettes from other means including social sources (Astor, 2019; Fichtenberg & Glanz, 2002; DiFranza, 2012; Jones et al., 2002; Etter, 2006). However, as suggested earlier, studies show that adolescents who supply cigarettes to youth primarily purchase cigarettes from retailers (Wolfson, 1997; Forster et al., 2003; Pokorny et al., 2006). By cutting off commercial distribution channels, this reduces the overall supply available to youth via social sources, drives up the price, and discourages sharing among peers (DiFranza, 2001; Levinson, 2007). An effort to increase enforcement in Texas resulted in a decrease in both commercial and social sources of tobacco and ultimately a decrease in smoking among middle-school students (DiFranza, 2002).

Media Campaigns

Kaptein (2017) has argued that it is unclear if media campaigns are effective in reducing social sources of tobacco. In Ontario, one social marketing campaign that sought to address social sources of cigarettes was the *Bad Ways to Be Nice campaign*. This initiative was able to make positive changes in attitudes toward supplying cigarettes to underage youth (Zhang et al., 2015). An evaluation of the campaign showed that young adult participants were receptive to the campaign, and that it either confirmed their thinking or convinced them not to provide cigarettes to teens (Zhang et al., 2015). While the campaign was successful in creating awareness and had a positive impact on behavioural intentions, there is no evidence of the impact on behavioural changes or reducing the social supply to youth (Zhang et al., 2015; Kaptein et al., 2017). In general, future research is needed on the workings of campaigns designed to reduce social sources.

Fines for Supplying Tobacco to Youth

All provinces have fines for retailers who supply cigarettes to underage youth and some provinces fine adults for supplying cigarettes. There is no evidence for the effectiveness of penalties for non retailers (e.g., youth and adult suppliers of social sources) in reducing social sources. For instance, in Quebec, adults are prohibited from purchasing tobacco for minors (Government of Quebec, n.d.). Quebec has clear fines in place for those who violate this law. For adults who purchase tobacco for a minor, the fines can range from \$500-\$1,500, and for repeat offences, fines can go up to \$1,000 to \$3,000.

Quebec also has a \$100 fine for minors who purchase tobacco for themselves, or someone else and for lying about their age to purchase tobacco. Fines for giving tobacco to a minor on school grounds, facilities or buildings range from \$500 to \$1,500, and repeat offences range from \$1,000 to \$3,000 (Government of Quebec, n.d.). There is no evidence to show that these penalties reduce social sources. Rather, they may be counterproductive by undermining more appropriate and effective methods of youth discipline and may divert attention from tobacco control strategies and from the tobacco industry (including retailers) for their responsibility for youth e-cigarette use (Campaign for Tobacco Free Kids, 2020). More effective methods for youth discipline may include school and parent-based repercussions (Wakefield & Giovino, 2003). Importantly, there is a risk that possession laws may also contribute to racial and ethnic disparities if they are enforced inconsistently and might put youth at risk of being introduced to the criminal justice system (Campaign for Tobacco Free Kids, 2020).

Further Research

Further research is needed to understand why adults and youth are providing tobacco to youth, how to cut off this supply to networks of youth (Marsh et al., 2013), and the best way to design future campaigns and interventions on this topic. Experts suggest the following approaches:

Interventions focusing on reducing teen-to-teen exchange: According to Forster et al. (2003), while adults occasionally supply cigarettes for youth, other teens are a much more important source of cigarettes. Therefore, interventions must focus on ways to reduce teen-to-teen exchange (Forster et al., 2003).

Interventions focusing on the social context of social exchange: For youth to exchange cigarettes, they must have a supportive social context including the space and opportunity to do so. To reduce social exchange, Forster et al. (2003) has suggested that interventions should focus on community and family attitudes and reducing overall adult approval for this behaviour in both public and private spaces.

