



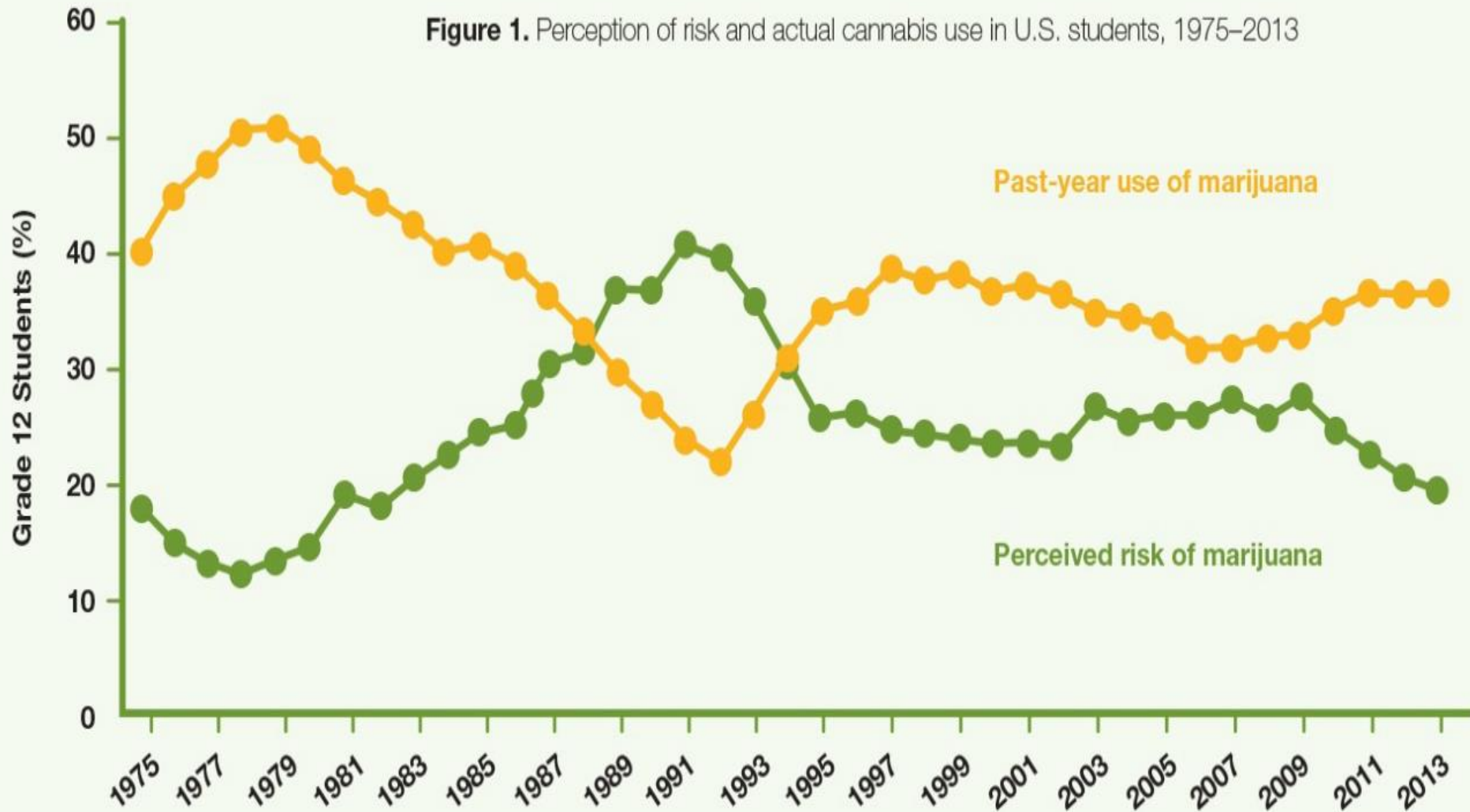
# RECREATIONAL MARIJUANA

**Dr. Tunde Apantaku**  
Child, Youth & Family Clinic - PSYCHIATRY

# Extent of Cannabis Use

- 2<sup>nd</sup> most commonly used legal drug (after alcohol) among 15-24 years age group
  - More than **one in 20 Canadians** ages 15–24 met the criteria for cannabis use disorder
  - 1/4 Canadian youth report past-year use
    - 30% use cannabis daily or almost daily during the past 3 months
  - Generally many NOT concerned about this pattern of use for the common view of cannabis—  
“natural, safe and not addictive”

