Lessons Learned from the Legalization of Marijuana in Colorado

- In January 2015, Colorado chiefs of police hosted a conference for law enforcement and government/municipal administrators.

- Agenda included lessons learned from Colorado's poorly formatted medical marijuana law and its impact on the legalized recreational market.

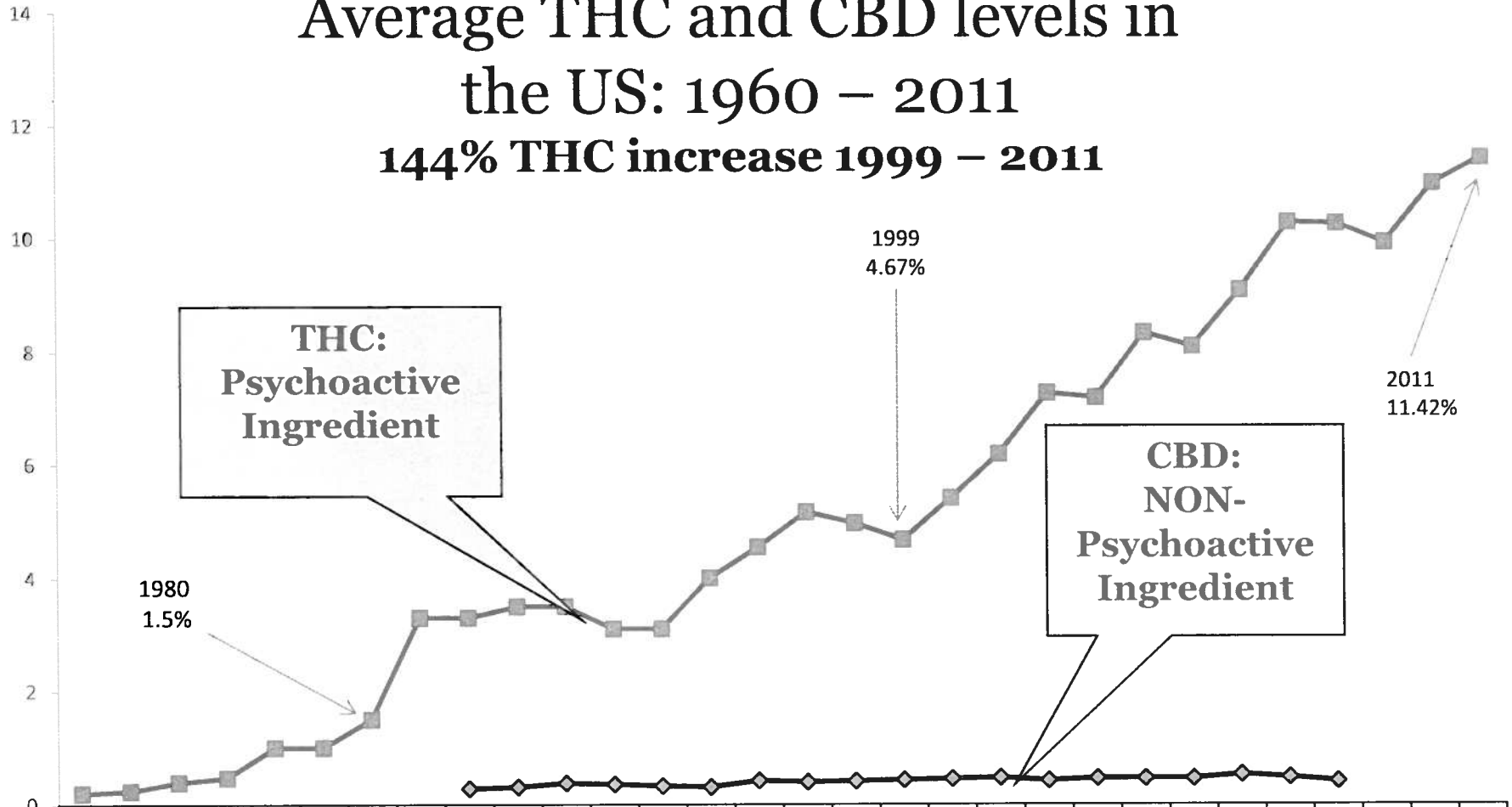
- This presentation uses information, as reported by Colorado officials, approximately one year after their state entered the legalized recreational marijuana market.

Lesson #1

Today's marijuana is not the same old marijuana

Average THC and CBD levels in the US: 1960 – 2011

144% THC increase 1999 – 2011



	1960	1965	1970	1974	1978	1980	1983	1984	1985	1986	1990	1992	1993	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
THC	0.2	0.2	0.4	0.5	1	1	1.5	3.3	3.3	3.5	3.5	3.1	3.1	4	4.5	5.2	5	4.7	5.4	6.2	7.3	7.2	8.3	8.1	9.1	10	10	9.9	11	11
CBD									0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4			

Mehmedic et al., 2010

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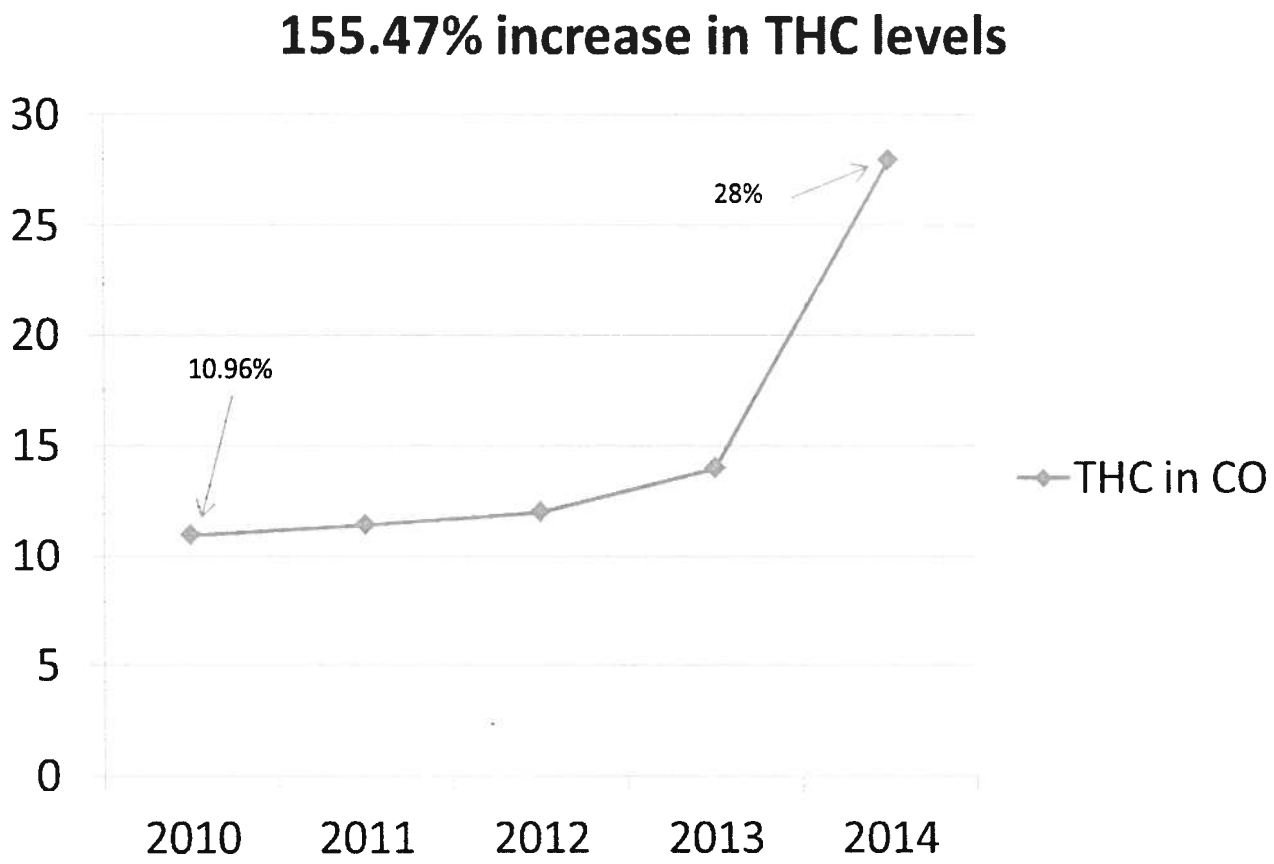
The last 4 years in Colorado



