Marijuana

December 12, 2018



Serving the Commonwealth of Kentucky PREVENTION

ENHANCEMENT SITES

Prevention Works • Enhance It!





Tobacco
Alcohol
Marijuana
Substance Exposed Infants
Faith-Based
Suicide





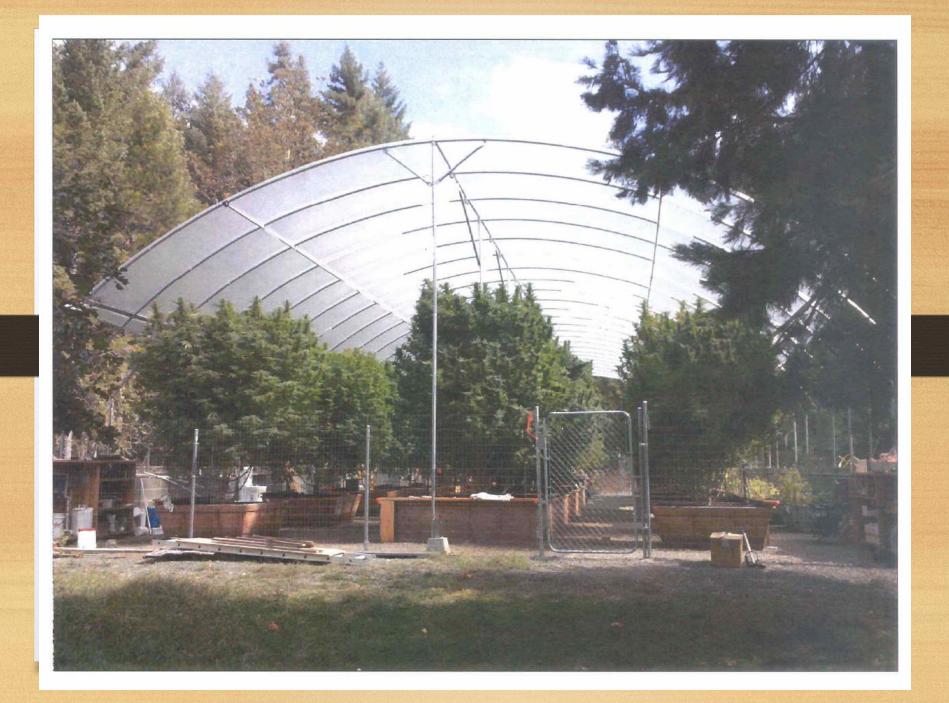
Marijuana in Kentucky





Domestic Production

- Kentucky is a leader in marijuana production
- Kentucky has been among the top 5 domestic producers of marijuana for at least 5 years
- In 2015 authorities eradicated nearly \$800 million worth of marijuana and made 469 arrests for outdoor and indoor grows







