



The 2019-2029 Canadian Strategy for Cancer Control (the Strategy) is a 10-year road map to improve the quality and outcomes of cancer care for all people in Canada.

This document is a companion to the Strategy's Priority 1. It highlights **data and evidence** showing the magnitude of gaps in care and where action on cancer control could have the greatest impact across Canada.

As Steward of the Strategy, the Canadian Partnership Against Cancer (the Partnership) is responsible for monitoring and reporting on progress that has been made towards achieving the Strategy's goals. The Partnership is working with partners across the country to develop a set of indicators for measuring progress towards the Strategy's goals and associated targets. They will be used to report to Canadians starting in the fall 2020.



For more information about the Canadian Strategy for Cancer Control, visit partnershipagainstcancer.ca/cancer-strategy

Decrease the risk of people getting cancer

ACTION 1:

Help people to stop smoking or not start in the first place and live healthier lives.

ACTION 2:

Adopt proven practices known to reduce the risk of cancer.



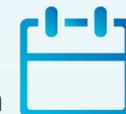
Up to four in 10 cancer cases are preventable — which means in Canada, up to 40,000 fewer people could develop cancer each year.¹

Ways to reduce cancer risk:

Not smoking

**Smoking causes
1 in 5 cancers**



16%  of people in Canada reported **smoking daily or occasionally**

Smoking varies considerably by

Jurisdiction **14%** in British Columbia  → **62%** in Nunavut⁵ 

Mental health condition **17%** good/very good/excellent mental health → **31%** poor/fair mental health

Data source: Statistics Canada, Canadian Community Health Survey

 **and kills more than 45,000 people each year in Canada**

Smoking has increased among adolescents. % of adolescents aged **16-19 years** who reported smoking 15+ days in the past month:

4.8% in 2017  **7.4%** in 2018⁶

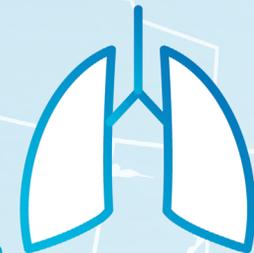
16,000 from lung cancer.^{2,3,4}

\$16.2 billion

Estimated health and economic cost of tobacco use in Canada (\$6.5 billion of which is attributed to direct health care costs)¹⁹

Over **\$9.5 billion**

Estimated cost of cancers caused by tobacco use, physical inactivity and alcohol use¹⁹



Investment in tobacco research reached a peak in 2016 at **\$7 million**⁹

If Canada achieves the national target of **5%** of the population smoking by 2035, there could be:

31,000 fewer people diagnosed with lung cancer by 2035



20,000 fewer people dying from lung cancer by 2035⁵

Beyond its importance for prevention, quitting smoking is one of the best things people who have cancer can do to help improve their chances of benefitting from cancer treatment.

1 in 5

Nearly **5,000**

\$198 – \$295 million

66% (73 of 111)

people diagnosed with cancer are smokers^{7,8}

cancer patients' treatments fail every year due to smoking⁸

annual estimated costs associated with failed cancer treatment due to continued smoking among cancer patients in Canada⁸

of cancer centres in Canada report offering smoking cessation supports to cancer patients

Getting vaccinated

Over 7,000 people each year are diagnosed with cancers caused by infections.¹⁰

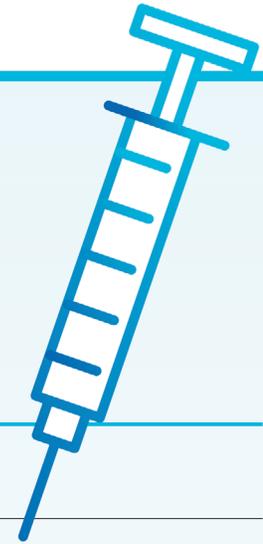
>90% of infection-associated cancers are due to being infected with:

Human papillomavirus (HPV)

Hepatitis B virus

Hepatitis C virus

*Helicobacter pylori*¹⁰



HPV vaccines can prevent more than **90%** of cervical cancer cases

Cervical cancer continues to pose a significant economic toll in Canada, estimated at

\$24 million
per year²⁰

National HPV vaccination uptake = 67%

Vaccination uptake (for final dose) varies by jurisdiction:¹²

Girls

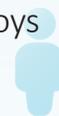


57% in Northwest Territories



92% in Newfoundland and Labrador

Boys



67% in Alberta



90% in Prince Edward Island

If HPV vaccination uptake could be increased from **67% to 90%** there could be:⁵

↓ (+) **23%**

reduction in new cervical cancer cases

↓ (skull) **21%**

reduction in the number of cervical cancer related deaths

The benefits to Canadians and the healthcare system would be even greater if other HPV-related illnesses (e.g., anal, penile, oral cavity and oropharyngeal cancers) that could be prevented were taken into account.

