

Science, Technology, and the Environment TALKING TOBACCO USE IN CANADA



The World Health Organization (WHO) calls it "the tobacco epidemic." It is one of the biggest public health threats the world has ever faced.

WHO says tobacco kills more than eight million people each year. Some 1.3 million are non-smokers. They are exposed to second-hand smoke.

ECONOMIC COSTS

Tobacco is a leading cause of death and illness. Its use also contributes to poverty. How? People use money needed for food and shelter on tobacco.

There is also a cost in caring for people who become ill from smoking, says Dr. Andrew Pipe of the University of Ottawa Heart Institute. That's because smoking places a huge burden on the healthcare system.

HEALTH RISKS

Smokers are twice as likely as non-smokers to have a heart attack or stroke. They are

also twice as likely to die if they experience these events. Smoking deposits plaque in arteries. That increases the risk of blood clots and reduces the amount of oxygen in the blood.

DID YOU KNOW?

New Brunswick has the highest percentage of smokers (15.8 percent). British Columbia has the lowest, at 8.7 percent.

The more someone smokes, the worse the effects. People who smoke 25 or more cigarettes a day triple their risk of having a heart attack or stroke. They are also five times more likely to die from these ailments.

The National Institute on Drug Abuse in the United States says that long-term smoking negatively affects the brain. It even increases the risk of Alzheimer's disease.

A GOAL OF FIVE PERCENT

In Canada, tobacco use is a leading preventable cause of illness and early death. However, public education is helping to reduce the number of smokers. In 2021, 11.8 percent of Canadians aged 12 or older smoked cigarettes. That's down from 15.8 percent in 2018.

Ottawa Public Health (OPH) would like that number to drop to five percent or lower. It has recommendations for Health Canada to help that happen.

Advertising persuades a lot of people to start smoking, So OPH asked Health Canada to target online advertising and social media influencers. OPH also wants a ban on smoking and vaping on outdoor federal lands. That includes parks, trails, and beaches.

The agency further suggested raising the federal age for buying tobacco, nicotine, and vaping products to 21 years old.

Finally, OPH recommended that Canada permanently ban everyone born after 2008 from purchasing cigarettes.

How would that work? The legal age to buy cigarettes would bump up each year. No one born on or after January 1, 2009, could then ever legally buy cigarettes.

"Those who don't smoke at 14 are highly unlikely to start smoking by 18," says Dr. Pipe.

DID YOU KNOW?

There are about 1.3 billion tobacco users worldwide. About 80 percent live in low- and middle-income countries.

Some people worry that banning tobacco will lead to the illegal sale of cigarettes. Still, there are good reasons to stop young people from gaining access to cigarettes. For one? Nicotine disrupts normal brain maturation.

VAPING ON THE RISE

Teen smoking in Canada has decreased in recent years. However, teen vaping is on the rise. And teens who use e-cigarettes are more likely to try smoking. They also have a greater risk of becoming daily smokers. That's what a 2017 Canadian study found.

Most e-cigarettes still contain nicotine. They contain other dangerous substances, too. "Overall nicotine use is going up when you include both smoking and e-cigarettes," says Rob Cunningham of the Canadian Cancer Society. "We don't even know yet the long-term harms [of e-cigarettes]. Kids are getting addicted in shockingly high numbers."

Nearly half of Canadians aged 20 to 24 have tried vaping, studies show. So have about one-third of those aged 15 to 19.

Many provinces are banning flavoured vape products. They hope that will limit vaping's appeal. Some 63 percent of those who had vaped in grades 7 to 12 used a fruit flavour most often.

STRONG MESSAGING

Warnings will be printed on individual cigarettes in Canada starting in July 2024. The messages? "Poison in every puff," "Cigarettes cause cancer," and "Tobacco smoke harms children."

We've had warnings on cigarette packs since 1972. And in 2001, we forced tobacco firms to print warning pictures on packaging, too. But Mr. Cunningham says that the new measure is different.

"The health messaging will be there during every smoke break. It will reach youth who experiment by borrowing cigarettes from a friend."