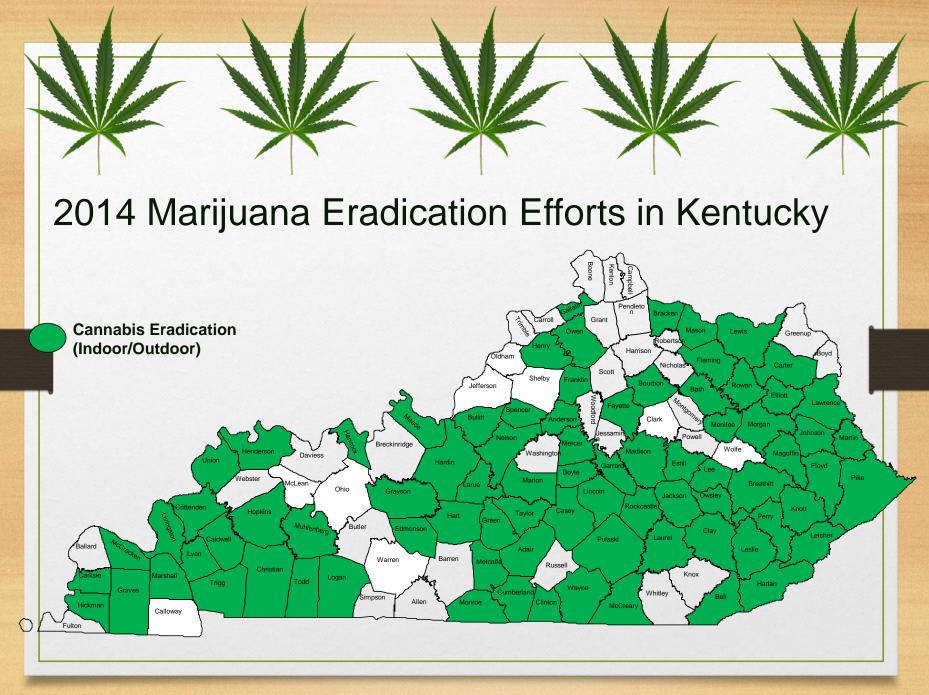


KENTUCKY'S TOP TEN MARIJUANA PRODUCING COUNTIES PRODUCING COUNTIES 1988-2015

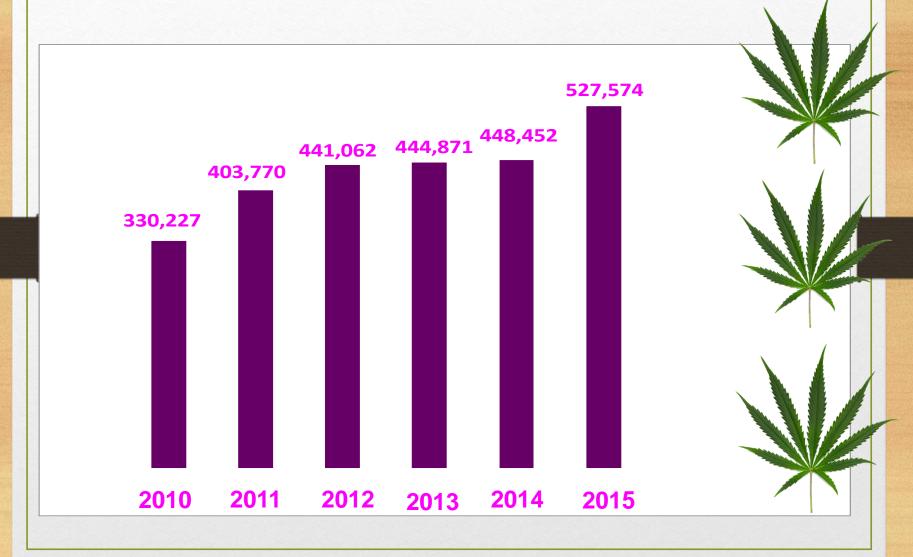


Top Ten Marijuana Producing Counties

County	Plants
1. Leslie	1,129,701
2. Wayne	908,805
3. Clay	722,626
4. Knox	613,028
5. Owsley	594,071
6. Breathitt	583,629
5. Bell	567,283
8. Knott	501,622
9. Perry	481,761
10. Harlan	419,583



Total Plants Eradicated in KY

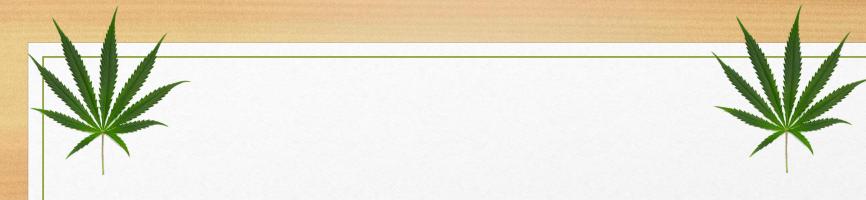


KY 2015 Outdoor Production

527,574 plants have been eradicated in Kentucky

- Plant yields average of 2 lbs.
- $-527,574 \times 2 = 1,055,148 \text{ lbs}$
- $\cdot 1,055,148$ lbs = 16,882,368 oz
- \cdot 16,882,368 oz = 478,615,133 grams
- •Typical joint = $\frac{1}{2}$ gram of cannabis
- •Therefore 478,615,133 grams = 957,230,266 joints

That means...



We produce enough Cannabis to provide 239 joints for every man, woman and child in Kentucky every year.



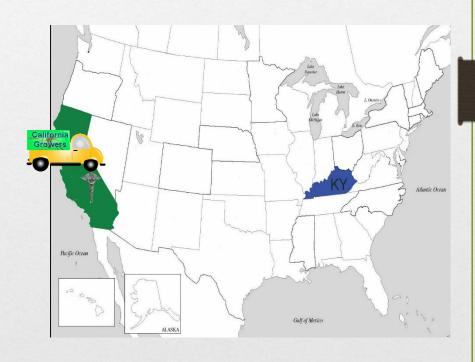
 Growing marijuana is a high-risk, low-profit business....



 KY traffickers find it safer and more lucrative to bring back "medical" marijuana or recreational marijuana from California, Colorado or Oregon or other legalized state and sell it in Kentucky

Medi-pot Diversion

 Traffickers can buy 1lb of medi-pot in California for \$1,500 and sell it in Kentucky for \$6,000



Diversion of Colorado Marijuana

Top States to Which Colorado Marijuana Was Destined in 2012:

- ✓ Kansas (37)
- ✓ Missouri (30)
 - ✓ Illinois (22)
 - √ Texas (18)
- ✓ Wisconsin (18)
 - ✓ Florida (16)
- ✓ Nebraska (13)
 - ✓ lowa (10)

√ 37 states were destined to receive Colorado weed!

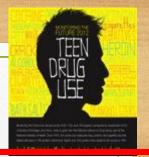


What drugs do we use?

Current use among persons 12 and older: 2012



Percentage of U.S. 12th Grade Students Reporting Past Month Use of Alcohol, Cigarettes, and Marijuana



