

Public Health & Marijuana Data Presentation

August 17, 2016

Marijuana Cost-Benefit Analysis Interim Committee

A scenic mountain landscape featuring a prominent, rugged, grey rock peak in the background. The middle ground is dominated by a dense forest of aspen trees with vibrant yellow autumn foliage. In the foreground, there are several dark green evergreen trees and some brown, dry brush. The sky is a clear, bright blue.

Adolescents



HEALTHY KIDS COLORADO SURVEY



COLORADO
Department of Public
Health & Environment



COLORADO
Department of Human Services

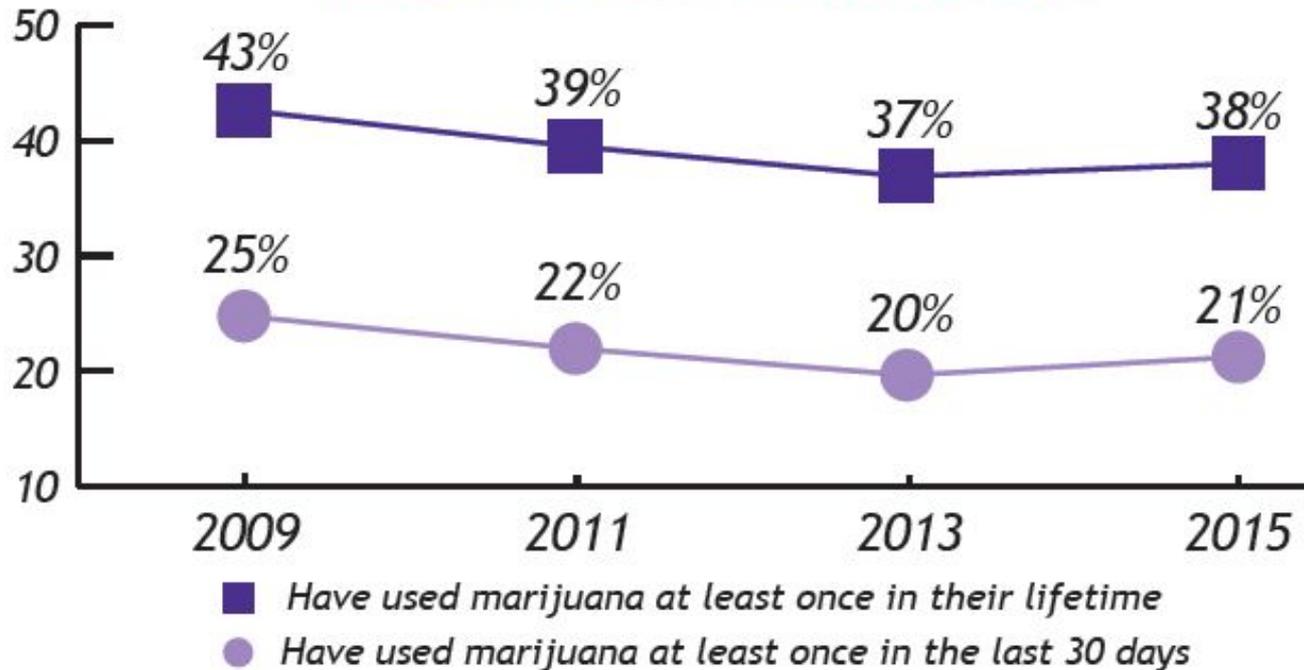


COLORADO
Department of Education

Advisory Committee: multi-disciplinary group that includes 40+ school/district staff, local public health, and community partners.

