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E-Cigarette Minimum Age: Theory, Evidence and Regulatory Policy

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Executive Summary

Literature Review

E-Cigarettes Age 21

- There is little evidence about the effect of minimum age laws on youth access and use of e-cigarettes.
- Available studies assessed the impact of e-cigarette minimum age laws on use of other substances, including traditional cigarettes, and found conflicting results suggesting the need for further study.

Conventional Tobacco Age 21

- There is strong evidence from simulation modelling and U.S. state and local-level studies about the effectiveness of minimum age 21 laws on youth access and use of conventional cigarettes.
- Simulation modelling shows that a minimum age 21 law is likely to be much more effective than a minimum age of 19.
- Modelling by the Ontario Tobacco Research Unit compared five potential tobacco interventions to reduce the smoking prevalence in Ontario by the year 2035. While increasing taxes had the greatest independent predicted decrease in smoking prevalence by the year 2035, this was followed by increasing the minimum age for legal purchase to 21 years.
- Evidence from U.S. state and local level age 21 policies have shown a significant reduction in illegal tobacco sales to youth. Rigorous systems of monitoring and enforcement of retailer compliance are essential for minimum age laws to reduce youth access.
- There is strong public support for increasing the tobacco minimum age to 21 in both Canada and the United States.

Alcohol Age 21

- Strong evidence from a systematic review show that an increase alcohol minimum age reduces youth access and consumption as well as other health risks including drinking and driving.

Cannabis Age 21

- When cannabis was legalized in Canada, the federal government set a minimum age of 18 allowing provinces to set a higher minimum age to harmonize with minimum age laws for alcohol and tobacco. Almost all Canadian provinces and territories have chosen a minimum age of 19, except for Quebec and Alberta who originally opted for 18.
- The issue remains highly contentious because of strong evidence that brain development is extremely sensitive before age 21 (or even 25) while it is still developing.
- Quebec has recently raised the minimum age for cannabis to 21, and it is likely that other provincial laws may continue to evolve.
- Canadian public opinion polls show that nearly half of Canadians would like the minimum age to be at least 20.
- Because of evidence, public opinion, and the precedent with Quebec raising the minimum age to 21, experts believe that the cannabis minimum age laws in Canada may continue to evolve.
- All U.S. states that have legalized cannabis sales have set a minimum age of 21.

Jurisdictional Scan

Canada Federal Regulations

- The current federal e-cigarette minimum age for sale is 18. This includes online retailing; however, the process for age verification is not explicitly set out in federal law.

Provincial and Territorial Regulations

- Most provinces and territories require a minimum age for sale of 19. Only three provinces retained a minimum age of 18 (Manitoba, Quebec, and Saskatchewan).
- Prince Edward Island recently became the first province in Canada to raise the minimum age for conventional and e-cigarettes to 21.

U.S. Federal Regulations

- The United States recently increased the federal minimum age for tobacco and e-cigarettes to 21.

- Critics argue that the tobacco industry supported this increase in minimum age to soften public pressure to reduce youth vaping rates without adopting stronger measures including a flavour ban.
- Public health experts are also expressing concern that the age limit increase will not be effective without increased enforcement efforts in both brick and mortar stores and online retail environments.
- The Truth Initiative is calling for further federal measures in support of the minimum age increase including a flavour ban and increased taxes on e-cigarettes.

U.S. State Regulations

- Prior to the federal legal minimum age increase in December 2019 (Howard, 2019), 19 states and over 100 jurisdictions had already raised the minimum legal age for the sale of tobacco to 21 years. All remaining states had a minimum age ranging from 18-20 prior to the federal minimum age increase.
- Several states had previously increased the minimum age law, with grandfathered exceptions for young people who had reached the minimum age before the increase including Arkansas, Maine, Massachusetts, and Utah. Several states made exceptions for active members of the military who are under the minimum age. Alaska allowed for exceptions to minimum age of sale; for instance, if the product had FDA approval for tobacco cessation or other medical purpose and was provided by qualified persons (Alaska). The federal minimum age law has now closed all previous loopholes.

U.S. Municipal Regulations

- San Francisco recently became the first city in the United States to ban the sale of e-cigarettes.

Jurisdictions Outside Canada and the U.S.

- Honduras, Palau, and the Philippines have set the minimum age for e-cigarettes to 21.

Effects

Little evidence exists to demonstrate the effectiveness of increasing minimum age for e-cigarettes to 21. However, there is strong evidence about the effectiveness of minimum age laws on youth access to tobacco, which support increasing the minimum age to 21. Experts argue that an increase in minimum age must be supported by other measures to reduce youth access including rigorous enforcement and other measures known to reduce youth uptake including price and flavours.

Technical Feasibility

While the federal government could increase federal minimum age for e-cigarettes from 18 to 21, there is nothing to stop provinces and territories to follow the lead of Prince Edward Island in the meantime as they are free to set their own regulations. In the United States, many states already had a minimum age of 21 prior to the new the federal regulation.