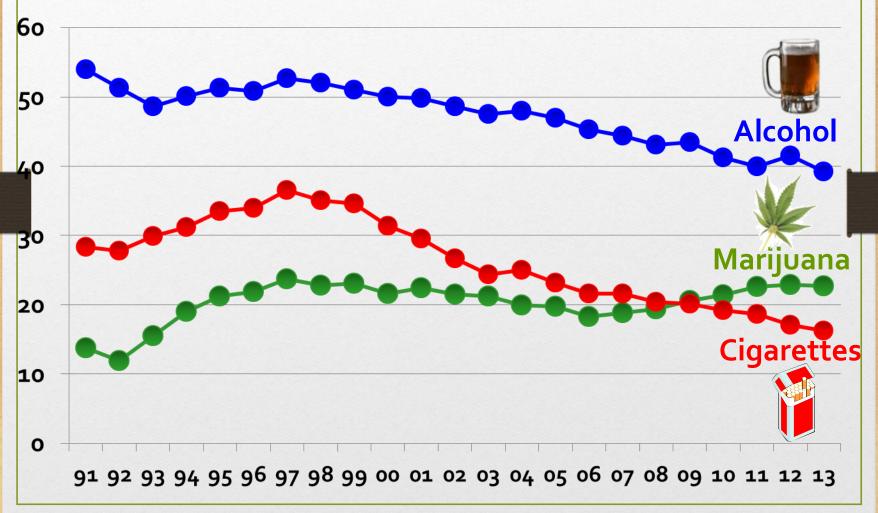
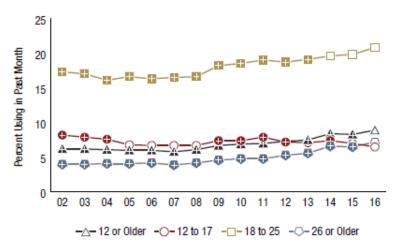


Figure 17. Past Month Marijuana Use among People Aged 12 or Older, by Age Group: Percentages, 2002-2016



⁺ Difference between this estimate and the 2016 estimate is statistically significant at the .05 level.

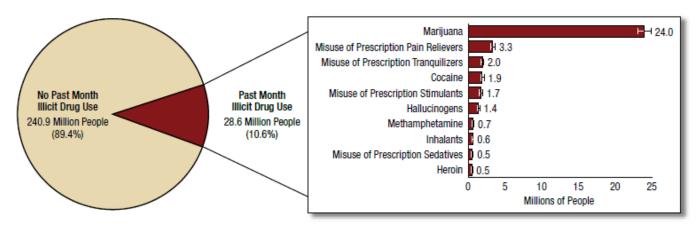
Figure 17 Table. Past Month Marijuana Use among People Aged 12 or Older, by Age Group: Percentages, 2002-2016

Figure 17 Table. Past Month Marijuana Use among People Aged 12 or Older, by Age Group: Percentages, 2002-2016

Age	02	03	04	05	06	07	80	09	10	11	12	13	14	15	16
≥12	6.2+	6.2+	6.1+	6.0+	6.0+	5.8+	6.1+	6.7+	6.9+	7.0+	7.3+	7.5+	8.4+	8.3+	8.9
12-17	8.2+	7.9+	7.6+	6.8	6.7	6.7	6.7	7.4+	7.4+	7.9+	7.2+	7.1	7.4+	7.0	6.5
18-25	17.3+	17.0+	16.1+	16.6+	16.3+	16.5+	16.6+	18.2+	18.5+	19.0+	18.7+	19.1+	19.6	19.8	20.8
≥26	4.0+	4.0+	4.1+	4.1+	4.2+	3.9+	4.2+	4.6+	4.8+	4.8+	5.3+	5.6+	6.6+	6.5+	7.2

⁺ Difference between this estimate and the 2016 estimate is statistically significant at the .05 level.

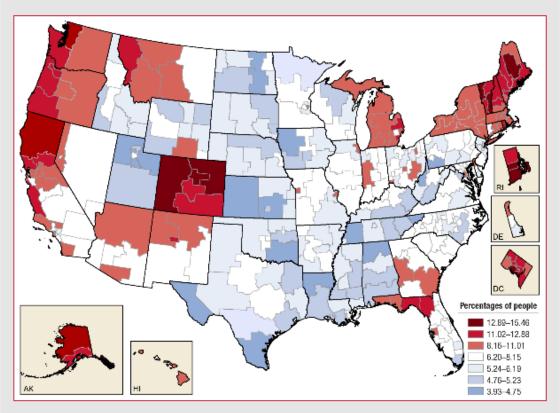
Figure 15. Numbers of Past Month Illicit Drug Users among People Aged 12 or Older: 2016



Note: Estimated numbers of people refer to people aged 12 or older in the civilian, noninstitutionalized population in the United States. The numbers do not sum to the total population of the United States because the population for NSDUH does not include people aged 11 years old or younger, people with no fixed household address (e.g., homeless or transient people not in shelters), active-duty military personnel, and residents of institutional group quarters, such as correctional facilities, nursing homes, mental institutions, and long-term care hospitals.

Note: The estimated numbers of current users of different illicit drugs are not mutually exclusive because people could have used more than one type of illicit drug in the past month.