Healthy Kids Colorado Survey 2015

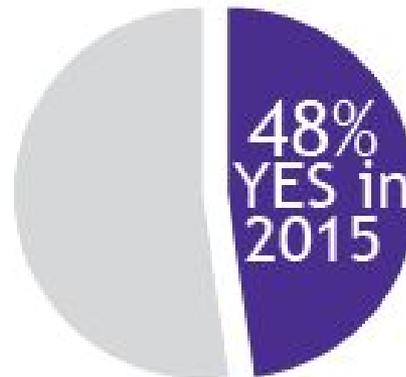
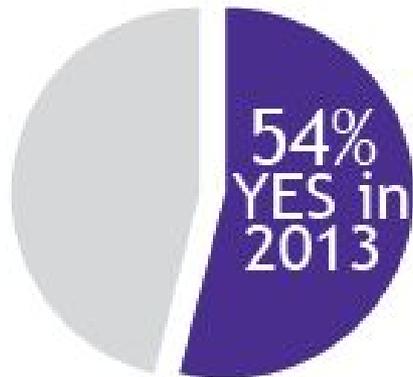
YOUTH MARIJUANA USE REMAINS RELATIVELY UNCHANGED



Healthy Kids Colorado Survey 2015

IS MARIJUANA USE RISKY?

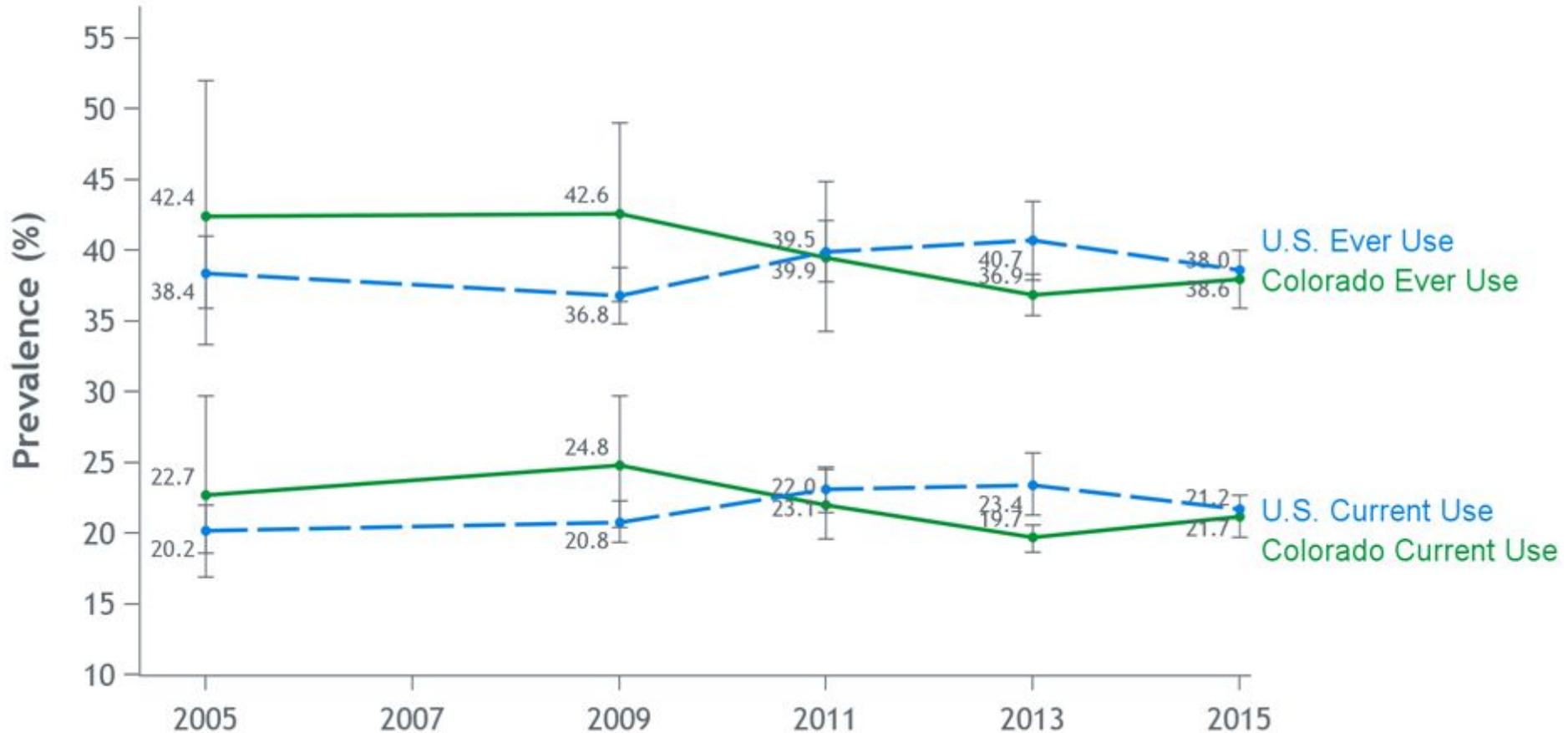
Fewer students see regular marijuana use as risky behavior.



