

## Sen Gardner's support of the marijuana industry

- Rohrabacher-Leahy amendment – §538 S1662 (Omnibus Appropriations Act)
- Blocked DOJ nominees in response to Cole memo rescission.
- SCOTUS Gonzales vs Raich 545 US 1(2005): Congress may criminalize what Colorado has chosen to legalize.
- Amendments 20 & 64 are not an experiment
  - Input variables control: <50% of pot in 2014 sold by licensed dealers
  - Outcomes not measured: DUID, addiction, others wrongly reported
- Marijuana commercialization is harming Colorado citizens:  
Contrary claims are either wrong or misleading.

# Lies and distortions

## Common fallacies

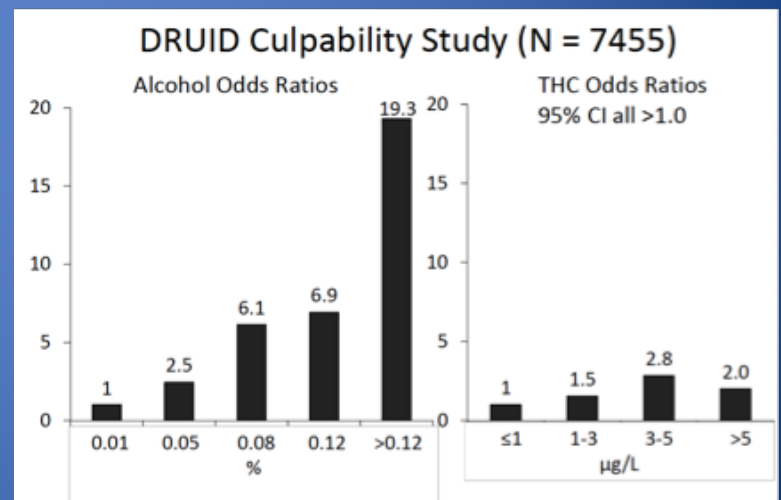
1. Stoned driving is safer than drunk driving
2. It's safe to use marijuana during pregnancy
3. Marijuana stays in blood a long time, long after impairment subsides
4. There is no drug impairment test
5. Frequent users become tolerant to impairment
6. Marijuana is non-addictive

## Colorado fallacies

7. DUID rates are declining
8. Effective 5 ng THC limit
9. No spike in consumption
10. No spike in youth consumption
11. Poison Center marijuana calls are declining
12. Pot related ER visits are declining
13. Fewer drug dealers
14. Fewer kids to prison

# 1. Stoned driving is safer than drunk driving

- Statistically, this is true, but neither is safe compared to a sober driver. Don't ignore stoned driving because it's less risky than drunk driving. Suicide with guns kill more people than murder by guns; we don't ignore murder. 90% of gun deaths are from handguns; we don't ignore assault rifles.
- There is "substantial" evidence that recent use increases vehicle crash risk<sup>1</sup>.
- Safety statistics do not console those killed by stoned drivers
- Risk of a fatal crash is double after using THC<sup>2</sup>
- THC & alcohol together is worse than either separately<sup>2</sup>



1 Van Dyke, M et al. Monitoring Health Concerns Related to Marijuana in Colorado: 2016. Colorado Department of Public Health and Environment

2 Li, G et al. Drug use and fatal motor vehicle crashes A case control study. Accident Analysis and Prevention. Sept 2013

## 2. Safe to use during pregnancy

- There is “substantial” evidence that marijuana use during pregnancy can affect a child’s birth weight<sup>1</sup>.
- There is “moderate” evidence that marijuana use during pregnancy can affect a child’s<sup>2</sup>:
  - Growth rate
  - Cognitive ability
  - Intelligence
  - Attention span

<sup>1</sup> The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research. Nat'l Academies of Sciences 2017