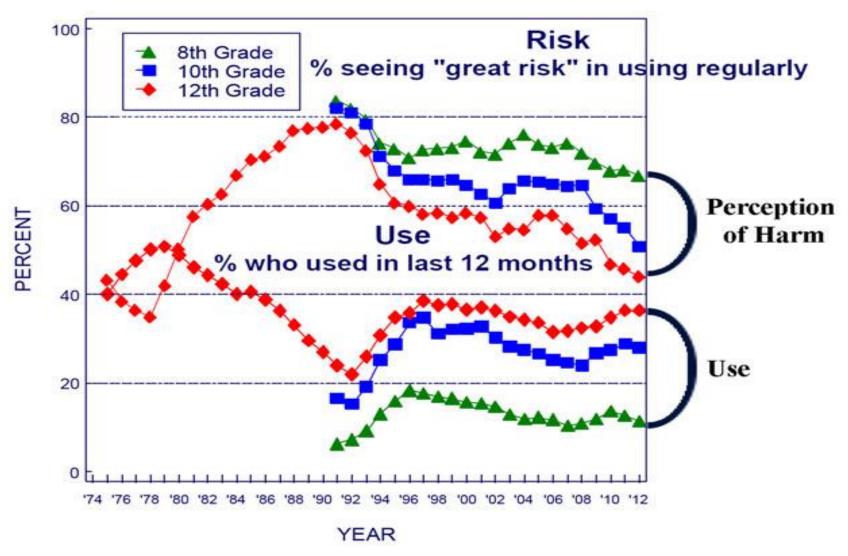
Figure 1. Marijuana use in the past month among people aged 12 or older, by substate region: percentages, annual averages based on combined 2012 to 2014 data

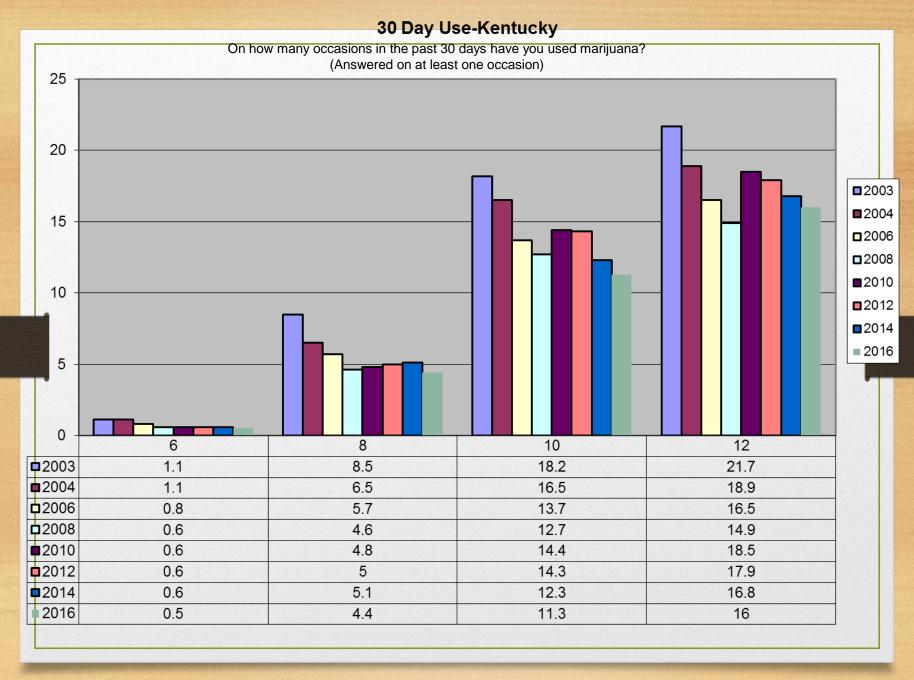


Note: For substate region definitions, see the "2012-2014 National Survey on Drug Use and Health Substate Region Definitions" at http://www.samhsa.gov/data/.

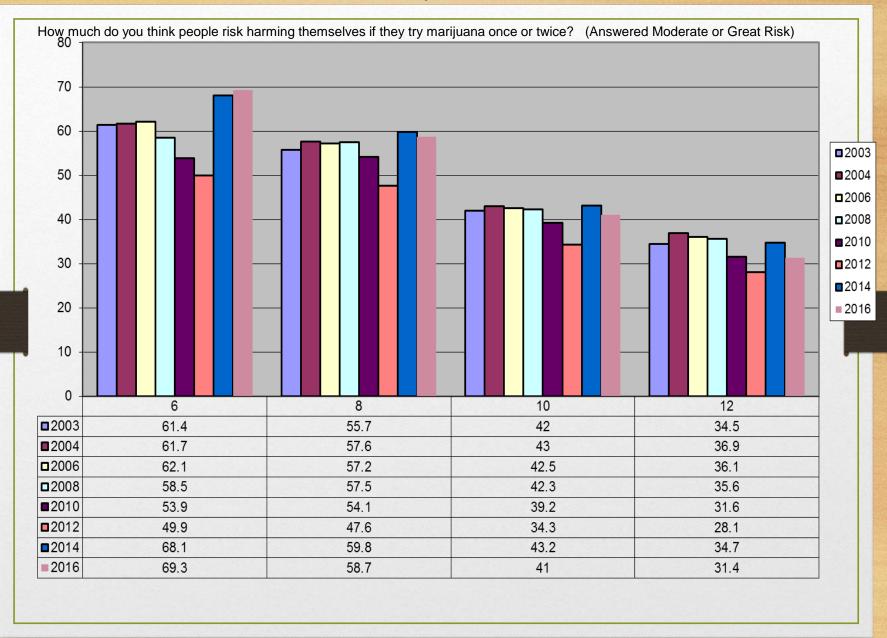
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2012 to 2014.

