Provincial Tobacco and Nicotine Dependence Primary Care Clinical Pathway

Quick Links: Primer & Expanded details | Provider resources | Patient pathway | Provide feedback

Applies to patients ≥18 who indicate they have smoked, vaped, or used other commercial tobacco or nicotine products in the past 30 days. This may include cigarettes, cigars, chewing tobacco, dip, snuff, e-cigarettes, shisha, modernized nicotine gum, or pouches. This does not include Traditional Tobacco used by First Nations and some Métis groups for ceremonial purposes or as a sacred medicine.

Note: If at any point it is clear the patient is focused on other concerns and does not want tobacco and nicotine use to be a discussion topic today, do not continue with pathway at this visit.

1. Ask about tobacco & nicotine product use with respectful, permission-seeking language
- With patient permission, ask about pattern of use (type of products used, how much per day, how often, last time of use)
- "Have you ever thought about quitting or reducing use?"

2. Advise patient to quit
- Use clear, strong, respectful, and personalized messaging
- Advise patient to stop using or reduce use of tobacco or nicotine products
- Include harms of product use and benefits of cessation
- Consider using the 5R's

Tobacco & Nicotine Use can look different for certain populations. Learn more about Population-specific considerations here

3. Assess readiness to quit
- Ask patient "on a scale from 1-10, how important is it for you to change your tobacco/nicotine use or quit smoking?"
- Consider using Confidence and Readiness rulers

score 0-4 / score 5-10

Is patient interested in help to quit or reduce use?

No:
- Ask again at next appointment or when appropriate
- Tell patient how they can access support when ready
- Encourage patient to book follow-up if they change their mind

repeat at next appt or when appropriate

Yes:
- Complete any outstanding medical history, including current medications or any chronic or psychiatric comorbidities
- Determine level of addiction to nicotine using Fagerstrom Test (smoking, smokeless, vaping)
- Consider screening for mood disorder if appropriate (PHQ-2 & PHQ-9)
- Assess drug interactions with tobacco smoke

4. Assist

Both behavioural and pharmacological interventions are effective in managing tobacco and nicotine dependence, with a combination of both being the most effective. Work with the patient to determine the methods that will work best for them

Behavioural Interventions:
- Counselling from a trained tobacco cessation counsellor
  - Individual (AlbertaQuits helpline 1-866-710-7848)
  - Group (QuitCore Group Support)
- Text message-based support (AlbertaQuits)
- Self-help materials (AlbertaQuits)
- PCN/RPHCN-level programs and supports as applicable
- Community-based counselling
- Advice or education from a community healthcare provider
- Mobile apps with direct behavioural support

Pharmacotherapy Interventions:
- Nicotine Replacement Therapy (NRT) (e.g., patch, gum, lozenge, inhaler, mouth spray) *does not include e-cigarettes
- Bupropion
- Varenicline
- Cytisine
- Combination therapy can occur

For dosing, treatment duration, and cautions, see Table 8. Coverage details here.

If patient is smoking cigarettes and aged 50-74, complete Lung Screening Risk Assessment

For navigation support: 1-866-710-7848

Referral
Provider referral: AlbertaQuits
Patient self-referral: AlbertaQuits Self-Referral

5. Arrange follow-up 1-4 weeks after quit date
- Assess adherence
- Consider combination therapy /interventions
- Adjust dose(s) or switch pharmacotherapy as needed

*This primary care pathway was co-designed provincially by Primary Care Providers, Medical Officers of Health, the Tobacco, Vaping & Cannabis Program, AlbertaQuits, Patient and Family Advisors, and the Provincial Pathways Unit. It is intended to support primary care teams to systematically identify, assess, and manage tobacco and nicotine dependence within the medical home for adults (18+) who have smoked, vaped, or used other commercial tobacco or nicotine products in the past 30 days. For a list of commercial products, see Table 1. This pathway **does not apply** to Indigenous Peoples who use **Traditional Tobacco** for ceremonial, cultural, or sacred purposes. For further information on the differences between commercial tobacco and Traditional Tobacco, see Table 2.*

EXPANDED DETAILS

Pathway Primer

Tobacco and nicotine dependence is a chronic, relapsing medical condition characterized by neurobiological addiction to nicotine [1], a highly addictive drug found in tobacco products [2] that make it very difficult to quit [2]. All tobacco and nicotine products contain nicotine, increasing risk of dependence (except for NRT patches), cravings, and withdrawal symptoms [3]. Additional harms secondary to nicotine product use include gastrointestinal distress and cardiovascular risks (i.e., increased heart rate, hypertension, heart palpitations, arrhythmias) [3].

Common triggers to using tobacco and nicotine products include stress, social cues, habitual routines, alcohol use, and exposure to others who smoke or use nicotine products. [4]
Signs of dependence on nicotine include [2]:

- the urge to smoke within 30 minutes of waking,
- ranking the first cigarette of the day as the most important, and
- smoking at regular intervals throughout the day.

Tobacco smoking is the leading cause of preventable disease and death in Canada because of the increased risk of many types of cancer, respiratory disease, cardiovascular disease, and other health conditions [5, 6, 7, 8, 9, 10]. In 2020, tobacco use was responsible for nearly two in three substance-related deaths in Canada, totaling 46,366 deaths or an estimated 127 deaths per day [11]. Most of the harm from cigarettes is due to the inhalation of smoke that contains more than 7000 chemicals, including about 70 carcinogens [6].

National surveillance data shows that in 2024, 13.2% of adults used tobacco in the past 30 days. In 2022, 11% of Canadians aged 15 years or older were currently smoking tobacco (13% of males and 9% of females), and about 75% of them were smoking daily [12]. Smoking prevalence remains highest among:

- men
- people who are single, separated, divorced, or widowed
- those who identify as gay or bisexual
- those with lower levels of education
- workers whose jobs do not require training or a specific level of education
- First Nations, Inuit, or Métis
- those with mental health diagnoses or substance use disorders, and
- people facing socioeconomic disadvantage. [13, 14].

The 2022 Canadian Tobacco and Nicotine survey [12] found that in the last 30 days, vaping was used by:

- 6% of Canadians 15 years or older and 4% of those over age 25
- 14% of youth aged 15 to 19
- 20% of youth aged 20 to 24 years

In addition, it has been found that 7% of users were males and 5% females, with 3% males and 2% females vaping daily [15].

Quitting smoking increases life expectancy and improves mental health and quality of life [16]. In fact, it has been found that when smoking cessation occurs before age 40, patients can reduce premature morbidity and death by

90% [17]. In addition, observational studies suggest the increased vascular risk of smoking can be reversed within five years of quitting [18]. A 2015 survey found nearly two-thirds of Canadian smokers wanted to quit smoking and almost half had tried to quit in the previous year [17]. Despite these statistics and the potential health benefits of quitting, less than 5% found success quitting long-term [17]. Challenges to quitting include the symptoms of nicotine withdrawal (e.g. cravings, irritability, restlessness, difficulty concentrating, insomnia, fatigue, and mood changes [2]) and the psychosocial effects of smoking [17].

The benefits of quitting vaping are not as well-known yet, but we do know that vaping can cause lung irritation, which worsens problems like asthma, emphysema, and pneumonia. Quitting vaping will help patients' overall health and breathing [19].

As Tobacco use rates continue to decline, the tobacco industry continues to reinvent itself. This emphasizes the need to address nicotine addiction for people who use tobacco, and well as for those who have never used tobacco.

Background

This pathway may be used during any suitable visit with an adult (18+) patient who has used tobacco or nicotine in the past 30 days, unless they decline discussion at this visit or fall under a specialized population group (see Table 3) or use tobacco for traditional (ceremonial/medicinal) purposes.

Appropriate visits may include:

- During any regular primary care visit (acute, chronic disease, preventative, medication review, before procedures, during preconception/family planning counselling, during mental health or substance use screening).
- Anytime a patient signals interest in quitting or cutting down.
- After a quit attempt as follow-up.

This pathway outlines assessment and treatment appropriate for primary care. The time period of asking about any tobacco or nicotine product use in the last 30 days is due to the increased risk of relapse during this period and captures individuals who are currently using or have recently quit using tobacco or nicotine products [20].

Use this pathway when identifying, advising, and supporting adults who use tobacco or nicotine products with the goal of:

- offering brief intervention at any appropriate visit,
- assessing readiness to quit or reduce,
- initiating supports (behavioural and/or pharmacotherapy), and
- arranging follow-up to sustain change.

This pathway follows the 5As behaviour counseling framework to promote lifestyle change. This evidence-based framework combines knowledge translation and change practices to incorporate smoking cessation treatment and support within routine patient care and can take as little as 3–5 minutes to perform [21]. It has been shown to increase how often healthcare providers advise and assist smokers trying to reduce or stop use, leading to increased long-term smoking abstinence rates and patient motivation and confidence [21].

The core 5A steps are:

1. **A**sk (brief screening using respectful & permission-seeking language)
2. **A**dvise (clear, personalized, non-judgmental)
3. **A**ssess (simple readiness ruler and medical assessment)
4. **A**ssist (behavioural & pharmacotherapy interventions - combined is most effective)
5. **A**rrange (follow-up & sustained change)

Note: If at any point it is clear the patient is focused on other concerns and does not want tobacco and nicotine use to be a discussion topic today, do not continue with pathway at this visit.

Product Definitions

There are many types of commercial tobacco and nicotine products. Table 1 below is intended to be a comprehensive, but not necessarily exhaustive list. If a patient indicates using a product that you are not familiar with and is not listed here, confirm with patient if the product does, or could, contain nicotine.

Table 1: Commercial Tobacco and Nicotine Products

Product Type	**Average Amount of Nicotine** [22]	**Details**
Cigarettes	1.1 – 1.8 mg each	Shredded tobacco wrapped in paper.
Cigars	13.3 – 15.4 mg each	Tightly rolled bundles of tobacco leaves.
Mini Cigars (cigarillos)	3.8 mg each	Tightly rolled bundles of tobacco leaves.
Smokeless Tobacco (chewing tobacco, snuff, dip, snus, heated tobacco) [23, 24, 25]	144 mg (whole can) or 6.9 – 12 mg/g per use	Any smokeless product that is either chewed, applied to the gums, or sniffed through the nose. **Chewing tobacco** - cured tobacco in the form of loose leaf, plug, or twist. It is held in the mouth or against the cheek and can be chewed or sucked. Most people spit out the juices which build up. **Dry snuff -** loose finely cut or powdered dry tobacco that is typically sniffed through the nostrils. **Moist snuff** - finely ground tobacco which people place as pinch or **dip** between their gum and bottom lip. When the same tobacco is placed in a pouch and held between the upper lip and gum it is called **snus**. **Heated tobacco** - battery-powered “heat-not-burn” devices that heat tobacco, using tobacco formed into sticks (specially designed cigarettes), capsules, plugs, or ground tobacco leaf to produce an aerosol.
Shisha/Hookah	1.04 mg per puff	Tobacco and/or herbal non-tobacco, often mixed with sweeteners and flavouring, is prepared and smoked through a water pipe. Hot charcoal coals are used to heat the tobacco blend, which creates carbon monoxide. A popular social event in some cultures and considered just as unsafe as other forms of tobacco. [26]
Pipe tobacco	30.08 – 50.89 mg per pipe	Smoked in a traditional pipe.
E-Cigarettes/vapes	0.03 – 1.03 mg per puff (varies greatly between brands)	Aerosol created by heating nicotine-containing liquid using a battery and inhaled as vapour.
Modernized nicotine gum	2 – 4 mg per piece	Nicotine gum is packaged in smaller appealing pack sizes to resemble ordinary chewing gum. Manufacturers promote nicotine gum formulations, with added pH adjusters to maximize the amount of free base nicotine, increase buccal absorption, and provide a quicker nicotine hit. See the Modernized Nicotine Gum section below for further information and a word of caution. [27, 28]
Nicotine pouches [29] (e.g. Zyn, Velo, On!)	2 – 15 mg per pouch [29] (unauthorized products may be higher)	Smokeless and tobacco-free pouches that contain a dissolvable powder consisting of nicotine and flavourings, placed between the gum and cheek, usually underneath the upper lip. See the Nicotine Pouches section below for further information and a word of caution.

