

## Appendix 3

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## Summary for Clinicians

Clinicians and especially primary care providers have a vital role to play in ensuring people who are experiencing disadvantages have access to effective preventive care.

1. **Prioritize.** Identify patients who should receive preventive care services. The table below can be used to help identify potentially eligible patients. The table and recommendations do not list every disadvantage and you may decide to prioritize additional patients based on the circumstances of your patient population and based on the availability of other supports.
2. **Contact.** For each eligible patient, develop and implement a multifaceted plan for contacting patients and informing them about their options. Contact can take place by phone, mail, text message, email, web conference or in-person. A clinician-patient encounter, whether in person or remote, dedicated to preventive care and health promotion can be the best way to discuss multiple preventive care services. Multiple members of the care team could be involved in ensuring patients are contacted and in providing preventive care services, and multiple contacts might be needed.
3. **Support.** Initial contacts should be followed with support to ensure preventive care is provided in an appropriate and timely way. Avoid blaming patients for being “difficult to reach” or “hesitant” and instead ensure all steps are taken to eliminate or reduce barriers to preventive care. Provide information that helps patients make decisions in an appropriate format and using appropriate language. Appropriate management options and supports should be offered and provided to patients identified through screening and care.

Clinicians, and especially primary care providers, also have an important role to play in ensuring people who are experiencing disadvantages are connected with primary care, and clinicians can help to advocate for systemic changes that improve equitable access to care.

### Identifying patients who should be prioritized for preventive care

	Children	Adolescents	Adults
Colorectal cancer			45-74, low income, racialized
Cervical cancer		Vaccination ages 15 to 26	Ages vary by jurisdiction, racialized, disabilities, trauma, low-income rural
Lung cancer			50-80, racialized, low income
Cardiovascular disease			40-75, women, racialized, low income, mental health condition
HIV & Hepatitis C			18-79
Diabetes			40-75
Tuberculosis	Endemic country, high risk housing	Endemic country, high risk housing	Endemic country, high risk housing
Tobacco use		all	all
Alcohol use		all	all
Substance use		all	all
Depression		all	all
Dental caries	all		
Poverty	all		
Intimate partner violence		Women, trans and nonbinary in relationship	Women, trans and nonbinary in relationship

## Recommendations ordered by burden of disease and taking note of preventive care effectiveness

Preventive care interventions could be prioritized based on a number of factors. The table below is primarily based on the burden of diseases in Canada. Please note that there are important limitations of lists such as this one as they may not appropriately reflect the importance of certain issues such as intimate partner violence. This list is provided as a template that could be tailored based on the unique needs of specific communities, geographic regions, or patient populations. Care providers with limited resources, including limited time, could decide to prioritize certain preventive care interventions and the information in the list below could help inform prioritization decisions.

<i>Preventive care expected to save lives</i>
<b>Cardiovascular disease</b>
<b>Lung Cancer</b>
<b>Tobacco use (includes burden of COPD)</b>
<b>Colorectal cancer</b>
<i>Preventive care expected to substantially improve health</i>
<b>Diabetes</b>
<b>Alcohol use</b>
<b>Depression</b>
<b>Cervical cancer</b>
<b>HIV and Hepatitis C</b>
<i>Preventive care expected to improve health</i>
<b>Tuberculosis</b>
<b>Substance use</b>
<b>Dental caries</b>
<b>Social risk</b>
<b>Intimate partner violence</b>

### Burden of disease resources.

<https://www.healthdata.org/canada>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6217597/>

## Decision support for families with children

### *Screening for dental caries or cavities*

**Why screening is done.** Dental caries or cavities in young children are common and they can be treated. Over 50% of children have dental caries.

**What to expect.** Your care provider might look at your child's teeth, or suggest that they see a dentist.

**Follow up.** If dental caries are identified, treatment could be offered. Fluoride treatments can prevent more dental caries, together with changes in the foods and drinks consumed by the child and changes in tooth brushing.