Risk vs. Use – Monitoring the Future



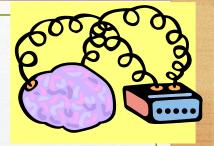


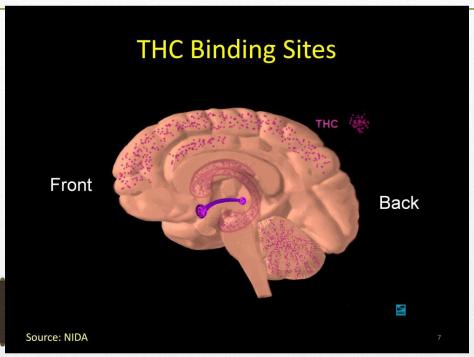
Perception of Risk



Here is what research shows us about marijuana use

- Regular use of marijuana compromises the ability to learn and to remember information by impairing the ability to focus, sustain and shift attention.
- Long-term use reduces the ability to organize and integrate complex information.
- A 2012 study, published in the *Proceedings of the National Academy of Sciences*, by Dr. Madeline Meier, reports that adolescents who started using marijuana before the age of 18 when their brains were still developing and continued to use into adulthood, experienced as much as an 8-point decline in IQ scores.

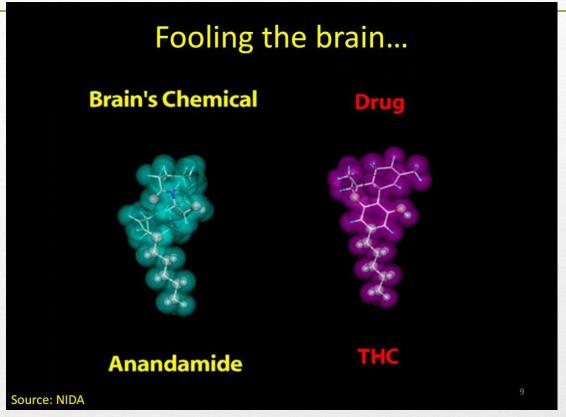




Pink dots are cannabinoid receptor sites

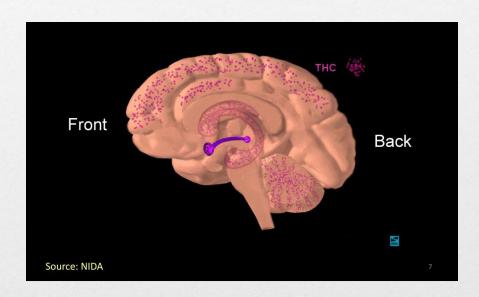
- visual center in the back of the brain
- the reward system
- hippocampus (memory)
- cerebellum (coordination)

- hypothalamus (appetite, body temperature, emotions, digestion, etc.)
- thalamus (receives and relays sensory information such as pain)



- The brain produces some chemicals (called endocannabinoids) that bind to the cannabinoid receptors.
- One of these chemicals is called anandamide.
- THC and anandamide have some similarities in chemical structure which is why THC can "fool" the brain by binding to the same receptors that anandamide does.

 The endocannabinoid system helps to keep brain cell activity in BALANCE, not underactive (like in depression or ADHD) or overactive (like in epilepsy or post-traumatic stress disorder).



THC vs. Anandamide

- THC has a **MUCH STRONGER**, **LONGER** effect than anandamide on brain cells
- THC interferes with anandamide function, so it can't do its job to protect and balance cell activity

THC interferes with anandamide

- THC's effect is like a sledgehammer compared to the precision scalpel of anandamide.
- By occupying those cannabinoid receptors, THC interferes with anandamide's ability to naturally protect and balance cell activity.



The potency of marijuana has dramatically increased

- ▶ 1975 average rate of THC was .74%
- **1978 1.37%**
- **► 1988 3.39%**
- 1993 3.4%
- 1998 4.43%
- **2008 8.8%**



- ≥2018 average rates predicted to reach 20%
- Pro marijuana sites claim the best strains are 30%
- Edibles even higher rate wax/oil can be 90-95%

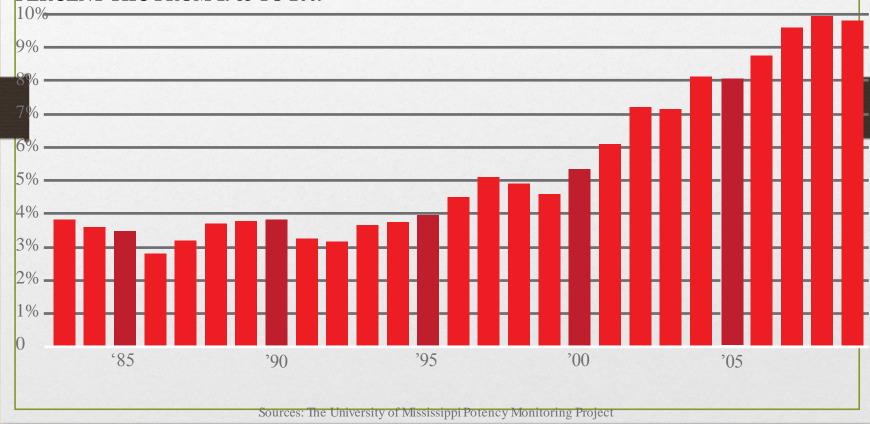
POTENCY IS INCREASED BY REMOVING CBD - THE MEDICINAL COMPONENT OF CANNABIS

Source: Dr. Mahmoud El Sohley, Marijuana Project at the National Center for Natural Products Research, School of Pharmacy, University of Mississippii