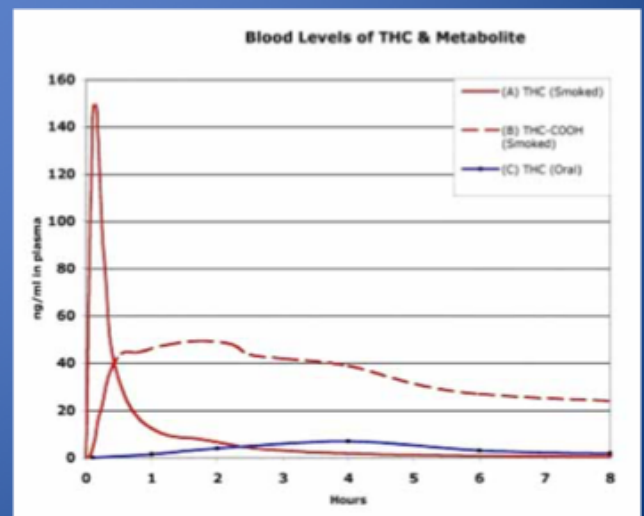
<sup>2</sup> Van Dyke, M et al. Monitoring Health Concerns Related to Marijuana in Colorado: 2016. Colorado Department of Public Health and Environment



### 3. Marijuana stays in blood a long time

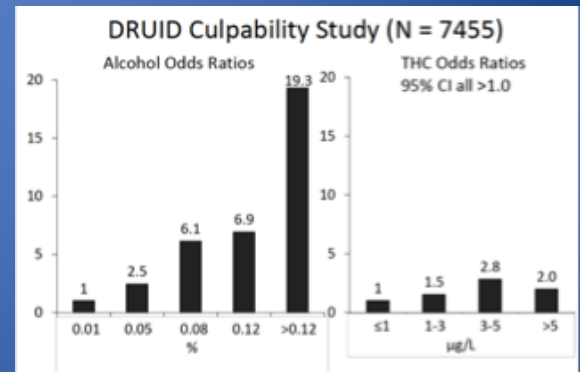
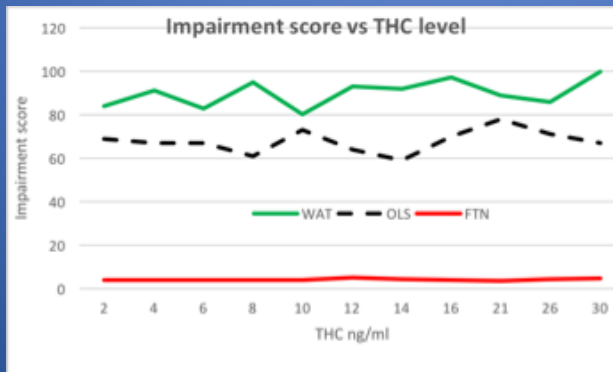
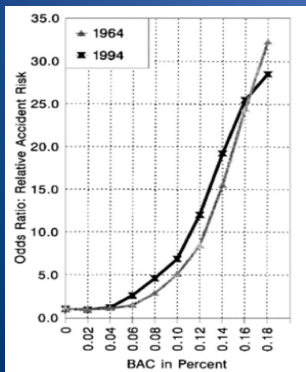
- It can't. It's a plant. But some of marijuana's chemicals can:
  - THC Psychoactive, fat soluble
  - Carboxy THC Psycho inactive, water soluble metabolite of THC
- Brain & other tissues quickly absorb THC – 73% in 25 minutes
- Carboxy THC remains in blood and urine a long time.
- THC remains in the body a long time, but not in the blood.