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This is not the marijuana many people remember from college

- Average THC levels in 1980 were 1.5%.
- From 1999 to 2011, THC levels increased 144% (4.67% - 11.42%).
- In the last four years in Colorado, THC levels increased 155% to 28% THC.
    - Yale MBAs brought scientists who made a more potent drug.
- There are no studies on marijuana with these THC levels (THC<12%).
- These THC levels pale in comparison to medibles...

Lesson #2

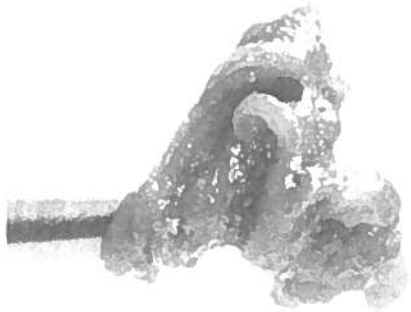
Medibles can be dangerous

Butane Hash Oil (BHO)
Budder, Shatter, Dabs

- BHO is used in medibles.
- To make BHO, stems and stalks are ground up and placed in a PVC, glass, or aluminum tube.
- Butane gas is passed through the tube to strip the resins (nearly pure THC) from the cannabis.
- As the butane passes through the tube, the THC resin and butane run out the bottom.
- The THC resin and butane are then heated under flame to evaporate the butane from the resin.

"But it's just a plant…"

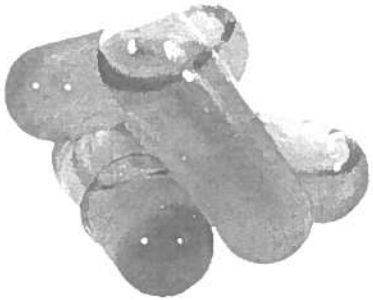
(80-90% THC) Concentrates



"Green Crack" wax

"Ear Wax"

Butane Hash Oil (BHO)



Hash Oil Capsules

"Budder"

"Shatter"

Slide Courtesy of Ben Cort Presentation

BHO Hazards

- Butane is odorless, colorless, and heavier than air.
- Butane is a highly flammable gas. It comes in canisters that are compressed and pressurized.
- If exposed to flame, the canisters are hand-sized fire grenades. Most scenes have hundreds of cans.
- Butane seeps into low lying areas, like basements, where there are pilot flames.

Michigan State Police
Western Wayne Narcotics Case 2013

Colorado house explosions in 2014?

32

Is there is a legitimate need for medibles?

- When it comes to Medibles, the argument that "it's just a plant" has fallen well short in Colorado public health and safety arenas.
- Medibles are made with marijuana extracts that are 80-90% psychoactive THC.
- The extraction process is very dangerous.
- At $10,000 per pound, some will overlook the physical risks of volatility in lieu of high profit.

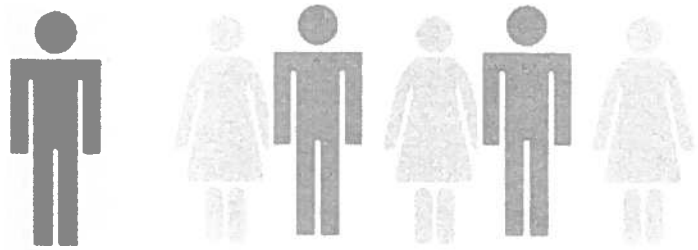
Lesson #3

THC levels & the impact on children

1 in 6 teens become addicted

(Based on a THC content < 12%)

1 in 10 adults and **1 in 6 adolescents** who try marijuana will become addicted to it.