Top strains of marijuana with high potency levels submitted at High Times Cannabis Cups



- Head Cheese 24.79%
- ► Matt's OG 24.16%
- ► Super Lemon Haze 22.64%
- Larry OG 21.31%
- **▶** Boost − 20.73%
- Strawberry Cough from Kushman Veganics 20.07%
- Dawg's Waltz 19.72%
- Master Yoda 22.4%
- ► Tahoe OG Kuch 22%
- Thin Mint Girl Scout Cookies 21.2%

- XJ-13/Cracker Jack 20.50%
- ► Blackberry 20.27%
- Cactus 20.15%
- Cobra 20.12%
- **▶** SFV OG Kush 23%
- ▶ Rug Burn OG 22.1%
- DarkStar 22%
- **Dog 21.7%**
- Sour Amnesia 21.5%
- ► Kosher Kush 21%
- ► Yogi Diesel 21.7%

Messages Youth Hear:

Marijuana is harmless



Marijuana use is glorified

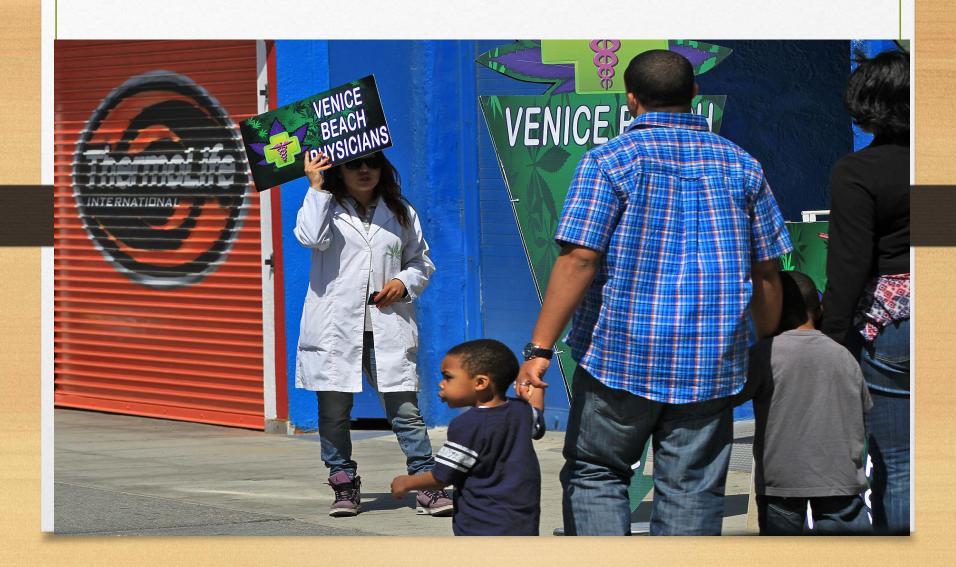
 Efforts to legalize and/or decriminalize marijuana are well-funded and picking up strength

Is Marijuana Medicine?

 Cannabinoids may have therapeutic potential (delivered in controlled doses by non-toxic delivery systems), but smoked marijuana has no future as a medicinal product.



This is a Doctor's Office



Medical Marijuana







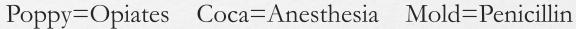




Would you use these as medicine?

Yes....just not in these forms. Marijuana should be subject to the same process.

Yew=Taxol





Willow=Aspirin



Valerian=Valium





Foxglove=Digitalis





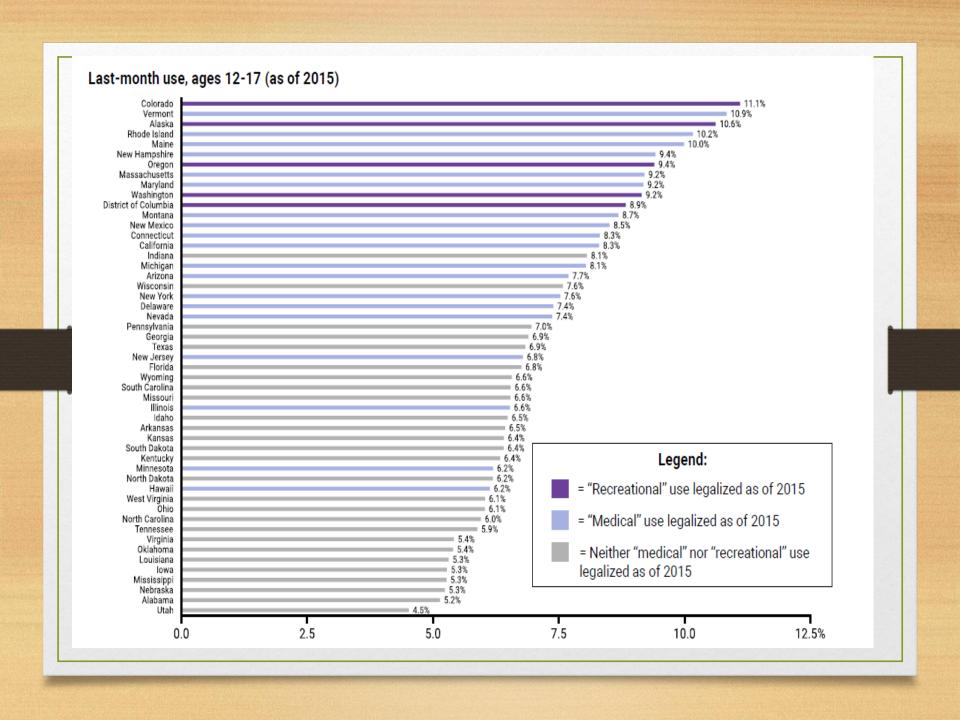




What does FDA Approval Mean?