### **Further reading.**

<https://www.canada.ca/en/public-health/topics/oral-health/caring-your-teeth-mouth/children.html>

<https://www.cdc.gov/oralhealth/basics/childrens-oral-health/index.html>

### *Screening for poverty or social risk*

**Why screening is done.** Social risk factors like poverty underlie many of the differences that we see between groups in preventable illnesses. Supports have been shown to improve the health of children experiencing poverty.

**What to expect.** Your care provider might screen for social risk factors such as poverty or the ability to afford basic necessities.

**What's next.** If social risk factors are identified, referral to healthcare-initiated or community-based resources and supports could be offered.

### **References.**

<https://jamanetwork.com/journals/jama/fullarticle/2783975>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4306802/>

### **Further reading.**

[https://www.aafp.org/dam/AAFP/documents/patient\\_care/everyone\\_project/hops19-physician-guide-sdoh.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/everyone_project/hops19-physician-guide-sdoh.pdf)

## Decision support for adolescents and adults

### *Tobacco use*

**Why screening is done.** Tobacco use is still the leading preventable cause of premature death in Ontario. Tobacco use often starts during adolescence, with nearly 9 out of 10 adults who smoke cigarettes daily first trying smoking by age 18. Comprehensive tobacco use screenings are a natural first step to providing services to support quitting, and quitting earlier is better for health.

**What to expect.** Your care provider might ask about tobacco use and exposure.

**What's next.** Supports including counselling or medicines could be offered to help reduce exposure to tobacco.

### References.

<https://www150.statcan.gc.ca/n1/daily-quotidien/220505/dq220505c-eng.pdf>

<https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/35955001/>

<https://www.uptodate.com/contents/benefits-and-consequences-of-smoking-cessation>

### Further reading.

<https://www.publichealthontario.ca/en/Health-Topics/Health-Promotion/Tobacco/OTMR>

[https://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/youth\\_data/tobacco\\_use/index.htm](https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm)

### *Alcohol use*

**Why screening is done.** Unhealthy alcohol use is among the most common causes of preventable death in Canada and patients with at-risk drinking or alcohol use disorder are often in contact with health care providers who can provide support.

**What to expect.** Your care provider might ask about alcohol use.

**What's next.** If unhealthy alcohol use or alcohol use disorder is identified, appropriate supports, counselling, and treatment could be offered.

### References.

<https://www.cfp.ca/content/cfp/61/6/509.full.pdf>

### Further reading.

<https://www.cdc.gov/ncbddd/fasd/alcohol-screening.html>

<https://www.camh.ca/-/media/files/canadas-low-risk-guidelines-pdf.pdf>

### *Substance use*

**Why screening is done.** Substance use is among the most common causes of preventable morbidity and mortality, and 60% of people who use substances in Canada are between the ages of 15 and 24. Youth with

substance use disorders also experience higher rates of physical and mental illnesses, diminished overall health and well-being, and potential progression to addiction.

**What to expect.** Your care provider might ask about current or past substance use.

**What's next.** If unhealthy substance use is identified, supports and treatments could be offered.

**References.**

<https://www.addictionhelp.com/addiction/canadian-statistics/>

<https://www.cdc.gov/healthyouth/substance-use/index.htm>

<https://www.camh.ca/en/professionals/treating-conditions-and-disorders/fundamentals-of-addiction/f-of-addiction---screening>

**Further reading.**

<https://www.uptodate.com/contents/screening-for-unhealthy-use-of-alcohol-and-other-drugs-in-primary-care>

*Depression*

**Why screening is done.** Depression is relatively common in primary care patients but is not always identified by primary care providers. An estimated 1 in 4 Canadians experience symptoms of depression serious enough to need treatment at some time in their lifetime, with the highest burden falling on those between the age of 15 to 24 years. Treatments for depression are effective.

**What to expect.** Your care provider might ask about depression.

**What's next.** If symptoms of depression are identified, appropriate treatment supports including medicines or counselling interventions could be offered.