Interventions focused on youth who are heavy smokers: Youth who are daily smokers are much more likely to both supply and receive cigarettes from other teens (Forster et al., 2003). Because daily smokers have more need for cigarettes, they often develop a variety of avenues to acquire cigarettes, which increases the likelihood that they will supply to a network of teens (Forster et al., 2003). Interventions that focus on preventing youth from becoming daily smokers may reduce the social supply to networks (Forster et al., 2003). Similarly, campaigns to convince youth not to supply others with cigarettes may benefit from focusing on daily smokers (Forster et al., 2003).

School-Based Interventions: Another potential intervention may include working with schools/school boards and students to reduce social supply within schools; however, there is no evidence for this type of approach, and it may be difficult to obtain buy in (Kaptein, 2017).

Alcohol Social Sources

- Youth are more likely to access alcohol from adults over the age of 21 than from other teens.
- Interventions to reduce social supply of alcohol to youth include: police enforcement of underage drinking at parties, requiring kegs to be registered, and social host laws to allow third parties to sue social providers in the case of death or injury, and community interventions to provide alcohol free events for youths. Little research has been done to evaluate the effects of these strategies.
- Several community wide initiatives have included interventions to reduce social sources of alcohol.

Youth are more likely to access alcohol from adults over the age of 21 rather than from other teens (Wagenaar et al., 1996; Jones-Webb et al., 1997). Younger adolescents are more likely to access alcohol from family and at home; whereas, older adolescents are more likely to access alcohol from friends (Harrison, Fulkerson et al., 2000).

Komro and Toomey (2002) reviewed interventions to reduce social supply of alcohol to youth. Interventions included ordinances to allow police enforcement of underage drinking at parties, requiring beer kegs to be registered so that adult purchasers of kegs can be penalized for supplying to underage drinkers, and social-host laws to allow third parties to sue social providers when the provision of alcohol to youth results in death or injury (Komro & Toomey, 2002). Little research has been done to evaluate the specific effects of these strategies to reduce social access to alcohol (Komro & Toomey, 2002).

Community strategies have also been implemented to reduce both commercial and social supply of alcohol to youth by developing community action plans to reduce youth access including a wide array of programs and policies (Komro & Toomey, 2002). Community level interventions to provide alcohol free events and settings for youth may deter youth from accessing alcohol. In general, community interventions were successful in reducing youth access to alcohol including teens providing to other teens (Komro & Toomey, 2002; Wagenaar et al., 2000), however more research is needed.

Cannabis Social Sources

- Little is known about the importance of social sources in youth access to cannabis, and there is no evidence about interventions to address social sources.

Little is known about social sources of cannabis, however “in person dealers” account for a substantial portion of illegal cannabis sales in Canada (Statistics Canada, 2018; Mahamad et al., 2020; Wadsworth et al., 2019). There is evidence that laws that legalize cannabis use for medical purposes do not increase marijuana use among youth, however the effects of recreational marijuana laws are mixed (Anderson et al., 2019).

Jurisdictional Scan²

Canadian Federal Regulations to Reduce Social Sources

- There are no federal policies in place aimed at reducing social sources of e-cigarettes.
- Health Canada's report on potential regulatory measures acknowledges the issues of social sources but does not put forward potential solutions.

There are no federal policies currently in place aimed at reducing social sources of e-cigarettes. A recent Health Canada report acknowledges that most young people in Canada are accessing vaping products socially through friends and family and not making purchases themselves. Health Canada's report on potential regulatory measures to reduce youth access and appeal of vaping products acknowledges the issue of social sources but does not bring forward potential regulatory measures to address the issue (Canadian Alcohol Tobacco and Drugs Survey, 2017; Health Canada, 2019). A recent national survey indicated that more than three-quarters of youth aged 15-19 who tried a vaping product borrowed, shared or bought it from a friend or relative; one in ten bought from a vape shop; one in ten bought from a convenience store; and online sales were too low to report (Health Canada, 2019).

Canadian Provincial Regulations to Reduce Social Sources

- Most provinces and territories have laws in place to restrict provision of e-cigarettes to youth.
- Quebec has graduated fines for both adults and youth who provide e-cigarettes to underage youths.

² There is significant evidence that reducing youth access to tobacco through commercial retailers will ultimately lead to a reduction in social sources by reducing overall social supply and discouraging sharing among peers (DiFranza, 2001; Levinson, 2007). See separate reports on minimum age and compliance/enforcement for further details.