Adapted from the Canadian Pharmacists Association [25] and the World Health Organization [24].

Traditional Tobacco used by some Indigenous Peoples for ceremonial, cultural, or sacred purposes is very different from the commercial tobacco products listed above. See Table 2 below for a comparison of the two. Patients using Traditional Tobacco exclusively are out of scope for this pathway.

Table 2: Traditional vs Commercial Tobacco [30]

Traditional (Sacred) Tobacco	Commercial Tobacco
Natural and unprocessed (*Nicotiana rustica*)	Processed and full of additives and chemicals
Burned to carry prayers - rarely inhaled	Inhaled deeply and repeatedly due to addiction
Used with purpose as part of ceremony or protocol	Used in ways that cause harm and addiction
Connected to Culture	Not connected to culture, customs, rituals, or spirituality
Planted, grown, and harvested with respect	Mass produced and sold for profit by the tobacco industry
A sacred medicine, used in traditional healing	A commercial product that harms our people and communities

Table used with permission from the *Keep Tobacco Sacred Collaboration*

To learn more about Sacred Tobacco, learning modules are available on the Primary Health Care Learning Portal.

SPECIAL POPULATIONS CONSIDERATIONS

This pathway serves all adults who use tobacco or nicotine products. However, several equity deserving populations experience disproportionate impacts from tobacco and nicotine dependence. Please see Table 3 below for further information.

Table 3: Special Population Considerations [21]

Population Group	Considerations
Indigenous Peoples (First Nations, Inuit & Metis)	• Smoking prevalence remains high (>50%) in many First Nations communities [31], with 2022 off-reserve rates estimated at 30% for First Nations, 24% for Métis, and 57% for Inuit [32]. • Tobacco use is often interwoven with cultural, social, and historical factors. • First Nations and some Métis groups use Traditional Tobacco for ceremonial purposes and as a sacred medicine. Traditional Tobacco is very different from commercial tobacco products, and this pathway does not pertain to those who use Traditional Tobacco. To learn more about the differences between Traditional Tobacco and commercial tobacco, see Table 2 above. • In order to have meaningful engagement with First Nations, Inuit, and Métis, you must follow a distinctions-based approach and reflect the unique interests, priorities, and circumstances of each people [33]. • Like the general population, predictors of cessation success include use of pharmacotherapy, cessation counselling, and/or coaching [34]. • Effective cessation interventions include: o Local development, ownership, and participation. o Cultural customization. o Cultural safety and trust. o Team-based care, including trusted community members [35, 36] .

	When utilizing this pathway for this population: • Screen and offer support at every visit. • Following practices of culturally-safe care, consider asking patient: "Are any traditions or practices important to you when it comes to your health? • Apply the pathway flexibly, adapting to cultural context and patient priorities as needed. • Possible adaptations: o If the patient identifies belief that Traditional Tobacco was intended to be used as a sacred medicine, this can be explored as a personal reason why they would want to quit commercial tobacco. o If patient prefers to be approached through a wellness lens vs supporting an addiction – explore the balance of mind, body, spirit, and emotion to find the reasons reducing/quitting commercial tobacco will improve wellness and identify strategies for each quadrant. o Explore whether patient wants to work with an Elder. **Resources that may be helpful:** • The AlbertaQuits Helpline has access to language translation for 240 spoken languages, including 23 different Indigenous Languages.
Preconception / Pregnancy / Postpartum	• Tobacco and nicotine can impair fertility, cause adverse birthing parent and neonatal outcomes and can lead to lifelong challenges in offspring such as neurodevelopmental disorders. • Consider this a window of opportunity—Motivation to overcome nicotine dependence is typically high when planning or becoming pregnant [37]. • Postpartum relapses are common. Person or woman-centred care, which focuses on the long-term health of the pregnant person, reduces the high risk of postpartum relapse [38]. Re-affirm personal benefits of staying quit beyond pregnancy. Encourage relapse prevention planning in third trimester to prepare for postpartum triggers [38]. • Non-pharmacological approaches (counselling, coaching, self-help resources) in a sensitive and non-judgmental way are first-line during pregnancy and breastfeeding [39]. • Professional bodies advise against use of varenicline and bupropion and recommend caution with NRT due to insufficient evidence to conclude the benefits and harms from use during pregnancy [40, 41]. • If counselling alone fails, pharmacotherapy may be considered when benefits of use outweigh risks—individualize during pregnancy; broader options postpartum [40, 37]. • Short-acting NRT is preferred over long acting NRT to reduce nicotine exposure during pregnancy and breastfeeding. • Vaping is not a safe alternative to smoking during pregnancy as both present significant risks to the developing fetus [42, 43]. While harm-reducing during pregnancy compared to smoking, any nicotine use increases risk to the fetus [44]. • Increased nicotine metabolism during pregnancy may require: o Higher NRT doses [40] o Combination NRT [45, 46]. • Bupropion may be particularly useful in those with depression to aid in smoking cessation during pregnancy [47]. • There is insufficient evidence of the efficacy and safety of pharmacotherapy during breastfeeding [48].

	• Nicotine, regardless of intake method, transfers through breastmilk and can reduce breastmilk volume. Nicotine also increases risk of SIDS. [48] • When quitting has not been achieved, advise using tobacco, nicotine, or short-acting NRT immediately following breastfeeding to allow more time for clearance of nicotine before the next feeding [48]. • Advise breastfeeding parents to never skip a feeding. Advise parents to keep their home/car smoke and vape-free. **When utilizing this pathway for this population:** • Plan for postpartum follow-up and relapse prevention as part of routine care. **Resources that may be helpful:** • The Society of Obstetricians and Gynaecologists of Canada clinical hub on nicotine use in pregnancy: Nicotine Use in Pregnancy: A Clinical HUB for Health Care Providers | SOGC • The American College of Obstetricians & Gynecologists committee opinion on tobacco and nicotine cessation during pregnancy: Tobacco and Nicotine Cessation During Pregnancy | ACOG • Patient Care Handouts: Vaping and Smoking During Pregnancy and Vaping and Smoking While Breastfeeding
Sex and Gender	• Smoking prevalence is higher among men (13.4%) compared with women (9.6%) [49] • The risk of developing coronary heart disease from smoking is 25% higher for females relative to males [18]. • Combined oral contraceptives increase the risk of cardiovascular events and venous thrombosis [50] in those who smoke and are contraindicated in those aged 35 years or older who smoke ≥ 15 cigarettes per day [51]. **When utilizing this pathway for this population:** • Women may be more likely to use recommended cessation products, including pharmacotherapy, counselling, and self-help materials [52], but may experience more difficulty quitting, influenced by sex and gender-related factors [53]. • Varenicline has been found to be more effective than NRT and Bupropion for women and therefore considered as a first line treatment for women [54]. **Resources that may be helpful:** • The Centre of Excellence for Women's Health Information Sheet on Women, Nicotine & Tobacco
2SLGBTQI+	• Smoking prevalence is high among 2SLGBTQI+ persons [55, 56] estimated to range from 24-45% in Canada [57]. • Stigma, discrimination and gender-based violence create "minority stress" in 2SLGBTQI+ individuals which lead to increased smoking/substance use and anxiety/depression [58, 59]. • Lack of access to culturally competent health care services [60] and targeted tobacco industry marketing perpetuates disproportionately higher rates of tobacco use in 2SLGBTQI+ communities [61]. • Although quit rates appear comparable between tailored and non-tailored interventions [62], culturally tailored programs create safer, more affirming environments for 2SLGBTQI+ individuals, supporting their engagement with cessation services.

	• Tailoring should include 2SLGBTQI+ specific psychoeducation, intra-community resources and culturally relevant references [63]. **When utilizing this pathway for this population:** • Use inclusive, affirming language • Include relevant, empowering messages • Address minority stress and coping • Prioritize community-based, integrated support **Resources that may be helpful:** • The Expand Project - an initiative to start a dialog within 2S, Indigiqueer, queer, and trans communities about smoking, vaping and traditional uses of tobacco.
Perioperative Care	• Smoking prevalence among surgical patients is higher than the general population, especially in cardiac surgery [64]. • Smoking cessation interventions before surgery improve both short- and long-term abstinence [65]. • Intensive interventions (repeated counselling ± NRT) are most effective [65]. • Quitting ≥4 weeks before surgery is associated with: o Fewer respiratory complications o Improved wound healing [65, 66]. • Quitting <4 weeks before surgery does not increase or reduce post-operative respiratory complications, but should still be encouraged due to impact cessation has on overall health [65, 66]. • Varenicline may improve long-term abstinence; evidence for bupropion is limited [65]. **When utilizing this pathway for this population:** • Primary care should initiate cessation as early as possible once surgery is anticipated, without delaying referral or surgery.
Hospitalized and Acutely ill Cardiac Patients	• Hospitalized patients, particularly those with cardiac illness, have higher smoking prevalence and experience worse clinical outcomes if smoking continues. • Over 30% of hospitalized patients with acute coronary syndrome (ACS) are smoking at the time of their event [67]. • Without structured cessation support, over two-thirds relapse within 1 year [67]. • Hospitalization represents a teachable moment, but most relapse after discharge. • Behavioural counselling combined with pharmacotherapy is more effective than either alone [67]. • Nicotine replacement therapy (NRT) is safe in ACS patients and helps manage withdrawal. There has been data to suggest prescribing NRT at discharge may lead to long-term abstinence [21]. • Varenicline appears to be the most effective pharmacotherapy in post-ACS populations, with a recent Canadian RCT finding almost half of participants had quit smoking at 6-month follow-up compared to control (number needed to treat 6.8) [21, 68]. • Bupropion shows less consistent benefit in ACS patients compared with general outpatient populations [21, 69].