# Perception of risk and Use



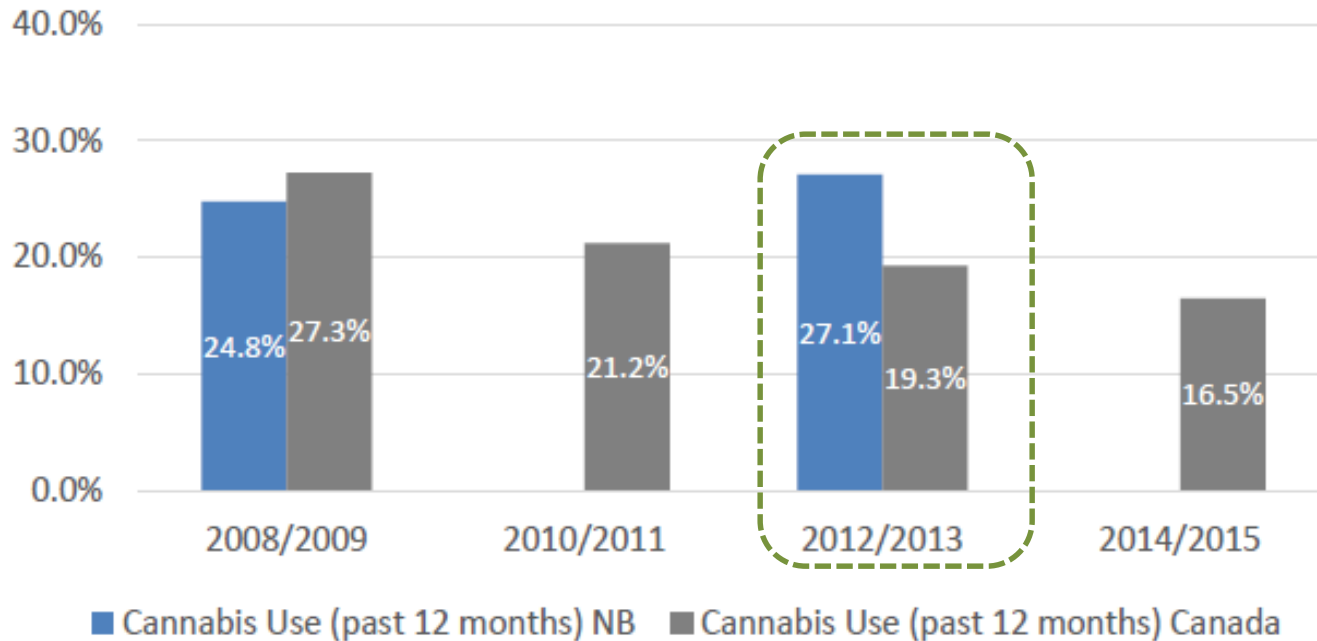
# IS MARIJUANA SAFE IF IT IS 100% NATURAL?