Hartman RL, Brown TL, Milavetz et al. Effect of Blood Collection Time on Measured  $\Delta^9$ -Tetrahydrocannabinol Concentrations: Implications for Driving Interpretation and Drug Policy. Clinical Chemistry 62:2 367-377 (2016)



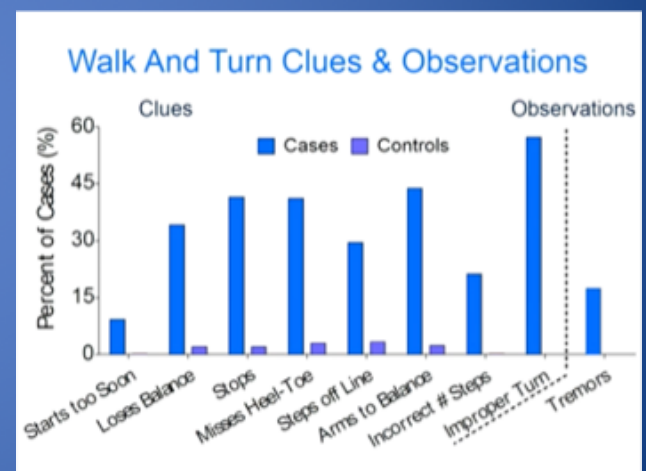
## 4. There is no drug impairment test

- Not true. Impairment is determined by driving pattern and behavioral assessments for both alcohol and drugs.
- Lab tests used to determine cause of the impairment, or to prove DUI *per se*.
- Alcohol is the only drug with a confirmed correlation between blood levels and impairment levels that can support *per se*.



## 4. Drug impairment testing (cont.)

- Oral fluid can be tested (pass/fail) at the roadside for many drugs, including marijuana.
- Either blood or oral fluid may be lab tested for evidentiary purposes.
- SFSTs moderately successful for THC<sup>1</sup>.
- Modified tests are 96.7% accurate<sup>2</sup>.



1. Papafotiou K, Carter JD, Stough C. The relationship between performance on the standardized field sobriety tests, driving performance and the level of  $\Delta^9$ -tetrahydrocannabinol (THC) in blood. *Forensic Science International* 155 (2005) 172-178

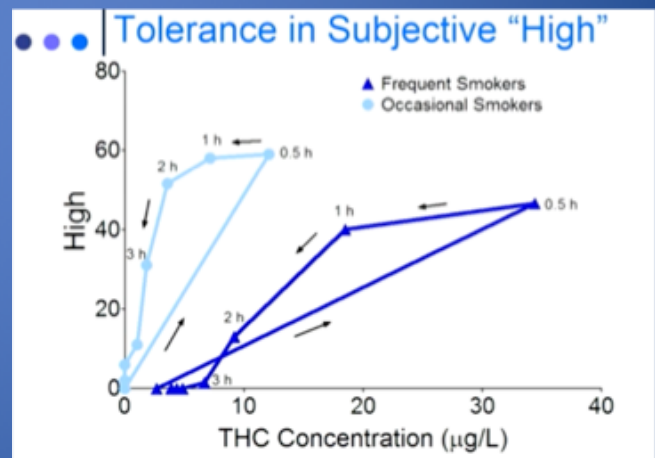
2. Hartman RL, Richman JE, Hayes CE. Drug Recognition Expert (DRE) examination characteristics of cannabis impairment. *Accident Analysis and Prevention* 92 (2016) 219-229

## 5. Frequent users develop tolerance

- Tolerance is developed for subjective “high,” not for executive function or psychomotor skills<sup>1</sup>.
- Chronic users remain chronically impaired, even when they are not acutely impaired<sup>2</sup>.

1 Ramaekers JG, van Wel JH, Spronk DB. Cannabis and tolerance: acute drug impairment as a function of cannabis use history. Scientific Reports Nature 6: 26843 (2016)

2 Bosker WM, Karschner EL, Lee D, Goodwin RS, Hirvonen J, et al. (2013) Psychomotor Function in Chronic Daily Cannabis Smokers during Sustained Abstinence. Plos One Jan 2, 2013