In the past, provinces have generally harmonized e-cigarette minimum age laws with existing laws for alcohol, conventional tobacco, and cannabis, and this was likely the main rationale for setting the e-cigarette minimum age at 19 in many provinces (Nguyen, 2020). There are now precedents for setting the minimum age for some substances higher than others to reduce youth access. When Prince Edward Island raised the minimum age of 21 for purchase of tobacco and e-cigarettes on March 1, 2020 the minimum ages for alcohol and cannabis remained the same. Similarly, Quebec has recently increased the minimum age to purchase cannabis to 21, while minimum age for other substances remains 18.

Many U.S. states that raised the minimum age for tobacco used a graduated increase model allowing those who had the right to obtain conventional tobacco and/or e-cigarettes prior to the increase to continue to do so. While it may increase feasibility to use a graduated increase model, this would undermine the potential public health impact of reducing supply to youth under age 21 immediately in the short term.

Political Viability

The Canadian public strongly supports increasing the minimum age of e-cigarettes to 21. A 2019 Ipsos poll surveyed 1,002 Canadians between December 3rd and 5th found widespread support for increasing the minimum age to purchase e-cigarettes to 21, up from the current 18 or 19, depending on the province (Global News, 2019). Close to 80% of Canadians polled support raising the minimum age to 21 across every Canadian demographic studied including gender, age, income, and education (Global News, 2019).

It is likely that convenience store associations, generally associated with the tobacco industry may oppose adult only store regulations.

Alignment with the Canadian Regulatory Landscape

Recent increases in the minimum age for cannabis in Quebec is being challenged as a constitutional violation and age discrimination (Montreal Gazette, 2019). Similar arguments and challenges could be made about increasing the minimum age for e-cigarettes to 21.

Introduction

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

This report explores the evidence for minimum age 21 for sale of e-cigarettes, as well as other related substances including tobacco, alcohol, and cannabis. The paper also includes a jurisdictional scan of Canadian, and American age 21 regulations, as well as other notable age 21 regulations outside of North America. Finally, the paper summarizes the potential effects, technical feasibility, political viability, and alignment with the Canadian regulatory landscape.

Literature Review

E-Cigarette Minimum Age 21

- There is little evidence about the effect of minimum age laws on youth access and use of e-cigarettes.
- Available studies assessed the impact of e-cigarette minimum age laws on use of other substances including conventional cigarettes and found conflicting results suggesting the need for further study.

Some experts suggest that increasing and enforcing the minimum age for vaping products may be an important step to help prevent some youth from vaping (Braak et al., 2020). At the same time, experts caution that governments may need to balance youth access restrictions with the need to provide access to adult smokers (Braak et al., 2020).

A policy debate has emerged concerning e-cigarette minimum age laws, with a fundamental question regarding the relative risks between e-cigarettes and conventional cigarettes. On one hand some argue that the relative risks of e-cigarettes are so much lower that providing youth access could serve harm reduction goals. On the other hand, it is argued that some youth who may otherwise not have taken up conventional smoking are being exposed to nicotine, may go on to take up smoking, and may use e-cigarettes in complement with traditional cigarettes (Abouk & Adam, 2017, Dave et al., 2017).

There is little evidence about the effect of minimum age laws on youth uptake and use of e-cigarettes; however, there are several studies that looked at the impact of e-cigarette minimum age laws on youth use of other substances including conventional cigarettes. The few studies that have explored the effect of e-cigarette minimum age laws on youth smoking have mixed conclusions.

Dutra et al. (2018) found no statistically significant association between e-cigarette minimum age laws and current cigarette smoking among U.S. middle- and high-school students when accounting for individual level factors including e-cigarette use. When adjusting for e-cigarette and other tobacco use, these laws were associated with significantly lower cigarette smoking prevalence.

A study by Abouk and Adams (2017) compared US states with an e-cigarette minimum age law in place with those that had not yet passed an e-cigarette minimum age of sale law and found that the restrictions decreased both e-cigarette use and conventional smoking amongst youth. The authors concluded that e-cigarettes are likely a complement, rather than a substitute, for smoking conventional cigarettes amongst youth and that both e-cigarette use and conventional smoking amongst youth and that e-cigarette minimum age laws are a viable policy strategy to limit both the use of e-cigarettes and combustible cigarettes amongst young people (Abouk & Adams, 2017). Conversely, Friedman (2015) and Pesko et al. (2016) analyzed state data up to 2013 and found that e-cigarette minimum age laws increased youth smoking by 0.8-0.9 percentage points. These findings suggested that e-cigarettes and conventional cigarettes were economic substitutes.

