# The Canadian Medical Cannabis Experience:

A 2019 Patient Retrospective

strainprint™
reports

# Table of Contents

# About Strainprint

**The World's Largest Real-Time Observational Study of Medical Cannabis Use.**

Strainprint is the leading cannabis data and analytics company for real-time data on the efficacy of medical and recreational cannabis consumption. The company provides a variety of tools and analytics to patients and cannabis industry stakeholders to guide decision making processes. Strainprint's mission is to advance the scientific understanding of cannabis to help legitimize and standardize its use.

Strainprint has gathered over 1.4 million patient-reported outcome measures (PROM's or Sessions) from tens of thousands of registered medical cannabis patients across North America. The company enables patients to track their cannabis use in real-time, using Strainprint's free award-winning mobile journaling app (available on Android and iOS devices).

The company maintains a growing library of over 2500 lab-verified cannabis products which are distributed in the medical and recreational supply chains. Featured products are analyzed and catalogued based on chemical composition (including major and minor cannabinoids as well as terpenes).

Using the app, patients report treatment outcomes (pre and post measure of a patient reported symptom) against lab verified cannabis products, the dose consumed, against the route of administration. Over time, patients build a personal use history that's visualized back to them in the Strainprint app. Patients are able to see which products are working best for them by symptom. This data is anonymized to calculate cohort efficacy measures across 300 different medical conditions and 70 associated symptoms.

While Strainprint simplifies interaction for the patient, the data these patients share is unlike any other dataset in the world. Strainprint mobile app users are reshaping our understanding of cannabis as a legitimate targeted therapeutic. With thousands of products available to consumers, it's important to understand which ones are most likely to satisfy individual patient need and why.

Strainprint subscribers access the anonymous dataset through our web based Strainprint Analytics BI platform (https://strainprint.ca/analytics/) and through our internal research team that publishes custom research (https://strainprint.ca/strainprint-reports/). Strainprint Analytics features analysis of over 70 million data points delivering the most comprehensive and valuable source of real-world observational data on medical cannabis use available today. All data resides in Canada on a web-based platform that is HIPAA, PIPEDA & PHIPA compliant.

Strainprint empowers producers, retailers, health care providers, retail pharmacies, dispensaries, formularies, insurance companies, regulators and governments to properly understand patient journeys through the power of crowd sourced data.

**Real-world discovery begins with Strainprint.**

# Disclaimer

The purpose of this report is to share data on subjective patient experiences, not to provide diagnosis or treatment recommendations.

This report will NOT provide you with information related to the specific health risks of individuals, nor is it designed or intended to be a substitute for advice from a medical or healthcare practitioner. No information contained in this report or in any Strainprint software or on any Strainprint website is provided with the intention of giving medical advice or instructions on the accurate use of cannabis. Strainprint does not recommend or endorse any specific products, brands, treatment plans, consumption methods, procedures, opinions or other information that may be mentioned within this report. You should always consult a healthcare professional for medical advice before using cannabis.

# Report Methodology

Data for this report was collected from January 1, 2018 to December 31, 2018, comprised of 805,813 PROM's logged on the Strainprint mobile application.

Data on individual cannabis cultivars (products) are reported only when there are at least ten (10) patients using the product across no less than one hundred (100) PROM's. Data are collected in real-time when a medical cannabis patient consumes cannabis to treat a symptom. Patients enter the symptom they are treating, the product they are using (correlated to the accurate chemical and molecular profile, also called 'lab-verified' profile), estimated dose, route of administration, and how they feel before (baseline) and after they medicate (post-medication). "Efficacy" results are calculated as the difference between baseline and post-medication scores based on a 1-to-10 scale. Strainprint pre-populates its platform with the chemical composition data (comprised of cannabinoids and terpenes) by batch for all products where available.

All data in this report are based on lab-tested and verified products that are available under legal programs in Canada.

**Efficacy results were calculated as follows:**

Efficacy = (Calc 1 + Calc 2) / 2
Calc 1 = $(x - y) / x$
Calc 2 = $(x - y) / 10$

Where X=severity prior to medicating and Y=severity post medicating (both based on a 1-to-10 scale).

Statistical analyses conducted in Q Research Software included Chi Square tests and t tests to identify significance at the standard P value level of $p=0.01$. Statistical significance is noted as follows: $*p<0.01$.

# Cannabis in Canada

When Strainprint began collecting data, designated medical cannabis patients were authorized to use cannabis for therapeutic purposes under the Canadian Access to Cannabis for Medical Purposes Regulations and the Medical Marijuana Access Regulations (ACMPR and MMAR) programs.

On October 17, 2018, the Federal Government implemented Canada's Cannabis Act, which now governs Canada's legalization of adult use recreational cannabis. The Cannabis Act provides the framework that allows Canadian healthcare practitioners to authorize patients to use cannabis for therapeutic purposes. The medical framework is materially the same as under the previous ACMPR and MMAR regulations and is followed by physicians across the country with some modifications made to improve patient access.