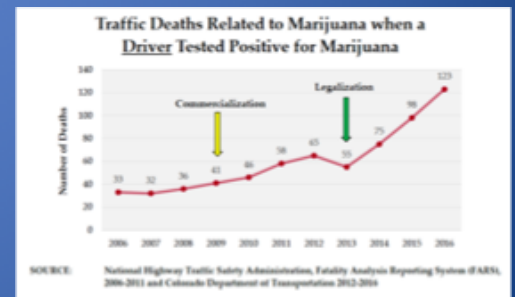
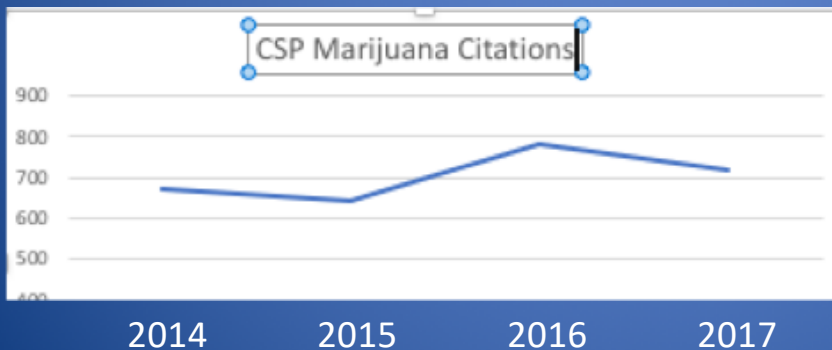
## 6. Marijuana is non-addictive

- There is “substantial” evidence that chronic marijuana use can cause addiction<sup>1</sup>.

1 Van Dyke, M et al. Monitoring Health Concerns Related to Marijuana in Colorado: 2016. Colorado Department of Public Health and Environment

## 7. DUID rates in Colorado are declining

- Drug Policy Alliance & Colo politicians cite CSP notations dropping from 2016 to 2017
- 8% *decrease* from 2016-2017 after 22% *increase* 2015-2016
- Look at long term trends, not short term numbers
- CSP data available only back to 2014; FARS data goes back pre-commercialization.

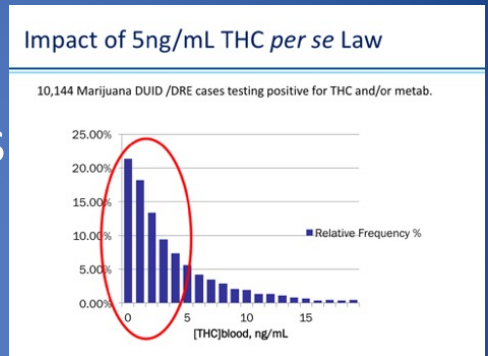


Colorado State Patrol, Impaired Driving Citations and Crashes Report, Jan 2014-2017



## 8. Colorado has an effective 5 ng THC limit<sup>1</sup>

- No scientific basis for 5 ng/ml THC limit<sup>2</sup>
- Most stoned drivers test below 5 ng<sup>2</sup>. So a 5 ng/ml law protects stoners, not the public.

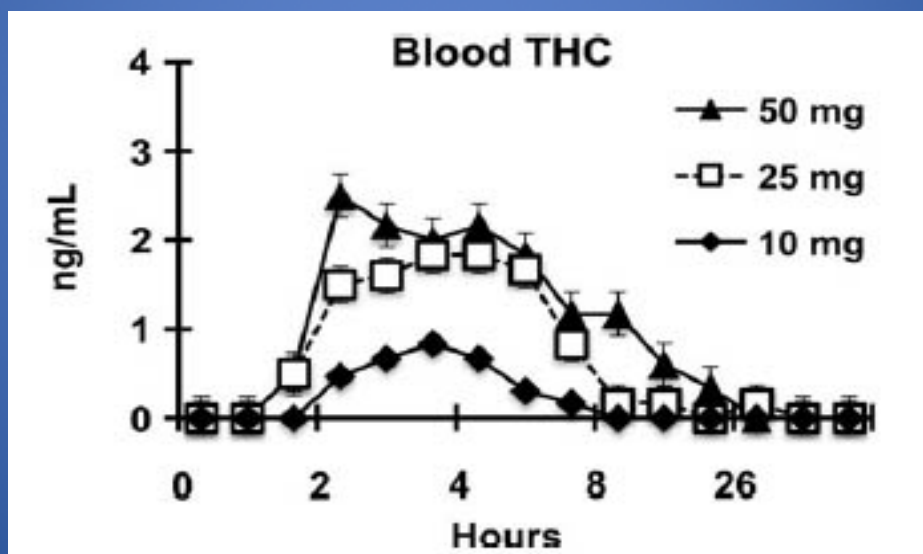


- Colo's "permissible inference" law, unlike a *per se* law, does not guarantee a conviction<sup>3</sup>
- Colo's "permissible inference" law is therefore the weakest in the nation.