Dave et al. (2018) used individual data and models from national and state level data to examine effects of e-cigarette minimum age laws on youth conventional smoking. This study also found a possible unintended effect of e-cigarette minimum age laws contributing to approximately a 1% increase in youth smoking conventional cigarettes (Dave et al., 2018). These results suggest the need to consider the impact of minimum age laws for e-cigarettes on youth uptake and continuation of conventional tobacco use.

Conventional Tobacco Minimum Age 21

- There is strong evidence from simulation modelling and U.S. state and local-level studies about the effectiveness of minimum age 21 laws on youth access and use of conventional cigarettes.
- Simulation modelling shows that a minimum age 21 law is likely to be much more effective than a minimum age of 19.
- Evidence from U.S. state and local level age 21 policies have shown a significant reduction in illegal tobacco sales to youth. Rigorous systems of monitoring and enforcement of retailer compliance are essential for minimum age laws to reduce youth access.
- There was strong public support for increasing the minimum age to 21 in the United States prior to the recent federal age 21 regulation.

While evidence about the impact of e-cigarette minimum age laws on youth access to e-cigarettes is lacking, there is strong evidence about the effectiveness of minimum age laws on youth access to conventional cigarettes.

Simulation Modelling

A 2015 report by the Institute of Medicine (IOM) indicates that increasing the minimum age for tobacco to 21 could have a substantial effect on the prevention or delay of tobacco uptake (IOM, 2015). Several studies to date have directly examined the effect of raising or enacting a tobacco minimum age law (Fidler & West, 2010; Millet, 2011; Rimpela, 2004) and have found that such policies decreased underage smoking prevalence (Pope, 2015). Increasing the minimum age to 21 may reduce the likelihood that individuals over the age of 21 are willing to provide tobacco products to school aged youth including high school students (IOM, 2015).

The IOM reported that a minimum age of 19 is likely to have a lower impact on reducing youth initiation rates compared to a policy of 21 years. A minimum age of 19 is thought to be less effective because it would not significantly reduce the likelihood of a social supply in high

schools (IOM, 2015). Public support for age 19 minimum age is similar, or possibly slightly lower, than support for age 21 among adults in the United States (Lee et al., 2016). In the U.S., it is argued that age 21 may simplify enforcement efforts to align with the minimum age of sale for alcohol (IOM, 2015).

Modelling by the Ontario Tobacco Research Unit compared five potential tobacco interventions to reduce the smoking prevalence in Ontario by the year 2035 (Dubray et al., 2019). While increasing taxes had the greatest independent predicted decrease in smoking prevalence by the year 2035, this was followed by increasing the minimum age for legal purchase to 21 years.

Evaluations of Tobacco Age 21 Regulations

Evaluations of the state of California's minimum age 21 laws have shown widespread retailer conformity, high retailer awareness and support, and significant reduction in illegal tobacco sales to youth (Zhang et al., 2018). Studies in New York and Massachusetts evaluating the impact of minimum age 21 laws also found reductions in retail violation rates and youth tobacco prevalence (Schiff et al., 2020; Mancinko & Silver, 2018; Kessel Schneider et al., 2016).

Local level minimum age 21 policies enacted in the United States prior to 2016 resulted in a significant reduction in smoking among youth ages 18-20 compared to other localities with lower minimum age laws (Friedman & Wu, 2019). In 2005, Needham, Massachusetts was the first community in the United States to raise the minimum age for tobacco sales to 21. Studies have shown that there has been a significant decline in youth access to cigarettes in the retail environment, and youth smoking rates have declined compared to neighbouring communities (Kessel Schneider et al., 2016). Rigorous systems of monitoring and enforcement of retailer compliance are essential for minimum age laws to reduce youth access (Macinko & Silver, 2018).

Concerns About Social Sources

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 et al., 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).

Public Support

While there is no recent Canadian polling data, a recent study by Gentzke et al. (2020) found that 75% of US adults favoured raising the minimum age of sale for tobacco products to 21 years.

Tobacco Industry and Minimum Age 21

Tobacco companies have increasingly indicated their support for minimum age 21 laws but simultaneously undermine the impact of other effective tobacco control laws. Minimum age laws must be supported by maintaining and strengthening other evidence-based tobacco control policies (Truth Initiative).

Alcohol Minimum Age 21

- Strong evidence from a systematic review show that an increase in the alcohol minimum age reduces youth access and consumption as well as other health risks including drinking and driving.
- It is argued that for alcohol minimum age laws to be effective, they must be properly enforced with compliance measures targeted at both retail outlets and parents.

Like tobacco, increasing the minimum age for alcohol consumption has also been shown to reduce youth consumption. A systematic review of 48 published studies (Wagenaar et al., 2005)

found a significant inverse relationship between legal drinking age and overall consumption. There is also strong evidence that raising the minimum age for alcohol consumption to 21 in the U.S. has reduced underage drinking and driving and alcohol related crashes amongst young drivers (McCartt et al., 2010).