# Cannabis Efficacy

Because clinical trials on cannabis use are still in the early stages, observational data is a way to obtain data from patients that can be utilized for treatment guidance and policy mandates. Data collected by the Strainprint mobile app is amongst the most comprehensive source of patient reported medical cannabis data that exists today, in terms of contribution, frequency and accuracy.

According to Strainprint data, the symptoms most commonly treated with medical cannabis are equally divided between 'physical' and 'psychological' symptoms. This aligns with the current medical understanding of the ECS. Joint pain and muscle pain are symptoms most commonly treated with cannabis according to data obtained through the Strainprint application. Each account for approximately 10% of total Strainprint cannabis sessions, followed by anxiety, which is treated by slightly fewer patients at 8% of total sessions.

## Top Symptoms Treated by Strainprint App Users

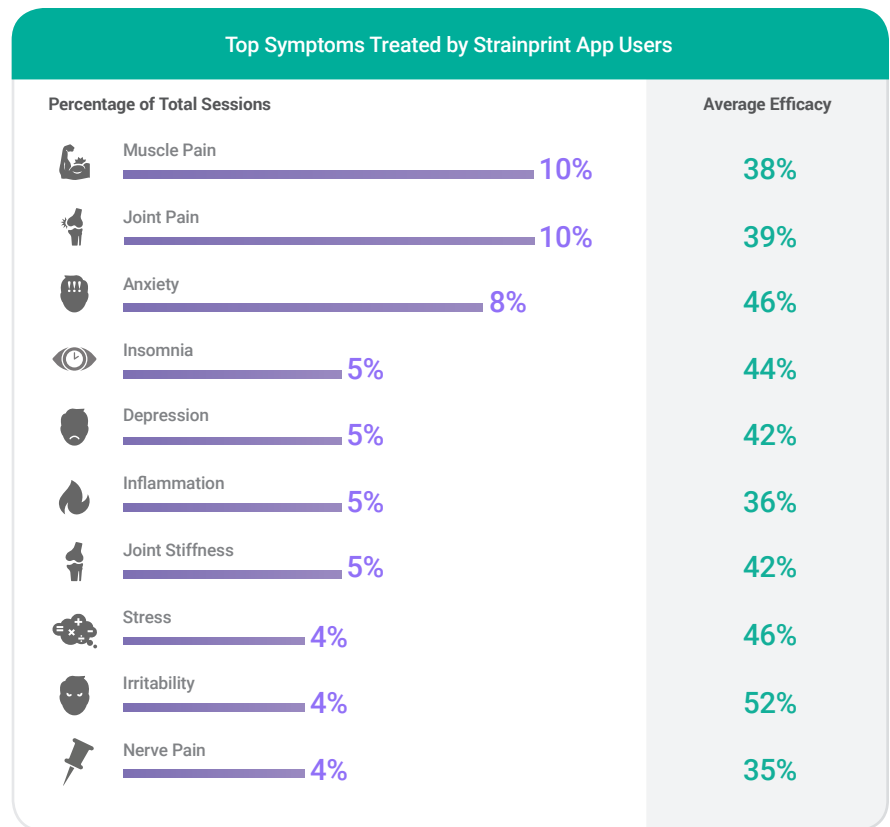| Percentage of Total Sessions | | Average Efficacy |
| --- | --- | --- |
| Muscle Pain | 10% | 38% |
| Joint Pain | 10% | 39% |
| Anxiety | 8% | 46% |
| Insomnia | 5% | 44% |
| Depression | 5% | 42% |
| Inflammation | 5% | 36% |
| Joint Stiffness | 5% | 42% |
| Stress | 4% | 46% |
| Irritability | 4% | 52% |
| Nerve Pain | 4% | 35% |

Chart 1

As **chart 1** shows, although efficacy differs on average across symptoms, patients are getting relief when treating with cannabis. Patients are reporting the highest efficacy for some psychological symptoms including anxiety, depression, and irritability. This does not necessarily mean that cannabis works better for those symptoms compared to others.

Trend analysis of Strainprint data shows that over the course of 2018, there was no significant change in the symptoms treated overall, which speaks to the fact that medical patients remain medical patients and legalization has had no bearing on their medicating. This report will focus on the most commonly treated symptoms.

## The Impact of Cannabinoids, Terpenes and Species on Efficacy

The cannabis plant contains over 400 chemical constituents, comprised of over 113 cannabinoids and nearly 200 terpenes, with approximately 60 cannabinoids and 140 terpenes that are bioavailable.[13,20,21] Early scientific research has shown that each of the hundreds of individual chemical constituents alone, and in varying combinations, can have their own therapeutic properties.[22]