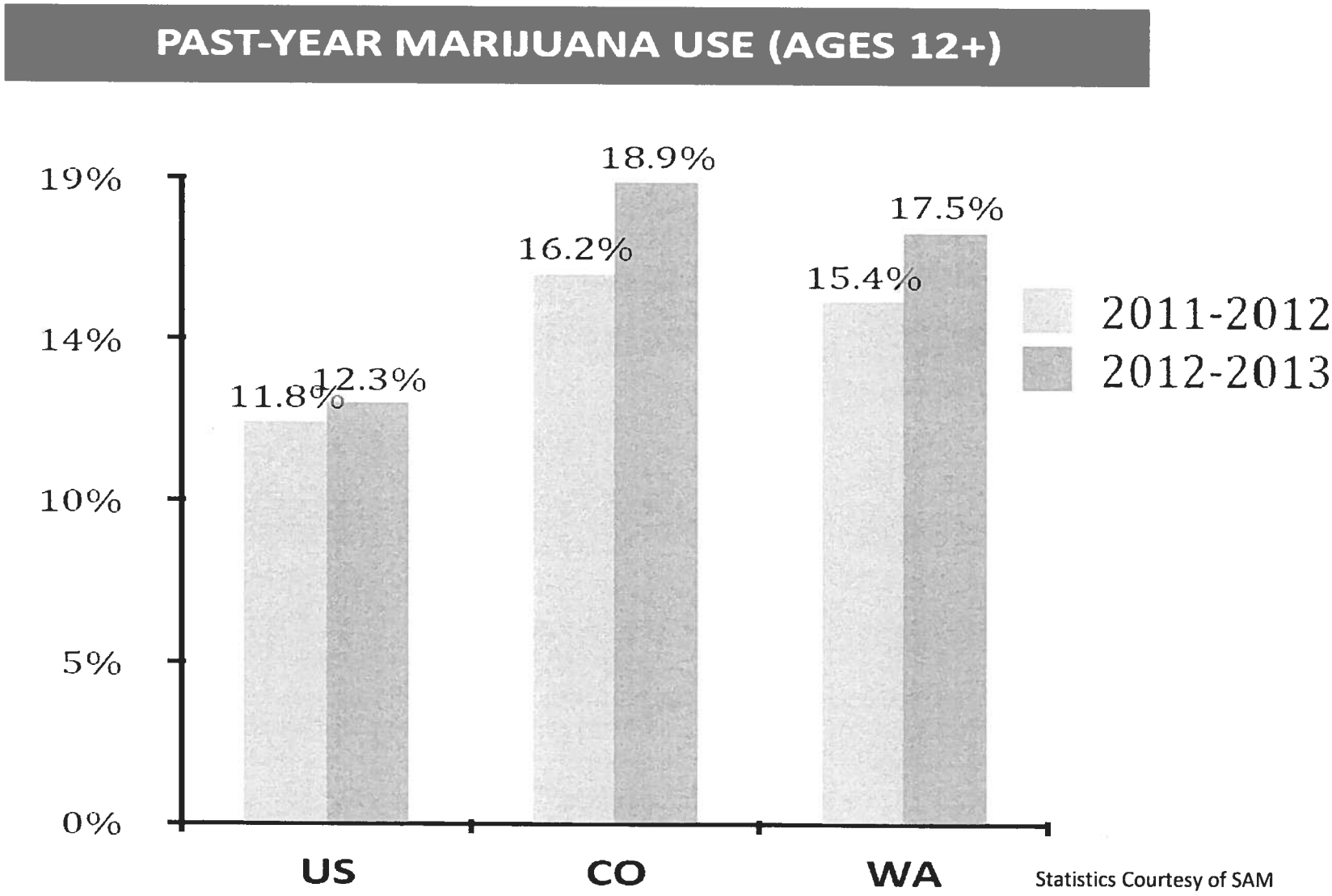


- The adolescent brain is especially susceptible to marijuana use.
- When kids use, they have a greater chance of developing addiction.

Wagner, F.A. & Anthony, J.C. , 2002; Giedd. J. N., 2004

Slide Courtesy of Ben Cort Presentation

Youth marijuana use in Colorado and Washington



Statistics Courtesy of SAM

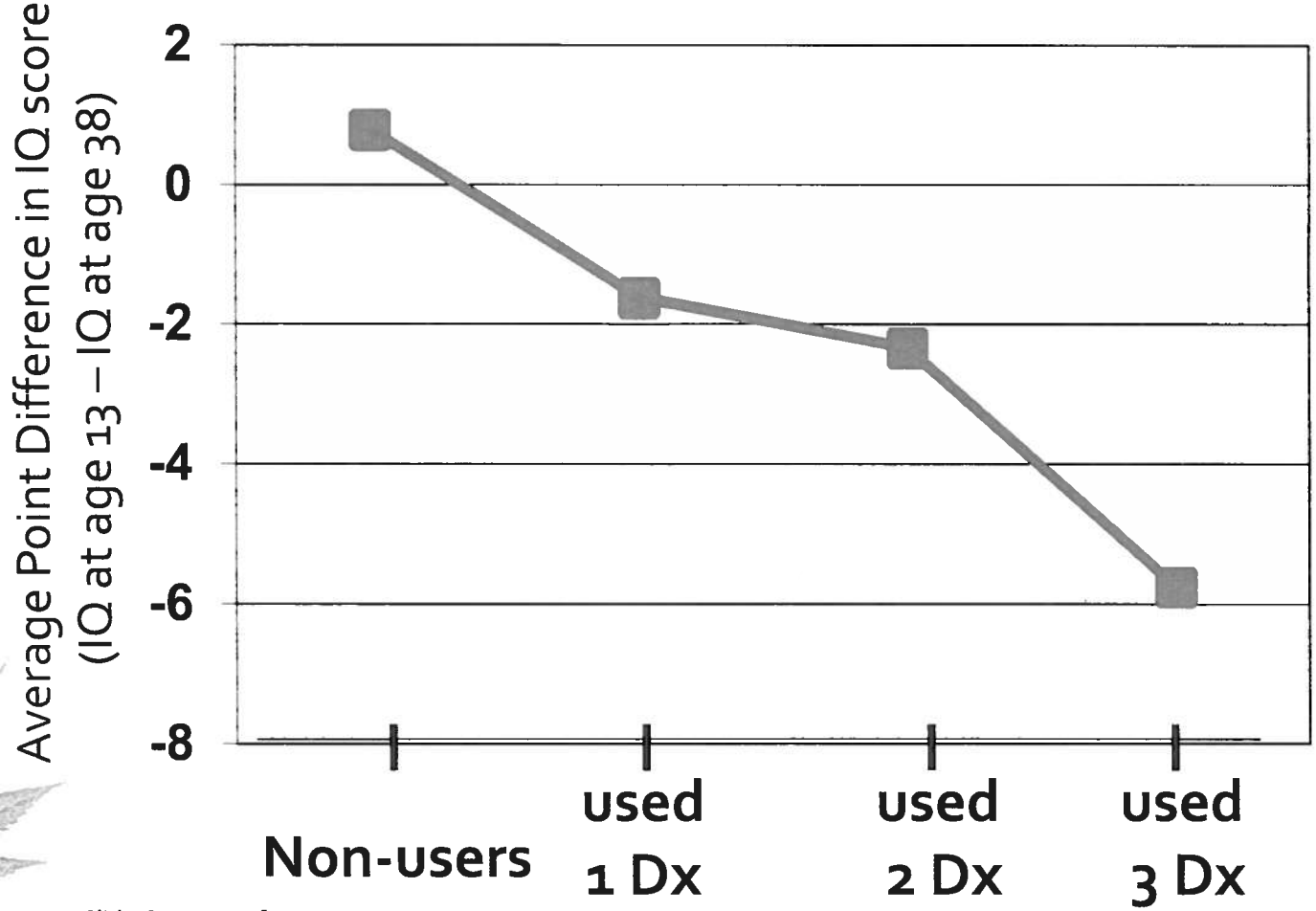
TEEN ADMISSIONS TO TREATMENT

Teen admissions to treatment for marijuana use at the Arapahoe House treatment network in CO increased by 66% between 2011 and 2014.

Source: Arapahoe House Treatment Network

Persistent marijuana users show a significant decline in IQ between childhood and midlife

Followed 1,037 individuals from birth to age 38. Tested marijuana use at 18, 21, 26, 32 and 38. Tested for IQ at ages 13 and 38.