POISON STICKS

Nicotine is found in tobacco and most vaping products.

Inhaled smoke delivers nicotine to the brain. The nicotine hit releases dopamine, a hormone that makes people feel good temporarily. Nicotine can also make the adrenal gland release adrenaline into the body, giving some people sudden energy or focus. Because nicotine hits the brain quickly, "feeling good" is closely tied to "smoking". So the behaviour is reinforced.

Because the good feelings don't last, the brain wants another hit. And each hit exposes users to all of the toxins in cigarettes.

Youth are at higher risk of nicotine addiction since their brains are still developing. Nicotine can harm a teenager's memory and ability to concentrate. It can also lessen the ability to control impulses.

Montrealer Giovany Lincourt, 40, doubts that will work. He has been smoking since age 16.

"A photo of a black lung hits me, but I still continue because it's a bad habit," he says.

Still, it's worth a try.

"Nicotine is the most addictive drug we have in our community," says Dr. Pipe. "It takes only hours after an individual learns to inhale to become addicted." ★

COMPREHENSION QUESTIONS

1. What is **nicotine**? Explain.

2. Why is nicotine so addictive? Explain how it affects people.

3. Why is nicotine addiction especially harmful to youth?

4. How many people use tobacco? Where do most of these people live?

5. How many people does tobacco kill each year? How many are non-smokers?

6. List at least four ways how tobacco use can affect a person's health.

7. How does tobacco use contribute to poverty?

8. How does tobacco use affect the health care system?

9. Which Canadian province or territory has the highest percentage of smokers? Which has the lowest?

10. What two policies have Canadian authorities introduced recently to try and reduce smoking?

QUESTIONS FOR FURTHER THOUGHT

1. Over the years, there have been a number of campaigns in Canada to add health warnings, both written and visual, to cigarette packaging in an effort to discourage smoking. Recently, the federal government announced plans to print written health warnings on individual cigarettes, making Canada the first country to do so: https://www.cbc.ca/player/play/2219235907516 [2:06]

For what reasons are you in favour of this new measure? For what reasons are you opposed? Overall, do you believe that this new strategy will be effective or ineffective? Explain.

2. The article discusses the economic costs of tobacco use, namely impoverishment and health care. As you see it, how might these economic costs affect other Canadians who are non-smokers? Give examples to support your ideas.

3. Given the addictive nature of smoking, and the associated health risks and economic costs, what reasons can you suggest to explain why the federal government hasn't taken a harder line on the availability of tobacco products? What do you believe would be the most effective way to discourage people from smoking? Give reasons to support your response.

QUESTIONS FOR ONLINE EXPLORATION

Note: The links below are listed at **www.lesplan.com/links** for easy access.

1. Watch this video from the World Health Organization (WHO) about the effects of tobacco on humans and the planet:

https://www.yout-ube.com/watch?v=d3RemnDHS90&list=PLD163320D683D386F [1:03]

Which ideas surprised you?

2. Health Canada and The Center for Disease Control (U.S.) have dedicated websites for educating the public about the effects of smoking and vaping: https://www.canada.ca/en/health-canada/services/smoking-tobacco.html https://www.canada.ca/en/services/health/campaigns/vaping.html https://www.cdc.gov/tobacco/multimedia/index.htm

What did you learn?

3. Unsmoke Canada is an organization dedicated to reducing the number of smokers in Canada. Explore this site: https://www.unsmoke.ca/

4. How does smoking cigarettes affect your body?
https://www.yout-ube.com/watch?v=AdJojiiXy10&feature=youtu.be [1:28]

Which of the ideas presented would discourage more people from smoking?

5. The Canadian Paediatric Society has researched and developed recommendations for preventing youth smoking: https://cps.ca/en/documents/position/preventing-smoking

Which of their recommendations do you feel would have the most impact? Why?