In 1999, New Zealand lowered its legal alcohol purchase age from 20 to 18 years. Evaluations of this policy have shown modest increases in drinking among youth aged 18-19 and more sizeable increases among underage 16-17 year olds (Huckle et al., 2011). Studies also showed an increase in alcohol related crashes among 15-19 year olds (Huckle et al., 2006; Kypri et al., 2006) and greater number of hospital visits from severe intoxication (Everitt & Jones, 2002).

Cannabis Minimum Age 21

- When cannabis was legalized in Canada, the federal government set a minimum age for sale of 18 allowing provinces to set a higher minimum age to harmonize with minimum age laws for alcohol and tobacco. Almost all Canadian provinces and territories have chosen a minimum age of 19, except for Quebec and Alberta who originally opted for 18.
- The main argument for a lower minimum age was to discourage purchasing from an underground market.
- The issue remains highly contentious because of strong evidence that brain development is extremely sensitive before age 21 (or even 25) while it is still developing.
- Quebec has recently raised the minimum age for cannabis to 21, and it is likely that other provincial and territorial laws may continue to evolve.
- Canadian public opinion polls show that nearly half of Canadians would like the minimum age to be at least 20.
- Because of evidence, public opinion, and the precedent with Quebec raising the minimum age to 21, experts believe that the cannabis minimum age laws in Canada may continue to evolve.
- All U.S. states that have legalized cannabis have set minimum age at 21.

A federal government task force recommended a federal minimum age of 18 when cannabis was legalized in Canada in 2018 (Nguyen et al., 2020; Government of Canada, 2017). A key argument for a lower minimum age was to discourage purchasing from an underground market (Nguyen et al., 2020; Global News, 2017), which was the main way to obtain cannabis at the time. The issue was contentious (and remains so) with others arguing for a minimum age of 21 or 25 because of evidence that brain development is extremely sensitive to drug exposure while it is still developing (Nguyen et al., 2020; Volkow et al., 2014; Arain et al., 2013).

At the same time, Canadian provinces could set a higher minimum age than the federal recommendation to harmonize with existing minimum age laws for alcohol and tobacco. Almost all Canadian provinces and territories chose a minimum age of 19 for non-medical cannabis except for Quebec and Alberta who opted for 18 (Nguyen et al., 2020; Government of Canada, 2018). In 2019, Quebec increased its minimum age to 21 (Nguyen et al., 2020; CBC, 2019).

The debate around minimum age in Canada remains active (Nguyen et al., 2020) including calls to increase the minimum age in Ontario to 21 (Nguyen et al., 2020; Toronto Sun, 2018). Canadian public opinion polls show that nearly half of Canadians would prefer the minimum age to be above 20 (Nguyen et al., 2020; Huffington Post, 2019). It is likely that the minimum age policies in Canada will continue to evolve given the recent change in Quebec and public pressure.

The U.S. states that have legalized non-medical cannabis set the minimum age at 21 (Alaska, California, Colorado, Illinois, Maine, Massachusetts, Michigan, Nevada, Oregon, Vermont, Washington, and the District of Columbia) (Nguyen et al., 2020; Vox, 2019).

Jurisdictional Scan

Canadian Federal Minimum Age Regulations

- The current federal e-cigarette minimum age is 18. This includes online retailing; however, the process for age verification is not explicitly set out in federal law.
- Health Canada has released a notice of intent to regulate vaping regulations followed by a consultation paper and findings from consultations (Physicians for Smoke Free Canada, n.d.; Health Canada, 2019). These materials did not contain any proposals or discussion of increasing the minimum age.

The Federal *Tobacco and Vaping Products Act* currently restricts furnishing of tobacco or vaping products to people under the age of 18 (Health Canada, 2019). This includes online retailing; however, the *Act* does not specify explicitly how age verification is done. It does state that retailers, who verify the age by asking for, and being shown prescribed documentation, are not guilty of furnishing a vaping product to a young person (Health Canada, 2019). The *Act* also prohibits the sending or delivering of a tobacco or vaping product to a young person (Health Canada, 2019). A retail sender who has instructed a delivery person to verify age, and the delivery person who verifies the age of the person taking delivery by asking for and examining a piece of government issued photo identification, shall not be found guilty of having contravened the prohibition on the sending and delivering of a tobacco or vaping product to a young person (Health Canada, 2019). Recent materials exploring vaping regulations by Health Canada did not include proposals for increasing the minimum age (Physicians for Smoke Free Canada, n.d.; Health Canada, 2019).

Canadian Provincial and Territorial Minimum Age Regulations

- All Canadian provinces, except Alberta, have introduced a provincial minimum age for e-cigarettes.
- Most provinces and territories require a minimum age of 19 including British Columbia, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Nunavut, Ontario and Yukon. Only three provinces retained a minimum age of 18 (Manitoba, Quebec, and Saskatchewan). Prince Edward Island recently increased the minimum age for e-cigarettes to 21.

