

HOPE 4 CHILDREN *with epilepsy*

What have we learned?

Since **Utah** pioneered intelligent cannabis legislation:

- At last report, 113 Hemp Extract Registration Cards have been issued in the State of Utah

Nationally:

- 2 studies have been concluded with “artisan oils”
- 2 Pharmaceutical Trials are underway (one Phase III and the other Phase I)
- 1 Pharmaceutical Clinical Trial has published preliminary results
- 17 States have passed a high-CBD/Low-THC law with ONE veto (Idaho)

Artisan Oil Study Results

1. Retrospective Survey

[Porter, Jacobson Epilepsy Behav. 2013]

- Parent survey of 19 children (2-16 years)
- Dravet syndrome (13), Doose (4), LGS (1), “idiopathic” (1)
- 84% with seizure reduction (2 seizure free)
- 42% with > 80% seizure reduction)

2. Retrospective Study

[Press et al, Epilepsy Behav. 2015]

- 75 patients who have used oral cannabis extracts
- 57% some improvement
- 33% > 50% seizure reduction



Flowering



Foundation

Pharmaceutical Trials

There are currently TWO pharmaceutical trials ongoing in the United States:

- **GW Pharmaceutical: Epidiolex**
 - Phase 1 has been expanded, Phase II has been completed and Phase III is in process.
- **Insys Therapeutics**



GW Epidiolex: Expanded Access Program

GW's Epidiolex Results

Over 137 patients in over 20 centers

Patient Profile:

- 137 patients treated > 3 months (48 patients treated > 24 weeks)
- Age range 2-16 years (mean 10 years)
- Children and young adults with treatment resistant epilepsy with at least 4 convulsive seizures in 28 day baseline period
 - 25 patients with Dravet syndrome (18%)
 - 22 patients with LGS (16%)

Open Label Study Results:

- At 3 months: seizure decrease by 54% for all patients (9% or 12 patients seizure free)
- Seizure decrease by 63% in children with Dravet syndrome (16% or 4 patients seizure free)

Insys

Insys has just finished its preclinical trials and is enrolling patients in the Phase I study. They have not publically released results.

Charlee's Impact

The first Hemp Extract Registration Card was issued on July 8, 2014. As of October 31, 2015, there have been 113 cards issued. Cards expire one year from the issuance date.

The **number of cards issued** by month, between July 2014 and October 2015:

July 2014 = 10

August 2014 = 9

September 2014 = 5

October 2014 = 10

November 2014 = 8

December 2014 = 5

January 2015 = 5

February 2015 = 9

March 2015 = 8

April 2015 = 5

May 2015 = 6

June 2015 = 6

July 2015 = 9

August 2015 = 3

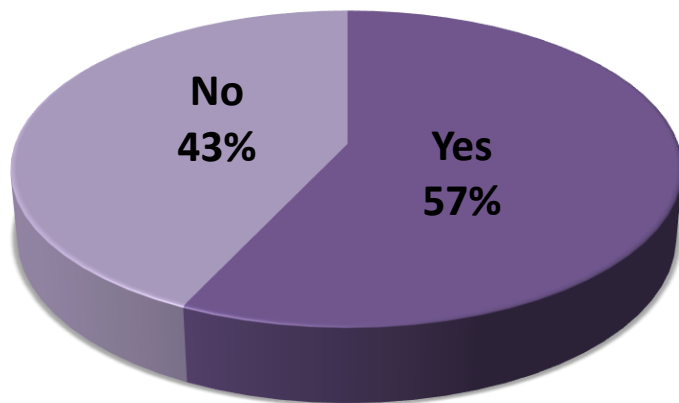
September 2015 = 7

October 2015 = 8

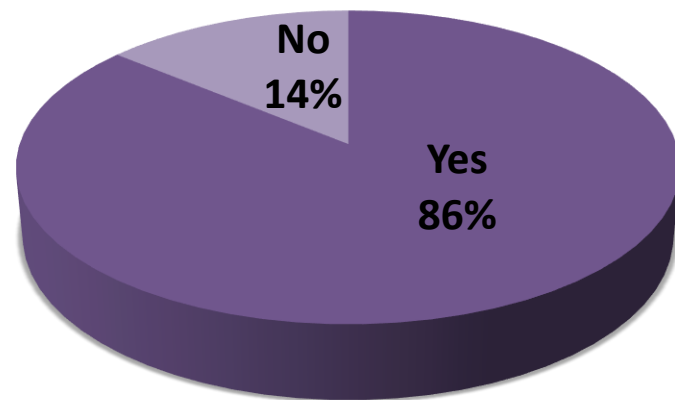
“Charlee’s Law” Results – Efficacy

We asked the following “yes/no” questions of parents of children with intractable epilepsy who have been treated with high-CBD hemp oil. Thirty-Five families answered. November 2015

