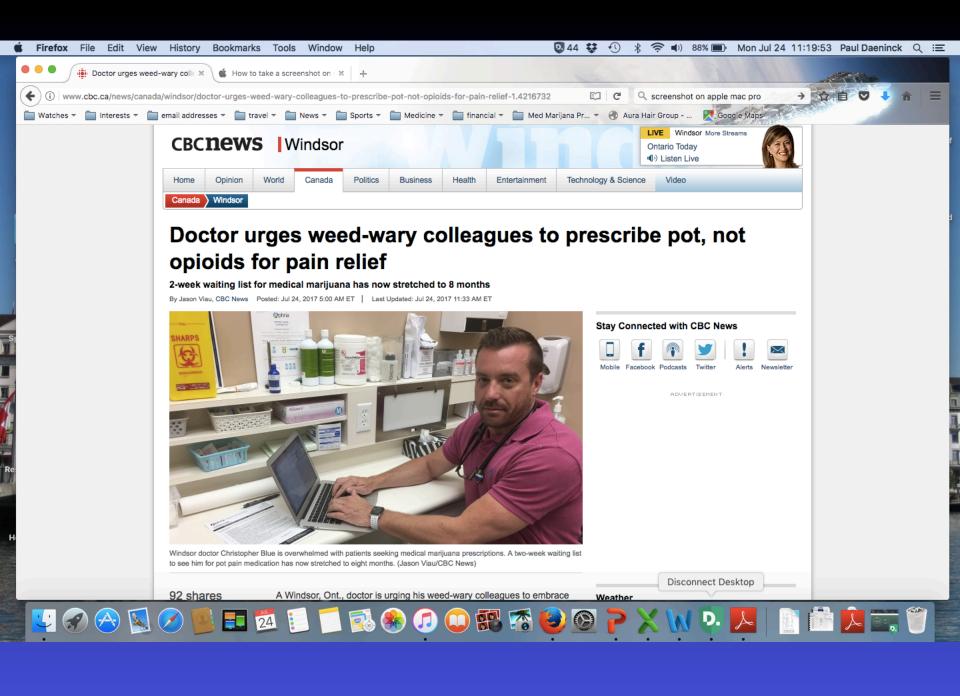


# How to Authorize Medical Cannabis

in Canada



Fig. 1. Structure of cannabinoid receptor agonists and antagonists.



## Prescription cannabinoids

Nabilone (0.25 - 1.0mg)

Oral capsule

Approved for chemotherapy-induced nausea and vomiting Covered by Pharmacare

Nabiximols (2.5mg THC + 2.7mg CBD)

Oromucosal spray

Approved in Canada for multiple sclerosis-associated neuropathic pain, spasticity and advanced cancer pain Not covered by Pharmacare

Dronabinol (Δ-9 tetrahydrocannabinol – THC) (2.5 - 10mg)
Oral capsule

# Authorizing

Why the request? Who will be the user?

History of use (recreational vs therapeutic)

Benefits or adverse effects?

Details of current product

Discussion re: HC ACMPR program

Information re: products, how to use

Precautions re: A/E, driving

#### Medicinal cannabis products

#### Female flowers ("buds") are rich in cannabinoids (e.g. THC)

#### **Smoked**

Herbal cannabis-joints, pipes

#### Vaporized

Herbal cannabis heated to release cannabinoids but prevent burning

#### Oral / buccal

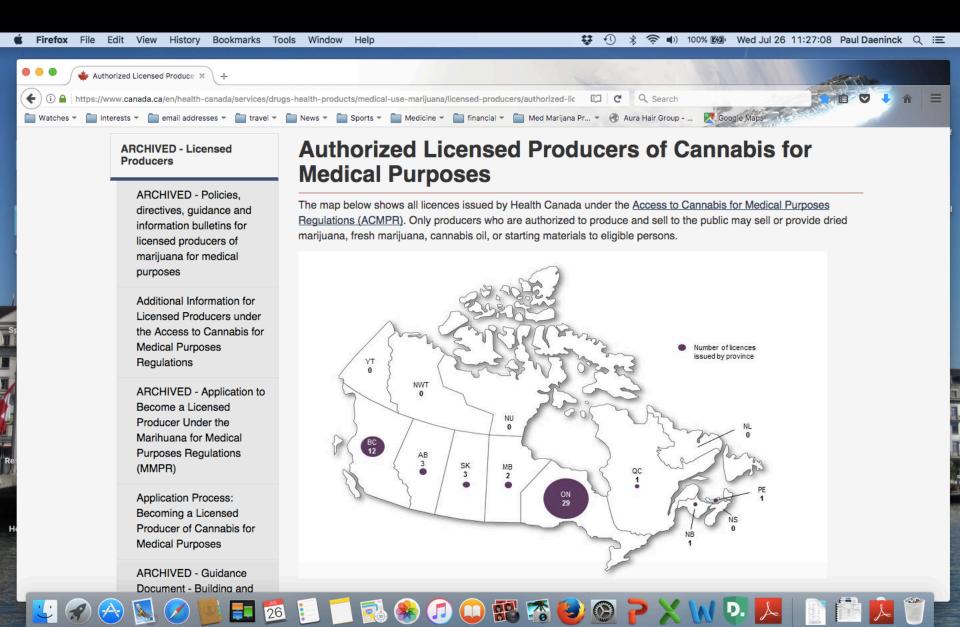
Tinctures (alcoholic extracts)