**References.**

<https://www.health.gov.on.ca/en/public/publications/mental/depression.aspx>

<https://suicideprevention.ca/resource/statistics-depression-and-suicidal-ideation-among-canadians-aged-15-to-24/>

<https://www.ncbi.nlm.nih.gov/books/NBK349027/>

**Further reading.**

<https://canadiantaskforce.ca/wp-content/uploads/2016/05/2013-depression-clinician-algorithm-and-faq-en.pdf>

*Intimate partner violence*

**Why screening is done.** In Canada, 44% of women in intimate relationships report experiencing some kind of psychological, physical, or sexual abuse, and this proportion is much higher among those aged 15 to 24 years. Supports can improve health and reduce the risk of violence in some situations.

**What to expect.** Your care provider might ask about past or current exposure to intimate partner violence and about safety at home.

**What's next.** If intimate partner violence is suspected, support services could be offered.

**References.**

<https://women-gender-equality.canada.ca/en/gender-based-violence-knowledge-centre/intimate-partner-violence.html>

**Further reading.**

<https://women-gender-equality.canada.ca/en/gender-based-violence-knowledge-centre/intimate-partner-violence.html>

<https://www.cdc.gov/violenceprevention/intimatepartnerviolence/fastfact.html>



## Decision support for adults

### *Colon cancer*

**Why screening is done.** Colon cancer is a leading cause of death and is easier to treat if found early. Approximately 9,400 people are killed by colon cancer each year in Canada, and screening is estimated to prevent 26 deaths per 1000 individuals screened.

**What to expect.** If you are eligible, you should be contacted with a reminder about colon cancer screening that can either be done by collecting a stool sample, or through a procedure looking at the inside of your gut like a sigmoidoscopy or a colonoscopy.

**Follow up.** If the stool sample results indicate the need for further testing, you may be referred for a colonoscopy or other testing.

### References.

<https://cancer.ca/en/cancer-information/cancer-types/colorectal/statistics>

<https://jamanetwork.com/journals/jama/fullarticle/2779985#jus210011r14> (Figure 2B)

### *Cervical cancer*

**Why screening is done.** Cervical cancer accounts for 2% of all new cancer cases and 1.2% of all cancer deaths among women in Canada. HPV infections are common and usually have no signs or symptoms, which is why routine screening is important. Early detection is associated with better treatment success, and regular screening for cervical cancer is estimated to decrease incidence and mortality rates by at least 80%.

**What to expect.** You should receive a reminder about cervical cancer testing via a Pap test or an HPV test, and given the option to complete the test in a clinic or at home. If you prefer to have your test done at home, you should receive an HPV self-sampling kit with detailed instructions on how to complete the test in a language that you prefer.

**Follow up.** If test results are abnormal, you may be referred for a colposcopy or other testing.

### References.

<https://www.canada.ca/en/public-health/services/chronic-diseases/cancer/cervical-cancer-facts-figures.html>

[https://www.ontario.ca/page/cervical-cancer-testing-and-prevention?gclid=Cj0KCQiA8t2eBhDeARIsAAVEga2Kpyjlpq4pgDAKZJpdIqbObYwm1Q5w0UieplWxuYqauWntoBfUIgaAvh7EALw\\_wcB&gclidsrc=aw.ds](https://www.ontario.ca/page/cervical-cancer-testing-and-prevention?gclid=Cj0KCQiA8t2eBhDeARIsAAVEga2Kpyjlpq4pgDAKZJpdIqbObYwm1Q5w0UieplWxuYqauWntoBfUIgaAvh7EALw_wcB&gclidsrc=aw.ds)

<https://www.cancer.gov/types/cervical/hp/cervical-screening-pdq#:~:text=Magnitude%20of%20Effect%3A%20Regular%20Pap,mortality%20by%20at%20least%2080%25.>

### Further reading.

<https://www.cdc.gov/vitalsigns/cervical-cancer/index.html#:~:text=More%20than%204%2C000%20women%20die%20of%20cervical%20cancer%20>