Statistically significant change between 2013 and 2015

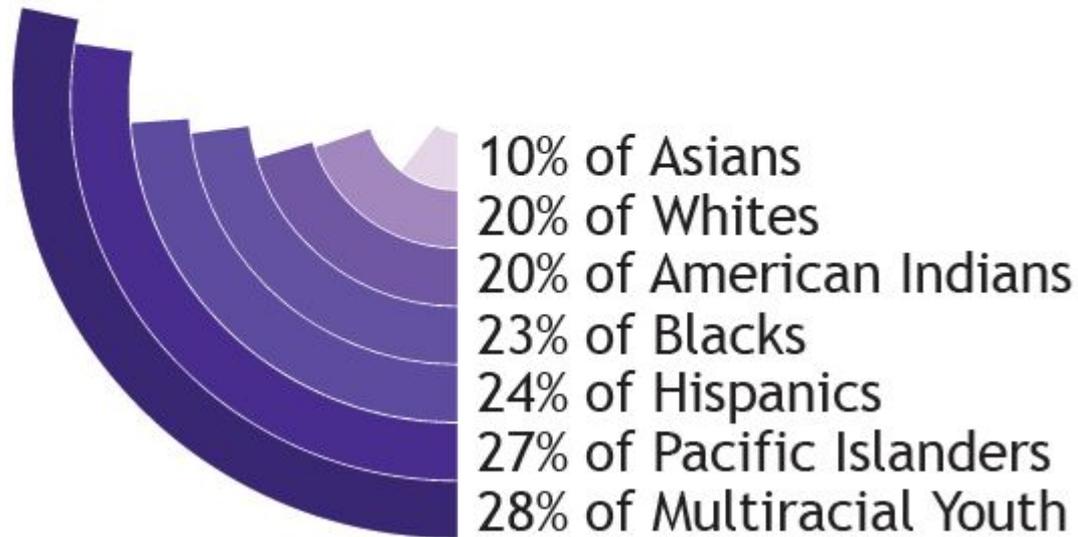
Marijuana Use in High School

Figure 1. Prevalence of Ever and Current Marijuana Use For High School Students in Colorado Compared to the National Prevalence, 2005-2015.