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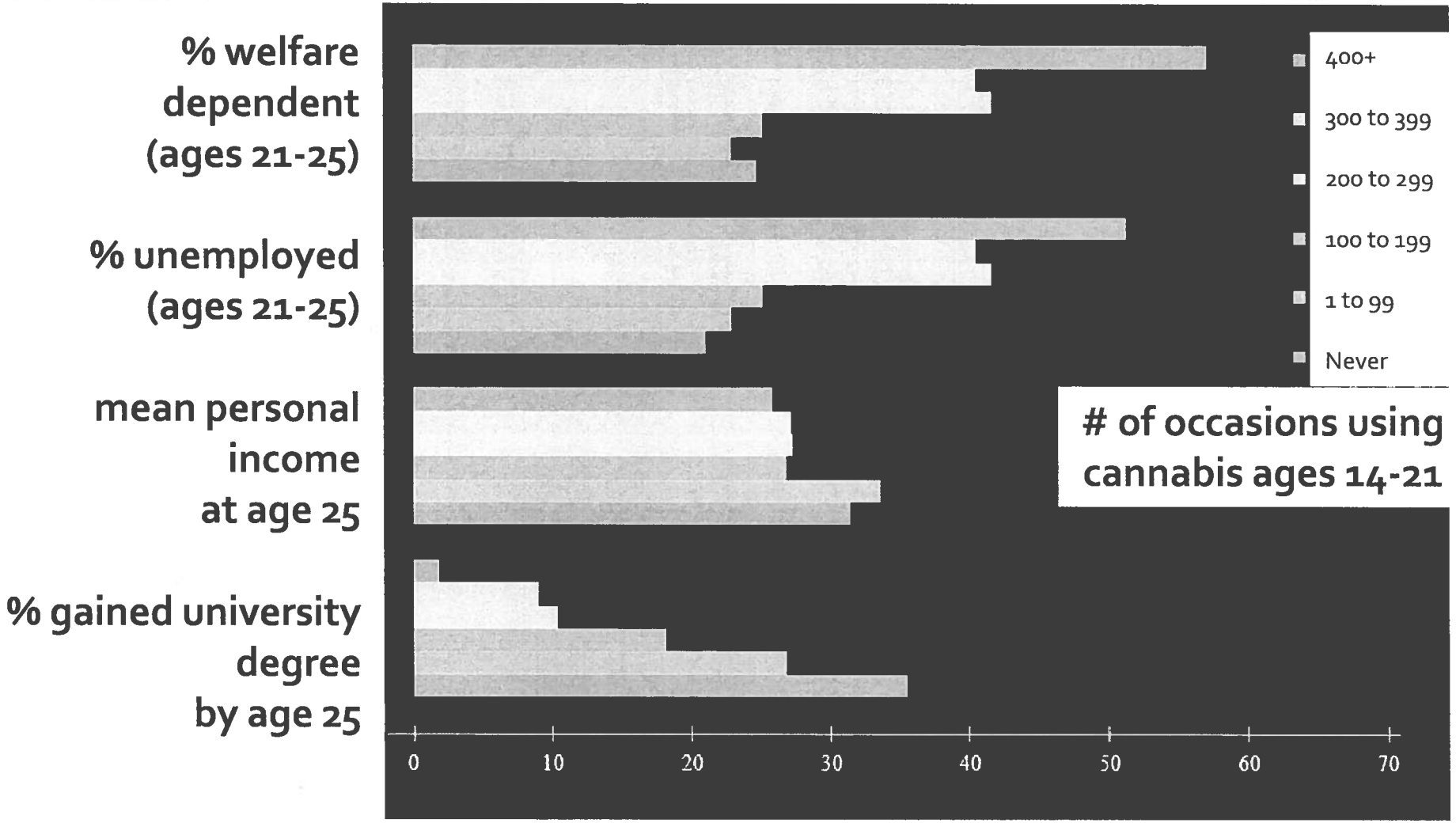
Source: Meier MH et al., PNAS Early Edition 2012

More use of cannabis associated with worse social outcomes at age 25 (New Zealand study)



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Source: Fergusson and Boden. Addiction, 103, pp. 969-976, 2008.

There are health risks for children

- The adolescent brain is more susceptible to THC and children have a greater chance of developing addiction – And this is with THC levels < 12%.

- Adolescent use correlates to a reduction in I.Q.
  - 3x per day from 14 years of age = 6 point drop in I.Q.

- Adolescent use in Colorado and Washington is increasing faster than the national average and adolescent treatment admissions have increased 66% in Colorado.

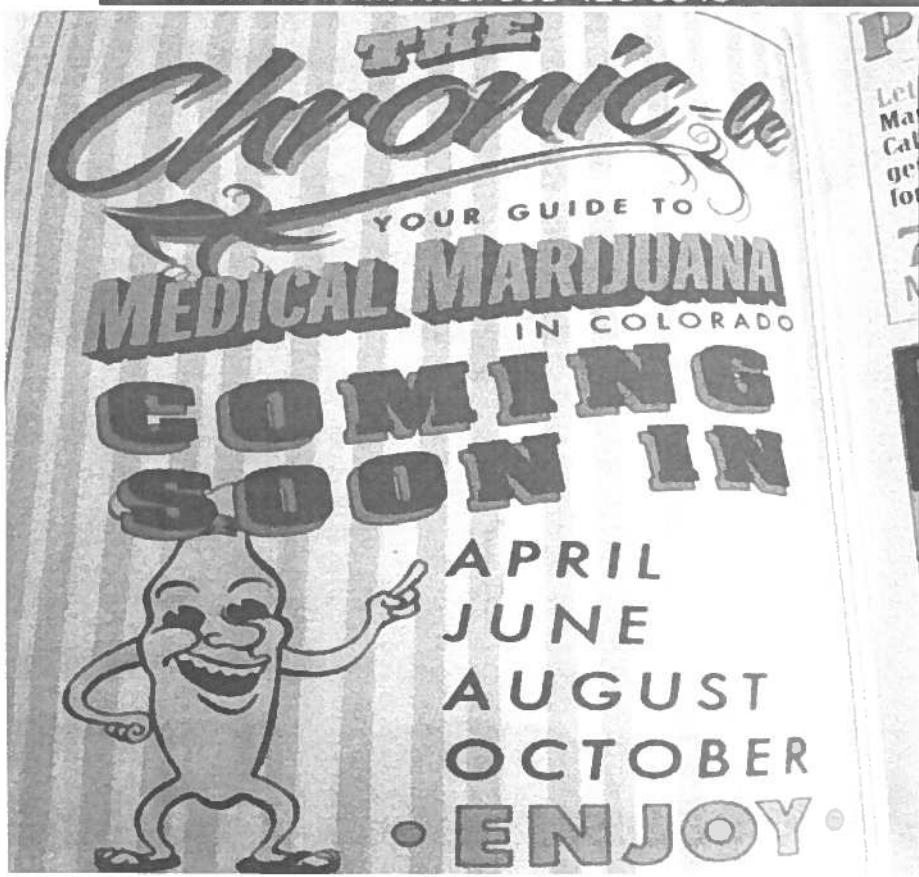
- Adolescents who used 400+ times between 14-21 = using 4.8 times per month (once per week) for 7 years = nearly 60% on welfare and less than 5% college graduates by age 25.