Oils and edible products (cookies, brownies, etc.)

Sublingual spray (nabiximols by prescription)

#### **Topical**

Balms, lotions and salves



# Cannabis products

Thousands of cannabis strains exist

52 licensed producers listed >300 strains

Most strains developed for recreational use and still use common/street names

AK47, Kush, Sour Diesel, Lemon Haze, Palm Tree

Not all producers have all products all the time HC approving products slowly

## THC vs CBD

### **THC**

CB1, CB2, ?GPR55, VR

Active in CNS

Psychotropic effects

Pain, sleep, nausea, appetite

Principle agent of euphoria or "high"

## THC vs CBD

### **CBD**

TRPV, GPR55; CB2 inverse agonist Glial cell target in CNS No cardiac or memory S/E Moderator of THC effects Potential for drug interaction CYP450 Anti-inflammatory, neuroprotective Anxiety, psychosis, epilepsy, ?cancer

## Cannabis products

Dry cannabis, fresh buds, cannabis oil, gel caps, capsules, and seeds

```
high THC (15-20+%), very low CBD (<1%)
```

mod CBD (9-15%), low THC (1-4%)

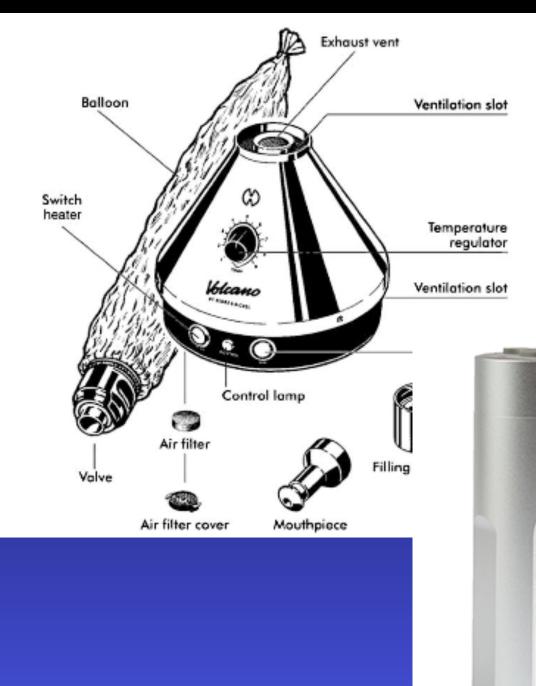
THC=CBD

Oils (THC>CBD, THC=CBD, THC<CBD)

Varying amounts of minor cannabinoids (CBC, THCV, etc.), terpenoids, flavonoids













## Contraindications

#### Contraindications:

Psychosis/schizophrenia

Unstable heart disease

Pregnancy

Age <21-25 y

## Cannabis side effects

#### CV

Tachycardia with acute use Vasodilatation, conjunctival redness, postural hypotension Increased risk of MI (reflex tachycardia in existing CAD)

#### GI

Dry mouth

Decreased gastric/colonic emptying Increased risk of hepatic steatosis/fibrosis (HCV patients) Pancreatitis with chronic, heavy, daily use

#### **Reproductive**

Anti-androgenic, decreased sperm count, motility Association with increased fetal loss, low birth weight, prematurity, neurodevelopmental harms

## Cannabis side effects

#### Respiratory

Cough, sputum, ?COPD with chronic smoking

#### **Psychiatric**

Acute psychosis, possible earlier onset of schizophrenia in youth ?Worsening of pre-existing anxiety and depression