1. Hickenlooper/Coffman letter to Sessions Aug 24, 2017
2. Logan BK, Kacinko SL, Beirness DJ. An evaluation of data from drivers arrested for DUI in relation to *per se* limits for cannabis (May 2016) AAA Foundation for Traffic Safety
3. Melanie Brinegar, June 2014

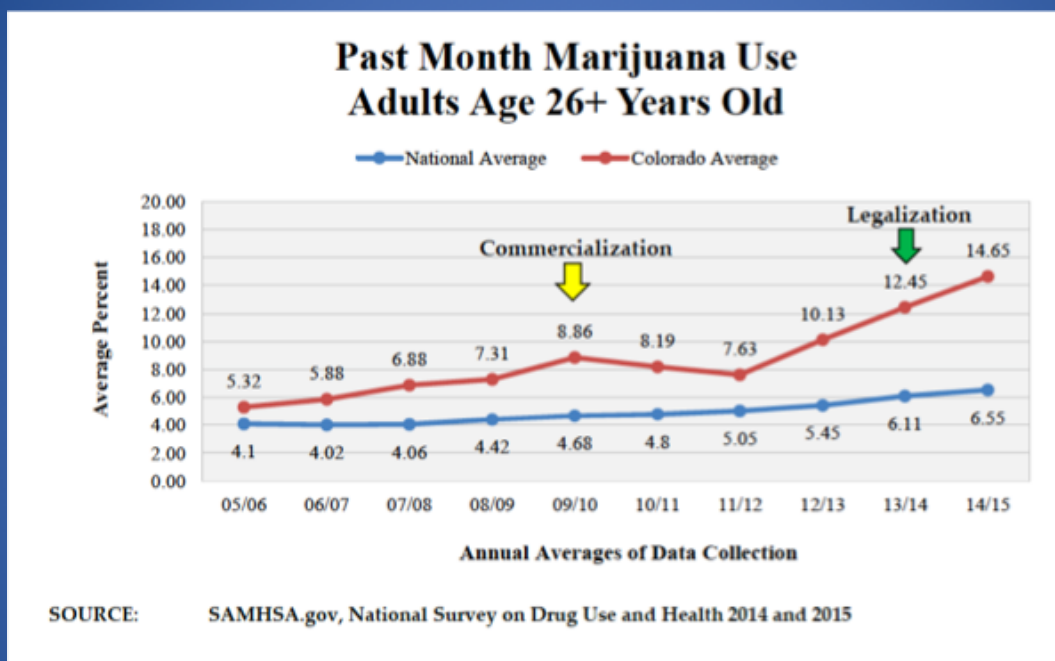
## 8. Colorado has an effective 5 ng THC limit (continued)

Only smoked or vaped marijuana yields high blood THC levels. For edible marijuana, blood THC levels don't get above 3 ng/ml, and that's for someone consuming 5 times the standard dose!



Vandry R, Herrmann ES, Mitchell JM. Pharmacokinetic profile of oral cannabis in humans: blood and oral fluid disposition and relation to pharmacodynamic outcomes. J Anal Tox 2017 41 83-99