[each%20year.&text=As%20many%20as%2093%25%20of,HPV%20\(human%20papillomavirus\)%20vaccination.&text=In%202012%2C%208%20million%20US,in%20the%20last%205%20years.](#)

### *Lung cancer*

**Why screening is done.** Lung cancer is the most common cancer type in Canada, accounting for approximately 13% of all new cancer cases and 25% of all cancer deaths. About half of all lung cancer cases in Canada are diagnosed late (at Stage IV), at which point the survival rate is less than 5%. Screening high-risk individuals with low-dose computed tomography (known as a CT scan) is estimated to reduce lung cancer mortality by 20% to 24% or prevent 3 deaths for every 1,000 individuals screened.

**What to expect.** If you have a higher risk of lung cancer (age 55 to 74 years and have smoked heavily), you should receive a reminder about lung cancer screening which can be done with low-dose computed tomography (CT scan).

**Follow up.** If screening results are positive, you may be referred to a specialist for further testing and treatment.

### **References.**

<https://www.canada.ca/en/public-health/services/publications/diseases-conditions/lung-cancer.html>  
<https://www.lungcancer.ca/en-CA/Lung-Cancer/Myths-and-Facts.aspx>  
<https://cdn.cancer.ca/-/media/files/cancer-information/resources/publications/2020-canadian-cancer-statistics-special-report/2020-canadian-cancer-statistics-special-report-en.pdf>

### **Further reading.**

<https://www.lungcancer.ca/en-CA/Lung-Cancer/Screening.aspx>

### *Cardiovascular disease including hypertension*

**Why screening is done.** Heart disease is the second leading cause of death in Canada, with about 1 in 12 Canadian adults living with heart disease and about 14 Canadian adults with heart disease dying every hour. About 1 in 3 deaths related to heart disease could be prevented with a healthier lifestyle and risk factor reduction, and early detection and management of health conditions including high blood pressure, diabetes, and high cholesterol can help reduce incidence and mortality rates.

**What to expect.** Your care provider might screen for cardiovascular risk factors including checking your blood pressure and doing blood work for cholesterol.

**Follow up.** If high cardiovascular risk is identified, treatment options to help with disease management could be offered, including medicines and lifestyle changes such as diet and exercise.

### **References.**

<https://www.canada.ca/en/public-health/services/publications/diseases-conditions/heart-disease-canada.html>  
<https://www.ama-assn.org/delivering-care/hypertension/cdc-1-3-heart-disease-deaths-are-preventable>

### Further reading.

<https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/diseases-conditions/heart-disease-infographic-eng.pdf>

### *Diabetes*

**Why screening is done.** In Canada, over 8.9% of the population have diagnosed diabetes and the prevalence is increasing at a rate of 3.3% per year. A substantial number of Canadians are living with diabetes that has not yet been diagnosed, and screening for diabetes every 3 to 5 years is estimated to prevent 2 to 5 deaths per 1000 people screened.

**What to expect.** Your care provider might screen for diabetes or prediabetes by measuring your blood glucose levels using the hemoglobin A1c test.

**Follow up.** Treatments for diabetes could be offered. Eating a healthy diet and getting regular physical activity are also an important part of managing diabetes.

### References.

<https://www.canada.ca/en/public-health/services/publications/diseases-conditions/framework-diabetes-canada.html>

<https://www.mayoclinic.org/diseases-conditions/diabetes/diagnosis-treatment/drc-20371451>

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(09\)62162-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)62162-0/fulltext)

### *Hepatitis C*

**Why screening is done.** An estimated 250,000 Canadians have Hepatitis C, and approximately 75% of those who are infected develop chronic infection. People with hepatitis C often have no symptoms until the late stage of infection, and approximately 44% may go undiagnosed. Screening can increase early detection and prevent further health complications including liver damage.

**What to expect.** Your care provider might screen for hepatitis C using a hepatitis C antibody test or other screening measure. Further testing might be required.