#### **Neuro-cognition**

Short term reduction in attention, problem solving, judgment, decision making

Driving-collision risk increases with serum THC concentration

#### **Carcinogenesis**

Burning cannabis releases many of the same chemicals as tobacco



# Adverse effects of medical cannabinoids: a systematic review

Tongtong Wang MSc, Jean-Paul Collet PhD MD, Stan Shapiro PhD, Mark A. Ware MBBS MSc

General population considerations:

Comorbidities (medical and psychiatric)

Concomitant use of other meds and substance abuse

General drug considerations:

Very low toxicity/lethality

Most effects short-term; long-term users report fewer AEs

Most common: dizziness, dry mouth, drowsiness

#### Overall:

Poorly studied in medical use

Most AEs from population studies in recreational use



BMJ 2012;344:e536 doi: 10.1136/bmj.e536 (Published 9 February 2012)

# Acute cannabis consumption and motor vehicle collision risk: systematic review of observational studies and meta-analysis

#### What is already known on this topic

Little consensus exists in the scientific literature on how driving under the influence of cannabis affects the risk of a motor vehicle collision in naturalistic settings

#### What this study adds

Acute cannabis consumption nearly doubles the risk of a collision resulting in serious injury or death; this increase was most evident for studies of high quality, case-control studies, and studies of fatal collisions

The influence of cannabis use on the risk of minor collisions remains unclear

These data could help inform policy and interventions tackling road safety and raise public awareness of the collision risks when driving under the influence of cannabis

# Road traffic accidents and psychotropic medication in the Netherlands: a case-control study

Silvia Ravera,¹ Nienke van Rein,² Johan J. de Gier¹ & Lolkje T. W. de Jong-van den Berg²

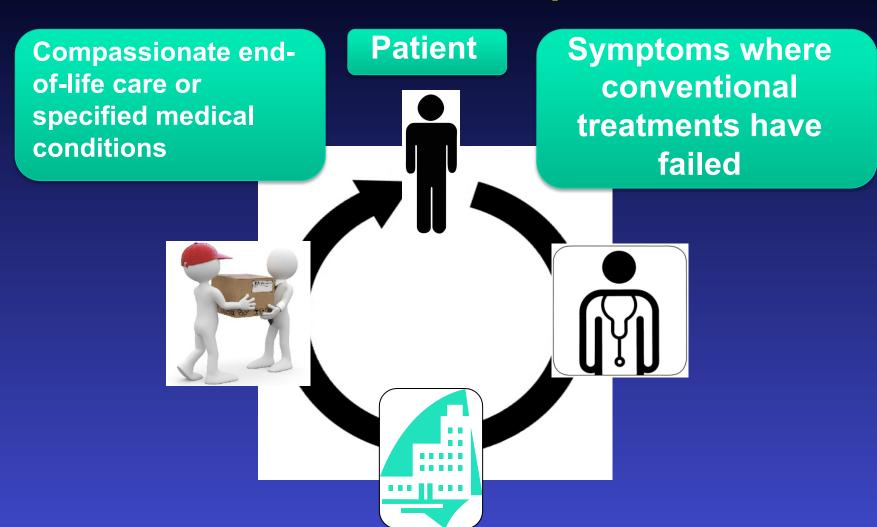
Departments of <sup>1</sup>Pharmacotherapy and Pharmaceutical Care and <sup>2</sup>Pharmacoepidemiolog Pharmacoeconomics, University of Groningen, Antonius Deusinglaan 1, 9713 AV Groninge Netherlands

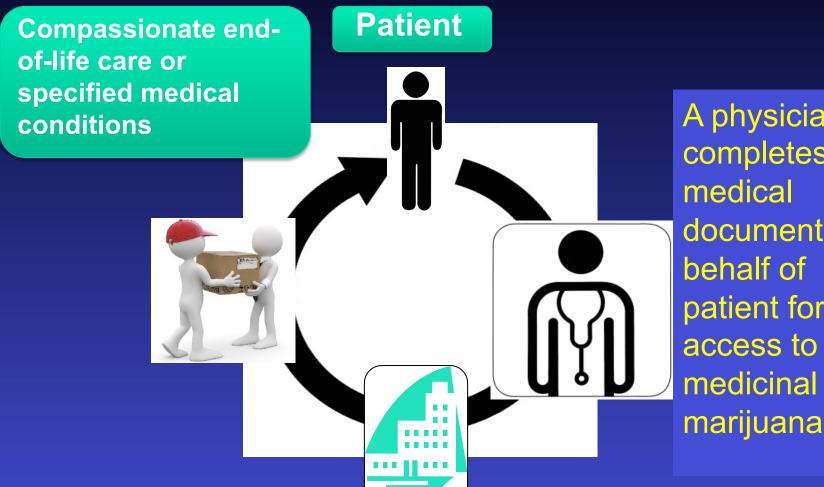
## WHAT IS ALREADY KNOWN ABOUT THIS SUBJECT