30-Day Marijuana Use Among

RACE/ETHNICITY

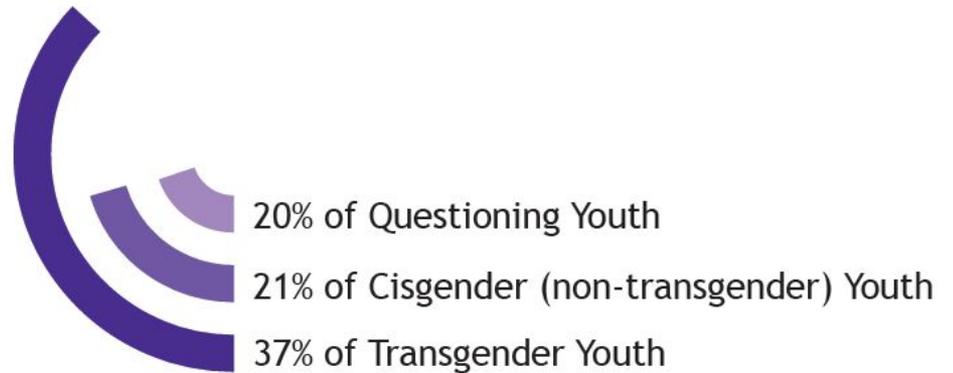


30-Day Marijuana Use Among

SEXUAL ORIENTATION

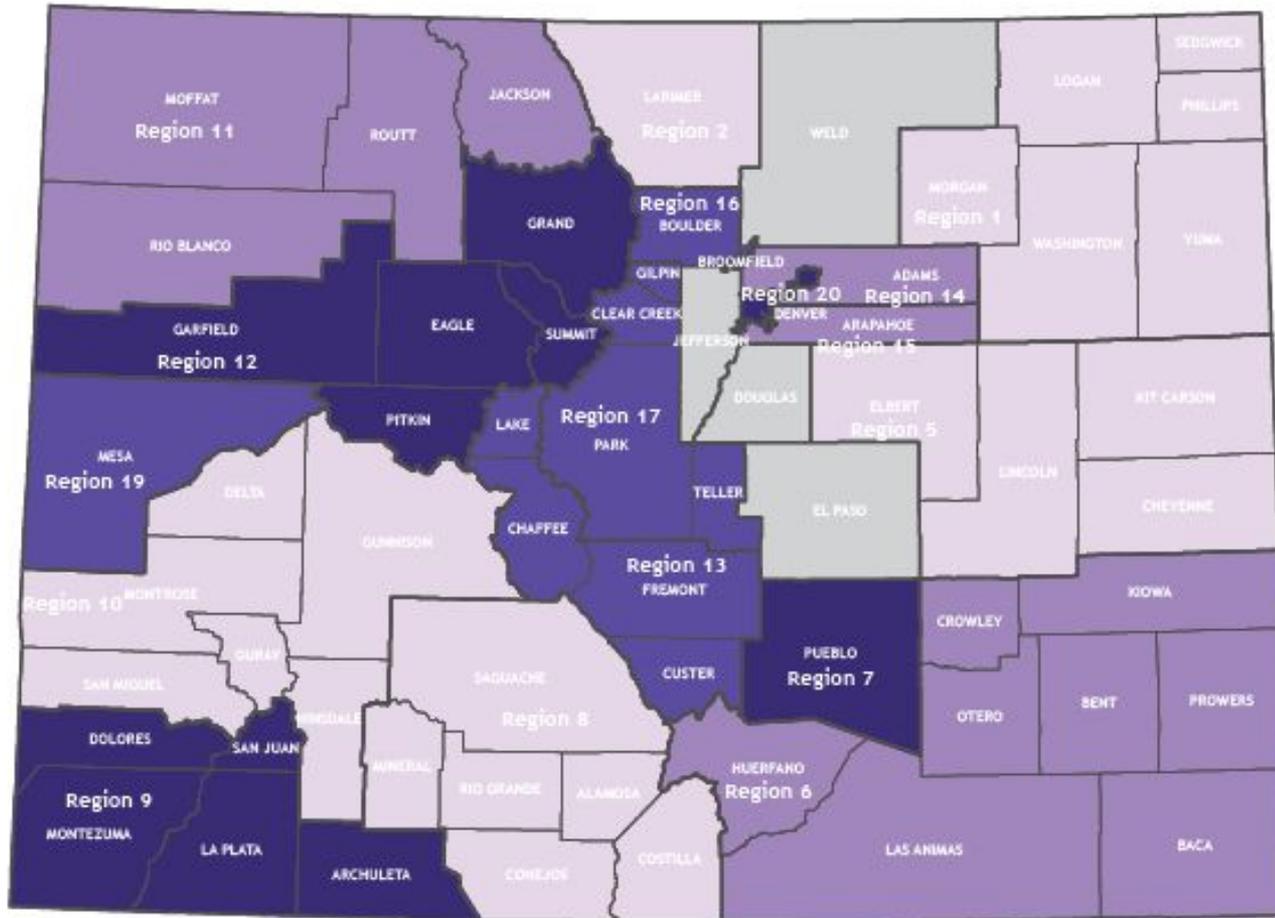


GENDER IDENTITY



REGIONAL BREAKDOWN

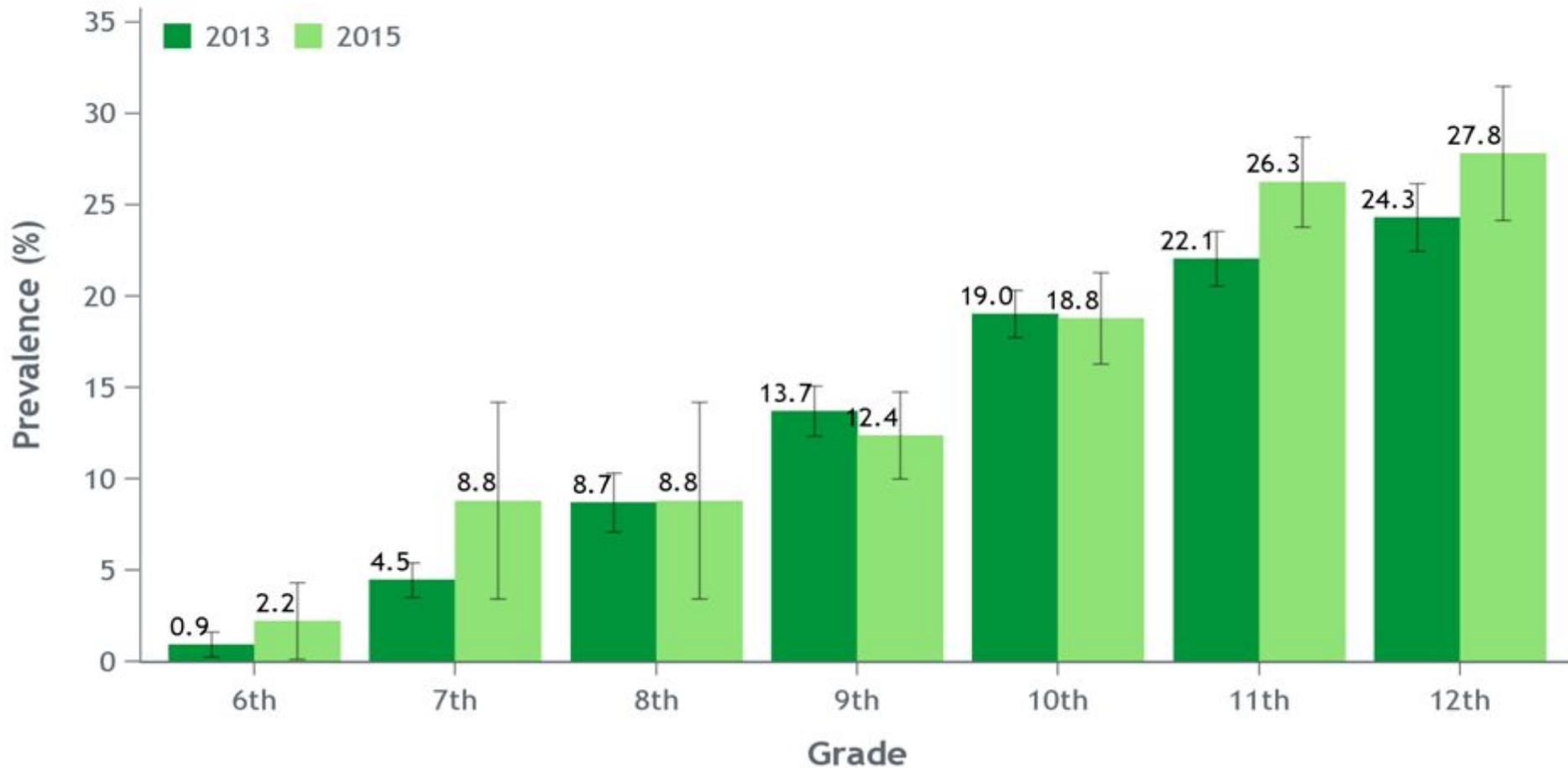