1. Have your child's seizures decreased by at least 50% while being treated with high-CBD hemp oil? (cannabis oil with less than .3% THC)



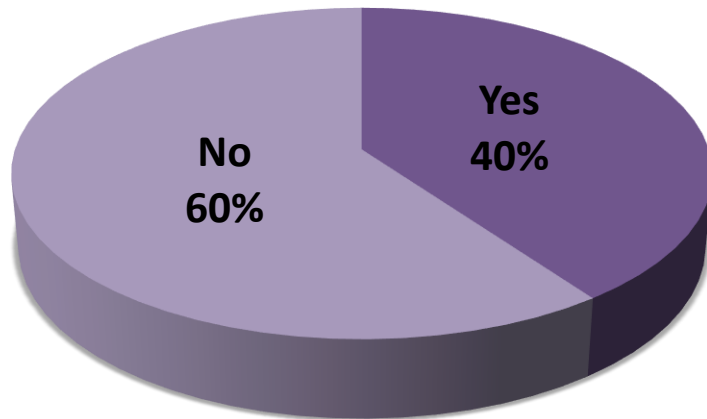
2. Has high-CBD hemp oil been effective enough (in EITHER seizure control OR other benefits) to continue the treatment today?



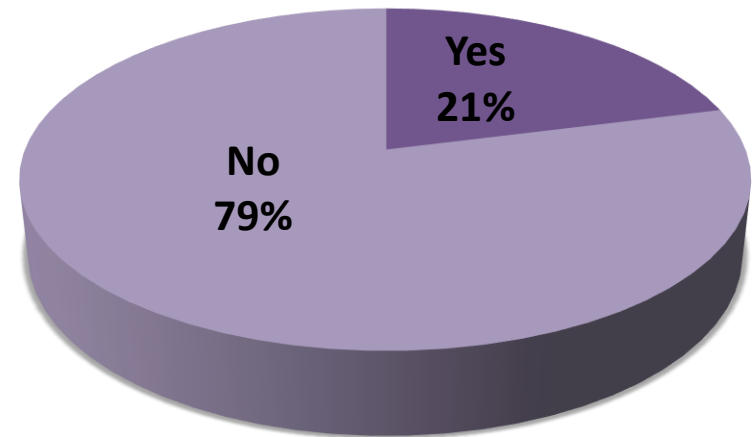
Increased THC Usage & Results

We asked the following “yes/no” questions of parents of children with intractable epilepsy who have been treated with high-CBD hemp oil. Thirty-Five families answered. November 2015