	When utilizing this pathway for this population: • Ensure cessation support is continued in primary care after discharge, with counselling, medication optimization, and follow-up initiated before hospital discharge.
Mental Illness and Substance Use Disorders (SUD)	• Individuals with mental illness and/or SUD experience disproportionately high smoking rates and tobacco-related mortality. • It is estimated that nearly half of all cigarettes are consumed by people with mental illness [70]. • Smoking cessation is associated with: o Improved outcomes o Improved mental health [71]. • Evidence-based cessation treatments are effective and safe in these populations. • Concerns about neuropsychiatric side effects of cessation medications have been largely refuted [72]. • These patients may find cessation more difficult and may require [73]: o More intensive counselling o Longer treatment duration o Combination pharmacotherapy o Closer follow-up **When utilizing this pathway for this population:** • Tobacco treatment for these patients should be considered standard care, not deferred [20]. • Primary care can initiate treatment and refer to specialized mental health or addiction services when available or required.
Mixing of tobacco/ cannabis	• There is a strong and consistent association between tobacco use and cannabis use, and the two products are often co-used or consumed alternatively with each other [74]. • Among tobacco users, cannabis is the most frequently co-used drug, with rates up to three times higher than co-use with other substances [75]. • As high as 90% of cannabis users have been current cigarettes smokers at some point in their lives [75, 76], therefore, it is generally suggested that tobacco and cannabis may have properties that increase their likelihood of being used together. • Tobacco has been shown to boost the high that comes with using cannabis, by increasing the rate of vaporization efficiency when THC is inhaled, by as much as 45% [77]. • Dual use of tobacco and cannabis is associated with increased risk of adverse health effects compared with using cannabis alone [74] and increases addiction potential of both substances, including poor psychological outcomes and difficulties quitting cannabis [78]. • Research has demonstrated prevalence of moderate or high nicotine dependence, moderate or high risk for cannabis problems, and past-year e-cigarette use was higher for individuals who combined use of tobacco and cannabis than those that did not co-use [79]. • While the adverse effects of smoking tobacco products is well established, the specific combined effect of smoking tobacco and cannabis is less clear. Studies have previously demonstrated that smoking both tobacco and cannabis increases the risk for chronic obstructive pulmonary disease (COPD) [80], emphysema,

	diminished psychosocial health, cannabis use disorders, and continued cannabis use. [76]. **When utilizing this pathway for this population:** • No special considerations required. Follow pathway as outlined.

Youth under 18
Note: not all recommendations in this pathway apply to youth
	• Youth tobacco smoking and vaping remain major public health concerns in Canada [81].
	• Nearly 90% of adult smokers had their first cigarette before age 18 [82]
	• Rates of youth vaping now exceed cigarette smoking, with 15% of students in grades 7–12 reporting past 30-day vape use, with higher prevalence in rural regions [81] and among LGBTQ and Indigenous youth [82].
	• 36% of Canadians aged 15–19 have tried vaping [83].
	• Early nicotine exposure poses significant risks to adolescent brain development, increases long-term dependence potential, and contributes to respiratory and cardiovascular harms [81].
	• Most youth smokers want to quit, but relapse rates are high without structured support [82].
	• Primary care providers play a central role in screening, early intervention, parent engagement, and guidance on evidence-based cessation strategies such as behavioural coaching and, when appropriate, nicotine replacement therapy [81].
	
	Screening & Assessment:
	• Screen all youth beginning at age 12, or earlier if clinically concerned [83].
	• Assessment should include device type, nicotine concentration, patterns of use, withdrawal symptoms, and functional impact [83].
	
	Assessment Example:
	Adapted from Assessing youth who report using a vaping product or device, found at: CPS Vaping Tool
	• What type and brand of vape do you use?
	• Where and how do you obtain your cartridges, pods, or vaping liquid?
	• What type of cartridge or liquid do you usually use? Are there others you sometimes use?
	• Ask about vaping substance and concentration
	• Explore reasons for vaping
	• Pattern of use and location
	• Frequency and length of time
	• Experience trying to reduce and quit – including withdrawal symptoms from substance
	
	Interventions:
	• First-line treatment
	  ○ Behavioral interventions, including motivational interviewing and CBT [82].
	  ○ Digital and text-based supports can enhance youth engagement in cessation efforts [82].
	  • Apps geared towards youth include:
	  ▪ Quash – Canadian, free, smoking and vaping, age 14-30
	  ▪ MyQuitBuddy – Australian, free, smoking and vaping, 13+

	• Text support through AlbertaQuits is accessible for youth, but please note it is geared towards adults and use of pharmacology may be mentioned.
	• Moderate/Severe nicotine dependence (daily use):
	  ○ NRT can be considered for daily nicotine users, best delivered as combination therapy (patch + faster-acting form) under clinical guidance [83].
	  ○ Varenicline has not been approved by Health Canada for youth under 18 years of age but could be prescribed off label while under clinical guidance [84].
	
	Prevention & Family Engagement:
	• Proactive education about vaping harms is essential; highlight targeted marketing and flavour appeal in youth-oriented products [83].
	• When treating a mature minor, confidentiality must be respected and parents should only be involved with specific consent of youth
	• Explain nicotine's effects on the developing adolescent brain to youth, and parents if appropriate [81].
	• If parents are involved, encourage consistent boundaries and supportive communication [81].

1. Ask

The first step of the 5A's approach, where healthcare providers identify and document the tobacco and nicotine use status of every patient at every visit. This step ensures that no tobacco user is missed, and facilitates the subsequent, more intensive intervention steps ahead. Relapse is common, so it is important to ask about tobacco use at each patient encounter [85].

The ask should be brief, respectful, and seek permission to continue to discuss tobacco or nicotine use. Example permission-seeking language includes:

- "Would it be okay if I ask a few questions about tobacco or nicotine use? I ask this because it can affect your overall health."
- "If it's alright with you, I'd like to talk briefly about tobacco or nicotine use, since it can influence your treatment plan."
- "As part of fully understanding your health, may I ask about any tobacco or nicotine products you might use?"
- See Using Person-Centered Language for more tips on this approach.

With patient permission, use direct but respectful language to ask about tobacco or nicotine use. Example questions include:

- "Do you use any tobacco or nicotine products, such as cigarettes or e-cigarettes (vaporizer?)"
- "Do you ever smoke or use any type of tobacco? I ask all of my patients because it's important to their health."
- "Condition X can be affected by exposure to tobacco smoke. Do you, or does someone in your household, smoke?"

If use is confirmed, ask about pattern of use, including:

- if anything has changed since their last appointment,
- types of products used,
- how much they use per day (average),
- how often, and

- last time of use.

Example questions include:

- "Thank you for sharing that. Would you mind telling me what types of products you use and how often?"
- "If you're comfortable, could you share when you typically use tobacco or nicotine? This can help us tailor support if ever you want it."

The final step in Ask is to determine if the patient has thought about quitting or reducing their use.

2. Advise

This step consists of advising patients about tobacco and nicotine cessation. Using clear, respectful, and personalized messaging, strongly advise the patient to consider quitting or reducing their use of tobacco or nicotine products. Evidence shows that a health provider's brief advice to quit tobacco or nicotine use increases abstinence rates [86]. While abstinence is the ultimate goal, a harm-reduction approach may work better with some patients. Success at reducing use with pharmacotherapy and behavioral support may also increase interest in quitting.

Example messaging includes:

- "As your health-care provider, I am concerned about the health effects of smoking (or other product use) and advise you to quit or reduce use. Would you like my help?" [25]
- "Quitting smoking (or using other products) is the single most important thing you can do to improve your health, with the health benefits beginning within 24 hours." [87]

Providing information on the harms or tobacco or nicotine product use and the benefits of cessation may be helpful. Learn more in Table 4 below. Additional follow-up question to consider:

- "What would your life be like without using tobacco products?"

Table 4: Harms of Tobacco & Nicotine Use and Benefits of Cessation

Harms of Use [88, 44]	**Benefits of Cessation** [89, 90]
*Click on the category below to go to that section: • **General Harms of Tobacco/Nicotine** • **Harms of Smoking** • **Harms of Vaping** • **Harms of Smokeless Tobacco** • **Harms of Waterpipes (Hookah/Shisha)** • **Harms of Pouches** **General Harms of Tobacco/Nicotine** • All tobacco and nicotine products contain nicotine, increasing risk of dependence (with the exception of NRT patches), cravings, and withdrawal symptoms. • Nicotine product use can cause gastrointestinal distress (e.g., nausea, acid reflux) and acutely affects cardiovascular function (i.e., increases heart rate and blood pressure). • It may contribute to impaired wound healing, heart palpitations, and arrhythmias. • Nicotine has the potential for long-term effects, including insulin resistance and may increase mortality with those with pre-existing cardiovascular disease. • Tobacco use can cause disease and other serious health outcomes, including cancer, respiratory ailments, and heart	**Quitting Smoking** • It is never too late to quit smoking. Everyone, no matter their age or situation, can experience the benefits of quitting. • Even for those living with a chronic health condition, quitting can help to improve treatment outcomes and quality of life. <u>Health Benefits to Self</u> • Better sense of taste and smell • Being able to take deeper breaths • Having more energy • Improved mental health • Improved quality of life [16] • **20 minutes after quitting,** your blood pressure drops to a level similar to that of before your last cigarette.

disease. People who smoke and anyone exposed to second-hand smoke are at risk.

Harms of Smoking

- Leading preventable cause of premature death and disease worldwide [89] and tobacco use is the leading cause of preventable disease and death in Canada [10]
- Cigarette smoke contains over 7000 harmful chemicals that are created through the burning process, including carbon monoxide and about 70 carcinogens.
- **Cardiovascular diseases:** People who smoke are at an increased risk of heart attacks, angina, stroke, peripheral vascular disease, and high blood pressure
- **Respiratory diseases:** Cigarette smoking is connected to an increased risk of Chronic Obstructive Pulmonary Disease (COPD), including chronic bronchitis and emphysema, as well as other respiratory symptoms, including coughing, phlegm, wheezing, and dyspnea.
- Increased risk of certain types of cancer, including leukemia, respiratory and upper digestive tract cancers (mouth, esophagus, pharynx, larynx), and cancers of the cervix, kidney, bladder, stomach, pancreas, colon & liver
- For people living with cancer or who have survived cancer, continuing to smoke makes treatment less effective and increases the risk of death from cancer.
- Smoking causes other health issues, including eye disease, diabetes, and rheumatoid arthritis [6].
- Smoking can also negatively impact your immune system, increasing the risk of respiratory infections.
- Smoking can negatively affect reproductive health including preterm birth, stillbirth, birth defects, and infertility.
- Smoking can also be associated with erectile dysfunction.
- Smoking causes a decline in overall health and increases risk of premature death.

Harms of Vaping

- While less harmful than combustible tobacco, the aerosol from nicotine vaping products contain toxic or cancer-causing chemicals (formaldehyde, acetaldehyde, lead, aluminum, nickel, tin, cadmium).
- Nicotine vaping can irritate lungs and worsen symptoms of asthma, COPD or other respiratory conditions.
- Some research indicates that the relationship between cigarette smoking and depressive symptoms in young people may also be present in e-cigarettes [91].
- Recent research has found young adults with chronic e-cigarette exposure demonstrate early cardiopulmonary impairment and pulmonary vascular dysfunction with exertion [92].