Of youth who currently use marijuana



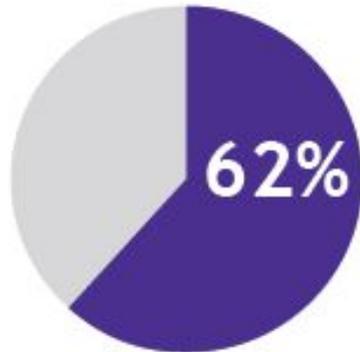
Legend: No Data Available | 9.7 - 19.7% | 19.8 - 20.6% | 20.7 - 24.1% | 24.2 - 30.1%

Marijuana Use by Grade Level

Figure 3. Prevalence of Current Marijuana Use For High School and Middle School Students by Grade and Year in Colorado, 2013-2015.

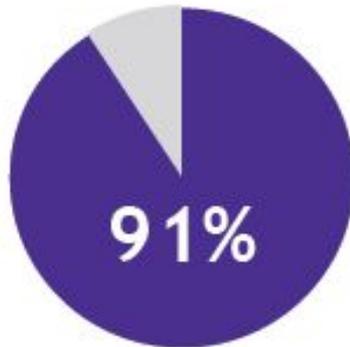


AGE OF FIRST USE



Have *never* tried marijuana.

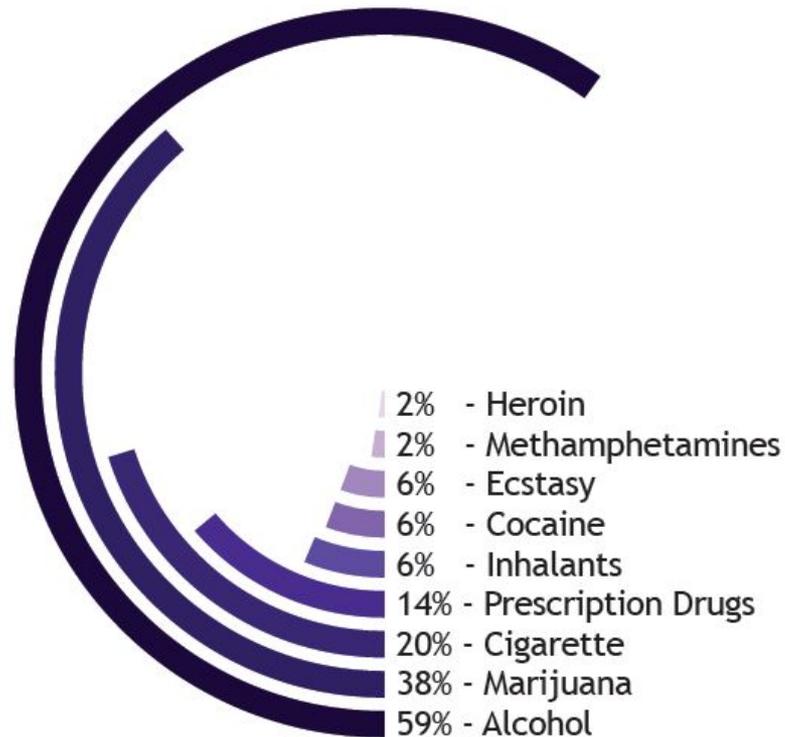
Of those who said they have tried marijuana



First tried marijuana after age 13.