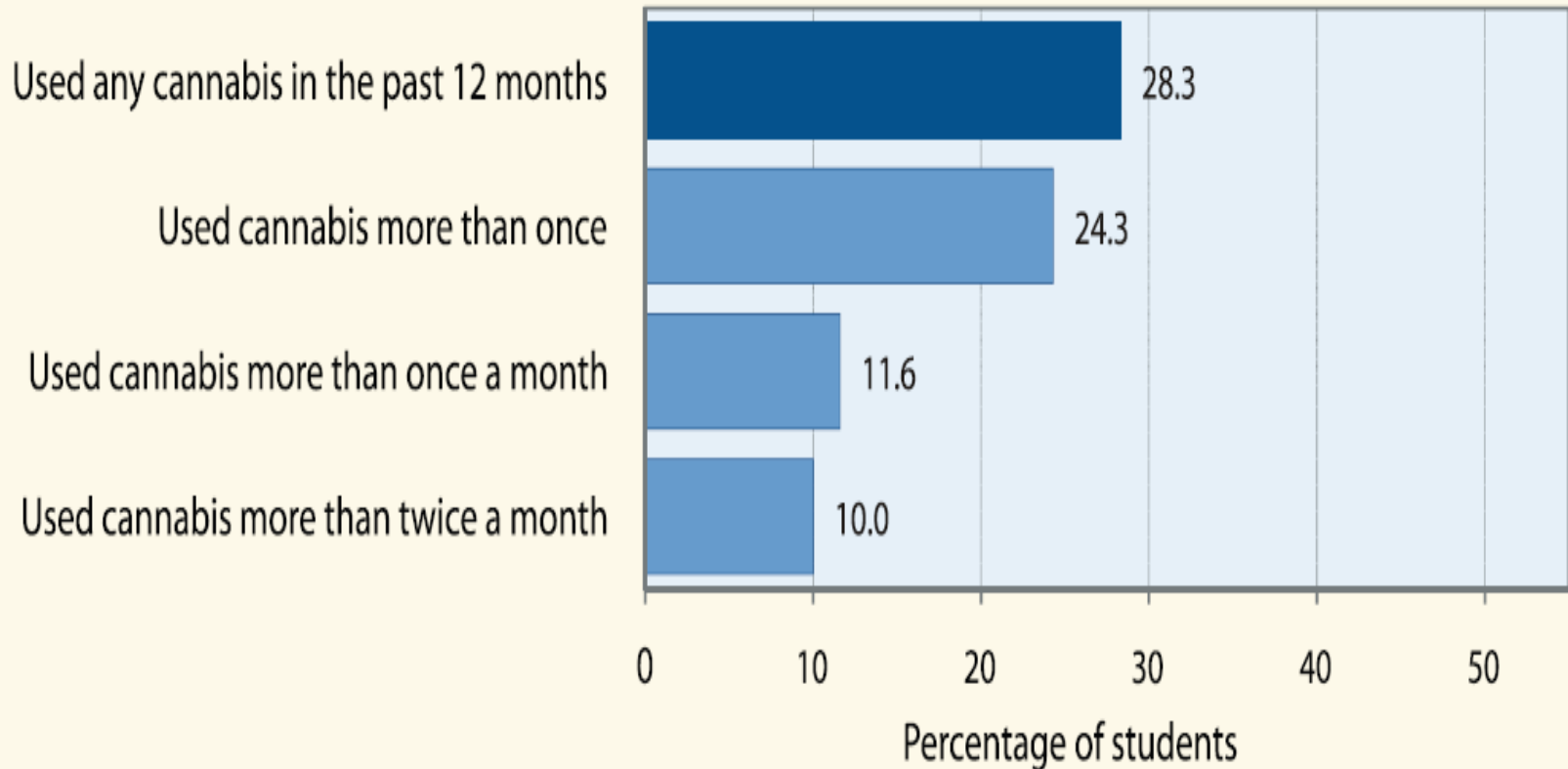
**SYNTHETIC CANNABIS** products are frequently labeled **“not for human consumption,”** attempts to circumvent drug laws in jurisdictions where they are sold

Figure 9: Cannabis Use in the past 12 months in NB and Canada, Grades 7-12 students, 2008-2014/15 CSTADS



## In Brief: Tobacco, Alcohol and Drug Use in New Brunswick and Canada, Canadian Student Tobacco, Alcohol and Drugs Survey

**Figure 5.1: Cannabis use in the past year, New Brunswick, 2012**



# Technical Report (2015)

- Focuses on youth who use cannabis daily or almost daily
  - Reviewed the abundance of information circulating about cannabis from various perspectives to clearly identify what we know, what we do not yet know and what evidence is emerging about the effects of cannabis use during adolescence.
- **Conclusions:** harm reduction efforts— decrease number of users or delay start of use for those who choose to use.



Canadian Centre  
on Substance Abuse

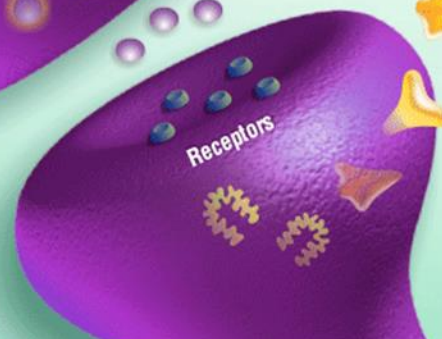
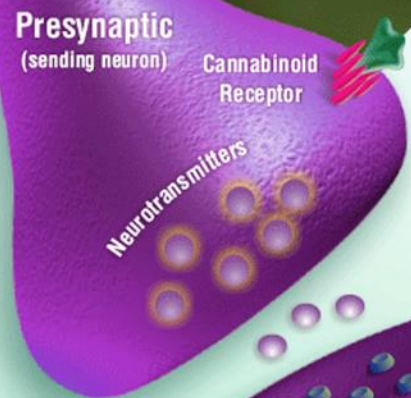
Partnership. Knowledge. Change.