**Follow up.** If test results are positive, treatment with antivirals could be offered and it can be curative.

### References.

<https://www.liver.ca/patients-caregivers/liver-diseases/hepatitis-c/>

<https://www.cmaj.ca/content/189/16/E594>

<https://www.liver.ca/patients-caregivers/liver-diseases/hepatitis-c/>

### *HIV*

**Why screening is done.** Approximately 62,790 Canadians were living with HIV at the end of 2020, representing a 3.6% increase from 2018. An estimated 10% of those living with HIV are undiagnosed and about 40% of new HIV infections are transmitted by people who are unaware that they have HIV.

Appendix 3, as supplied by the authors. Appendix to: Persaud N, Sabir A, Woods H, et al. Preventive care recommendations to promote health equity. *CMAJ* 2023. doi: 10.1503/cmaj.230237. Copyright © 2023 The Author(s) or their employer(s). To receive this resource in an accessible format, please contact us at [cmajgroup@cmaj.ca](mailto:cmajgroup@cmaj.ca).

**What to expect.** Your care provider might screen for HIV infection. If you prefer to have your test done at home, you should receive an HIV self-testing kit with detailed instructions on how to complete the test in a language that you prefer.

**Follow up.** If test results are positive, treatment options including antiretroviral therapy could be offered. Treatment has been shown to reduce HIV-related morbidity and mortality as well as HIV transmission at all stages of the infection.

#### References.

<https://www.canada.ca/en/public-health/services/publications/diseases-conditions/estimates-hiv-incidence-prevalence-canada-meeting-90-90-90-targets-2020.html>

<https://www.cdc.gov/hiv/clinicians/screening/benefits.html>

#### *Tuberculosis*

**Why screening is done.** Approximately 1.5 million people in Canada have latent tuberculosis infection, meaning they have no symptoms, and people born in other countries and Indigenous peoples account for the majority of cases. Generally, 5% to 10% of individuals with latent tuberculosis develop active tuberculosis in their lifetime, with 50% developing active disease within 2 years after infection. Screening can help ensure timely diagnosis and treatment.

**What to expect.** Your care provider might screen for tuberculosis with either a skin test or blood test, depending on whether you have been vaccinated against tuberculosis.

**Follow up.** If test results are positive, preventive treatment supports can be offered.

#### References.

<https://www.tandfonline.com/doi/full/10.1080/24745332.2022.2033062#:~:text=The%20rate%20in%202020%20was,be%20disproportionately%20affected%20by%20TB.>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5995594/#:~:text=People%20with%20latent%20TB%20infection,is%205%25%E2%80%9310%25.>

<https://www.nature.com/articles/s41598-020-57697-1#:~:text=Generally%2C%205%E2%80%9310%25%20individuals,infection4%2C5%2C6.>

<https://www.nature.com/articles/s41598-020-57697-1#:~:text=Generally%2C%205%E2%80%9310%25%20individuals,infection4%2C5%2C6.>

#### Further reading.

<https://www.cdc.gov/tb/publications/ltni/pdf/LTBIbooklet508.pdf>

## **Online decision support tool**

The text below summarizes the content and flow of an online decision aid that can be used by patients or their clinicians to determine which preventive care interventions an individual patient should be offered. After the patient's age is entered, a set of yes-no questions are asked. Then the recommended interventions are listed with a link to information about each recommended service (see above decision supports for each intervention).

.....  
Prioritizing people with certain social characteristics for preventive health care can help improve health. Answering the following questions can determine which preventive care services you should be offered. A list will be generated that you can discuss with a health care provider.

What is your age? [FREE TEXT, NUMBERS 1 TO 150] years

Or

What is your year of birth?

Then ask “Is your birthday on or before {today’s day and month}?”; If no further response, assume birthday is 1 June.

.....