Prince Edward Island has the highest minimum age at 21. Most provinces and all territories require a minimum age of 19 including British Columbia, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Nunavut, Ontario and Yukon. Only three provinces have a minimum age of 18 (Manitoba, Quebec, and Saskatchewan). Alberta is the only province in Canada that has not yet introduced a minimum age for e-cigarettes (Global Newswire, 2020); however, provincial legislation was introduced in June 2020, which would set a minimum age of 18 (Global Newswire, 2020).

Table 1: Canadian Provincial and Territorial E-Cigarette Minimum Age Regulations

Province/Territory	Minimum Age Regulation
Alberta	No provincial legislation currently in place; however, legislation was introduced in June 2020 (Cunningham, n.d.). This legislation would prohibit the sale, possession and use of vapour products by anyone under the age of 18, which aligns with the province's age of majority (Global Newswire, 2020).
British Columbia	Only adults over the age of 19 can purchase e-substances (Government of British Columbia, n.d.).
Manitoba	The Manitoba government's <i>Non-Smokers Health Protection and Vapour Products Act</i> prohibits vaping by people under the age of 18 (Winnipeg City News, n.d.).
New Brunswick	In New Brunswick, the <i>Tobacco and Electronic Cigarette Sales Act</i> prohibits the sale of tobacco products, e-cigarettes, vaping products, and e-juices to persons under 19 years of age (Cunningham, 2020).
Newfoundland and Labrador	The minimum age for purchasing e-cigarettes is 19 (CBC, n.d.).
Northwest Territories	The minimum age to purchase e-cigarettes in Northwest Territories has recently been increased from 18 to 19 (CBC, n.d.). The bill also requires that retailer must ask for proof of age from individuals that appear to be under the age of 18 to under the age of 25 (Government of Northwest Territories, Health and Social Services, n.d.).
Nova Scotia	Nova Scotia's minimum age for the purchase of e-cigarettes is 19 (Government of Nova Scotia, n.d.).
Nunavut	It is against the law to sell tobacco products (including e-cigarettes) to anyone under 19 years old (Government of Nunavut, n.d.).
Ontario	The Electronic Cigarettes Act, 2015 (effective January 1, 2016) prohibited sale and supply of e-cigarettes and its component parts (e.g., battery, atomizer) to anyone less than 19 years old, although e-liquids were not included in this ban (Public Health Ontario, 2018).
Prince Edward Island	The PEI government increased the minimum sales age for both e-cigarettes and tobacco to 21, which is the highest minimum age in Canada (Canadian Cancer Society, n.d.). There is a transition period for people who were already 19 when the minimum age increase came into effect to allow them to continue to purchase products (Government of Prince Edward Island, n.d.).
Quebec	The Tobacco Control Act prohibits the sale of electronic cigarettes to anyone under the age of 18 (Government of Quebec, n.d.). As of 2015, minors can be charged \$100 for purchasing tobacco for themselves or someone else or lying about their age (Government of Quebec, n.d.).
Saskatchewan	The province restricts the sale of vapour/e-cigarette devices and products to individuals 18 years of age and older (Government of Saskatchewan, n.d.).
Yukon	The minimum legal age for purchasing tobacco and vaping products is now 19 (Government of Yukon, n.d.).

U.S. Federal Minimum Age Regulations

- The United States recently increased the federal minimum age for tobacco and e-cigarettes to 21.
- Critics argue that the tobacco industry supported this increase in minimum age to soften public pressure to reduce youth vaping rates without adopting stronger measures including a flavour ban.
- Public health experts are also expressing concern that the age limit increase will not be effective without increased enforcement efforts in both brick and mortar stores and online retail environments.
- The Truth Initiative is calling for further federal measures in support of the minimum age increase including a flavour ban and increased taxes on e-cigarettes.

In December 2019, the United States increased the minimum age to purchase tobacco or e-cigarettes to 21, which was enacted immediately (FDA, 2021). The FDA made it illegal to sell any tobacco products—including cigarettes, cigars, and e-cigarettes and e-liquids—to anyone under the age of 21 (Howard, 2019; Physicians for a Smoke Free Canada, 2020; US Congress, n.d.). The new law applies to all retail establishments across the country with no exceptions (FDA, 2021). The law closed loopholes in existing state legislation that allowed exemptions for members of the military (FDA, 2021). While there was no transition period afforded to retailers, the FDA softened initial enforcement efforts for a period of time in part by continuing to use test shoppers under the age of 18 (FDA, 2021).

This measure was taken at a time when Congress and the Trump Administration were already facing public pressure to reduce skyrocketing rates of vaping among youth (New York Times). This measure has reportedly received the backing of key players in the e-cigarette industry, presumably in an effort to address public pressure against marketing that appealed to minors (New York Times). Some view the new age limit as an industry strategy to appease those calling for a full ban on e-cigarettes or a flavour ban (New York Times).