# The Human Endocannabinoid System

CBD, CBN and THC fit like a lock and key into existing human receptors. These receptors are part of the endocannabinoid system which impact physiological processes affecting pain modulation, memory, and appetite plus anti-inflammatory effects and other immune system responses.

The endocannabinoid system comprises two types of receptors, CB1 and CB2, which serve distinct functions in human health and well-being.



Tetrahydrocannabinol



Cannabidiol



Cannabinol



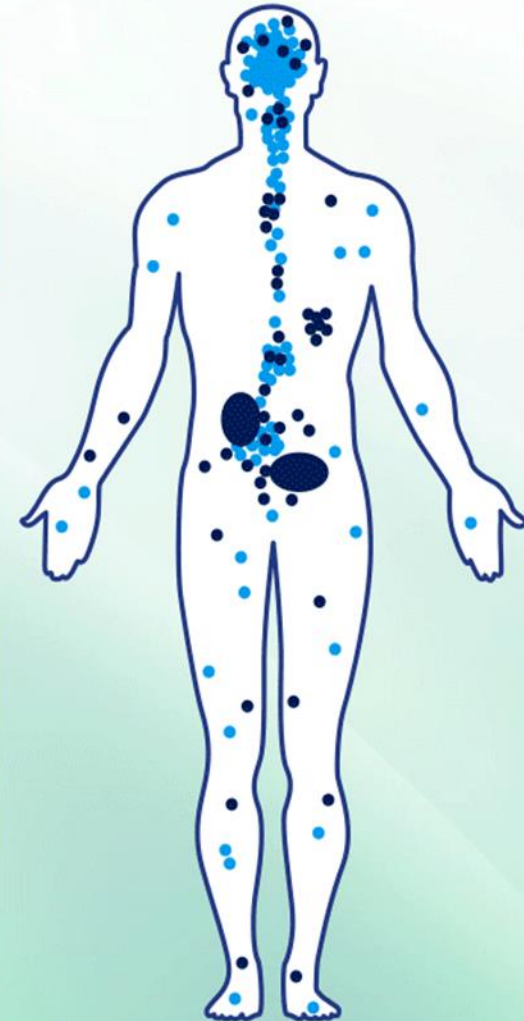
CB1 receptors are primarily found in the brain and central nervous system, and to a lesser extent in other tissues.

CBD does not directly "fit" CB1 or CB2 receptors but has powerful indirect effects still being studied.



CB2 receptors are mostly in the peripheral organs especially cells associated with the immune system.

## Receptors are found on cell surfaces



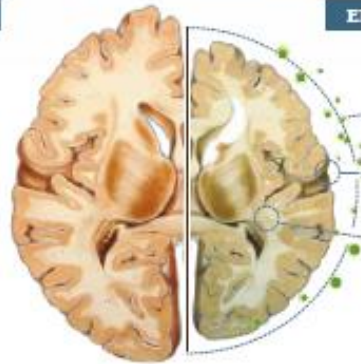
# Adolescent brain

- Rapid and extensive development until a person reaches his or her mid-twenties.
  - Vulnerable to the negative effects of cannabis use

THE BRAIN  
IS NOT  
FULLY  
DEVELOPPED  
UNTIL THE AGE OF

**25**

**NORMAL BRAIN**



**EFFECTS OF THC**

**Reduction of  
brain volume**

**Thinning  
of cortex**

**Changes in  
white matter**

# Mental Health

- There is substantial evidence of a statistical association between cannabis use and the development of schizophrenia or other psychoses, with the highest risk among the most frequent users.
- In individuals with schizophrenia and other psychoses, a history of cannabis use may be linked to better performance on learning and memory tasks.
- Cannabis use does not appear to increase the likelihood of developing depression, anxiety, and posttraumatic stress disorder.
- For individuals diagnosed with bipolar disorders, near daily cannabis use may be linked to greater symptoms of bipolar disorder, than non-users.
- Heavy cannabis users are more likely to report thoughts of suicide than non-users.
- Regular cannabis use is likely to increase the risk for developing social anxiety disorder.