3. Has your child been treated with a cannabis oil higher in THC than hemp oil?
(higher than .3% THC)



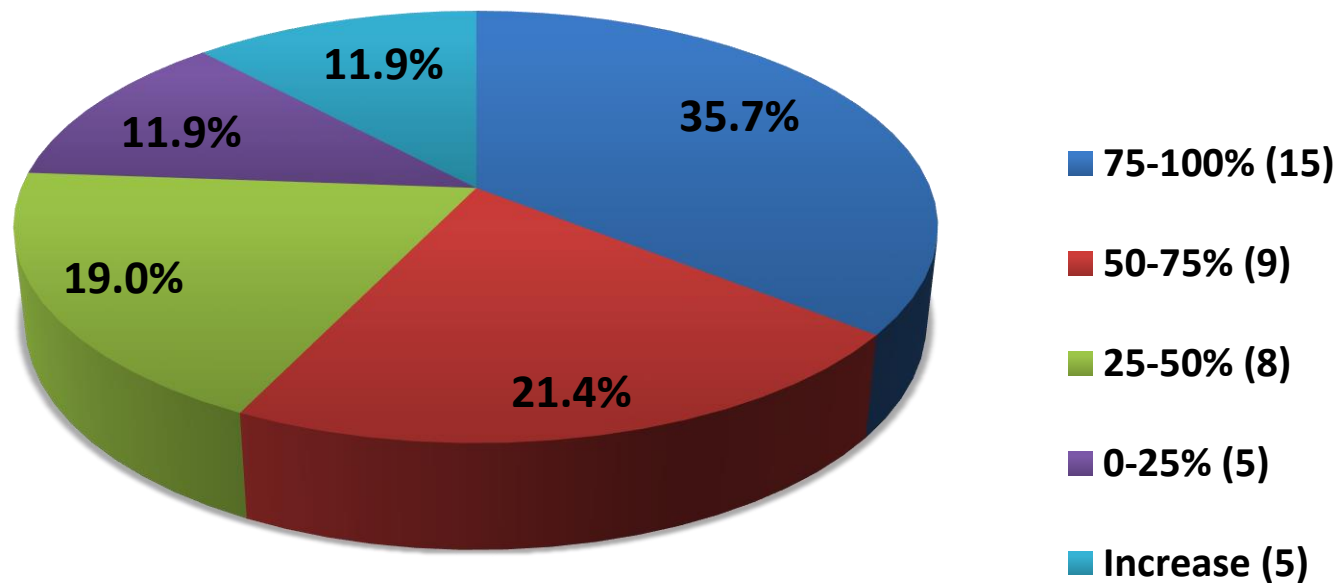
4. To those who answered yes to #3:
Has the higher-THC oil been more effective
(in EITHER seizure control OR other benefits)
than high-CBD hemp oil?



Detailed Survey Results – All Products

Data was self-reported through an online parent survey sent to parents of children with intractable epilepsy who have been treated with high-CBD hemp oil. Forty-two (42) families responded. November 2015

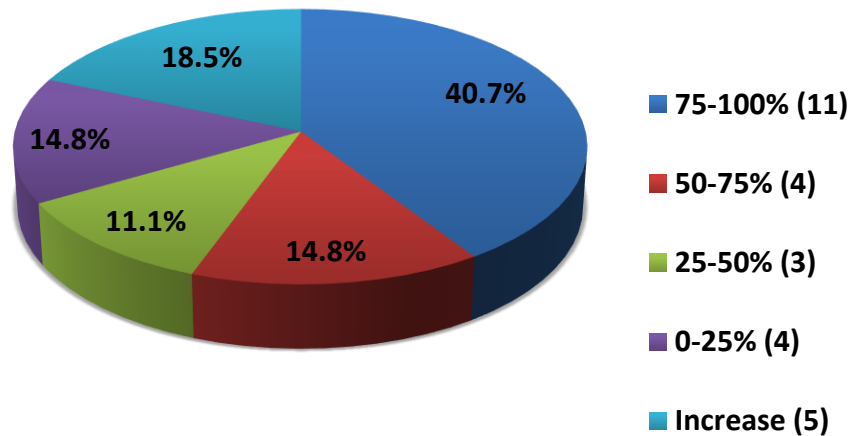
**Seizure Reduction Rates
All Products**



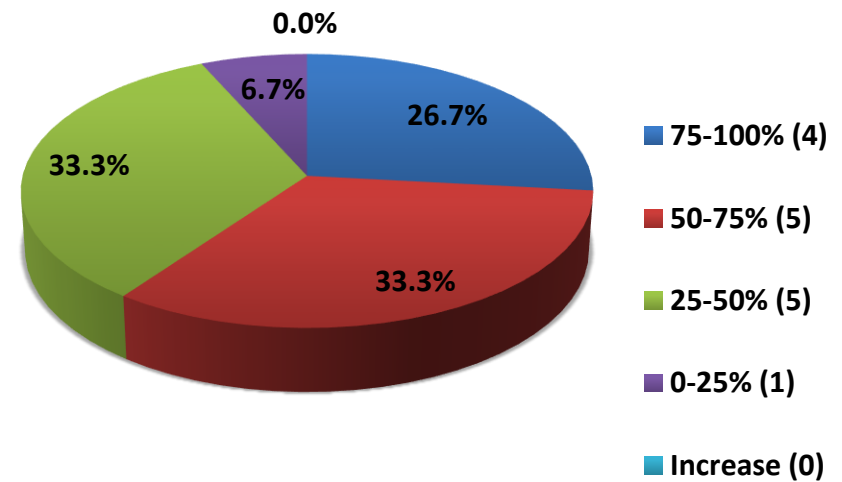
Detailed Survey Results by Oil Type

Data was self-reported through an online parent survey sent to parents of children with intractable epilepsy who have been treated with high-CBD hemp oil. Forty-two (42) families responded. November 2015