Harms of Smokeless Tobacco

- Smokeless tobacco products have been linked to a variety of adverse health outcomes, including increased risk of oral, pharyngeal, and esophageal cancer.

- **8 hours after quitting,** the level of carbon monoxide (a toxic gas) in your blood drops to normal.
- **24 hours after quitting,** your risk of having a heart attack starts to drop.
- **2 weeks to 3 months after quitting,** the airways in your lungs relax and you can breathe easier.
- **1 to 9 months after quitting,** you cough less and your lungs are even stronger.
- **1 year after quitting,** added risk of coronary heart disease is half than that of someone who smokes.
- **5 years after quitting,** you have the same chance of having a stroke as someone who does not smoke. Your risk of getting mouth, throat, esophagus, and bladder cancer is halved.
- **10 years after quitting,** your risk of getting lung cancer is about half.
- **15 years after quitting,** your risk of coronary heart disease is similar to that of someone who does not smoke.

Health Benefits to Others

- **Eliminating second-hand smoke:** Second-hand smoke exposure can lead to a range of poor health effects, including an increased risk of respiratory illnesses, lung cancer, coronary heart disease, and sudden infant death syndrome (SIDS).
- **Social life:** As smoking rates continue to decline in Canada, people are becoming less comfortable with being exposed to tobacco smoke due to its harmful effects.

Social and Environmental Benefits

- **Saving money**: Health Canada's cost calculator can help patients calculate how much they spend on cigarettes
- **Land and water damage:** Growing and producing tobacco involves significant amounts of deforestation. The process also

- Snus is associated with increased risk of pancreatic cancer.
- Smokeless tobacco is associated with increased risk of ischemic heart disease and stroke, and adverse health outcomes in newborns when used in pregnancy.
- While heated tobacco products reduce exposure to some harmful compounds compared to conventional cigarettes, the impact of heated tobacco products on health outcomes and smoking behaviour is not known.

Harms of Waterpipes (Hookah/Shisha)

- Waterpipe smoking is associated with various cancers and cardiovascular disease. Herbal waterpipe smoking is not a safe alternative to tobacco waterpipe smoking.
- Hot charcoal coals are used to heat the waterpipe, which creates carbon monoxide.

Harms of Pouches [29]

- Found to contain trace amounts of carcinogenic chemicals (ammonia, formaldehyde, chromium, tobacco-specific nitrosamines). Though present at much lower levels than in cigarette smoke, formaldehyde levels were comparable or higher in some pouches analyzed.
- Safety data of tobacco-free nicotine pouches in patients with ischemic heart disease or cerebrovascular disease is still lacking.
- While reported to be mild, adverse events of nicotine pouch use (cough, throat irritation, headache) are more frequent at higher doses [93].
- The long-term health effects of nicotine pouch use are unknown. Repeated use of high concentration nicotine pouches may lead to mouth and gum irritation and symptoms of nicotine toxicity.
- Most available data for nicotine pouch use for smoking cessation come from industry-funded studies, highlighting need for independent research.

uses agrochemicals, like pesticides and fertilizers, which harm the land and water and make it difficult to grow food crops.

- **Pollution:** Tobacco product waste, like cigarette butts, make up the highest form of global pollution. It's been found that between 25-40% of all litter comes from tobacco product waste.
- **Electronic Waste:** When people quit nicotine vaping products, they're helping reduce the amount of electronic waste that ends up in the environment. Disposable e-cigarettes contain lithium batteries, which can explode and lead to fires, as well as chemicals that can leak into the environment. E-cigarettes left on the street eventually break down into microplastics and chemicals that flow into the storm drains to pollute our waterways. [94]
- The research on quitting nicotine vaping use is still emerging. Survey respondents report feeling less stressed, anxious or depressed and more in control after quitting vaping nicotine [95].

Quitting Vaping

- Improve breathing.
- Reduce both cough and wheezing.
- May lower risk of developing a lung disease
- Lower risk of heart attack
- Reduced exposure to cancer-causing chemicals

Quitting Other Nicotine Products

- Reduce stress and anxiety

The 5R's can be used to motivate patients to reduce or quit product use during the advise stage. See Table 5 below for examples of helpful discussion points and questions using this approach. For more information, see Motivational Interviewing (The Essentials of … Series).

Table 5: 5 R's

	Motivation	**Example Questions** [21, 25]
Relevance	Understanding the personal relevance for the patient to reduce or quit product use.	Why is reducing or quitting product use relevant to you, or your health, family or social situation?
Risks	Understanding the personal risks of not reducing or quitting product use.	What are the negative consequences if you continue to use these products? (consider both acute and chronic risks)
Rewards	Understanding the personal benefits of reducing or quitting product use.	What benefits of reducing or quitting product use will you see?
Roadblocking	Understanding what barriers they might experience, including withdrawal symptoms when quitting product use.	What will help you succeed in reducing or quitting product use?
Repetition	Repeating the process at future visits until they are ready to quit.	

3. Assess

- Assess patient readiness to quit using a simple importance ruler: “on a scale from 1-10, how important is it for you to change your tobacco/nicotine use or quit smoking?”
    - Note: Confidence and Readiness Rulers may also be helpful tools at this step
    - Refer to Table 6 for next steps based on patient score

Table 6: Assessment Steps based on Importance Ruler Score

Score 5-10 (High Importance)	Score 0-4 (Low Importance)
Step 1: • Continue assessment by asking if patient is interested in help to quit or reduce use • Example questions include: o “Quitting can be hard, and many people need several tries. Is this something you’d like my help with? o “Would you like to hear about options that can help reduce or quit smoking? I can share some information if you're interested.” o “If you’d like, I can explain how medications or supports might help—would that be useful?” • If patient is interested in help, continue to Step 2 below • If patient is not interested in help, continue to Step 1 (Low Importance)	**Step 1:** • Do not continue with pathway • Let patient know how they can access support when ready – see Assist section below • Encourage patient to book follow-up if they change their mind • Make note to ask again at next appointment or when appropriate • Example messaging: o “Quitting can be hard, and many people need several tries. If you'd like my help—now or in the future—just let me know.” o “I want to make sure you have support whenever you're ready. Would it be okay if I check in about this again at a future visit?”
Step 2: • Complete any outstanding medical history, including current medications or any chronic or psychiatric comorbidities • Consider asking “are any traditions or practices important to you when it comes to your health?” • Determine level of addiction to nicotine using Fagerstrom Test - different tests are available depending on the type of Nicotine being used: o smoking o vaping o smokeless (chewing tobacco, snuff, dip, snus, heated tobacco, pouches, modernized gum) • Consider screening for mood disorder (PHQ-2 & PHQ-9), as tobacco use and mood disorders (especially depression) are highly correlated and may be exacerbated by withdrawal • Assess drug interactions with tobacco smoke based on any current medications	

4. Assist

Both behavioural and pharmacological interventions are available to help patients manage tobacco and nicotine dependence, with **a combination of both being the most effective strategy**. Work with the patient to determine the methods that will work best for them.

Behavioural Interventions

Table 7: Behavioural Interventions

Type	Program or Service Information
Individual Counselling - Tobacco Cessation Counsellor	• AlbertaQuits is a free helpline for Alberta residents; patients can call 1-866-710-7848 for confidential support. • Confidential and judgement free support and motivation to patients from an AlbertaQuits tobacco counsellor. • The helpline is open 7 days a week from 8 a.m. to 8 p.m., and translation services are available. Learn more at: Get Help - AlbertaQuits • Provider referrals also accepted: AlbertaQuits Helpline Referral
Group Counselling - Tobacco Cessation Counsellor	• QuitCore is a free group support program for Albertans 18 years and older. • Through six 90-minute sessions guided by a trained Tobacco Cessation Counsellor, patients are provided tools and skills to quit using tobacco or vaping products. • Offered in telephone, in-person (select communities), and virtual formats. • Patients can self-refer by calling the AlbertaQuits helpline at 1-866-710-7848. • Provider referrals also accepted: AlbertaQuits Helpline Referral
Text Message Support	• AlbertaQuits has a free 3-month text messaging program for people who are ready to set a quit date in the next 30 days or have recently quit. • Sends motivational messages, advice, and tips. • Provides support for quitting vaping, a live chat feature with quit counsellors, and on-demand support when patients need it most. • Patients can text the word ABQUITS to the number 123456 to register. • For more information: Get Help - AlbertaQuits
Self Help Materials	• AlbertaQuits also provides self-guided resources to help those interested in trying to quit smoking or vaping on their own: Quit Smoking or Vaping | AlbertaQuits. • Additional resources are also available through the INTREPID Lab (formerly Nicotine Dependence Service): Self-help Resources
PCN/RPHCN-level Programs and Support	• PCN/RPHCN (Primary Care Networks/ Regional Primary Health Care Networks) may offer behavioural therapy, smoking cessation counselling, group counselling, etc. This varies by network.
Community Counselling, Advice and Education	• Local pharmacists and various healthcare providers can provide smoking cessation counselling, advice, and education. • Availability varies by location and private options may vary. • Review possible options through InformAlberta, Alberta Referral Directory and Quit Map | Community Service Locator
Mobile Apps (advised only to be used alongside	Smoking cessation apps can serve as a tool to support individuals looking to quit, offering tailored support and resources through their mobile device. Recovery Alberta's Mobile Apps Directory provides a number of evidence-based mobile apps, including three for tobacco-related disorders:

other behavioural support; individual should not be interacting exclusively with an app) [89]	○ MyQuitBuddy - **free**, smoking and vaping 13+ ○ Pivot Journey - **free**, smoking 18+ ○ Smoke Free-Quit Smoking Now - **free**, smoking 18+ The Lung Health Foundation has developed Quash, a **free** smoking and vaping cessation app for youth and emerging adults aged 14-30. Funded by Health Canada. Lung Health Foundation Quash App The CAMH (Centre for Addiction and Mental Health) developed an app to quit smoking called My Change Plan, only available for iPhone. It is based on an evidence-based booklet developed by CAMH for people aged 16+. MyChangePlan App - App Store The Canadian Pharmacy Association recommends the following literature and evidence-based mobile apps. See Canadian Pharmacists Association - Apps for more information regarding subscription cost and app specifics for: ○ QuitSure - Adults 18+ ○ Smoke Free-Quit Smoking Now - Adults 18+ ○ QuitNow! - Adults 18+ ○ Kwit Smoking for Good - Adults 18+ ○ Craving to Quit! - Adults 18-30

Pharmacological Interventions

Several pharmacological interventions are available to reduce withdrawal symptoms and nicotine cravings for patients looking to overcome tobacco or nicotine dependence and are outlined in Table 8 below. The choice of medication, dosage, and duration of use will depend on each patient's needs, preferences, drug coverage, and finances.

These medications for treating nicotine dependence fit into two categories: over-the-counter medications that contain nicotine (Nicotine replacement therapy, or NRT) and non-nicotine prescription medications. NRT uses pure nicotine to treat nicotine dependence and comes in different formats: patch, gum, lozenge, inhaler, mouth spray, and some formats work faster than others. Slower-acting NRTs (patch) reduce nicotine withdrawal symptoms for a longer period, and faster-acting NRTs (gum, lozenge, inhaler, spray), work faster to reduce both nicotine withdrawal symptoms and cravings but for a shorter period of time. NRT products can be more effective if they are used in combination (patch + faster-acting) [2].