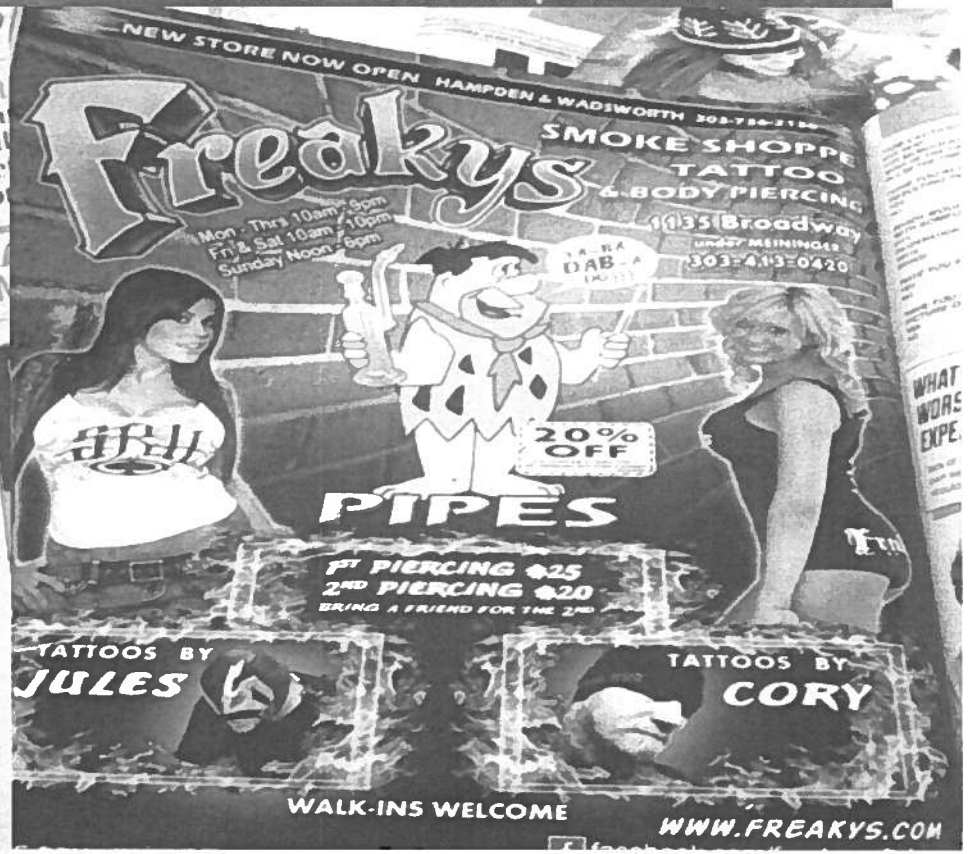
Lesson # 4

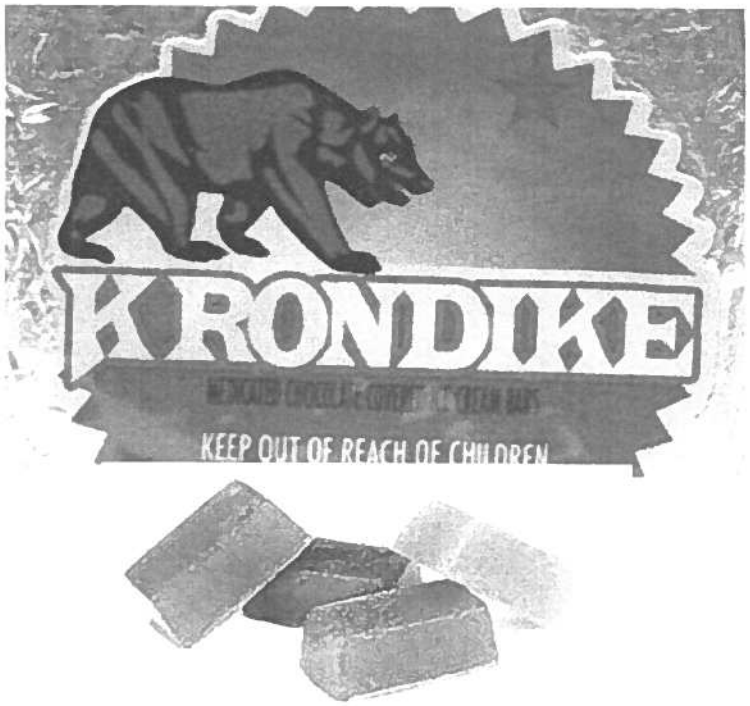
Product advertising targets children and un-regulated commercialization of marijuana

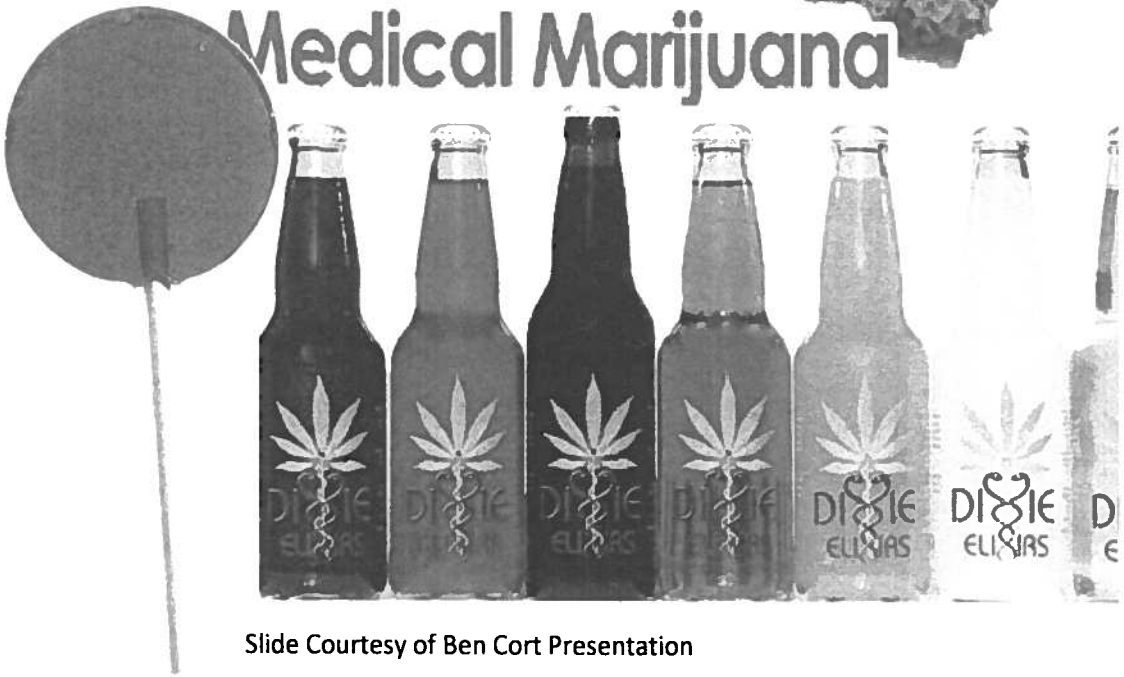
Slide Courtesy of Ben Cort Presentation

2095 30th St., Boulder
303-402-0122
BIRTHDAY of a LEGEND SALE
30% OFF GLASS
20% OFF
EVERYTHING
w/ MED CARD
or STUDENT I.D.
Excludes some items
mile high glass with class!
pipe and tobacco
– 1144 Pearl St. 303-443-PIPE
– 3001 W. 74th Ave. 303-426-6343
Highlands Ranch – 7130 E. County Line Rd. 303
Denver – 2046 Arapahoe in LoDo 303