THE HIGHER  
THE THC  
CONCENTRATION  
IS



THE HIGHER  
THE FREQUENCY  
OF USE IS



THE RISK OF PSYCHOSIS  
INCREASES

TO

**40%** **390%**

among  
those who have  
already consumed

among  
intensive  
users



REACTION TIME  
IS IMPORTANT.

Skip Ad ▶



# Cognition and Behaviours

- The **earlier regular** use, the **more impaired** brain nerve connections
  - but for those who began at a later age some of these negative effects were not seen.
- **Greater brain activity while completing tasks**, as compared to non-users.
  - Suggests brain was working harder to perform a task and used more resources to respond.
- **Apathy** results from reduced volume of **frontal brain** (reward processing, **motivation**, self-awareness and decision making).
  - **Great quantity of cannabinoid receptors and is one of the latest brain regions to complete development.**

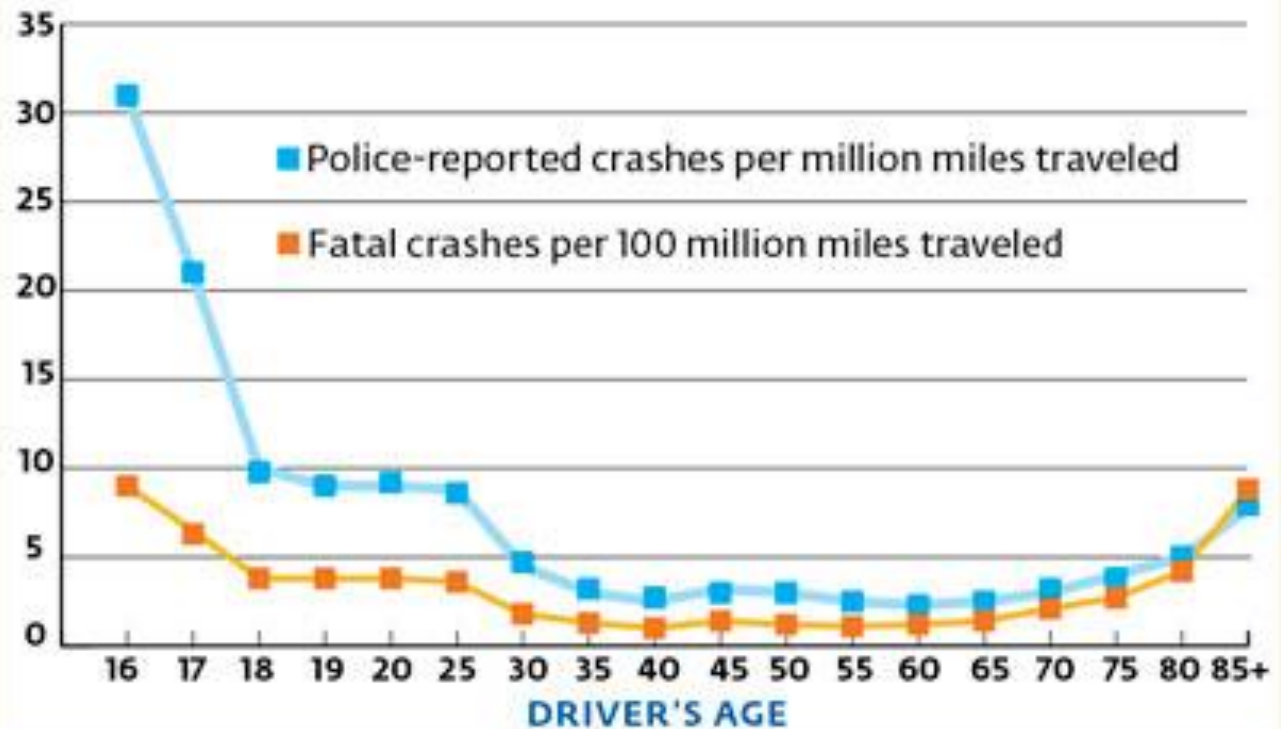
# Effects on Driving

- Deficits in attentional focus, information processing, motor coordination and **reaction time**,
  - unsafe to drive while impaired
  - Drivers who use cannabis attempt to compensate by driving slower,
    - but have reduced control when more complex tasks are involved.