Table 8. Summary of Smoking Cessation Medications [21]

Drug	**Dosing**	**Quit date**	**Typical treatment duration**	**Considerations (side effects** [21] **and Number Needed to Treat, NNT** [1]**)**
NRT – Nicotine patch (7, 14, 21 mg patches) (e.g. Habitrol, Nicoderm, generic brands)	1 patch every 24 hours for 4–6 weeks, then taper: decrease by 7 mg every 2–4 weeks. • < 10 cigarettes/day: initiate 14 mg patch • ≥ 10 cigarettes/day:	Same day or up to 14 days after initiation of NRT	12–24 weeks	Potential side effects: Vivid dreams, insomnia NNT = 15

Drug	Dosing	Quit date	Typical treatment duration	Considerations (side effects [21] and Number Needed to Treat, NNT [1])
	initiate 21 mg patch • vaping cessation: initiate 7 mg patch as first line			
NRT – Nicotine inhaler (10 mg nicotine per cartridge; 4 mg nicotine per puff [25])[1] (e.g. Nicorette 10mg)	6–12 cartridges per day for 3 months, then reduce to 1–2 cartridges per day			Potential side effects: hiccups, dyspepsia, mouth and/or throat irritation NNT = 13
NRT – Nicotine spray (1 mg nicotine per spray)[1] (e.g. Nicorette QuickMist, Nic-Hit liquid spray, generic brands)	1–2 sprays every 30–60 minutes (maximum 4 sprays per hour)			NNT = 8
NRT – Nicotine lozenge (1 mg, 2 mg, 4 mg) (e.g. Nicorette, Thrive, Nic-Hit, Nicotine Polacrilex, generic brands)	1 lozenge every 1–2 hours. • Use 2 mg if < 25 cigarettes/day • Use 4 mg if ≥ 25 cigarettes/day			NNT = 13
NRT – Nicotine gum (2 mg, 4 mg) (e.g. Nicorette, Thrive, generic brands)	Chew 1 piece every 1–2 hours. • 2 mg if ≤ 25 cigarettes/day • 4 mg if > 25 cigarettes/day			NNT = 14
Bupropion SR[2] (non-NRT)	**Days 1–3:** 150 mg once daily **Day 4 onward:**	7–14 days after starting therapy	7–12 weeks; can be used up to 6 months	Potential side effects: dry mouth, constipation, agitation;

[1] Both Nicotine inhaler and spray are short-acting and used for breakthrough withdrawal symptoms only. Dosing per number of cigarettes not applicable.
[2] An antidepressant that can also be prescribed to treat nicotine dependence. For tobacco cessation, it is called Zyban. Works on the brain to reduce nicotine withdrawal and cravings.

Drug	Dosing	Quit date	Typical treatment duration	Considerations (side effects [21] and Number Needed to Treat, NNT [1])
(e.g, Zyban, Wellbutrin SR, generic brands)	150 mg twice daily			contraindicated with seizure disorder NNT = 12
Varenicline[3] (nicotinic acetylcholine receptor partial agonist; non-NRT) (Generic brands available, previously available as brand name Champix)	**Days 1–3:** 0.5 mg once daily **Days 4–7:** 0.5 mg twice daily **Day 8 onward:** 1 mg twice daily	7–14 days after starting therapy	12 weeks; can extend up to 6 months	Potential side effects: nausea, vivid dreams, insomnia NNT = 11 **Considered first line treatment for vaping cessation and for women due to effectiveness** [54]
Cytisine[4] (non-NRT) (E.g. Cravv, Tobalief)	Option A: 3 mg three times daily Option B (tapered regimen): **Days 1–3:** 1 capsule every 2 hours (max 6/day) **Days 4–12:** 1 capsule every 2.5 hours (max 5/day) **Days 13–16:** 1 capsule every 3 hours (max 4/day) **Days 17–20:** 1 capsule every 5 hours (max 3/day) **Days 21–25:** 1–2 capsules per day	Day 5 after starting therapy	25 days; can extend up to 12 weeks	Potential side effects: vivid dreams, insomnia, nausea (typically less than with varenicline)

Adapted from the Canadian Cardiovascular Society [21]

[3] Works on the brain to reduce nicotine withdrawal and cravings. Has the highest quit rate of existing treatments for tobacco cessation.

[4] An over-the-counter natural health product. Reduces cravings and makes tobacco products less satisfying if the person uses them. Less expensive than NRT or prescription medication.

More information on NRTs

- It's important to personalize dosage according to the individual's daily nicotine consumption [21].
- If a patient is continuing to experience withdrawals while using NRT, titrate up the dose.
- If patient is experiencing uncomfortable symptoms of nicotine overdosage, titrate down the dose [21].
- For vaping cessation, daily nicotine consumption cannot be accurately determined. Start with low dose (7mg) NRT patch and titrate up to effect (reduction in cravings and withdrawal symptoms). More information on Vaping Cessation here.
- Most studies of NRTs for smoking cessation used a treatment period of 12-24 weeks, some at full doses and others suggest tapering over 12 weeks or more to help individuals quit tobacco use and stop NRT as well [21].
- For patients using short-acting NRT, consider discontinuing use once dose has reduced to 1-2 doses per day [25].
- Most people who quit using tobacco with NRT will stop using NRT at 1 year post tobacco cessation [96].

Combination Therapy

- Combination therapy is defined as combining either:
  - scheduled NRT patch + short-acting NRT, or
  - NRT + prescription medication
- As first-line treatment, monotherapy is preferred, but combination therapy may be appropriate for certain patients, such as those with severe nicotine addiction or who have failed monotherapy [25]
- Combining NRT products enhances effectiveness; however, this may be limited by cost considerations [25].
- Combining either bupropion or varenicline with NRT has increased quit rates when compared to monotherapy [25]. The combination of varenicline plus NRT patches will increase quit rates but might case more side effects [1].

Second-line Therapies

- Second-line pharmacotherapies such as Nortriptyline and Clonidine have evidence of efficacy but are not officially indicated for smoking cessation.
- Nortriptyline is an antidepressant that can be used on otherwise healthy individuals with minimal risk of cardiac disease or overdose when first-line therapies are either unaffordable or proven ineffective.
- Clonidine, a medication for high blood pressure, can also be prescribed for smoking cessation and has proven to be somewhat effective.
- Both medications have risks and side-effects that make them less popular than other smoking cessation medications [2].

Effectiveness

Combination NRT (short- and long-acting), varenicline, and cytisine are considered the most effective smoking cessation aids. A recent Cochrane Review of > 300 RCTs including > 150,000 patients showed that these medications increase the likelihood of smoking cessation by 2 to 3 times compared with placebo. Table 9 below outlines the odds ratio of smoking cessation with these medications.

Table 9: Effectiveness of smoking cessation medications [21]

Product	**Smoking cessation (6 or more months), odds ratio (95% confidence interval)**
Control	1.0 (Referent)
Combination NRT	1.93 (1.61-2.32)
Bupropion	1.43 (1.26-1.62)
Varenicline	2.33 (2.02-2.68)
Cytisine	2.21 (1.66-2.97)

Financial Considerations

- The Alberta College of Family Physicians provides an overview of the estimated 90-day cost of some of these medications.
- Some Government of Alberta drug and health benefit programs cover stop-smoking medicines like nicotine replacement therapy (NRT) and prescription medicines. See here for an overview of the various programs that cover these types of medicines.
- The Interactive Drug Benefit List can be used to search for Nicotine (for NRT), Varenicline, or Bupropion. The details section of each medication lists coverage criteria and which clients it applies to.
- For patients eligible for the Non-Insured Health Benefits (NIHB) Program, see NIHB Express Scripts to view the Drug Benefit List. Nicotine products are listed under section 12:92.00.
- For more information on the NIHB Program for First Nations and Inuit, see Non-Insured Health Benefits (NIHB) Program for First Nations and Inuit: Pharmacy Benefits Guide.
- For those eligible for the Interim Federal Health Program (IFHP) see the IFHP Benefit Grid.

Caution - Alternative Interventions

The Canadian Task Force on Preventive Health Care **recommends against** the following alternative interventions for smoking cessation due to **very low to low certainty of effect** [89]:

- Acupuncture
- Continuous auricular stimulation
- Hypnotherapy
- Laser therapy (applying low level lasers to specific anatomical locations)
- Electrostimulation (applying electrical current to specific anatomical locations on the head)
- S-Adenosyl-L-Methionine (SAMe)
- St. John's wort

Nicotine Pouches

- A newer smokeless, spit-free nicotine formulation, designed to deliver nicotine without the use of tobacco.
- Nicotine pouches could be less harmful than cigarettes while providing similar nicotine levels, offering a potential alternative for users of combustible products [29]. Zonnic 4mg nicotine pouch (manufactured by British American Tobacco and distributed by Imperial Tobacco Canada) is the first nicotine pouch to receive Health Canada authorization as an NRT to help adults quit smoking [97].
- May contain trace amounts of carcinogenic chemicals, including ammonia and formaldehyde, and may increase risk of oral cancer [29].
- A 2025 systematic review found that while they may reduce cigarette consumption, there is currently no statistically significant evidence that nicotine pouches increase rates of smoking cessation compared to other products or placebo [93].
- No current guidelines recommend its use as a cessation aid.

Modernized Nicotine Gum

- A newer nicotine product, made by tobacco and nicotine manufacturers and sold in exotic flavours.
- Sold in convenience stores without age-gating and healthcare provider oversight, and without outer-labeling to indicate for therapeutic use [28].
- Three products have received Health Canada authorization as an NRT to help adults quit smoking [98]:
    - Rogue (manufactured by a subsidiary of the cigar-manufacturer Swisher),
    - Sesh+/Lucy (manufactured by nicotine gum and pouch company Lucy Goods), and
    - Quitt (TM) (manufactured by a subsidiary of Philip Morris International).
- No current guidelines recommend its use as a cessation aid.
- Evidence to date suggests that nicotine gum when sold over the counter does not increase quitting rates [99].

E-cigarettes

The Task Force also **recommends against** using e-cigarettes for smoking cessation except in certain circumstances [89]:

- people who have unsuccessfully attempted other interventions,
- are otherwise unwilling to try other interventions, or
- express a strong preference.

For these patients, practitioners may engage in shared decision-making regarding the possible use of e-cigarettes, with or without nicotine. Patients should be informed of the uncertainties related to e-cigarettes, including:

- lack of approved therapeutic products with consistent formulations,
- lack of long-term safety data, and
- ongoing use of e-cigarettes with nicotine does not address their addiction to nicotine

Lung Cancer Screening

Due to the high correlation between cigarette smoking and Lung Cancer, if patient smokes cigarettes, or previously smoked for many years, and is aged 50-74, complete Lung Screening Risk Assessment.