While public health experts generally support an age limit increase, others argue that for this measure to be effective, it must be supported by increased enforcement of sales laws to reduce

youth access (New York Times). This includes scaled up efforts to increase enforcement of e-cigarettes in both brick and mortar and online stores (U.S. Food and Drug Administration, n.d.). There is evidence that minimum age laws alone are not enough including a state level study in Ohio found that more than 20 percent of retailers were found to have sold tobacco products to minors, in violation of law (New York Times).

The Truth Initiative is calling for additional federal measures, including a flavor ban and increased taxes, which have been shown to reduce sales, especially for youth (New York Times). The U.S. FDA has recently announced a Youth Tobacco Prevention Plan, which will develop a policy roadmap to address the issue of youth access to e-cigarettes more broadly (U.S. Food and Drug Administration, n.d.).

U.S. State Minimum Age Regulations

- Prior to the federal legal minimum age increase in December 2019 (Howard, 2019), 19 states and over 100 jurisdictions had already raised the minimum legal age for the sale of tobacco to 21 years (Public Health Law Center, 2019) (Braak et al., 2020; Campaign for Tobacco Free Kids, n.d.). All remaining states had a minimum age ranging from 18-20 prior to the federal minimum age increase.
- Several states had recently increased the minimum age law, with grandfathered exceptions for young people who had reached the minimum age before the increase including Arkansas, Maine, Massachusetts, and Utah (Public Health Law Centre, 2019). Several states made exceptions for active members of the military who are under the minimum age (Public Health Law Center, 2019). Alaska allowed for exceptions to minimum age of sale include if the product has FDA approval for tobacco cessation or other medical purpose and is provided by qualified persons (Alaska) (Public Health Law Centre, n.d.). All loopholes have been closed under the new federal minimum age 21 law.

Prior to the federal legal minimum age increase in December 2019 (Howard, 2019), 19 states and over 100 jurisdictions had already raised the minimum legal age for the sale of tobacco to 21

years (Public Health Law Center, 2019; Braak et al., 2020; Campaign for Tobacco Free Kids, n.d.). States with a pre-existing minimum age of 21 included: Arkansas, California, Connecticut, Delaware, District of Columbia, Hawaii, Illinois, Maine, Maryland, Massachusetts, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, South Dakota, Texas, Utah, Vermont, Virginia, Washington (Public Health Law Centre, n.d.). All remaining states had a minimum age ranging from 18-20 prior to the federal minimum age increase.

Several states had recently increased the minimum age law, with grandfathered exceptions for young people who had reached the minimum age before the increase including Arkansas, Maine, Massachusetts, and Utah (Public Health Law Centre, 2019). Several states made exceptions for active members of the military who are under the minimum age (Public Health Law Center, 2019). States with a military exception included: Arkansas, California, Maryland, Pennsylvania, Texas, Utah, Virginia (Public Health Law Center, 2019). Alaska allowed for exceptions to minimum age of sale if the product had FDA approval for tobacco cessation or other medical purpose and was provided by qualified persons (Alaska) (Public Health Law Centre, n.d.). All loopholes have been closed under the new federal minimum age 21 law.

U.S. Municipal Minimum Age Regulations

- San Francisco recently became the first city in the United States to ban the sale of e-cigarettes.

In June 2019, San Francisco became the first city in the United States to pass legislation to ban the sale of e-cigarettes, which came into effect in January 2020 (Physicians for a Smoke Free Canada, n.d.; City of San Francisco., n.d.). Some people have raised concerns that banning the sale of vaping products may have unintended consequences because it limits access for adult smokers who could benefit by using e-cigarettes to switch away from cigarette (Fairchild et. al, 2019).

Jurisdictions Outside of Canada and the U.S.

The World Health Organization has stated that e-cigarettes are “undoubtedly harmful” and that countries “*that have not banned [e-cigarettes] should consider regulating them as harmful products*” (The Campaign for Tobacco Free Kids). Government regulation of e-cigarettes is necessary to prevent a new generation of nicotine and tobacco users (The Campaign for Tobacco Free Kids). If governments decide to extend Framework Convention on Tobacco Control regulations to e-cigarettes, which they currently do not, this would require prohibiting sales to persons below a specified minimum age (The Campaign for Tobacco Free Kids).

Forty-five countries have set the minimum age for e -cigarettes to match that of traditional cigarettes (Global Tobacco Control, n.d.).

Table 2: Global, Federal Minimum Age Policies

Minimum Age	Countries
Minimum Age 18	Austria, Belgium, Canada, Costa Rica, Croatia, Cyprus, Denmark, Ecuador, England, Estonia, Fiji, Finland, France, Georgia, Germany, Greece, Iceland, Israel, Italy, Lao People’s Democratic Republic, Lithuania, Luxembourg, Malaysia, Maldives, Moldova, Netherlands, New Zealand, Norway, Poland, Portugal, Scotland, Slovenia, Sweden, Tajikistan, Togo, Ukraine, Vietnam (Global Tobacco Control, n.d.)
Minimum Age 19	Republic of Korea, Turkey (Global Tobacco Control, n.d.)
Minimum Age 21	United States, Honduras, Palau, Philippines (Global Tobacco Control, n.d.)