- Some psychotropic medications (e.g. benzodiazepines, sedative antidepressants, etc.) can impair cognitive and psychomotor functions and, therefore, endanger traffic safety.
- There is a lack of knowledge concerning the role in traffic safety of first and new generations of psychotropic medications, new and chronic users, young and old drivers, and polypharmacy.

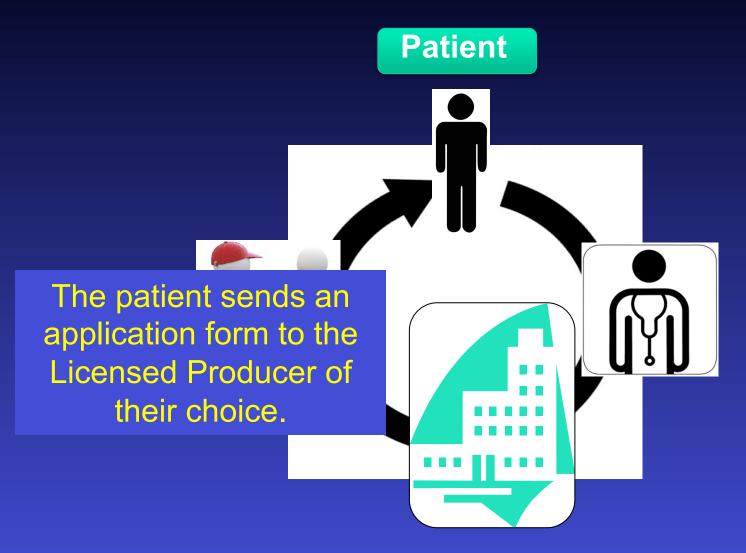
#### WHAT THIS STUDY ADDS

- There is an increased risk of having a traffic accident after being exposed to some psychotropic medicine classes and, in particular, to SSRIs.
- Health care professionals and patients should be properly informed about the potential effects of some psychoactive medications on driving abilities.
- The role of SSRIs in traffic safety has to be investigated further.





A physician completes a document on patient for access to medicinal



**Patient** 



### Licensed Producer

#### **Medical Document**

Please mail or

#### Mailing Address

Part 1 - Health Care Practitioner information		
Name		
Tit	tle Given name(s)	Surname
Profession		
	Medical licence	te number Province licensed to practice
Clinic/Business na	me	
Unit#	Street address	
City	Province	▼ Postal code
Telephone #	Fax#	Email address
Address of consultation (If different from business location) Same as location above		
Unit #	Street address	
City	Province	▼ Postal code
Part 2 - Patient information		
Patient's name		
	Given name(s)	Surname
Date of birth		
2010 01 21111	MM/DD/YYYY	
Part 3 - Written order		
Medical diagnosis (optional)		
Please		
Note: Droduct choice		
Product choice		
The Applicant may access grams of medical marijuana per day for days / weeks / months		
Note: Applicant can possess a maximum of 150g or 30 times their daily amount, whichever is less. The period of use cannot exceed one year and begins the day the Medical Document is signed by the HCP.		
I,attest that the information contained in this document is correct and complete.  Printed name of Health Care Practitioner		
Health Care Practit	tioner's signature	Date MM/DD/YYYY
MINIOUTTI		

Health Care Practitioner Information

Patient Information

Written Order

Physician Attestation, Signature

## Documentation

Document date/place of discussion
Authorization: which LP, what products
copy of authorization form in chart
Follow-up visit regarding benefits/A-E
Outcomes (symptoms, functional state)
Further F/U as necessary

## Summary

Cannabis & cannabinoids have active role in supportive and palliative care

Evidence of clinical benefits in pain, nausea, appetite, inflammation, seizures

Pre-clinical work continues in a wide range of conditions

The field continues to be "interesting"