Table 1: Canadian Provincial and Territorial Social Sources Regulations

Province/Territory	Social Sources Regulations
Alberta	<p>Provincial legislation states that no person shall furnish or offer to furnish a tobacco product or vaping product to a minor in a place referred to in section 3 or 3.1 (e.g., in a public or outdoor place, on school property, in a workplace, etc.).</p> <p>Legislation also states that no minor shall possess or consume a tobacco product or vaping product or smoke or vape in specified locations (Province of Alberta, 2020).</p>
British Columbia	BC's health and education ministries have implemented additional measures to denormalize youth vaping including a youth advisory council, a vaping prevention toolkit distributed to schools across the province, and a social media campaign to "denormalize" vaping (Yoshida-Butryn, 2020).
Manitoba	Manitoba's regulations state that no person shall supply or offer to supply a vapour product to a child (Manitoba Laws, 2021).
New Brunswick	<p>In New Brunswick no person shall sell or permit to be sold tobacco, smoking supplies or electronic cigarettes to a person under the age of nineteen years.</p> <p>No person shall purchase or attempt to purchase tobacco, smoking supplies, or electronic cigarettes on behalf of, or for the purpose of resale to, a person under the age of nineteen years (Government of New Brunswick, n.d.).</p>
Newfoundland and Labrador	It is an offence for a retailer or other person to sell, give or furnish, directly or indirectly, tobacco, vapour products or non-tobacco shisha to a minor (Assembly of Newfoundland and Labrador, 2020).
Northwest Territories	Territorial legislation states that no person shall sell or supply any of the following to a minor a vaping product. "Supply" means to give, buy, or lend or otherwise provide a thing to a person with or without consideration and includes offer to supply. Minors shall not purchase or attempt to purchase any of the following vaping products (Government of Northwest Territories, n.d.)
Nova Scotia	Nova Scotia legislation states that no person shall purchase tobacco or a tobacco product on behalf of, or for the purpose of resale; or give tobacco or a tobacco product, to a person under the age of nineteen years (Government of Nova Scotia, n.d.)
Nunavut	Under the <i>Tobacco Control Act</i> it is illegal to supply (give/trade) tobacco products to anyone under 19 years old (Government of Nunavut, 2020).
Ontario	Under the Smoke Free Ontario Act, no person shall sell or supply tobacco, vaping or prescribed products or substances to a person who is less than 19 years old (Government of Ontario, 2020).
Prince Edward Island	It is illegal to purchase e-cigarette products on behalf of, or for the purpose of selling to, a person under 21 years (Government of Prince Edward Island).
Quebec	Adults are prohibited from purchasing tobacco for minors (Government of Quebec, 2020). Quebec has clear fines in place for those who violate this law. Quebec has fines for minors who purchase tobacco for themselves, or someone else and for lying about their age to purchase tobacco (\$100). For adults who purchase tobacco for a minor the fines can range from \$500-\$1,500, and for repeat offences fines can go up to \$1,000 to \$3,000. Fines for giving tobacco to a minor on the grounds and facilities or buildings used by a school range from \$500 to \$1,500, and repeat offences from \$1,000 to \$3,000 (Government of Quebec, 2020).

Province/Territory	Social Sources Regulations
Saskatchewan	Saskatchewan legislations states that no person shall provide tobacco, a tobacco-related product or a vapour product to a young person. Nothing in this section prevents a legal custodian of a young person from providing tobacco, a tobacco-related product or a vapour product to the young person in a place other than a public place or a place to which the public ordinarily has access (Government of Saskatchewan, 2019).
Yukon	Providing or selling vaping products and tobacco to minors under the age of 19 is illegal (Government of Yukon, 2020).

U.S. Regulations to Reduce Social Sources

No regulations to reduce social sources in the United States were found.

E-Cigarette Social Sources Assessment Criteria

There is no evidence for interventions to reduce social sources for e-cigarettes. There is limited evidence for several interventions to reduce social sources for conventional cigarettes. There is significant evidence that reducing youth access to tobacco through commercial retailers will ultimately lead to a reduction in social sources by reducing overall social supply and discouraging sharing among peers (DiFranza, 2001; Levinson, 2007).