5. Arrange

- If you are booking follow-up appointments to support your patient in reducing or quitting tobacco/nicotine, this step can include setting short-term goals to work on between appointments.
- Arrange follow-up with the patient 1-4 weeks after their set quit date.
- Follow-up can take place in person or by phone.
- If the patient is working on a reduce to quit approach, they will require follow-up to support incremental change.
- If the patient is working on a quit plan, they will require less follow-up appointments.
- At the follow-up visit:
    - Assess patient adherence to the change plan you developed together.
    - Assess whether their pharmacotherapy helped minimize or prevent nicotine withdrawal while they worked on behaviour change.
    - If not, consider combination therapy /interventions, or adjust dose(s) or switch pharmacotherapy as needed to achieve abstinence for the patient.
- Refer to additional supports if/as needed.

Navigation Support & Referral

- For support navigating the various treatment options, providers can contact the AlbertaQuits Helpline at 1-866-710-7848
- For provider referral to AlbertaQuits, visit AlbertaQuits
- For patient self-referral to Alberta Quits, they can visit AlbertaQuits Self-Referral or call the AlbertaQuits Helpline at 1-866-710-7848

PATHWAY DEVELOPMENT BACKGROUND

About this pathway

- This pathway was developed in collaboration with the Tobacco, Vaping & Cannabis Program, AlbertaQuits, Medical Officers of Health, primary care physicians, patient and family advisors, and the Provincial Pathways Unit.
- Condition-specific clinical pathways are intended to offer evidence-based guidance to support primary care providers in caring for patients with a range of clinical conditions.

Authors and conflict of interest declaration

The authors represent a multi-disciplinary team and are listed alphabetically by first name. Authors conflict-of-interest declarations are available on request by emailing albertapathways@primarycarealberta.ca.

Co-Design Team Project Membership	
Name	**Role & Organization**
Andrea Jackson	Program Manager, ABQuits, PCA
Dr. Chris Sarin	Medical Officer of Health, Indigenous Services Canada
Darrel Melvin	Health Promotion Facilitator, Tobacco Vaping & Cannabis, PCA
Debbie Lynam	Patient and Family Advisor, Edmonton
Jamil Ramji	Health Promotion Facilitator, Tobacco, Vaping & Cannabis, PCA
Dr. Jillian Demontigny	Primary Care Provider, Lethbridge
Dr. Julia Carter	Primary Care Provider, Calgary
Dr. Kristin Pon	Medical Officer of Health, North Zone, Primary and Preventative Health Services
Rija Qazi	Patient and Family Advisor, Calgary
Tracy Sowinski-Hamilton	Counsellor, ABQuits, PCA
Jon Gabbai	Senior Consultant, Provincial Pathways Unit, PCA
Susan Sobey-Fawcett	Senior Consultant, Provincial Pathways Unit, PCA
Tammie Nahas	Health Promotion Facilitator, Provincial Pathways Unit, PCA

Pathway review process, timelines

Primary care pathways undergo scheduled review every three years or earlier if there is a clinically significant change in knowledge or practice. The next scheduled review is August 2029. However, we welcome feedback at any time. Please send us your feedback here.

DISCLAIMER

This pathway represents evidence-based best practice but does not override the individual responsibility of healthcare professionals to make decisions appropriate to their patients using their own clinical judgment given their patients' specific clinical conditions, in consultation with patients/alternate decision makers. The pathway is not a substitute for clinical judgment or advice of a qualified healthcare professional. It is expected that all users will seek advice of other appropriately qualified and regulated healthcare providers with any issues transcending their specific knowledge, scope of regulated practice or professional competence.

PROVIDER RESOURCES

Resource	Links
Canada's Lower-Risk Nicotine Use Guidelines - 2025	https://intrepidlab.ca/en/Documents/LRNUG%202025.pdf
Canadian Cardiovascular Society Clinical Practice Update on Contemporary Approaches to Smoking Cessation	https://pubmed.ncbi.nlm.nih.gov/40340054/
AHS Tobacco Cessation Toolkit & Vaping Assessment – a variety of tools designed to support your tobacco cessation and vaping assessment work in clinical practice.	https://www.albertahealthservices.ca/info/Page17631.aspx
AlbertaQuits Learning Series: • Online modules for Tobacco Basics, Brief Tobacco Intervention, Tobacco Cessation Pharmacotherapy, Intensive Tobacco Intervention, and Sacred Tobacco. See Primary HealthCare Learning Portal Course Catalogue for course descriptions. • In-person or virtual workshops for Applied Tobacco Intervention and Foundational Health Educator courses.	• E-learning for AHS staff – Go to MyLearningLink on Insite • E-learning for non-AHS staff - to login or create an account, visit the Primary Health Care Learning Portal or call 1-855-943-2366 • In-person or virtual workshops - register online
AlbertaQuits Training Videos (YouTube)	Topics such as brief tobacco intervention, how to use NRT products, engaging vulnerable populations and mindful smoking. View the following playlist of training videos
Motivational Interviewing Resources	Canadian Centre on Substance Use and Addiction: Motivational Interviewing (The Essentials of … Series) The Centre for Addiction and Mental Health: Motivational Interviewing Video
The Centre for Addiction and Mental Health Vaping Cessation Resource	Vaping Cessation Guidance Resource.pdf

PATIENT RESOURCES

You may find these resources useful to share with patients to help support self-management and care in the medical home.

Resource	Link
Patient Pathway on MyHealth Alberta A PDF summary outlining a patient's journey with Tobacco & Nicotine Dependence. Multiple access formats are available to allow for easy printing, download, or scanning a QR code with the patient's smart phone for more information at their convenience.	Your journey with quitting tobacco or nicotine
MyHealth Alberta Health topic: tobacco use, smoking, and vaping dependence	https://myhealth.alberta.ca/HealthTopics/Tobacco-Smoking-Vaping
AlbertaQuits Online free resource offers behavioural intervention tools, education, and support for those quitting smoking and vaping. This service includes a helpline, text support and group programs.	https://albertaquits.ca/ **Phone Support** - AlbertaQuits Helpline **1-866-710-7848.** Translation services available. **Text Support** - text the word ABQUITS to 123456 to register for free 3 month text messaging program. **Group Support** - free group support program QuitCore that provides telephone, in-person, or virtual support. Call the AlbertaQuits Helpline at **1-866-710-7848** to register To learn more about available options, see https://albertaquits.ca/get-help/
The Canadian Cancer Society offers free information, tools, and a support community to help you quit and stay quit.	Get help to quit smoking | Canadian Cancer Society
Centre for Addiction and Mental Health offers a free listing of patient resources for tobacco and vaping cessation.	**Smoking Cessation:** https://www.camh.ca/en/professionals/treating-conditions-and-disorders/smoking-cessation/smoking-cessation---tools-and-resources **Vaping FAQ:** https://intrepidlab.ca/en/Documents/VECTOR_FAQs_About_Vaping_FINAL.pdf
Metis-specific resource	Tobacco Reduction Program - Otipemisiwak Métis Government

REFERENCES

[1] P. Selby and L. Zawertailo, "Tobacco Addiction," *The New England Journal of Medicine,* vol. 387, no. 4, pp. 345-354, 2022.

[2] The Centre for Addiction and Mental Health, "Nicotine Dependence," 2026. [Online]. Available: https://www.camh.ca/en/health-info/mental-illness-and-addiction-index/nicotine-dependence. [Accessed 03 03 2026].

[3] The Centre for Addicition and Mental Heatlh, "Canada's Lower-Risk Nicotine Use Guidelines - An Update," Toronto, ON, 2025.

[4] Primary Care Alberta , "Quit Smoking: Know Your Triggers," AlbertaQuits, [Online]. Available: https://albertaquits.healthiertogether.ca/quit-smoking/know-your-triggers/. [Accessed 24 02 2026].

[5] A. J. Alberg, D. R. Shopland and M. K. Cummings, "The 2014 Surgeon General's Report: Commemorating the 50th Anniversary of the 1964 Report of the Advisory Committee to the US Surgeon General and updating the evidence on the health consequences of cigarette smoking," *American Journal of Epidemiology,* vol. 179, no. 4, pp. 403-12, 2014.

[6] National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health, The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General, Atlanta, GA, 2014.

[7] A. L. Siu and U.S. Preventative Services Task Force, "Behavioral and Pharmacotherapy Interventions for Tobacco Smoking Cessation in Adults, Including Pregnant Women: U.S. Preventive Services Task Force Recommendation Statement," *Annals of Internal Medicine,* vol. 163, no. 8, pp. 622-34, 2015.

[8] Global Initiative for Asthma, "Global Strategy for Asthma Management and Prevention," 2020.

[9] Cancer Research UK, "How does smoking cause cancer?," [Online]. Available: https://www.cancerresearchuk.org/about-cancer/causes-of-cancer/smoking-and-cancer/how-does-smoking-cause-cancer. [Accessed 24 02 2026].

[10] Government of Canada, "Overview of Canada's Tobacco Strategy," [Online]. Available: https://www.canada.ca/en/health-canada/services/publications/healthy-living/canada-tobacco-strategy/overview-canada-tobacco-strategy.html. [Accessed 24 02 2026].

[11] Canadian Substance Use Costs and Harms, "Substance Use Costs in Canada in 2020," 2020. [Online]. Available: https://csuch.ca/substance-use-costs/current-costs/. [Accessed 24 02 2026].

[12] Government of Canada, "Canadian Tobacco and Nicotine Survey (CTNS): summary of results for 2022," 2022. [Online]. Available: https://www.canada.ca/en/health-canada/services/canadian-tobacco-nicotine-survey/2022-summary.html. [Accessed 24 02 2026].

[13] M. Chaiton and C. Callard, "Mind the Gap: Disparities in Cigarette Smoking in Canada," *Sage Journals,* 2019.

[14] Government of Canada, "Key Health Inequalities in Canada: A National Portrait – Executive Summary," 28 05 2018. [Online]. Available: https://www.canada.ca/en/public-health/services/publications/science-research-data/key-health-inequalities-canada-national-portrait-executive-summary.html. [Accessed 24 02 2026].

[15] Government of Canada, "Vaping in Canada: What we know," 09 05 2024. [Online]. Available: https://www.canada.ca/en/health-canada/services/smoking-tobacco/surveys-statistics-research/vaping-what-we-know.html. [Accessed 18 03 2026].

[16] G. Taylor, A. McNeill, A. Girling, A. Farley, N. Lindson-Hawley and P. Aveyard, "Change in mental health after smoking cessation: systematic review and meta-analysis," *BMJ,* vol. 348, 2014.

[17] K. Cahill, N. Lindson-Hawley, K. H. Thomas, T. R. Fanshawe, and T. Lancaster, "Nicotine receptor partial agonists for smoking cessation," *The Cochrane Database of Systematic Reviews,* vol. 2016, no. 5, 2016.

[18] G. Gallucci, A. Tartarone, R. Lerose, A. V. Lalinga and A. M. Capobianco, "Cardiovascular risk of smoking and benefits of smoking cessation," *Journal of Thoracic Disease,* vol. 12, no. 7, p. 3866–3876, 2020.

[19] Centre for Addiction and Mental Health, "E-cigarette Use. Evidence-informed Guidance on Harms and Benefits," 03 2024. [Online]. Available: https://intrepidlab.ca/en/Documents/VECTOR_Guidance_Resource_FINAL.pdf. [Accessed 12 03 2026].