Seizure Reduction Rates Artisan Oils



Seizure Reduction Rates Epidiolex

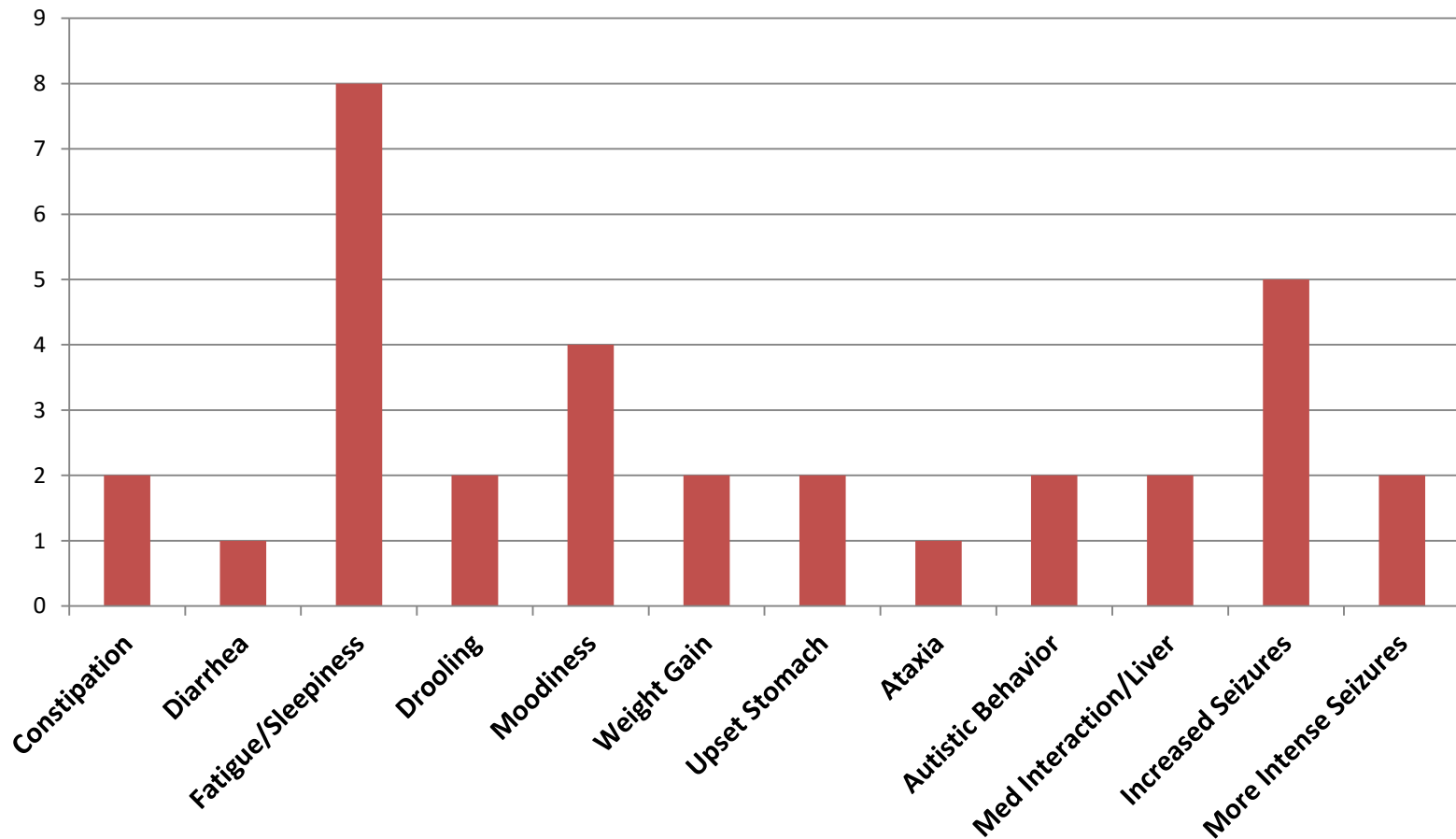


Side Effects Reported

Data was self-reported through an online parent survey sent to parents of children with intractable epilepsy who have been treated with high-CBD hemp oil. Forty-two (42) families responded.

Graph shows number of patients reporting each side effect (out of 42 total).