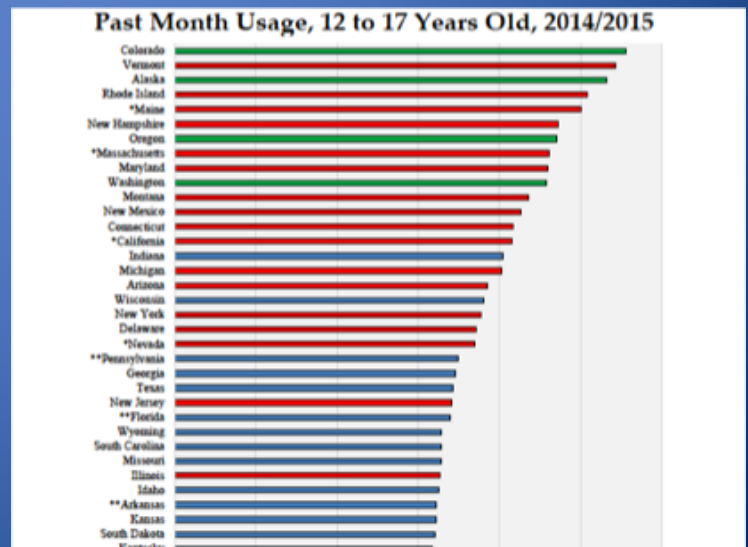
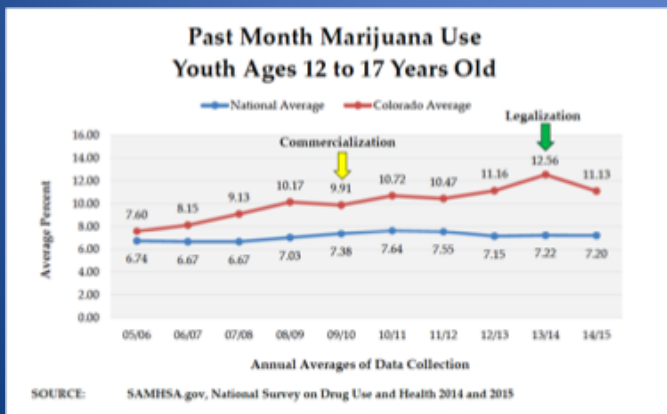
## 9. No spike in o'all consumption<sup>1</sup>



1 Governor Hickenlooper. MicMedia Nov 22, 2017

# 10. No spike in youth consumption<sup>1</sup>

- This claim is based on the HKCS report comparing recent data vs pre-legalization. HKCS omits 34% of the state and all school dropouts. HKCS has qualified to be included in the CDC YRBS HS survey only 4 times since 1991. The relevant comparison is pre-commercialization.



<sup>1</sup> Hickenlooper/Coffman letter to Sessions Aug 24, 2017

# 11. RM Poison center calls declining<sup>1</sup>

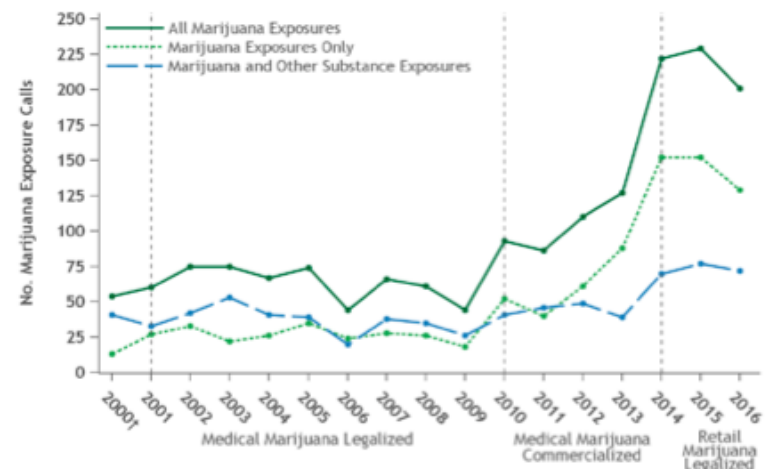
## The Governor

- Marijuana exposure calls [to the Rocky Mt. Poison and Drug Center] declined from 229 in 2015 to 201 in 2016, a 12% decrease.

## The facts

- Exposure calls up over 300% since commercialization ( $((229+201)/2)/70$ ).