THE Chronic-le
YOUR GUIDE TO
MEDICAL MARIJUANA
IN COLORADO
COMING SOON IN
APRIL
JUNE
AUGUST
OCTOBER
• ENJOY •


NEW STORE NOW OPEN HAMPDEN & WADSWORTH
Freakys
SMOKE SHOPPE
TATTOO
& BODY PIERCING
1135 Broadway
303-413-0420
Mon - Thurs 10am - 9pm
Fri & Sat 10am - 10pm
Sunday Noon - 6pm
20% OFF
PIPES
1ST PIERCING $25
2ND PIERCING $20
BRING A FRIEND FOR THE 2ND
TATTOOS BY
JULES
TATTOOS BY
CORY
WALK-INS WELCOME
WWW.FREAKYS.COM





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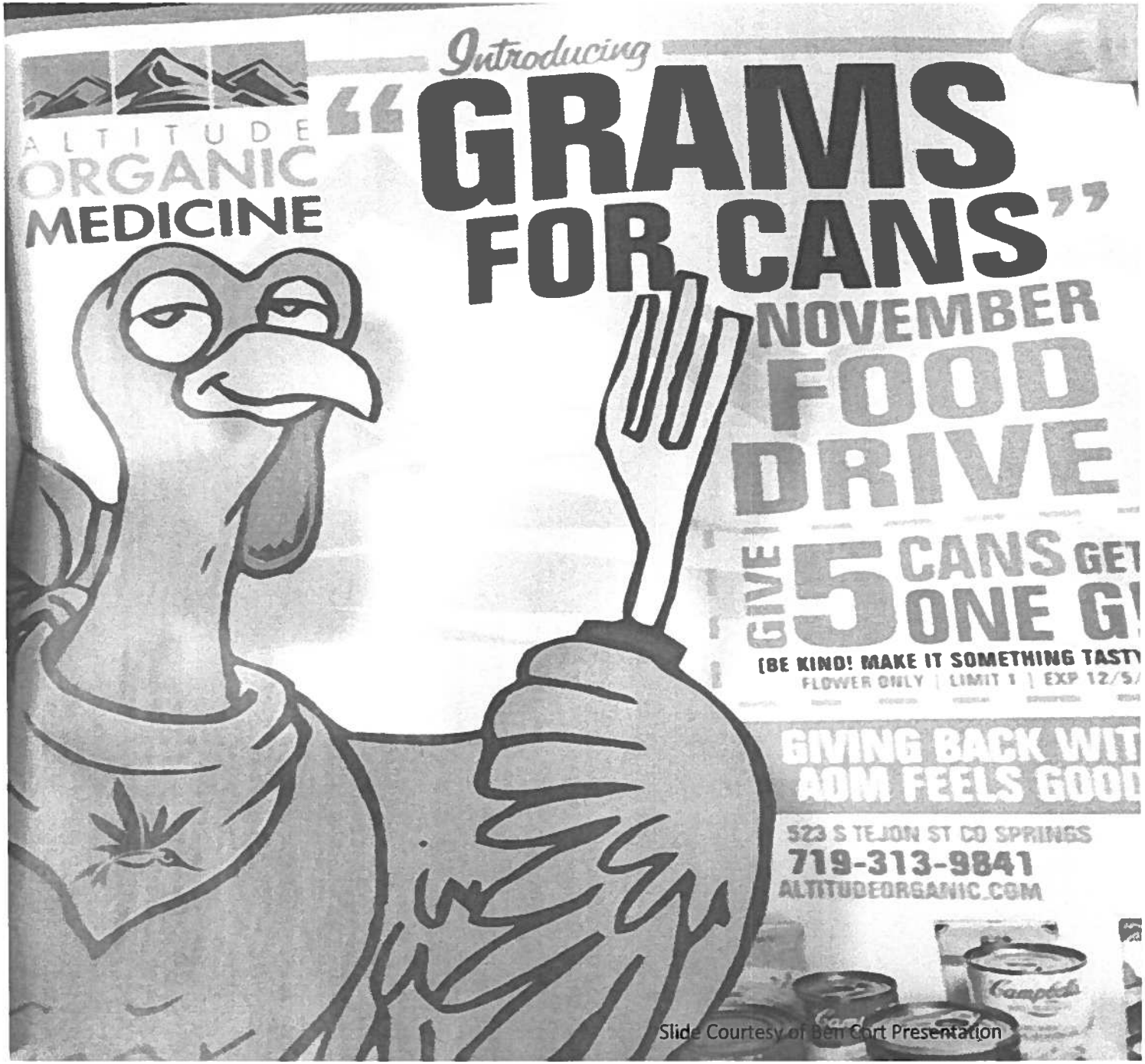