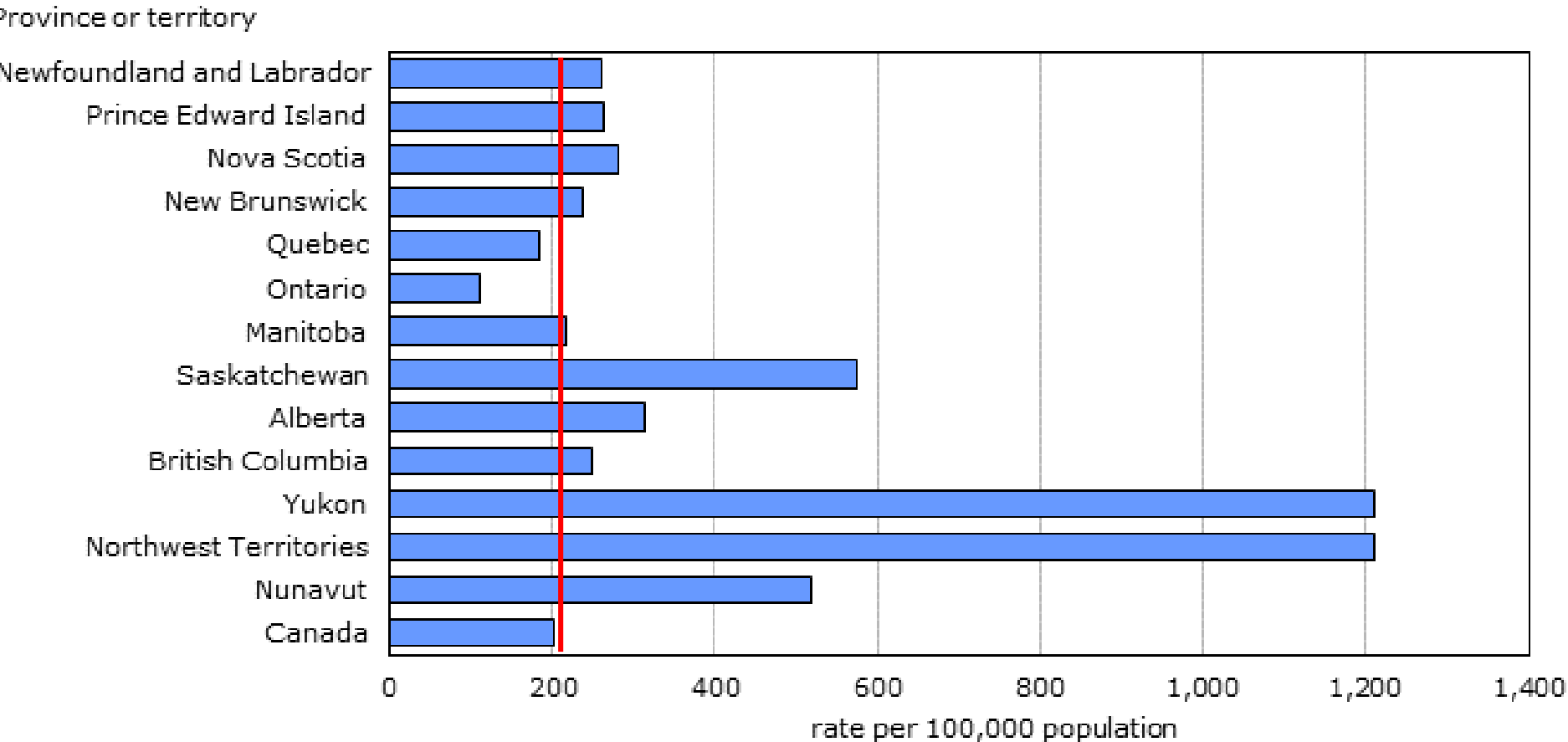
## Dangerous curves: Plotting the problem

The youngest and oldest drivers have much higher rates of highway crashes and deaths than any other age group, according to 2008 government mileage data, the latest available. Drivers ages 16 and 17 are involved in more crashes, and fatality rates rise steeply for those older than 65, with drivers older than 80 being most vulnerable.