Figure 1. Number of marijuana exposure calls to poison center by marijuana only and marijuana with other substances in Colorado



Produced by: EEOHT, CDPHE 2016.

\*Counts significantly increased from previous year with a p value <0.003.

†Prior to legalized medical marijuana.

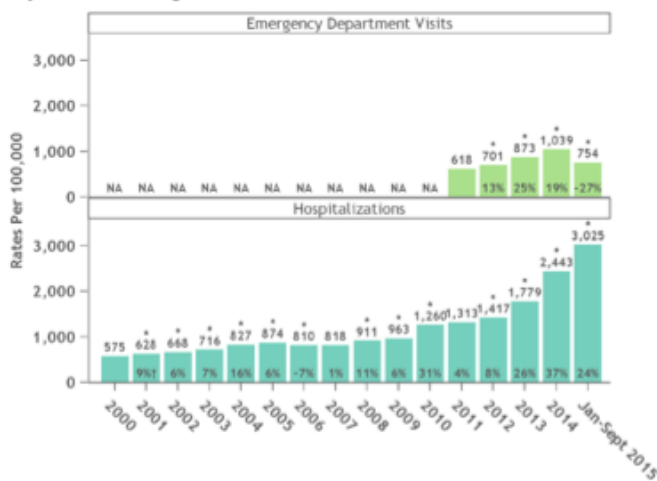
‡Data Source: National Poison Data System (NPDS) closed, human, marijuana exposure calls in Colorado from 2000 to 2016, n=1,688.

# 12. ER visits declining<sup>1</sup>

## The Governor

- MJ-related emergency department visits fell from 1,309 in 2014 to 704 in 2015.

Figure 2. Rates of hospitalizations (HD) and emergency department (ED) visits with marijuana-related billing codes in Colorado.



Produced by: ECHO, CDPHE 2016

\*Rate significantly increased from previous time period with a p-value <0.001.

†The percent change in rates of HD and ED visits compared to the previous year.

ICD-9-CM codes 305.20-305.23, 304.30-304.33, 969.6, and E854.1 were used to determine HD and ED visits with marijuana-related billing codes.

§Data Source: Colorado Hospital Association 2000-Sept 2015 (2011-Sept 2015 for ED visits).

## The facts



- MJ-related emergency department visits up 65% since 2011 ( $((1039 + (4/3) * 754) / 2) / 618$ )
- MJ-related hospitalizations up 375% since commercialization ( $3025 / 800$ ).

1Aug 24, 2017 letter to AG Sessions



## 13. Fewer drug dealers<sup>1</sup>

### The governor

- Less drug dealers

### The facts

- Legal Dispensaries  
Jan 2014 =156  
Dec 2016 =459  
[Colorado DOR]
- Illegal seizures  
2014 = 425 pounds  
2016 = 3.5 tons  
[RMHIDTA]

<sup>1</sup> Gov Hickenlooper. Micmedia  
Nov 22, 2017 video

# 14. Fewer kids to prison<sup>1</sup>

## The governor

- Less kids to prison

## The facts

- Marijuana arrests, 2012-2014

Overall	-10%
Latinos	+20%
Black	+50%

[NPR Jun 29, 2016 from CSP data]

<sup>1</sup> Governor Hickenlooper.  
Micmedia Nov 22, 2017 video

# Nat'l Academy of Science Conclusions

Conclusive or substantial evidence of the following:

- Effective to treat adult chronic pain, chemotherapy anti-emetics, MS spasticity
- Association with chronic bronchitis
- Increased risk of motor vehicle crashes
- Lower birth weight
- Development of schizophrenia or other psychoses
- Problem cannabis use risks
  - Stimulant treatment of ADHD – NO
  - Being male and smoking cigarettes – YES
  - Initiating use at an early age – YES
  - Frequent use - YES

The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research. Nat'l Academies of Sciences 2017

Senator Gardner was elected to represent the voters, not the marijuana lobby. His continued support of the marijuana industry at the expense of the citizens of Colorado will not be forgotten.