- Effectiveness and risks as a medicine have been scientifically examined and weighed
- Interactions with other drugs have been considered
- Impact on pre-existing conditions has been studied
- Quantity of dose is established through scientific process
- Frequency and duration of administration are determined through scientific process
- Best route or method of administration has been determined and it has **NEVER** been by smoking





Manijuana Use in the Past Month, by Age Group and State: Percentages, Annual Averages

Source SAMHSA, Cortor for Behavioral Health Statistics and Quality, National Survey on

inder.	Stete	12+	State	12/17	State	18-25	Date	26 .	State	18 *
	Total U.S.	836%	Total U.S.	F.00%	Teal U.S.	12.70%	Total U.S.	8.83%	Year DOL	8,43%
1	Calorage	15.02%	Concedo	11.12%	Vestionit	34.85%	Colorado	14,69%	Colorado	17,129
2	Varions	14,74%	Vernort	10.00%	Concesso	35.70%	Alaska	12,83%	Vernost	15,00%
3	Allegia	9,585	Hadra	10.60%	Maine	29.72%	Malne	11.04%	NAME	14.80%
4	Maleo	13,66%	Phodo letend	10.19%	New Hampahaw	29,12%	Verneral	11.01%	Maine	13.98%
5	Shode bland	13.00%	Miles	10,01%	Fihode Island	28.89%	Orașie.	10.00%	Phode Island	13.20%
6	Owigin	12,73%	Non-Hampshire	0.44%	Manunchanatta	27.39%	Physics Island	19.32%	Oregoe	13,04%
7	Way Hampahina	12.06%	Congram	8.62%	Degin	35.20%	Washington	9.24%	Mew Hampshire	12.319
4	District of Columbia	11.00%	Massachusetin	9.22%	Diversit of Columbia	33,19%	MoveHampshire	8.65%	District of Columbia	12,109
9	Researchments	11.68%	Margland	9.30%	Aleska	25.02%	Mortesa	9,41%	Massachusette	11,917
10	Washington	11,22%	Manager	8.0%	Consessions	24.99%	Messechusetts	9.21%	Washington	13,429
11	Mortens	11.09%	Displat of Columbia	8.88%	Maryland	24.07%	Otemor of Columbia	9.75%	Wordsea	11.029
12	New Medico	10.14%	Montona	8.71%	Monlons	22,65%	Mew Medica	8.55%	New Memor	10.01%
12	Micrigan	10,08%	New Mexico	8.53%	Michigon	22.70%	Mishigen	8.14%	Michigae	10.20%
14	California	9.67%	Connecticut	8.54%	Bow York	22.69%	California	7.90%	Carifornia	8.62%
19	Maryland	9.62%	California	8.32%	Washington	21 87%	New York	7.54%	Mess York	9.75%
16	Connections	0.0945	Indiana	0.00%	Delaware	21.19%	Cornecticut	7.20%	Convectical	9.72%
17	How York	9.56%	Michigan	8.00%	South Carolina	21.07%	Maryland	7.24%	Maryland	9.66%
18	Intiene	8.72%	Advans	7.71%	Posts	20.74%	Hansail	6.80%	Indiana	6.79%
10	Arzona	9.51%	И Тосомон	7.00%	Indisca	20.71%	Alasna	6.81%	Adams	5.50%
10	South Carolina	8.11%	New York	7.50%	New Mexico	20.01%	Indos	8,67%	Sauth Carplina	8.27%
21	Dotoware	8.08%	Delavare	7.42%	California	20.02%	Mevada	9.43%	Missouri	8.17%
22	Missouri	6.00%	Nevedo	7.00%	tilnes	19.63%	Manouri	6.26%	Havai	8.11%
23	Havaii	2.05%	Personne	6.875	Ohio	19.55%	South Carolina	8.16%	Delovere	4.11%
34	Moses.	7.01%	Georgia	6.82%	Missoul	19,48%	(Risols	6.12%	ilitois	4.00%
25	Nevedo	7.81%	Times	4.60%	Minnessia	10.30%	Permylyonia	0.02%	Georgia	2,00%
20	Georgia	7.79%	New Jorsey	9.81%	Nodh Carefrie	19,04%	Delavore	6.01%	Ports	7.87%
II.	Fimile	2,38%	Florida	6.70%	Pennsylvania	18.00%	Flooda	8.01%	Neveda	7.05%
20	Princeytylenia	7,73%	Westing	6.59%	New Jersey	18.66%	Georgia	6.00%	ONIA	7.82%
20	ONIo	7.65%	South Carolina	467%	Arizona	18.52%	Ohlo	5.91%	Pensylvania	7.00%
00	Mirrosta	7.60%	Missouri	0.00%	West Yinginia	15.69%	Minesola	5.00%	Mineral	7.74%
31	North Carolina	729%	Illinois	6.00%	Gengh	18.69%	Kaesas	6.68%	North Carolina	2,42%
22	Spread	7.28%	Edaho	0.01%	Magnia	17.62%	Arkerses	5.62%	Keesas	7.58%
55	Ackaroas	F.17%	Arkansas	0.00%	Weconstri	17.52%	Nemecky	550)	Artueses	7.26%
34.	Santucky	7.86%	Somes	6.45%	Novada	17.05%	North Greatine	887%	Postucky	T.12%
86	New Joseph	7.01%	South Dakota	6.63%	South Dakes	17.05%	New Jersey	5.23%	New Jersey	7.03%
	South Detrote	5335 4	Yemson	6,36%	Arkness.	18.53%	South Dalicta	5.22%	What Wrginia	7,00%
क्र	West Virginia	5.82%	Minweste	8.27%	Notrooks	18.83%	Most Virginia	5.22%	South Deticts	6,58%
11004	Wisconsin	0.00%	North Diskote	621%	Nemarky	16.72%	Marke	9.00%	Wiscone in	6.62%
181	Mirgania	8.63%	Hand	8.15%	Locition	18.22%	Wysemin	5.00%	Virginia .	634%
75.4	Ideho	0.04%	Pleat Virginia	8.09%	Howell	16.09%	Virginia	4.90%	Lookiase	6.43%
41	Texamine	6.04%	Ordo	8.00%	Townson	15.95%	Ovlahoma	4.82%	Netraska	8.42%
2201	Myoning	0.32%	Month Carollea	5.07%	Khotas	15.73%	Tennessee	4.81%	Tervision	6.38%
50.1	Limblena	6.32%	Terressor	5.00%	Wyanerg	10.04%	Louislans	421%	Okunowa	6.23%
	Nobraska	6.29%	Vagaria.	8.44%	News	15.08%	Wyoming	4.71%	Maria	8.32%
100	Distribution	6.24%	Oktoberes	5.42%	Oklahorea	14.07%	Wareke	4.53%		
46	Times	6.10%	Loeiriens	5.80%	Morto Danata	14.77%		4.00%	Wycening	8.50%
22.1	North Childria	5.99%	lows.	5.00%	Autore	14.33%	New Osteria	0.00%	North DWWa	6.00%
200	Wasterbuil	539%	Mississippi	8.29%	Mississippi		Anbana .			4.82%
	Alabaran	636%	ransops	5.29% 5.20%	idsky	10.01%	Mosincipal	3.00%	Mobama	537%
	-	A 14 A 14	100000	-0.00V/00	0.10	14,000	mesonatoppe.	3,81%	PMsstsstppt	9.00%
	LAUR	5.04%	Nobems	5.16%	lows	12.67%	Unin	3.75%	Uno	5.51%