[20] Tobacco Use and Dependence Guideline Panel., "Treating Tobacco Use and Dependence: 2008 Update," in *US Department of Health and Human Services*, Rockville, MD, 2008.

[21] H. Mir , M. J. Eisenberg, N. L. Benowitz, E. Cowley, J. Heshmati , P. Jha, M. Khara, K.-A. Mullen, S. N. Ofori , . N. A. Rigotti and R. San Cartier, "Canadian Cardiovascular Society Clinical Practice Update on Contemporary Approaches to Smoking Cessation," *Canadian Journal of Cardiology,* vol. 41, no. 5, pp. 797-812, 2025.

[22] T. Jewell, "How Much Nicotine Is in a Cigarette and Other Tobacco Products?," Healthline, 18 November 2019. [Online]. Available: https://www.healthline.com/health/how-much-nicotine-is-in-a-cigarette. [Accessed 25 02 2026].

[23] U.S. Food & Drug Administration, "Smokeless Tobacco Products, Including Dip, Snuff, Snus, and Chewing Tobacco," 07 06 2023. [Online]. Available: https://www.fda.gov/tobacco-products/products-ingredients-components/smokeless-tobacco-products-including-dip-snuff-snus-and-chewing-tobacco. [Accessed 06 03 2026].

[24] World Health Organization, "Types of Nicotine and Tobacco Products," 2023. [Online]. Available: https://www.who.int/docs/librariesprovider2/default-document-library/2-types-of-tobacco-and-nicotine-products.pdf?sfvrsn=88bee704_3. [Accessed 25 02 2026].

[25] Canadian Pharmacists Association, "Break the Habit: A Pharmacist's Toolkit for Smoking Cessation Counselling," December 2024. [Online]. Available: https://www.pharmacists.ca/cpha-ca/assets/File/smoking-cessation/Types-of-Tobacco_EN-2.pdf. [Accessed 25 02 2026].

[26] U.S. Food & Drug Administration, "Hookah Tobacco (Shisha or Waterpipe Tobacco)," 06 09 2023. [Online]. Available: https://www.fda.gov/tobacco-products/products-ingredients-components/hookah-tobacco-shisha-or-waterpipe-tobacco#1. [Accessed 06 03 2026].

[27] J. B. Unger, J. Barker, . T. B. Cruz, A. M. Leventhal and M. . A. Pent, "Lucy—Novel Flavored Nicotine Gum, Lozenges, and Pouches: Are They Misleading Consumers?," *Subst Use Misuse,* vol. 57, no. 8, pp. 1328-1331, 2022.

[28] Physicians for a Smoke-Free Canada, "Sesh+: Another nicotine product hits convenience store shelves," 2023.

[29] Canadian Pharmacists Association, "Nicotine Pouches: A Guide for Pharmacists," [Online]. Available: https://www.pharmacists.ca/cpha-ca/assets/File/smoking-cessation/Nicotine-Pouches-A-Guide-for-Pharmacists_EN.pdf. [Accessed 02 03 2026].

[30] Keep Tobacco Sacred Collaboration, "Sacred Tobacco," 2026. [Online]. Available: https://www.keeptobaccosacred.ca/sacred-tobacco/. [Accessed 09 02 2026].

[31] First Nations Information Governance Centre, "National Report of the First Nations Regional Health Survey," Ottawa, ON, 2018.

[32] Government of Canada, "Delivering Results: Advancing Canada's Tobacco Strategy," 19 01 2026. [Online]. Available: https://www.canada.ca/en/health-canada/services/publications/healthy-living/canada-tobacco-strategy/delivering-results-advancing-canada-tobacco-strategy.html. [Accessed 05 03 2026].

[33] Public Health Agency of Canada, "Common Definitions on Cultural Safety," Ottawa, ON, 2023.

[34] N. P. Yuan, J. L. Schultz, U. S. Nair and M. L. Bell, "Predictors of Tobacco Cessation Among American Indian/Alaska Native Adults Enrolled in a State Quitline," *Substance Use & Misuse,* vol. 55, no. 3, pp. 452-459, 2019.

[35] W. S. Choi, L. A. Beebe , N. Nazir , B. Kaur, M. Hopkins, M. Talawyma, T. I. Shireman, H.-W. Yeh, K. A. Greiner and C. M. Daley, "All Nations Breath of Life: A Randomized Trial of Smoking Cessation for American Indians," *American Journal of Preventive Medicine,* vol. 51, no. 5, pp. 743-751, 2016.

[36] C. Chamberlain, S. Perlen, S. Brennan, L. Rychetnik, D. Thomas, R. Maddox, N. Alam, E. Banks, A. Wilson and S. Eades , "Evidence for a comprehensive approach to Aboriginal tobacco control to maintain the decline in smoking: An overview of reviews among Indigenous peoples," *Systemic Reviews,* vol. 6, no. 1, p. 135, 2017.

[37] American College of Obstetricians and Gynecologists, "Tobacco and Nicotine Cessation During Pregnancy: Committee Opinion," *Obstetrics & Gynecology,* vol. 135, no. 5, pp. 221-229, 2020.

[38] L. Greaves, N. Poole and N. Hemsing, "Tailored Intervention for Smoking," *JOGNN,* vol. 48, pp. 90-98, 2019.

[39] Centre for Addiction and Mental Health, "CAN ADAPTT Canadian Smoking Cessation Guideline: Specific Populations Pregnant & Breastfeeding Women," 2011.

[40] R. Claire, C. Chamberlain, M. Davey, S. Cooper, I. Berlin, J. Leonardi-Bee and T. Coleman, "Pharmacological interventions for promoting smoking cessation during pregnancy (Review)," *Cochrane Database of Systematic Reviews,* no. 3, 2020.

[41] A. L. Robijn, D. T. Tran , J. M. Cohen , S. Donald, C. E. Cesta, K. Furu , L. Parkin, S.-A. Pearson , J. Reutfors, H. Zoega, N. Zwar and A. Havard, "Smoking Cessation Pharmacotherapy Use in Pregnancy," *JAMA Netw Open,* vol. 7, no. 6, 2024.

[42] MotherToBaby, "E-cigarettes (Vaping) Fact Sheet," Organization of Teratology Information Specialists (OTIS), 2026.

[43] The Centre for Addiction and Mental Health, "Vaping Cessation Guidance Resource," 2022.

[44] Centre for Addicition and Mental Heatlh (CAMH), INTREPID Lab, "Canada’s Lower-Risk Nicotine Use Guidelines - An Update," Toronto, ON, 2025.

[45] K. Bowker, S. Lewis, T. Coleman and S. Cooper, "Changes in the rate of nicotine metabolism across pregnancy: a longitudinal study," *Addiction,* vol. 110, no. 11, pp. 1827-1832, 2015.

[46] M. M. Clark, "Smoking, nicotine and pregnancy 2 (SNAP2) trial: protocol for a randomised controlled trial of an intervention to improve adherence to nicotine replacement therapy during pregnancy," *BMJ Open,* vol. 14, no. 5, 2024.

[47] R. Suri, M. J. Gitlin, V. Hendrick and E. Ortiz-Portillo, "Bupropion Use During Pregnancy: A Systematic Review," *Primary Care Companion for CNS Disorders,* vol. 19, no. 5, 2017.

[48] P. O. Anderson, "Breastfeeding with Smoking Cessation Products," *Breastfeeding Medicine,* vol. 16, no. 10, 2021.

[49] Public Health Agency of Canada, "How healthy are people in Canada? An indicators dashboard," 2025. [Online]. Available: https://health-infobase.canada.ca/health-of-people-in-Canada-dashboard/.

[50] E. R. Pomp, F. R. Rosendaal and C. J. Doggen, "Smoking increases the risk of venous thrombosis and acts synergistically with oral contraceptive use," *American Journal of Hematology,* vol. 83, no. 2, pp. 97-102, 2008.

[51] Praxis Medical Insights, "Combined Oral Contraceptives and Smoking: Evidence-Based Recommendations," 2026. [Online]. Available: https://praxismed.org/article/6b360a85-90ce-4b52-8dec-71930de888ba?z=35. [Accessed 05 03 2026].

[52] N. Jayakumar, M. Chaiton, B. Zhang, P. Selby and R. Schwartz, "Sex Differences in Use of Smoking Cessation Services and Resources: A Real-World Study," *Tobacco Use Insights,* vol. 13, 2020.

[53] P. H. Smith , A. J. Bessette, A. H. Weinberger , C. E. Sheffer and S. A. McKee, "Sex/gender differences in smoking cessation: A review," *Preventative Medicine,* vol. 92, pp. 135-140, 2016.

[54] P. H. Smith, A. H. Weinberger, J. Zhang, E. Emme, C. M. Mazure and S. A. McKee, "Sex Differences in Smoking Cessation Pharmacotherapy Comparative Efficacy: A Network Meta-analysis," *Nicotine & Tobacco Research,* vol. 19, no. 3, pp. 273-281, 2017.

[55] J. Li, C. J. Berg, A. A. Weber, M. Vu, J. Nguyen , R. Haardörfer , M. Windle , M. Goodman and C. Escoffery, "Tobacco Use at the Intersection of Sex and Sexual Identity in the U.S., 2007-2020: A Meta-Analysis," *American Journal of Preventative Medicine,* vol. 60, no. 3, pp. 415-424, 2021.

[56] U.S. Department of Health and Human Services, "Eliminating Tobacco-Related Disease and Death: Addressing Disparities - A Report of the Surgeon General," Atlanta, GA, 2024.

[57] Health Canada, "Canada's Tobacco Strategy," Ottawa, ON, 2018.

[58] A. R. Gordon, J. N. Fish, W. J. Kiekens, M. Lightfoot , D. M. Frost and S. T. Russell , "Cigarette Smoking and Minority Stress Across Age Cohorts in a National Sample of Sexual Minorities: Results From the Generations Study," *Annals of Behavioral Medicine,* vol. 55, no. 6, pp. 530-542, 2021.

[59] D. Comeau, C. Johnson and N. Bouhamdani, "Review of current 2SLGBTQIA+ inequities in the Canadian health care system," *Frontiers in Public Health,* vol. 11, 2023.

[60] B. Bass and H. Nagy, "Cultural Competence in the Care of LGBTQ Patients," StatPearls Publishing, Treasure Island, FL, 2023.

[61] K. Emory, F. O. Buchting , D. R. Trinidad , L. Vera and S. L. Emery, "Lesbian, Gay, Bisexual, and Transgender (LGBT) View it Differently Than Non-LGBT: Exposure to Tobacco-related Couponing, E-cigarette Advertisements, and Anti-tobacco Messages on Social and Traditional Media," *Nicotine & Tobacco Research,* vol. 21, no. 4, pp. 513-522, 2019.

[62] J. G. Lee, A. K. Matthews, C. A. McCullen and C. L. Melvin, "Promotion of tobacco use cessation for lesbian, gay, bisexual, and transgender people: a systematic review," *American Journal of Preventative Medicine,* vol. 47, no. 6, pp. 823-31, 2014.