Regulatory Policy Options and Assessment Criteria

E-Cigarette Minimum Age 21

Effects

Little evidence exists to demonstrate the effectiveness of increasing minimum age for e-cigarettes to 21. However, there is strong evidence about the effectiveness of minimum age laws on youth access to conventional tobacco, which supports increasing the minimum age to 21.

A 2015 report by the Institute of Medicine (IOM) indicates that increasing the minimum age for tobacco consumption to 21 or 25 could have a substantial effect on the prevention or delay of tobacco uptake (IOM, 2015). Several studies examining the effect of raising tobacco minimum age have found that such policies decreased underage smoking prevalence (Fidler & West, 2010; Millet et al., 2011; Rimpela & Rainio, 2004; Pope et al., 2015). Increasing the minimum age to 21 may also reduce the likelihood that individuals over this age will provide tobacco products to school-aged (IOM, 2015).

The IOM reported that a minimum age of 19 is likely to have a lower impact on reducing youth initiation rates compared to a policy of 21 years. A minimum age of 19 is thought to be less effective because it would not significantly reduce the likelihood of a social supply in high schools (IOM, 2015).

Modelling by the Ontario Tobacco Research Unit compared five potential tobacco interventions to reduce the smoking prevalence in Ontario by the year 2035 (Dubray et al., 2019). While increasing taxes had the greatest independent predicted decrease in smoking prevalence by the year 2035, this was followed by increasing the minimum age for legal purchase to 21 years.

There is also a strong rationale for a minimum age of 21 from research on alcohol and cannabis. Like tobacco, increasing the minimum age for alcohol consumption has been shown to reduce youth consumption. A systematic review of 48 published studies found a significant inverse relationship between legal drinking age and overall consumption (Wagenaar et al., 2005). There is also strong evidence that raising the minimum age for alcohol consumption to 21 in the United

States has reduced underage drinking and driving and alcohol related crashes amongst young drivers (McCartt et al., 2010).

Technical Feasibility

While the federal government could increase federal minimum age for e-cigarette sales from 18 to 21, there is nothing to stop provinces and territories to follow the lead of Prince Edward Island in the meantime, as they are free to set their own regulations. In the United States, many states already had a minimum age of 21 prior to the new federal regulation.

In the past, provinces have generally harmonized e-cigarette minimum age sales laws with existing laws for alcohol, conventional tobacco and cannabis, and this was likely the main rationale for setting the e-cigarette minimum age at 19 in many provinces (Nguyen et al., 2020). There are now precedents for setting the minimum age for some substances higher than others to reduce youth access. Prince Edward Island became the first Canadian province or territory to implement a minimum age of 21 for purchase of tobacco and e-cigarettes on March 1, 2020 (Hawkins et al., 2020), while minimum age for alcohol and cannabis remained 19. At the same time, Quebec has recently increased the minimum age to purchase cannabis to 21, while minimum age for other substances remains 18 (Banjeree, 2019).

Many U.S. states that raised the minimum age for tobacco used a graduated increase model (Arkansas, Maine, Massachusetts, and Utah) (Public Health Law Centre, 2019), allowing those who had the right to obtain conventional tobacco and/or e-cigarettes prior to the increase to continue to do so. While it may increase feasibility to use a graduated increase model, this would undermine the potential public health impact of reducing supply to youth under age 21 immediately in the short term.

Political Viability

The Canadian public strongly supports increasing the minimum age of e-cigarette sales to 21, which may increase the political viability. A 2019 Ipsos poll surveyed 1,002 Canadians between December 3rd and 5th found widespread support for increasing the minimum age to purchase e-cigarettes to 21, up from the current 18 or 19, depending on the province (Global News, 2019).

Close to 80% of respondents polled supported raising the minimum age to 21 across every Canadian demographic studied including gender, age, income, and education (Global News, 2019).

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). While Canadians perceive that vaping is doing more harm than good, three in 10 Canadians would say it would be smart for someone smoking combustible cigarettes to switch to e-cigarettes. Evidence published in the New England Journal of Medicine found that e-cigarettes combined with behavioural therapies is more effective than other nicotine cessation products; however, Canadians—including those who are current smokers—remain skeptical of this approach (Angus Reid, 2020). Eighty-five percent of Canadians are worried about the number of kids that are vaping (Angus Reid, 2020).