Research investment on infectious agents that cause cancer has increased.



\$6 million
in 2005



\$10 million
in 2016⁹
(**43%** to HPV research)

Eating well

\$13.8 billion

Estimated economic burden (direct and indirect costs) of not meeting Canadian food recommendations²¹

Food insecurity affects the quality and amount of food people eat, which potentially increases cancer risk.⁽¹⁴⁾

8%

of households in Canada reported experiencing food insecurity in 2011-12



37%

Nunavut had the highest rate of food insecurity¹⁵



% of people who reported eating fruit and vegetables 5+ times a day:¹⁶

19%

severely food insecure households

vs

30%

food secure households

By 2042,



Eating more fruits could prevent over 20,000 cancers¹³



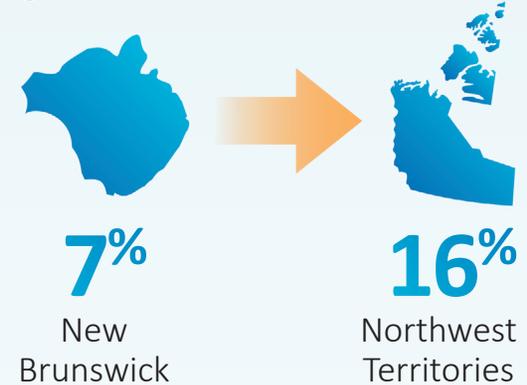
Eating more vegetables could prevent over 10,000 cancers¹³



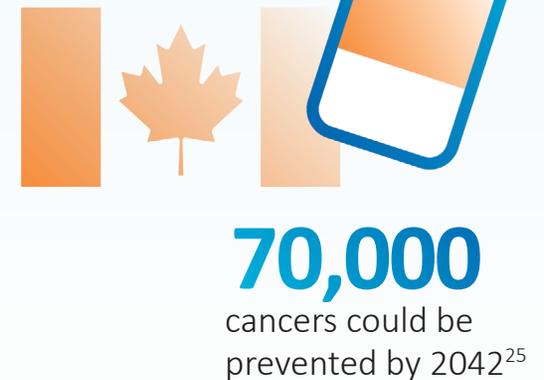
Eating less red and processed meat could prevent approximately 67,000 cancers²²

Limiting alcohol consumption

% of adults who were drinking in excess of Canada's low-risk alcohol guideline in 2015-16

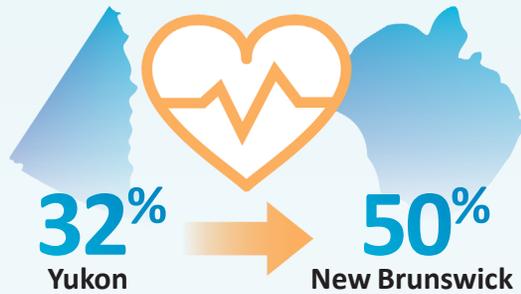


If Canadians drank **50%** less alcohol by 2032,



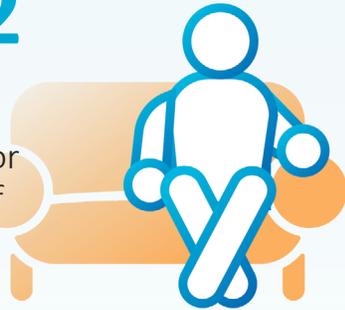
Moving more, sitting less

% of adults who were not meeting Canadian physical activity guidelines in 2015/16



1 in 2

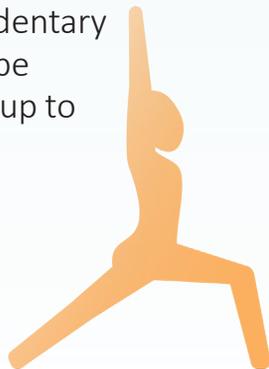
people in Canada are sedentary for **3-6 hours** of leisure time every day²⁴