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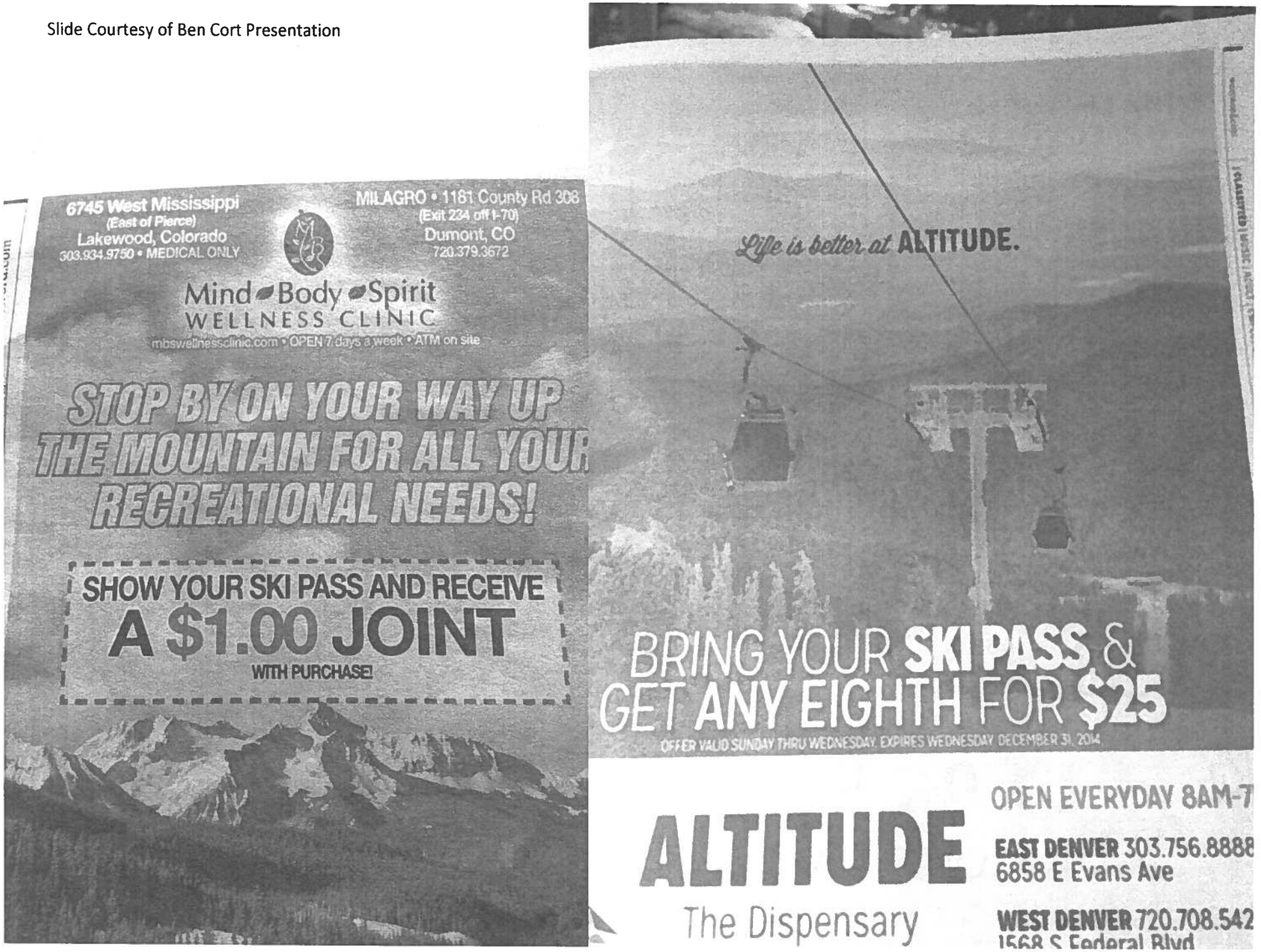

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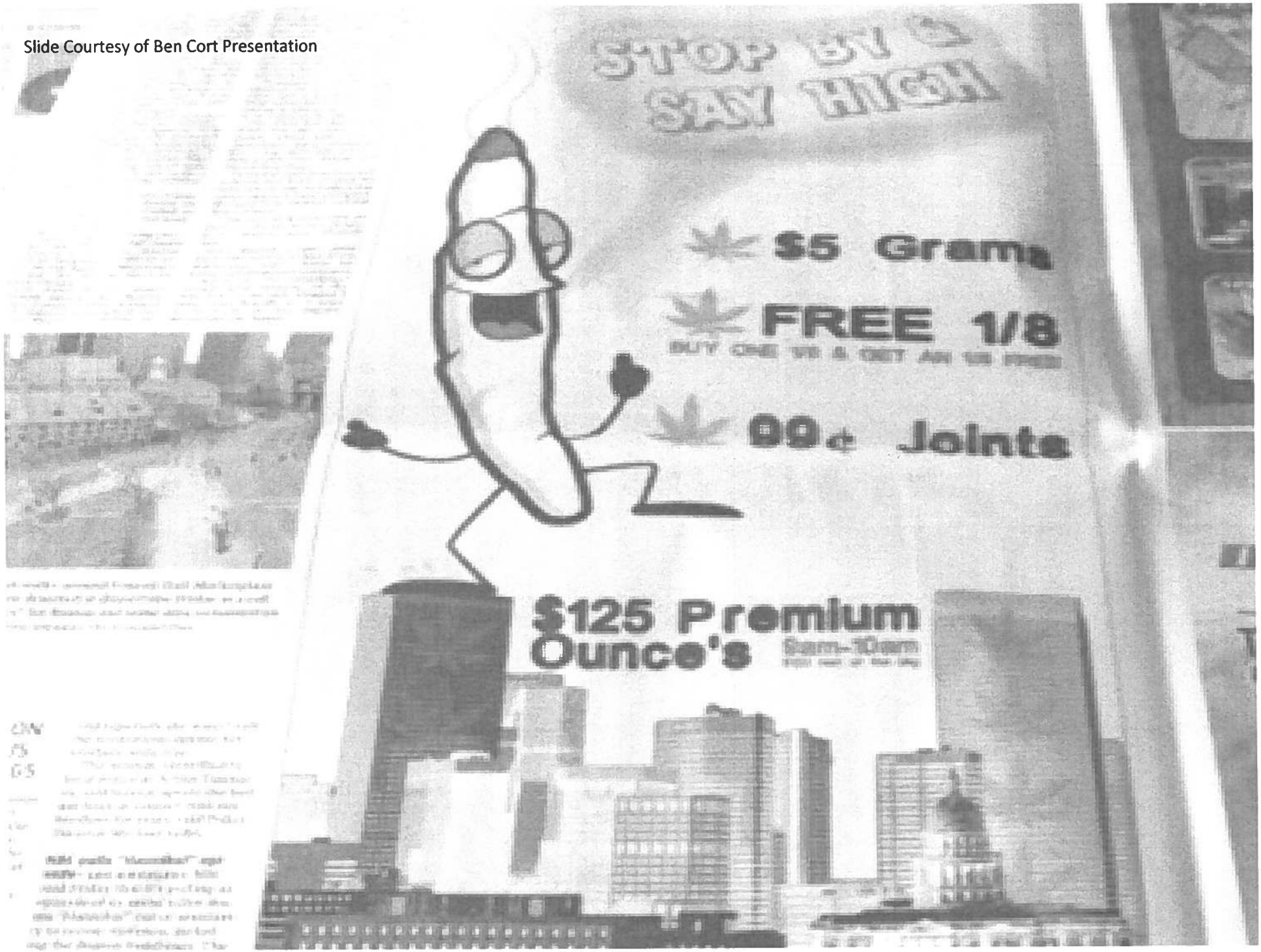
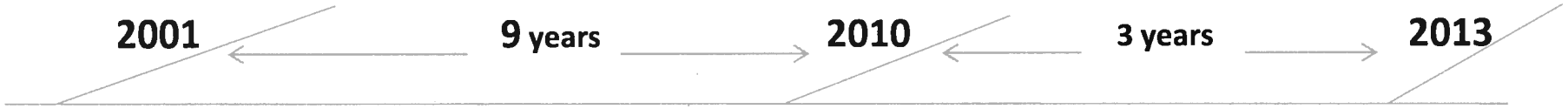