A study of the 2018 International Tobacco Control Four Country Smoking and Vaping Survey examined support for tobacco minimum age 21 laws among 12,904 respondents from Australia, Canada, England and the United States (Hawkins et al., 2020). Findings showed strong support for tobacco minimum age 21 laws among smokers and former smokers from across Australia, Canada, England, and the US (Hawkins et al., 2020). Overall, Canadians had the highest level of support (70.8%) for raising the legal age of purchasing cigarettes tobacco to 21, followed by Australia (65.1%), England (37.7%) and the US (62.2%) (Hawkins et al., 2020). Similarly, a recent study by Gentzke et al. (2020) found that 75% of U.S. adults favoured raising the minimum age of sale for tobacco products to 21 years. A limitation of this study that it did not define “tobacco products” so respondents were not able to distinguish their views on cigarettes compared with vaping devices (Hawkins et al., 2020).

It is likely that convenience store associations, generally associated with the tobacco industry may oppose adult only store regulations.

Alignment with the Canadian Regulatory Landscape

A minimum age of 21 would exceed the requirements of the World Health Organization (WHO)

Framework Convention on Tobacco Control, ratified by 181 Parties to date, which requires a minimum age to purchase tobacco products of 18 years (Hawkins et al., 2020).

The recent increase in the minimum age for cannabis in Quebec may be challenged as a constitutional violation and age discrimination (Montreal Gazette, 2019). Similar arguments and challenges could be made about increasing the minimum age for e-cigarettes to 21.

Although tobacco retail organizations have been vocally opposed to Tobacco 21 laws in the United States, no lawsuits have challenged jurisdictions that brought in minimum age 21 laws (Berman, 2021). In the US, few if any federal legal grounds are available upon which the tobacco industry or its allies could support a lawsuit (Berman, 2021).

Discussion

Not a Silver Bullet Solution

There is broad consensus that young people who do not or would not otherwise smoke combustible cigarettes should not use e-cigarettes and thus avoid addiction, and respiratory, cardiovascular and other potential health harms. Yet the regulatory approaches adopted to date by Canadian jurisdictions have failed to prevent young people from become regular users of e-cigarettes. While public health experts generally support the increase in minimum age, it is cautioned that this is not a silver bullet approach and that raising minimum age alone without other measures to reduce access could be playing into the hands of the tobacco industry. The public discourse in the United States about the recent federal increase in minimum age includes concern that this policy was brought in to alleviate public pressure to reduce youth access to e-cigarettes without adopting measures that would have a larger impact on the bottom line for tobacco industry including an increased price (Truth Initiative, n.d.; New York Times, n.d.), a ban on flavours (Truth Initiative, n.d.), or an outright ban on sales (New York Times). It is also cautioned that an increase in minimum age without an increase in enforcement efforts would be nothing more than a symbolic gesture that would not reduce youth e-cigarette access or use (U.S. Food and Drug Administration, n.d.).

Importance of Enforcement

Evidence from tobacco control has shown that strong and active minimum age enforcement and consequent interruption of youth access has been significantly associated with a reduction in youth smoking (Callaghan et al., 2018). Through significant enforcement efforts, Canada has generally been successful in enforcing retailer compliance with minimum age laws. It would be important to sustain or increase enforcement efforts to ensure that a minimum age of 21 for e-cigarettes would result in a reduction in youth e-cigarette use at the population level.

Youth Possession Laws

Generally, health organizations in Canada have not recommended youth minimum age

possession laws (Queen's University, 2016). There is limited evidence for laws that penalize youth possession, use and purchase of tobacco products, rather than tobacco retailers (Wakefield & Giovino, 2003; Campaign for Tobacco Free Kids, 2020). Nova Scotia (Spurgeon, 2003), Alberta (OTRU, 2013), and Quebec (Government of Quebec, n.d.) have laws restricting youth possession, as well as a considerable number of US States. There is limited evidence to show that these laws reduce youth smoking significantly, but they may be counterproductive by undermining more appropriate and effective methods of youth discipline, divert attention from tobacco control strategies, and attention from the tobacco industry 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 may put youth at risk of being introduced to the criminal justice system (Campaign for Tobacco Free Kids, 2020).

Like possession laws, laws prohibiting the use of false identification criminalize the behavior of youth rather than retailers. If regulations are put in place to ban youth purchase, use and possession, non-criminal, non-monetary consequences should be considered such as education classes, and community services to be completed at a time when youth are not employed or attending school, and with the option to attend online to limit unintended harms.

Finally, there is evidence that possession laws may divert enforcement efforts away from laws prohibiting sales to minors focusing on the behaviours of tobacco retailers (Wakefield & Giovino, 2020). There is longstanding evidence that the tobacco industry has pushed for youth possession laws in an effort to prevent more effective tobacco control measures (Mosher, 1995). There are also concerns that laws targeting youth may result in youth being less likely to seek help to quit, out of fear of being penalized (Kropp, 1999).

Conclusion

There is strong evidence from tobacco that raising the minimum age to 21 could be an effective strategy, although not a silver bullet. There are important precedents for this change including Prince Edward Island and the United States where minimum age 21 regulations have been enacted. There is also strong public support for this regulatory measure.

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