If leisure-time sedentary behaviour could be reduced by 50%, up to

4,000

cancers could be prevented by 2042²⁴

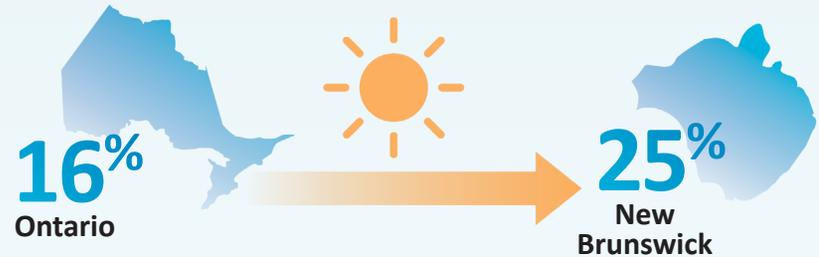


Practicing sun safety

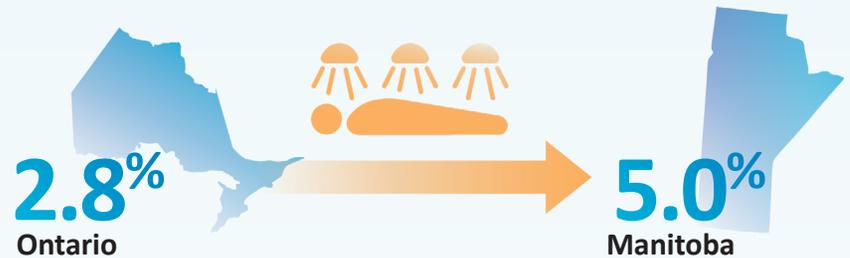


Exposure to solar and artificial ultraviolet radiation

% of people aged 12+ who reported spending 4-6 hours in the sun on a typical weekend or day off in the summer²⁶



% of people aged 12+ who reported using a tanning bed or booth with tanning lamps²⁶



If Canadians reduced their exposure to ultraviolet radiation by **50%**

nearly 12,000

melanomas could be prevented by 2042²⁷

The economic burden (direct and indirect costs) of melanoma and non-melanoma skin cancers is estimated to be

\$922 million by 2031²⁸

The economic burden (direct, indirect and intangible costs) of newly diagnosed occupational non-melanoma skin cancers due to solar ultraviolet radiation is estimated to be

\$29 million²⁸



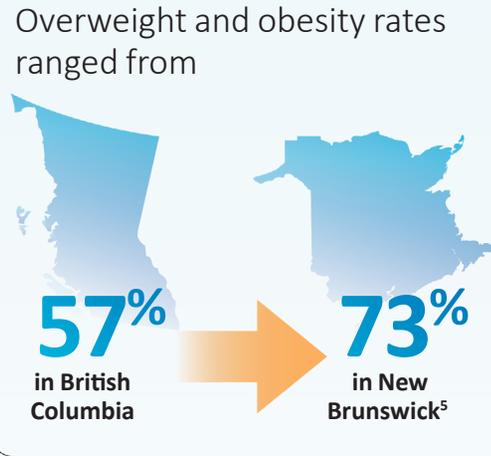
Having a healthy body weight



After smoking, excess weight is expected to become the second leading preventable cause of cancer in Canada by 2042

7% of cancers are due to excess body weight¹⁷

More than **1 in 2** adults were considered **overweight or obese** in 2015-16



If Canadians could reduce their body mass index by one unit, **42,000+** cancers could be prevented by 2042²³