After age is determined, certain Yes-No Toggle switches appear based on the age

Show Block A Yes-No Toggle switches if age 10 to 80

Show Block B Yes-No Toggle switches if age 25 to 70

Show Block C Yes-No Toggle switches if age 50 to 80

Show Block D Yes-No Toggle switches if age 40 to 75

Show Block E Yes-No Toggle if age 10 to 65

Show Block F Yes-No Toggle if age 10 to 39

All toggle switches should be sent to “No” by default. Clicking on Toggle switches should change to Yes. Show users the headings below, but not the labels (e.g. show “Cervical cancer screening” but do not show “Block B” or “B1” or “B2”)

Block A. Social factors that help determine who should be prioritized for care

A1. Do you have a low income or “trouble making ends meet”?

A2. Are you Indigenous, First Nations, Inuit, or Métis?

A3. Are you Black or a person of colour?

A4. Do you identify as Lesbian, Gay, Bisexual, Transgender, Nonbinary, Queer or Questioning, or Two-Spirit?

A5. Do you have functional limitations or a disability?

Block B. Cervical cancer screening

B1. Do you have a cervix (lower part of the uterus or womb that connects with the vagina)?

B2. Have you ever had sex?

Block C. Lung cancer screening

C1. Have you smoked a pack of cigarettes per day for 20 years or more (or the equivalent such as 2 packs per day for 10 years, or half a pack per day for 40 years)?

Block D. Cardiovascular disease

D1. Are you a woman?

D2. Do you have a mental health condition such as depression or schizophrenia?

Block E. Tuberculosis

E1. Did you live in a country other than Canada within the last five years?

E2. [If yes to E1, choose country from list of countries]

The list of countries should match those provided here and also include an Other option:

[https://worldhealthorg.shinyapps.io/tb\\_profiles/?inputs &lan=%22EN%22](https://worldhealthorg.shinyapps.io/tb_profiles/?inputs&lan=%22EN%22)

E3. If Other is selected, provide the list of regions provided in resource above and ask “What region did you live in?”

E4. [If yes to E1] Are you a refugee or refugee claimant?

Block F. Intimate partner violence

F1. Are you a woman?

.....

Based on the responses, the following preventive care options could be discussed with a health care provider:

Colorectal cancer screening [IF age 45 to 74; AND any of Block A yes]

Cervical cancer screening [IF age 25 to 70; AND (both B1 and B2 yes); AND (any of Block A yes OR E1 yes)]

HPV vaccination [IF age 9 to 27 AND any of A yes]

Lung cancer screening [IF age 50 to 80; AND C1 yes; AND any of A yes]

Cardiovascular disease screening including blood pressure measurement [IF age 40 to 75; AND any of A yes OR any of D yes]

Diabetes screening [IF age 40 to 80; AND any of A yes]

HIV and Hepatitis C screening [IF age 18 to 79; AND any of A yes]

Tuberculosis screening [IF age 10 to 65; AND E1 yes; AND E2 or E3 indicate high incidence country total TB incidence rate per 100 000 population greater than 200 or above 50 if refugee based on data at:

[https://worldhealthorg.shinyapps.io/tb\\_profiles/?\\_inputs\\_&lan=%22EN%22](https://worldhealthorg.shinyapps.io/tb_profiles/?_inputs_&lan=%22EN%22)]

Tobacco use screening [IF age 10 to 80; AND any of A yes]

Harmful alcohol use screening [IF age 10 to 80; AND any of A yes]

Substance use screening [IF age 10 to 80; AND any of A yes]

Depression screening [IF age 10 to 80; AND any of A yes]

Dental caries or cavities screening [IF age 2 to 9; AND any of A yes]

Poverty screening [IF age 0 to 9; AND any of A yes]

Intimate partner violence screening [IF age 10 to 80; {AND A4 yes} OR {{{(D1 OR F1 yes) AND (A2 OR A3 yes)}}}]

[Clicking on any of the above recommendations should show, as a drop down, the additional information available in the decision supports for each intervention (see the previous section of this Appendix).

There will also be an option to generate a .pdf of the list of recommended interventions and to share the results by non-secure email.]