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INFOGRAPHIC

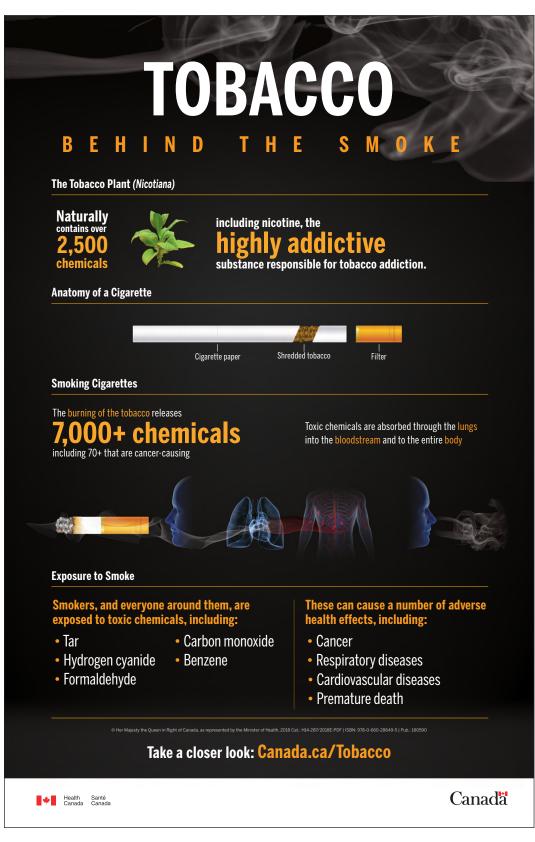


2023/2024: Issue 5

WHAT IN THE WORLD? • LEVEL 1



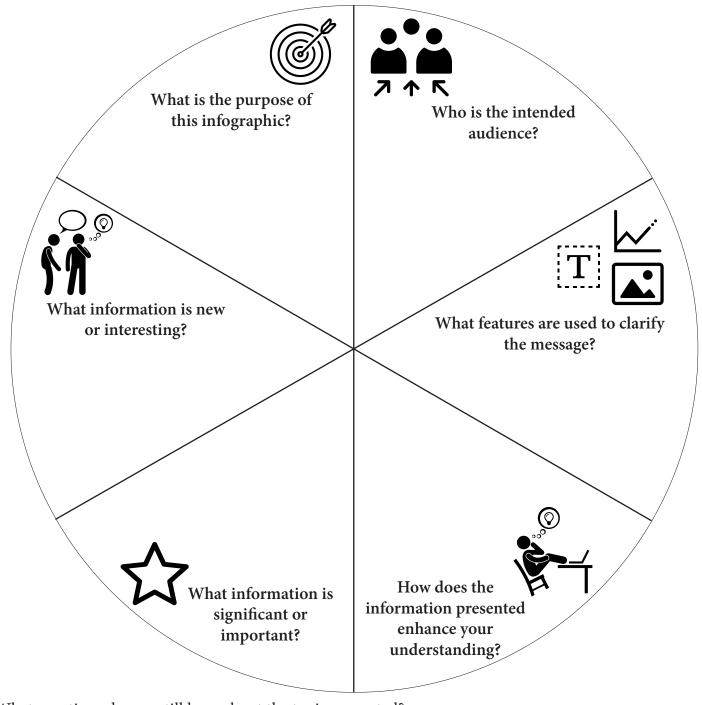
INFOGRAPHIC



 $https://www.canada.ca/en/health-canada/services/publications/healthy-living/tobacco-behind-smoke-infographic.html \label{eq:living} and \label{eq:living$

WHAT IN THE WORLD? • LEVEL 1

ANALYZING AN INFOGRAPHIC



What questions do you still have about the topic presented?

GRAPHING

The latest smoking data from 2021 showed that 12 percent of Canadians aged 15 and older smoked cigarettes. The data showed that while 14% of males smoked cigarettes, only 11% of females did so.

In 2021, cigarette sales in Canada totaled almost 21 billion, down from over 42 billion in 2001. These overall production figures do not take into account population growth. On a per capita basis, sales have declined over this period, as Canada's population increased from about 31 million in 2001 to 37 million in 2021.