1 in 3 children aged **5–17** were **overweight or obese** in 2017¹⁸



Preventive surgery

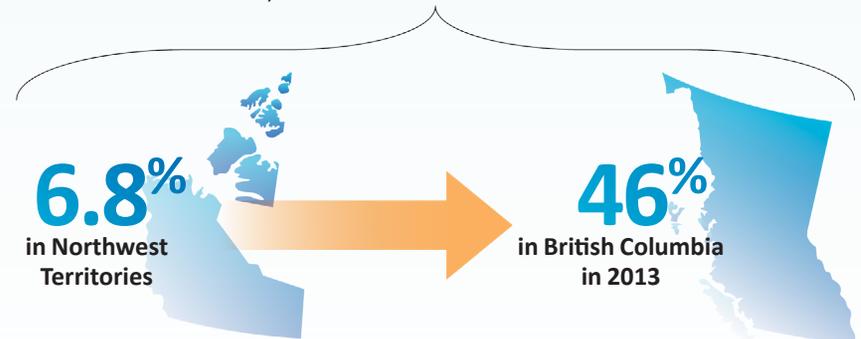
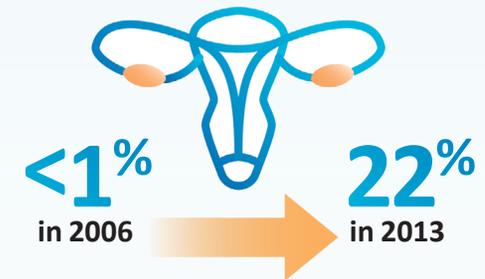
Some people have an increased risk of developing certain cancers because of inherited gene mutations and, in a few situations, preventive surgeries may be used to reduce cancer risk.



Opportunistic salpingectomy – removal of the fallopian tubes during a hysterectomy – substantially reduces the risk of ovarian cancer because many ovarian cancers start in the fallopian tubes. In 2019, 3,000 Canadian women were diagnosed with ovarian cancer and 1,900 died from it.²⁹ Given the high proportion of women who die from this disease and the lack of effective screening for it, finding ways to prevent ovarian cancer is important.

The use of opportunistic salpingectomy has increased in Canada:

(This strategy can only be used when a woman needs a hysterectomy for other reasons.)



What's next? We need more evidence on:

- **Effectiveness and cost-effectiveness of tobacco cessation and avoidance** among the public (including adolescents) and cancer patients
- **Impact of other forms of inhaled substances**, including vaping, cannabis smoking and cannabis edibles
- **Enablers (e.g., individual, social and physical environment, policy) that promote healthy lifestyles** such as healthier diets, safer levels of alcohol consumption, increased physical activity and safer sun practices
- **Availability of, access to and cost-effectiveness of genetic testing** to identify individuals at higher risk of cancer and help them take important steps to reduce their chance of getting cancer
- **Availability and uptake of evidence-based preventive interventions** such as vaccination and preventive surgeries that can reduce risk of certain types of cancer
- **Cancer prevention programs and whether they are delivered in a way that is sensitive to cultural and social norms of communities** in Canada, including First Nations, Inuit and Métis