Experts argue that raising the minimum age for e-cigarettes and conventional tobacco to 21 may reduce social sources³. A report by the Ontario Tobacco Research Unit argues that increasing the legal age to 21 would make it more difficult for underage smokers to gain access to cigarettes from older youth who would be less likely to remain in the same social networks after high school (Pope, 2015). This is because the small percentage of youth who do purchase cigarettes from stores become the main source of tobacco to their peers (Berman, 2016). By increasing the minimum age to 21, it is argued that those who can legally purchase tobacco would be outside the social circle of most high school students (Berman, 2016). At the same time, if retailers are checking for age 21, it is much less likely that younger adolescents ages 16-17 would obtain supplies to distribute to their peers (Berman, 2016).

Other potential interventions include media campaigns and fines for youth who supply to peers. Although other interventions have been proposed for reducing social sources of tobacco, there is no evidence to support their effectiveness, and further research is needed.

Campaign to Address Social Sources

Effects

There is limited evidence that media campaigns are effective in both increasing awareness and changing behavioural intentions to share cigarettes among youth (Zhang et al., 2015).

³ See separate reports on minimum age and compliance/enforcement for further details.

Technical Feasibility

Campaigns to address social supply of e-cigarettes are feasible and could build on successful campaigns from conventional tobacco including the *Bad Ways to be Nice* campaign.

Political Viability

There is likely to be strong political support for campaigns to reduce social sources of e-cigarettes. A 2019 Angus Reid poll showed that close to two thirds of Canadians perceive that vaping does more harm than good (62%), a substantial increase from polling done in 2018 (Angus Reid, 2020). Eighty-five percent of Canadians are worried about the number of kids that are vaping (Angus Reid, 2020).

Alignment with International Trade Obligations

There are no known obligations that would interfere with a campaign to reduce social sources of e-cigarettes.

Fines for Youth Who Supply to Peers

Effects

There is no evidence that fines for youth who supply e-cigarettes to peers will reduce youth access. Findings from conventional tobacco show that penalties for youth who supply to peers may be counterproductive by undermining more appropriate and effective methods of youth discipline and may divert attention away from retailers and the tobacco industry (Campaign for Tobacco Free Kids, year). Other methods of discipline may be more effective including parent and school-based repercussions (Wakefield & Giovino, 2003). Further, consideration should be given to limitations of youth possession laws, their potential to contribute to racial and ethnic disparities, and the risks of introducing youth to the criminal justice system (Campaign for Tobacco Free Kids, 2020).

Technical Feasibility

Quebec has graduated fines for youth who supply tobacco to peers indicating that this approach is technically feasible.

Political Viability

While Canadians perceive that vaping is harmful and are worried about the number of kids vaping (Angus Reid, 2020), there is no evidence that there would be strong support for measures that penalize youth. As with youth possession laws, it is unlikely that the public health community in Canada would support this approach.

Alignment with the Canadian Regulatory Landscape

There are no known obligations that would interfere with fines for youth who supply to peers.

Discussion

While it is well known that youth are accessing e-cigarettes via social sources, interventions to address this problem are under-developed. Findings from conventional tobacco show that it is very likely that raising the minimum age and increasing compliance and enforcement measures are likely to be effective in reducing the overall social supply of e-cigarettes. Although there is very limited evidence that campaigns to reduce social supply of conventional tobacco can be effective in reducing social supply, this may be a promising approach for reducing e-cigarette social supply. While Quebec sets a precedent for penalizing youth who supply tobacco to peers, there is no evidence that this measure is effective and raises important concerns about equity and introducing youth to the criminal justice system. The effectiveness of this approach warrants further study; however, evidence from tobacco about who is supplying youth with tobacco (older youth, daily smokers) and how they are sourcing tobacco products to supply to peers (generally from tobacco retailers) may inform future innovations about how to address social sources of both conventional cigarettes and e-cigarettes.

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