November 2015

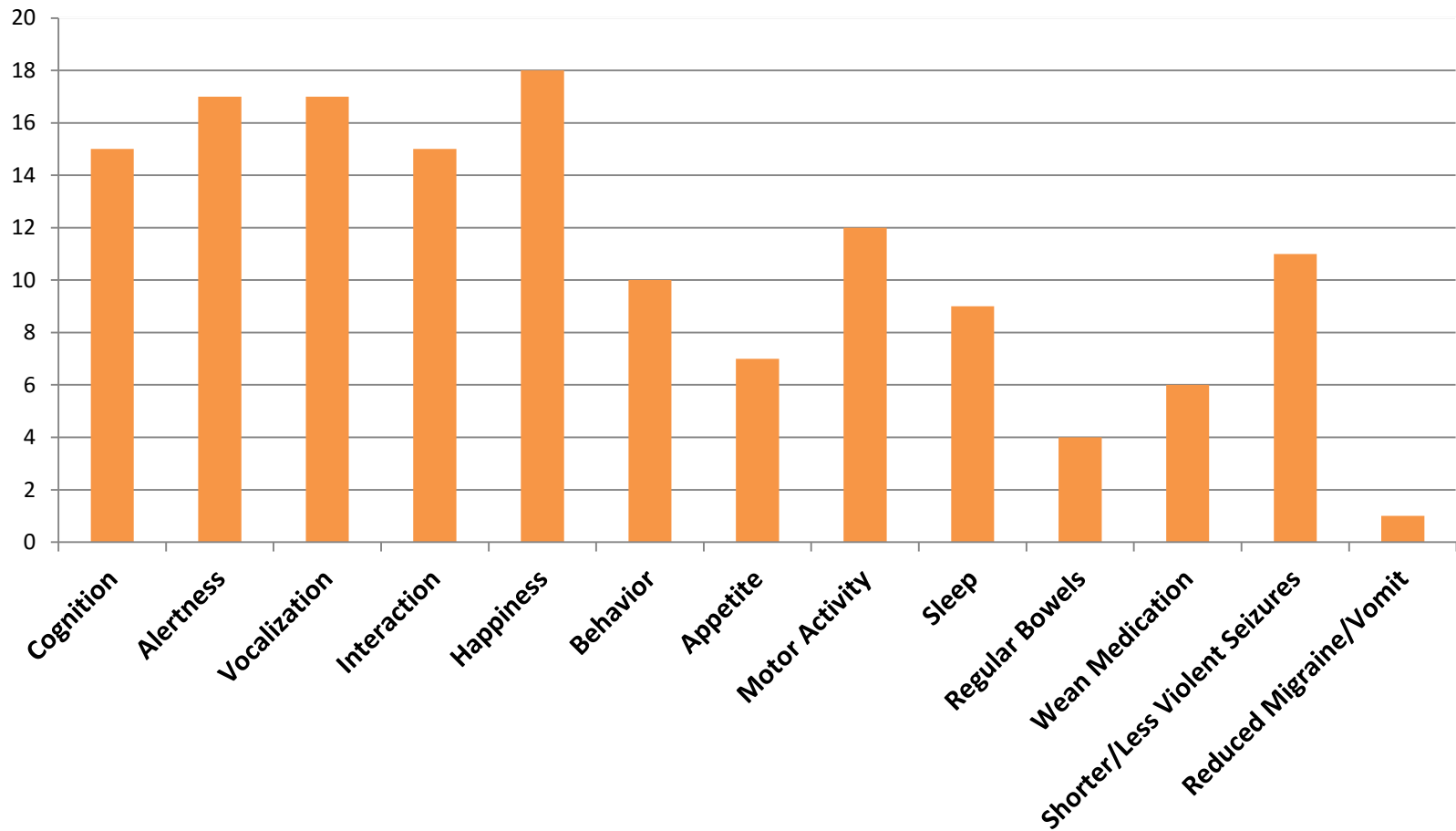


Positive Effects Reported

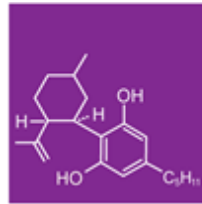
Data was self-reported through an online parent survey sent to parents of children with intractable epilepsy who have been treated with high-CBD hemp oil. Forty-two (42) families responded.

Graph shows number of patients reporting each side effect (out of 42 total).

November 2015



Thank You!



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CHILDREN
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