Complete the table below to show:

- a) the total population of Canada in 2021 and the provinces and territories;
- b) the total tobacco sales for each column
- c) the number of cigarettes sold per capita

The following sources will help:

https://www.todocanada.ca/population-in-canada-2021-census/

https://uwaterloo.ca/tobacco-use-canada/adult-tobacco-use/cigarette-sales

2021	Canada	ON	QC	BC	AB	МВ
Population		14,223,942				
Tobacco Sales	20,906,599,707				2,379,100,935	
Cigarettes per person	565		690			

2021	SK	NS	NB	NL	PE, NU, NT, YT
Population	1,132,505				
Tobacco Sales			464,636,285		
Cigarettes per person					486

Use a separate sheet of paper to complete the following assignment:

1. Create a bar graph to show the population for each province and territory. Shade each bar red. Do not include the national statistics from the Canada column.

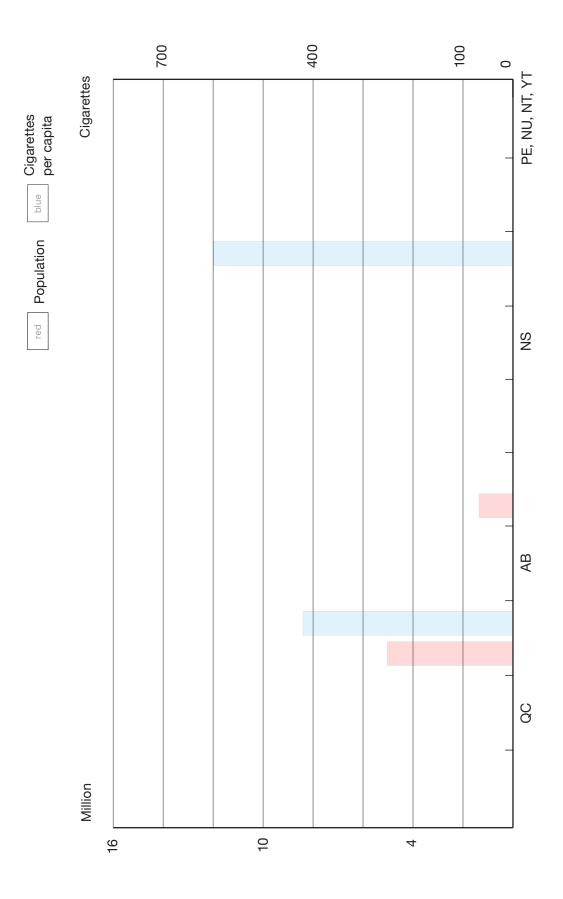
2. Create a companion bar to show the number of cigarettes sold per capita for each province and territory. Shade each of these bars blue.

3. Label your graph with a proper title.

4. Examine your graph. What observations can you make and what conclusions can you draw? Explain

5. What conclusions can you draw to explain regional differences? How does your province or region compare to the national average? To other parts of Canada? Provide reasons to explain why these differences exist.





PUTTING IT ALL TOGETHER

A. Write the letter that corresponds to the <u>best</u> answ	er on the line beside each question:
1. How many people does tobacco kill each a) 1.3 million c) 5 million	year worldwide? b) 3 million d) 8 million
2. Many provinces have banned flavoured _ a) vaping c) nicotine	b) energy drink d) alcohol
 3. Ottawa's most recent policy to discourag a) ban smoking in public parks c) raise taxes on tobacco products 	
B. Mark the statements T (True) or F (False). If a stat support it on the line below. If a statement is <u>False</u> , w	▲
4. True or False? Tobacco use contributes to	poverty.
5. True or False? Vaping products do not cor	ntain nicotine.
6. True or False? The overall rate of nicotine	use is going up in Canada.
C. Fill in the blanks to complete each sentence.	
7. There are some billion	n tobacco users worldwide.
8. Smoking places a huge burden on the	care system.
9	has the lowest percentage of smokers. (2)
D. Respond to the following question in paragraph f	form. (Use a separate sheet of paper if necessary.)
10. As you see it, what is the most effective strategy to support your response.	discourage teens from smoking? Give reasons to