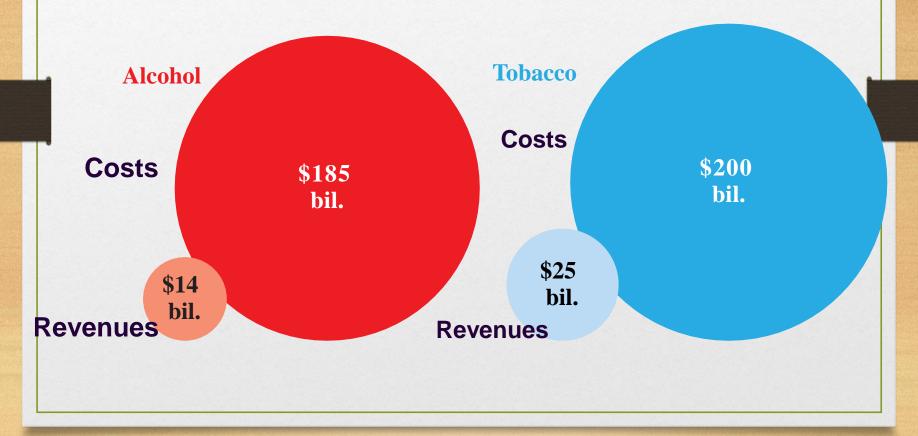
What would happen to the "Black Market"?

- ►It WON'T go away!
 - Organized crime members don't comply with the law



- Over 600 billion cigarettes are sold on the Black Market
- Prescriptions are sold on the Black Market
- MJ smugglers and traffickers also engage in trafficking of other drugs, weapons & humans
- It would undercut the prices of the "legitimate" market
- It would heavily target our youth
- It would operate much easier due to law enforcement restrictions





HOW MARIJUANA LEGALIZATION IMPACTS USE RATES KENTUCKY AND NATIONAL COMPARISONS

12-17-YEAR-OLDS

RHODE ISLAND HAS THE HIGHEST USE IN THE NATION (MEDI-POT ONLY)

55% higher than the national average

71% higher than Kentucky

18-25-YEAR-OLDS

VERMONT HAS THE HIGHEST USE IN THE NATION (MEDI-POT ONLY)

88% higher than the national average

141% higher than Kentucky

26 YEARS AND ABOVE

ALASKA HAS THE HIGHEST USE IN THE NATION (RECREATIONAL)

113% higher than the national average

157% higher than Kentucky



Dianne McFarling

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