Experience of Pain Patients in Minnesota’s Medical Cannabis Program

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Overview of Minnesota’s Program

- Created by act of legislature 2014; operational July, 2015
- Has a set of qualifying medical conditions and gives Health Commissioner authority to add conditions
- Intractable Pain added Dec, 2015 and became effective August, 2016
- No smokeable or plant form marijuana - only liquids and oils in capsule, tincture, vaporized, or topical form.
- Commitment to learning from experience with the program
Weekly Number of Active Patients

Number of Patients Active in Registry

2019 North American Cannabis Summit
Data Sources

- Pt enrollment/Clinician registration
- Purchases (date, quantity of each standardized, packaged product, intended days supply)
- Symptom rating (all patients asked about 8 symptoms, plus condition-specific questions) and side effects at time of each purchase
- Surveys at six and twelve months (annually thereafter)
Two Comprehensive Reports So Far

- Patients who enrolled during the first year (1660 patients)
  - Participation (counts, conditions, demographics, etc)
  - Purchasing and use patterns
  - Benefits
  - Adverse side effects
  - Affordability

- Intractable Pain patients who enrolled during the first five months after Intractable Pain became a qualifying condition (2245 patients)
  - Sections as above
  - http://www.health.state.mn.ustopics/cannabis/about/ipreport.html
Patients Certified for Intractable Pain: Aug-Dec, 2016 (n=2245)

Age distribution

- 0-4: 2 (<1%)
- 5-17: 8 (<1%)
- 18-24: 63 (3%)
- 25-35: 309 (14%)
- 36-49: 582 (26%)
- 50-64: 847 (38%)
- 65+: 434 (19%)

Gender: M/F 52%/48%
Primary Cause of Pain

- Back pain, axial 23%
- Back pain, radicular 14%
- Fibromyalgia/myofascial pain 10%
- Neuropathy 8%
- Osteoarthritis 7%
- Neck pain 5%
- Migraine Headache 4%
- Trauma 4%
- Other 25%
97% of cohort made at least one purchase; total of 28,800 products purchased

Proportion of all purchases by route of administration: vaporization (54%), enteral (39%), oromucosal (6%), topical (<1%, but added late in observation period)

Proportion of all purchases by THC:CBD ratio: ≥100:1 THC:CBD (57%), >4:1 up to 99:1 THC:CBD (6%), 1:1 up to 4:1 THC:CBD (33%), ≥1.1 up to 99:1 CBD:THC (4%), ≥100:1 CBD:THC (<1%)
Patient-Perceived Benefit at 6-Month Survey (54% response rate)

- No Response: 1%
- 1- No Benefit: 5%
- 2: 3%
- 3: 2%
- 4: 11%
- 5: 17%
- 6: 24%
- 7- Great Deal of Benefit: 37%
Clinician-Perceived Benefit at 6-Month Survey (40% response rate)
Do Perceptions of Benefit Vary by Cause of Pain?

- Benefit ratings by both patients and clinicians appear to be a bit higher for patients whose main cause of pain is fibromyalgia/myofascial pain, rheumatoid arthritis, migraine headache, and neck pain.
- Many pain categories have too few patients to make valid comparisons.
- We will be repeating analyses with data from additional enrollee cohort years.
Symptom Questions Asked for All Patients at Each Purchase

- Anxiety, Lack of Appetite, Depression, Disturbed Sleep, Fatigue, Nausea, Pain, Vomiting

- Scale of 0 (symptom not present) to 10 (symptom as bad as one can imagine) over past 24 hours

- Moderate to severe symptoms ($\geq 4$) at baseline common in the pain patients: Pain (100% - as expected), Fatigue (94%), Disturbed Sleep (91%), Anxiety (77%), Depression (67%), Lack of Appetite (53%), Nausea (47%), Vomiting (20%)
Symptom Questions Asked for All Patients (cont.)

- ≥30% symptom improvement within 4 months of first purchase, among all with symptom score ≥4 at baseline:
  - Vomiting 73%
  - Nausea 64%
  - Lack of Appetite 61%
  - Depression 60%
  - Anxiety 58%
  - Disturbed Sleep 56%
  - Fatigue 45%
  - Pain 28%
Symptom Questions Asked Only for Pain Patients

- PEG Scale (patient-reported 3-item scale assessing pain intensity and interference with enjoyment of life and general activity):
  - 42% achieved ≥30% reduction; 22% both achieved and maintained ≥30% reduction, on average, over next four months
  - A larger proportion showed improvement in pain interfering with enjoyment of life (49%) and general activity (49%) than average pain intensity (35%)

- Clinician pain scale assessment, using clinician’s choice of pain scale. Reported at certification and on six-month survey (40% response rate):
  - 41% achieved ≥30% reduction
Patients Certified for Intractable Pain (Aug-Dec, 2016)

Among patients using opioid medications when they started medical cannabis, 64% were able to reduce or eliminate opioid usage after six months (data from six-month clinician survey – 40% response rate)
Patient Statements Describing Benefits

- “I did feel I was more comfortable socially (taking continuing classes on my own), when normally I would not have considered due to social anxiety. However, I was taking it for pain which it did not help.” (Benefit score = 1: no benefit)

- “The expense prohibited me from trying other formulas. My nerves inflammation/irritation in way low back pain got worse with THC; I believe. No money to try CBD. Could not take long enough to know on the multiple pain issues because of severe nerve irritation and cost.” (Benefit score = 1: no benefit)
“The vaporizer has increased my ability to relax and fall asleep, something I struggled with a great deal due to pain. I have not found the other methods helpful. I do not feel it helps my pain, but simply makes me think about it less?” (Benefit score = 3)

“I am able to enjoy my family again, in 2-3 hour sessions before I am all wiped out. I am able to read for a book club that meets once a month. I am able to create some greeting cards again, and show others.” (Benefit score = 4)
“My pain is less or different. For instance, the pain from the neuropathy in my feet is changed. It is hard to describe. It is still there but manifests itself differently.” (Benefit score = 4)

“It gives me a better personality to get along with others, it takes some of the edge off my pain, it allows me to sit in a recliner for a couple of hours which I could not do before.” (Benefit score = 5)

I was finally able to have somewhat of a normal life with a majority of my pain manageable. I didn’t have to take so many opioids – that I never wanted to take to being with. I could concentrate, I was able to take short walks, and I was able to actually sleep a whole night (Benefit score = 6)
“I am able to function. Before I started medical cannabis I was bed ridden. I was extremely depressed and anxious and both have been under control. I can do the things I enjoy!” (Benefit score = 7)

“Too many benefits to list, but the biggest one for me is being able to get off opiates and all of the other medicines I take for the side effects to opiates. I was taking 8 medications when I started medical cannabis and when I can afford my full dose (of cannabis), there are only 3 prescription medications I need to take.” (Benefit score = 7)
Adverse Side Effects

- According to patient surveys, approximately 40% experienced an adverse side effect.
- 90% were of mild to moderate intensity (severe = interrupts usual daily activities).
- Most common: dry mouth, drowsiness, and fatigue.