References

1. Poirier AE, Ruan Y, Volesky KD, King WD, O'Sullivan DE, Gogna P, et al. The current and future burden of cancer attributable to modifiable risk factors in Canada: Summary of results. *Prev Med.* 2019;122:140-7.
2. Canadian Cancer Society. Media backgrounder: ComPARE study [Internet]. Toronto (ON): Canadian Cancer Society; 2019 [updated 8 May 2019].
3. Poirier AE, Ruan Y, Volesky KD, King WD, O'Sullivan DE, Gogna P, et al. The current and future burden of cancer attributable to modifiable risk factors in Canada: Summary of results. *Prev Med.* 2019;122:140-7.
4. Health Canada. Canada's tobacco strategy. Ottawa (ON); 2018.
5. Canadian Partnership Against Cancer. 2018 Cancer System Performance Report. Toronto (ON); 2018.
6. Hammond D, Reid JL, Rynard VL, Fong GT, Cummings KM, McNeill A, et al. Prevalence of vaping and smoking among adolescents in Canada, England, and the United States: repeat national cross sectional surveys. *BMJ.* 2019;365:l2219.
7. Liu J, Chadder J, Fung S, Lockwood G, Rahal R, Halligan M, et al. Smoking behaviours of current cancer patients in Canada. *Current Oncology.* 2016;23(3):201-3.
8. Iragorri N, Essue B, Timmings C, Keen D, Bryant H, Warren G. The cost of failed first-line cancer treatment due to continued smoking in Canada. ARCC Conference; Halifax (NS)2019.
9. Canadian Cancer Research Alliance. Cancer Risk and Prevention Research, 2005–2016. Toronto (ON); 2019.
10. Volesky KD, El-Zein M, Franco EL, Brenner DR, Friedenreich CM, Ruan Y, et al. Estimates of the future burden of cancer attributable to infections in Canada. *Prev Med.* 2019:118-27.
11. Government of Canada. Vaccination coverage goals and vaccine preventable disease reduction targets by 2025 [Internet]. Ottawa (ON): Government of Canada; 2019 [updated 8 May 2018].
12. Canadian Partnership Against Cancer. Cervical Cancer Screening in Canada: Environmental Scan. Toronto (ON); 2018.
13. Poirier AE, Ruan Y, Hebert LA, Grevers X, Walter SD, Villeneuve PJ, et al. Estimates of the current and future burden of cancer attributable to low fruit and vegetable consumption in Canada. *Preventive medicine.* 2019;122:20-30.
14. Testa A, Jackson DB. Food Insecurity, Food Deserts, and Waist-to-Height Ratio: Variation by Sex and Race/Ethnicity. *Journal of Community Health.* 2019;44(3):444-50.
15. Roshanafshar S, Hawkins E. Food insecurity in Canada [Internet]. Ottawa (ON): Statistics Canada; 2018 [updated 7 Sep 2018]. Available from: <https://www150.statcan.gc.ca/n1/pub/82-624-x/2015001/article/14138-eng.htm>.
16. Statistics Canada. Fruit and vegetable consumption, 2017 [Internet]. Ottawa (ON): Statistics Canada; 2019 [updated 30 Apr 2019]. Available from: <https://www150.statcan.gc.ca/n1/pub/82-625-x/2019001/article/00004-eng.htm>.
17. Brenner DR, Poirier AE, Ruan Y, Hebert LA, Grevers X, Walter SD, et al. Estimates of the current and future burden of cancer attributable to excess body weight and abdominal adiposity in Canada. *Prev Med.* 2019;122:49-64.
18. Government of Canada. Tackling obesity in Canada: Childhood obesity and excess weight rates in Canada [Internet]. Ottawa (ON): Government of Canada; 2018 [updated 2018 Feb 21].
19. Canadian Partnership Against Cancer. Commercial tobacco policy pack: Local and provincial/territorial governments. Toronto (ON); 2019.
20. Government of Canada. Economic burden of illness in Canada custom report. Ottawa (ON): Government of Canada; 2019 [updated 24 Nov 2019]. Available from: <https://cost-illness.canada.ca/custom-personnalise/results-national-resultats.php>
21. Lieffers JR, Ekwaru JP, Ohinmaa A, Veugelers PJ. The economic burden of not meeting food recommendations in Canada: The cost of doing nothing. *PLoS One.* 2018; 13(4): e0196333.
22. Ruan Y, Poirier AE, Hebert LA, Grevers X, Walter SD, Villeneuve PJ, et al. Estimates of the current and future burden of cancer attributable to red and processed meat consumption in Canada. *Prev Med.* 2019; 122: 31-9.
23. Brenner DR, Poirier AE, Ruan Y, Hebert LA, Grevers X, Walter SD, et al. Estimates of the current and future burden of cancer attributable to excess body weight and abdominal adiposity in Canada. *Prev Med.* 2019; 122:49-64.
24. Friedenreich CM, Pader J, Barberio AM, Ruan Y, Poirier AE, Grevers X, et al. Estimates of the current and future burden of cancer attributable to sedentary behavior in Canada. *Prev Med.* 2019; 122: 73-80.
25. Grevers X, Ruan Y, Poirier AE, Walter SD, Villeneuve PJ, Friedenreich M, et al. Estimates of the current and future burden of cancer attributable to alcohol consumption in Canada. *Prev Med.* 2019; 122: 40-8.
26. Canadian Partnership Against Cancer. Key statistics: exposure to solar and artificial UVR in Canada. Toronto (ON): Canadian Partnership Against Cancer; 2019 [updated 1 Feb 2019]. Available from: <https://www.partnershipagainstcancer.ca/topics/key-statistics-exposure-to-solar-and-artificial-ultraviolet-radiation-in-canada/#>
27. O'Sullivan DE, Brenner DR, Villeneuve PJ, Walter SD, Demers PA, Friedenreich CM, et al. Estimates of the current and future burden of melanoma attributable to ultraviolet radiation in Canada. *Prev Med.* 2019; 122: 81-90.
28. Canadian Partnership Against Cancer. Economic evidence to support UVR policy. Toronto (ON): Canadian Partnership Against Cancer; 2019 [updated 1 Feb 2019]. Available from: <https://www.partnershipagainstcancer.ca/topics/economic-evidence-to-support-ultraviolet-radiation-policy/#>
29. Canadian Cancer Statistics Advisory Committee. Canadian Cancer Statistics 2019. Toronto (ON); 2019.