[63] J. J. Fogarty, M. R. Fertig, L. Gulbicki, D. Ashar, C. O'Cleirigh and A. M. Stanton, "Identifying the ways in which tobacco cessation interventions have been tailored for sexual and gender minority individuals: A systematic review," *Journal of Health Psychology,* vol. 30, no. 10, pp. 2443-2459, 2025.

[64] R. Howard, . K. Singh and M. Englesbe, "Prevalence and Trends in Smoking Among Surgical Patients in Michigan, 2012-2019," *JAMA Network Open,* vol. 4, no. 3, 2021.

[65] T. Thomsen, N. Villebro and A. M. Møller, "Interventions for preoperative smoking cessation," *Cochrane Database Systematic Review,* vol. 2014, no. 3, 2014.

[66] J. Wong , . D. P. Lam, A. Abrishami , . M. T. V. Chan and F. Chung , "Short-term preoperative smoking cessation and postoperative complications: a systematic review and meta-analysis," *Canadian Journal of Anesthesia,* vol. 59, p. 268–279, 2012.

[67] C. Franck, K. B. Filion and M. J. Eisenberg, "Smoking Cessation in Patients With Acute Coronary Syndrome," *American Journal of Cardiology,* vol. 121, no. 9, pp. 1105-1111, 2018.

[68] M. J. Eisenberg, S. B. Windle, N. Roy, W. Old, F. R. Grondin, . I. Bata, . A. Iskander, . C. Lauzon, . N. Srivastava, . A. Clarke, D. Cassavar, D. Dion, . H. Haught, S. R. Mehta, . J.-F. Baril, . C. Lambert, M. Madan, . B. L. Abramson and . P. Dehghani, "Varenicline for Smoking Cessation in Hospitalized Patients With Acute Coronary Syndrome," *Circulation,* vol. 133, no. 1, 2015.

[69] S. M. Grandi, A. Shimony and M. J. Eisenberg , "Bupropion for Smoking Cessation in Patients Hospitalized With Cardiovascular Disease: A Systematic Review and Meta-analysis of Randomized Controlled Trials," *Canadian Journal of Cardiology,* vol. 29, no. 12, pp. 1704-1711, 2013.

[70] K. Lasser, J. W. Boyd, . S. Woolhandler, D. U. Himmelstein, . D. McCormick and D. H. Bor, "Smoking and Mental Illness: A Population-Based Prevalence Study," *JAMA,* vol. 284, no. 20, pp. 2606-2610, 2000.

[71] G. M. Taylor, N. Lindson, A. Farley, A. Leinberger-Jabari, K. Sawyer, R. Te Water Naudé, A. Theodoulou , N. King , C. Burke and P. Aveyard, "Smoking cessation for improving mental health," *Cochrane Database of Systematic Reviews,* vol. 3, no. 3, 2021.

[72] R. M. Anthenelli, N. L. Benowitz, R. West , L. St Aubin, T. McRae , D. Lawrence, J. Ascher, C. Russ, A. Krishen and A. E. Evins, "Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial," *Lancet,* vol. 387, pp. 2507-20, 2016.

[73] J. B. Correa, D. P. Lawrence , . B. S. McKenna , N. Gaznick, . P. A. Saccone, S. Dubrava, . N. Doran and R. M. Anthenelli , "Psychiatric Comorbidity and Multimorbidity in the EAGLES Trial: Descriptive Correlates and Associations With Neuropsychiatric Adverse Events, Treatment Adherence, and Smoking Cessation," *Nicotine & Tobacco Research,* p. 1646–1655, 2021.

[74] Propel Centre for Population Health Impact, "Tobacco Use in Canada: Patterns and Trends - Special Supplement: Cannabis in Canada," Waterloo, ON, 2017.

[75] R. A. Rabin and T. P. George, "A review of co-morbid tobacco and cannabis use disorders: possible mechanisms to explain high rates of co-use," *American Journal on Addictions,* vol. 24, no. 2, pp. 105-116, 2015.

[76] S. E. Rooke, M. M. Norberg, J. Copeland and W. Swift, "Health outcomes associated with long-term regular cannabis and tobacco smoking," *Addictive Behaviors,* vol. 38, no. 6, pp. 2207-13, 2013.

[77] F. Van der Kooy, B. Pomahacova and R. Verpoorte, "Cannabis smoke condensate II: influence of tobacco on tetrahydrocannabinol levels," *Inhalation Toxicology,* vol. 21, no. 2, pp. 87-90, 2009.

[78] E. N. Peters, . A. J. Budney and K. M. Carroll, "Clinical correlates of co-occurring cannabis and tobacco use: a systematic review," *Addiction,* vol. 107, no. 8, pp. 1404-17, 2012.

[79] N. Jayakumar, M. Chaiton , . R. Goodwin, R. Schwartz, S. O'Connor and P. Kaufman, "Co-use and Mixing Tobacco With Cannabis Among Ontario Adults," *Nicotine & Tobacco Research,* vol. 23, no. 1, pp. 171-178, 2021.

[80] W. C. Tan, . C. Lo, A. Jong , L. Xing, M. J. FitzGerald, W. M. Vollmer, S. A. Buist and D. D. Sin, "Marijuana and chronic obstructive lung disease: a population-based study," *CMAJ,* vol. 180, no. 8, p. 814–820, 2009.

[81] N. Chadi, "Youth vaping: What health care providers need to know about a rapidly evolving trend [Webinar]," in *Canadian Paediatric Society*, 2021.

[82] J. Harvey and N. Chadi, "Strategies to promote smoking cessation among adolescents.," *Paediatrics & Child Health,* vol. 21, no. 4, pp. 201-204, 2016.

[83] N. Chadi, E. Vyver and R. E. Bélanger, "Protecting children and adolescents against the risks of vaping," *Paediatrics & Child Health,* vol. 26, no. 6, pp. 358-365, 2021.

[84] A. . E. Evins, . C. Cather, . H. T. Reeder, . B. Evohr, K. Potter, G. N. Pachas, . K. M. Gray, S. Levy, . N. A. Rigotti , . V. Iroegbulem, J. Dufour, K. Casottana, M. A. Costello, . J. M. Gilman and R. M. Schuster , "Varenicline for Youth Nicotine Vaping Cessation: A Randomized Clinical Trial," *JAMA,* vol. 333, no. 21, pp. 1876-1886, 2025.

[85] American Society of Clinical Oncology, "Tobacco Cessation Tools & Resources," [Online]. Available: https://www.asco.org/news-initiatives/current-initiatives/cancer-care-initiatives/prevention-survivorship/tobacco-cessation-control/tools. [Accessed 06 03 2026].

[86] U. Iftikhar, K. Huerne and . M. J. Eisenberg, "How to Effectively Help Patients Stop Smoking: A Primer for Cardiologists," *Canadian Journal of Cardiology,* vol. 38, no. 9, pp. 1442-1445, 2022.

[87] Pharmacy Association of Saskatchewan, "The 5A's Approach," [Online]. Available: https://members.skpharmacists.ca/wp-content/uploads/_pda/2023/04/THE-5-As.pdf. [Accessed 09 03 2026].

[88] Government of Canada, "Health effects of smoking and second-hand smoke," [Online]. Available: https://www.canada.ca/en/health-canada/services/smoking-tobacco/health-effects-smoking-second-hand-smoke.html. [Accessed 09 03 2026].

[89] B. D. Thombs, G. Traversy, . D. L. Reynolds, E. Lang, S. Groulx and B. J. Wilson, "Recommendations on interventions for tobacco smoking cessation in adults in Canada," *CMAJ,* vol. 197, no. 28, pp. 846-861, 2025.

[90] Government of Canada, "Quit with confidence: Deciding to quit," [Online]. Available: https://www.canada.ca/en/health-canada/services/smoking-tobacco/quit-smoking.html#a2. [Accessed 09 03 2026].

[91] W. V. Lechner, T. Janssen, . C. W. Kahler, . J. Audrain-McGovern and A. M. Leventhal , "Bi-directional associations of electronic and combustible cigarette use onset patterns with depressive symptoms in adolescents," *Preventive Medicine,* vol. 96, pp. 73-78, 2017.

[92] T. G. Williams, S. . É. Collins, A. R. Brotto, A. W. D'Souza, C. M. Ehnes, B. Hicks, J. Weatherald, J. M. Leung and M. K. Stickland, "Do Young Individuals With Chronic E-Cigarette Exposure Display Cardiopulmonary Abnormalities During Exercise and Blunted Recruitment of Pulmonary Diffusing Capacity?," *CHEST,* vol. 169, no. 6, pp. 1616-1627, 2026.

[93] J. Heshmati, S. Shahen, E. L. Bates, S. Visintini, E. Quirouette, , K.-A. Mullen and . H. Mir, "Nicotine pouches and clinical outcomes related to smoking cessation: A systematic review of randomized trials," *Addiction,* 2025.

[94] Truth Initiative: Freedom from Nicotine Addiction, "Quitting vaping benefits health – and the environment," 25 August 2025. [Online]. Available: https://truthinitiative.org/research-resources/harmful-effects-tobacco/quitting-vaping-benefits-health-and-environment. [Accessed 16 03 2026].

[95] Truth Initiative: Freedom from Nicotine Addiction, "Colliding Crises: Youth Mental Health and Nicotine Use," 19 September 2021. [Online]. Available: https://truthinitiative.org/research-resources/emerging-tobacco-products/colliding-crises-youth-mental-health-and-nicotine-use. [Accessed 16 03 2026].

[96] Centre for Addiction and Mental Health, "Smoking Cessation: Overview of Nicotine Replacement Therapy," [Online]. Available: https://www.camh.ca/en/professionals/treating-conditions-and-disorders/smoking-cessation/smoking-cessation---treatment/smoking-cessation---overview-of-nicotine-replacement-therapy#:~:text=These%20agents%20have%20far%20less,at%201%20year%20post%20quitting.. [Accessed 10 03 2026].

[97] Government of Canada, "Only use authorized nicotine pouches as directed, and do not use unauthorized nicotine pouches," 21 08 2025. [Online]. Available: https://recalls-rappels.canada.ca/en/alert-recall/only-use-authorized-nicotine-pouches-directed-and-do-not-use-unauthorized-nicotine. [Accessed 10 03 2026].

[98] Physicians for a Smoke-Free Canada, "Stop Smoking medications authorized in Canada include 4 manufactured by tobacco-nicotine companies," 2024.

[99] R. A. Walsh, "Over-the-counter nicotine replacement therapy: a methodological review of the evidence supporting its effectiveness," *Drug and Alcohol Review,* vol. 27, no. 5, pp. 529-547, 2008.

© 2026 Primary Care Alberta, Provincial Pathways Unit



This work is licensed under a Creative Commons Attribution Non-Commercial-Share Alike 4.0 International license. You are free to copy, distribute and adapt the work for non-commercial purposes, as long as you attribute the work to Primary Care Alberta and abide by the other license terms. If you alter, transform, or build upon this work, you may distribute the resulting work only under the same, similar, or compatible license. The license does not apply to Primary Care Alberta trademarks, logos or content for which Primary Care Alberta is not the copyright owner.