Lesson #5

The relationship between expanding medical marijuana laws and a legalized market

A comparison of Colorado to Michigan

Colorado Timeline



2001
Medical Marijuana
Registry implemented

2010
Dispensaries legal for
Medical Marijuana & Marijuana
Enforcement Division established

2013
Retail / Recreational Marijuana
Nov. 2012 Ballot Initiative

Michigan Timeline

2008
Michigan Medical Marijuana
Implemented

2015
House Bill 4209 DRAFT
Dispensaries legal for
Medical Marijuana &
Establishment of Licensing
Board under LARA

2016
Ballot Initiative
Announced for 2016

Michigan marijuana legalization advocates confirm plans for 2016 ballot proposal

In this photo taken Tuesday, May 14, 2013, Medical marijuana vials are displayed at the Venice Beach Care Center medical marijuana dispensary in Venice, Calif. (AP Photo/Damian Dovarganes)

By Jonathan Oosting | joosting@mlive.com
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on March 12, 2015 at 2:08 PM, updated March 12, 2015 at 2:20 PM

Print Email

LANSING, MI -- Michigan marijuana advocates have confirmed plans to launch a petition drive later this year and hope to put a legalization proposal on the statewide ballot in 2016.

MARIJUANA IN MICHIGAN

Michigan marijuana legalization advocates confirm plans for 2016

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Projecting how an exten

What could Michigan look like with provisioning centers?

- There were 632 Starbucks & McDonalds in Colorado in 2014
- But there were 827 marijuana dispensaries in Colorado in 2014

2014	Colorado	Denver
Starbucks	405	208
McDonalds	227	179
Medical marijuana dispensaries	505	198
Recreational marijuana disp.	322	126

Data as of January 2015

Marijuana growers math in MICHIGAN

72 plants x 3 grow cycles per year = 216 plants per year PER GROWER

1 lb. of Marijuana per plant = 216 lbs. of marijuana per year PER GROWER

216 lbs. / 5 patients = 43.2 lbs. PER PATIENT

1 marijuana cigarette = ½ gram

56 marijuana cigarettes in 1 oz. (28.35 grams)

896 marijuana cigarettes in a pound (16 ounces)

896 marijuana cigarettes x 43.2 lbs. PER PATIENT = 38,707 marijuana cigarettes PER PATIENT

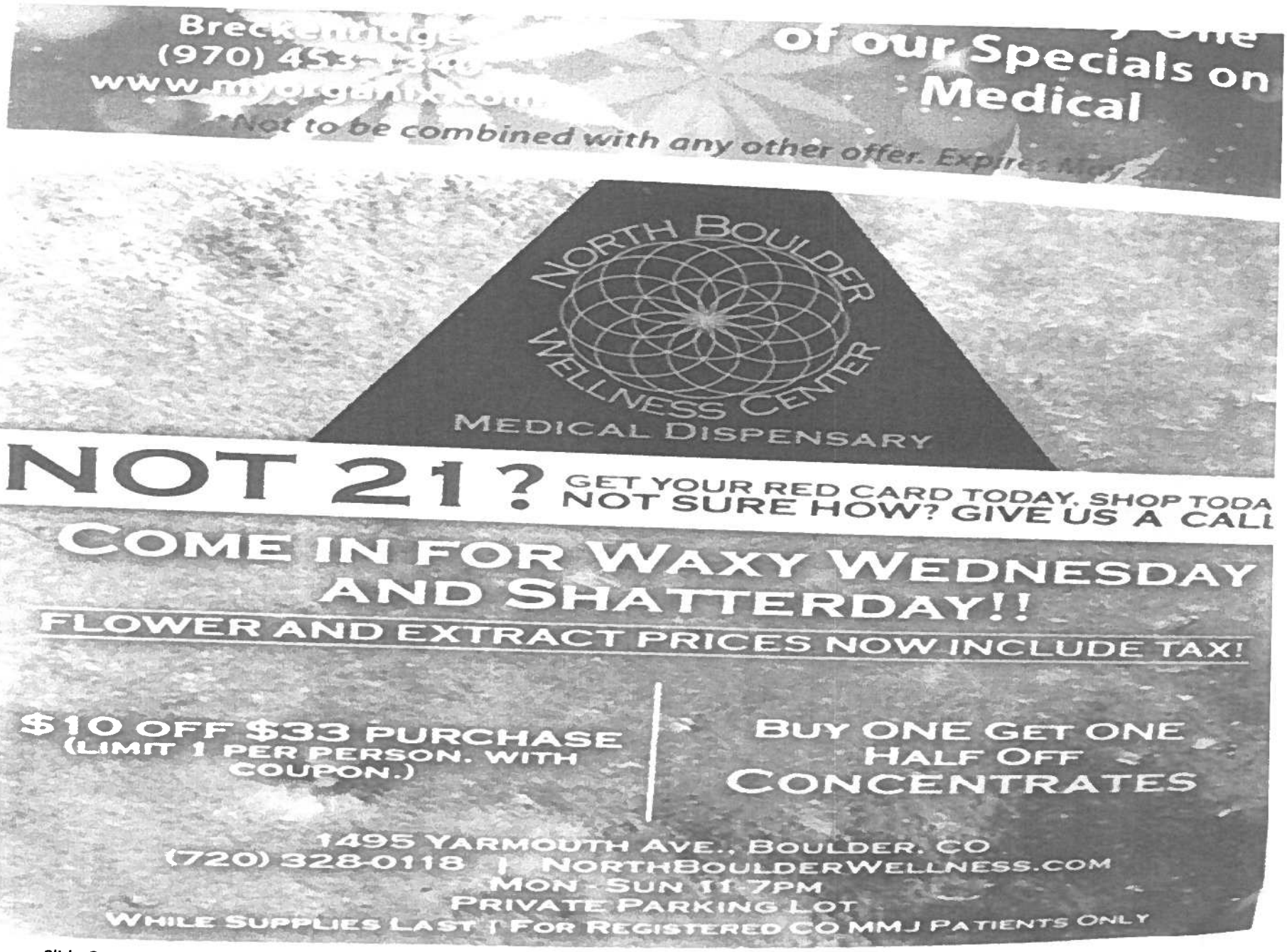
THAT'S 106 marijuana cigarettes per day PER PATIENT

Other unintended consequences of expanded availability of marijuana:

- Police canines cannot tell whether they detected marijuana, cocaine, or heroin

What has happened since 2008 in Michigan?

- Traffic crashes with bloodwork – when did the driver consume the marijuana?
    - Have OUID arrests gone up?
    - Have traffic fatalities involving marijuana increased?
    - How many butane hash oil explosions have we had?



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Questions?