Source: National Highway Traffic Safety Administration and Insurance Institute for Highway Safety.

**Chart 1.2**  
**Impaired driving rate, by province or territory, 2015**



**Note:** The different ways in which police services deal with traffic violations can impact police-reported statistics. Counts are based on the most serious offence in the incident. One incident can involve more than one traffic violation under the *Criminal Code*. Populations are based on July 1st estimates from Statistics Canada, Demography Division.  
**Source:** Statistics Canada, Canadian Centre for Justice Statistics, Uniform Crime Reporting Survey.



### **Don't Drive**

Never drive or operate machinery while impaired on cannabis.




### **Don't Mix with Alcohol**

Combining cannabis and alcohol is not recommended.



### **Keep Away from Kids**

Keep children and pets safe by locking up your cannabis products.



‘Gateway’  
drug?

may be a risk factor for  
use of higher-risk  
drugs;

**Similar risk factors**  
leading to cannabis  
use in the first place,  
as opposed to  
cannabis being the  
cause of subsequent  
drug use.

# Risk factors for cannabis dependence

- **Early initiation (by age 15)**
- Male gender
- Low socioeconomic status
- Living alone
- Regular cannabis use
- Persistent tobacco use
- Use of street drugs
- Conduct/Disruptive Behaviours problems
- Number and type of recent negative life events
- **Using cannabis as a coping mechanism**

## Long-term effects

If a teen is using cannabis as a coping method for anxiety, depression or stress, he is more likely to continue this behaviour, if it works for him, and for some, it works immediately. He gains instant relief and gratification. He may think, “When I feel stressed out, I smoke pot and it relaxes me.” Instead of taking time to process and deal with the feeling, he alters it by getting high, which in turn stunts the emotional coping process.

# How can we recognize who will develop dependence?

- **Genes** may account for 55% of determining problematic cannabis use; yet the exact genes and pathways of influence are still unclear.
- **Shared environments** (household influence) account for 18%.
- **Unshared environments** (peer influence) account for 27%.

# How do I know if my teen is using?

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## *Signs to watch for*



Declining school work and grades



Deteriorating relationships with family



Abrupt changes in friends



Less openness and honesty



Abnormal health issues or sleeping habits

**What it comes down to is that you know your teen best.**

**If something doesn't feel right, it probably isn't.**

**Talk to them—early and openly about cannabis.**



# START HERE / *How do I talk with my teen about cannabis?*

## *Sample goals*



Begin an ongoing conversation about my teen's use



Gain insight into the pressures he or she may be facing with drugs



Express concern and support



Gauge how she feels about cannabis in general

## *Words to avoid when talking about cannabis (or any issue with your teen)*

<b>AVOID</b>	<b>INSTEAD, USE</b>
<b>BUT</b> You did well on your report card <b>but</b> I know you can work even harder.	<b>AND</b> You did well on your report card <b>and</b> I know you can work even harder.
<b>SHOULD</b> You <b>should</b> stop smoking pot.	<b>WANT</b> I <b>want</b> you to stop smoking pot, and I'm here to help you.
<b>BAD</b> Smoking pot is <b>bad</b> for you.	<b>HARMFUL</b> Smoking pot is <b>harmful</b> for your health and brain.
<b>STUPID</b> Smoking pot is a <b>stupid</b> choice.	<b>UNHEALTHY</b> Smoking pot is <b>unhealthy</b> for you, and that's why I'm concerned.
<b>DISAPPROVE</b> I <b>disapprove</b> of your hanging out with that group of friends.	<b>CONCERNED</b> I am <b>concerned</b> about your group of friends and worry that they may not be the best influence.
<b>DISAPPOINTED</b> I am <b>disappointed</b> in you for breaking curfew.	<b>WORRIED</b> I am <b>worried</b> about your decision to come home past curfew.
<b>CAN'T</b> You <b>can't</b> come home at 11 p.m. on weeknights.	<b>DON'T WANT</b> I <b>don't want</b> you to come home this late at night anymore.

### *Be patient*

Remember to be clear about your goals, be positive and offer compassion. These skills take practice, so if the talk doesn't go the way you hoped it might, remember that you will have other opportunities to try them. Have more than one conversation, which will give you many opportunities to get it right and improve upon what didn't go so well the last time.