MARIJUANA IS THE SECOND MOST USED SUBSTANCE

Percent of high school students who have used substances at least once in their lifetime



ADULTS CAN HELP REDUCE YOUTH MARIJUANA USE



Supportive Teachers:
Youth who agree that teachers care and encourage them are 1.7x LESS likely to use.



Talking with Parents:
Youth who can ask a parent/guardian for help are 1.6x LESS likely to use.



Family Rules:
Youth who have clear family rules are 1.7x LESS likely to use.



Parents' Opinion:
If a parent feels like it's wrong, their children are 4x LESS likely to use.

Trusted Adults: Campaign



101

MARKETING 101
KNOW WHAT TEENS KNOW ABOUT MARIJUANA

TERMS
for
Marijuana

METH
of
Consumption

Storage

GOOD & KNOW

CONSEQUENCES OF UNDERAGE
RETAIL MARIJUANA USE

FINANCIAL AID
VETERANS
GETTING STARTED
EMPLOYMENT
SPORTS & ACTIVITIES

SEQUENCES

Warning: Underage consumption leads to loss of employment, financial aid, and more.

Warning: Underage consumption leads to loss of employment, financial aid, and more.



GOOD & KNOW

GOOD & KNOW

TALKING

TO YOUR KIDS & TEENS

UNDERAGE RETAIL MARIJUANA USE: CONSEQUENCES FOR TEENS

GOOD & KNOW

AGES 13-16

Underage retail marijuana use is illegal in Colorado. It can lead to loss of employment, financial aid, and more.

AGES 17-20

Underage retail marijuana use is illegal in Colorado. It can lead to loss of employment, financial aid, and more.

AGES 21+

Underage retail marijuana use is illegal in Colorado. It can lead to loss of employment, financial aid, and more.

GOOD & KNOW



TIPS FOR TALKING TO STUDENTS & ATHLETES

UNDERAGE RETAIL MARIJUANA USE: A HINT FOR TEACHERS AND COACHES

Underage retail marijuana use is illegal in Colorado. It can lead to loss of employment, financial aid, and more.

GOOD & KNOW



HEALTH EFFECTS OF UNDERAGE RETAIL MARIJUANA USE

Underage retail marijuana use is illegal in Colorado. It can lead to loss of employment, financial aid, and more.

GOOD & KNOW

Monitoring drug use patterns and health impacts

CDPHE and Retail Marijuana (SB 13-283, C.R.S. 25-1.5-110)

Surveillance Role

"Monitor changes in **drug use patterns**, broken down by county and race and ethnicity, and the emerging science and medical information relevant to the **health effects** associated with marijuana use."

CDPHE and Retail Marijuana (SB 13-283, C.R.S. 25-1.5-110)

Retail Marijuana Public Health Advisory Committee

Review public health surveillance data

Systematically review the scientific literature

- Recommend public health surveillance activities
- Recommend public health related policies
- Identify research gaps important to public health

Detailed Report

Monitoring Health Concerns Related to Marijuana in Colorado: 2014

Changes in Marijuana Use Patterns, Systematic Literature Review, and Possible Marijuana-Related Health Effects



Available on CDPHE website

- Full report or
- Individual chapters
 - Updates in-progress

www.colorado.gov/cdphe/retail-marijuana

Scientific Evidence Statements

Substantial: Robust scientific findings support the outcome with no credible opposing scientific evidence

- 18 Statements

Moderate: Strong scientific findings support the outcome, but have some limitations

- 12 Statements

Limited: Modest scientific findings support the outcome, but have significant limitations

- 17 Statements

Mixed: Both supporting and opposing scientific findings for the outcome, with neither direction dominating

- 20 Statements

Summary of MJ Health Effects

(Evidence Reviews)

Driving:

- MJ use increases motor vehicle crash risk

Pregnancy - when pregnant women used MJ, their children later had on average:

- Lower cognitive function
- Lower academic ability
- More attention problems

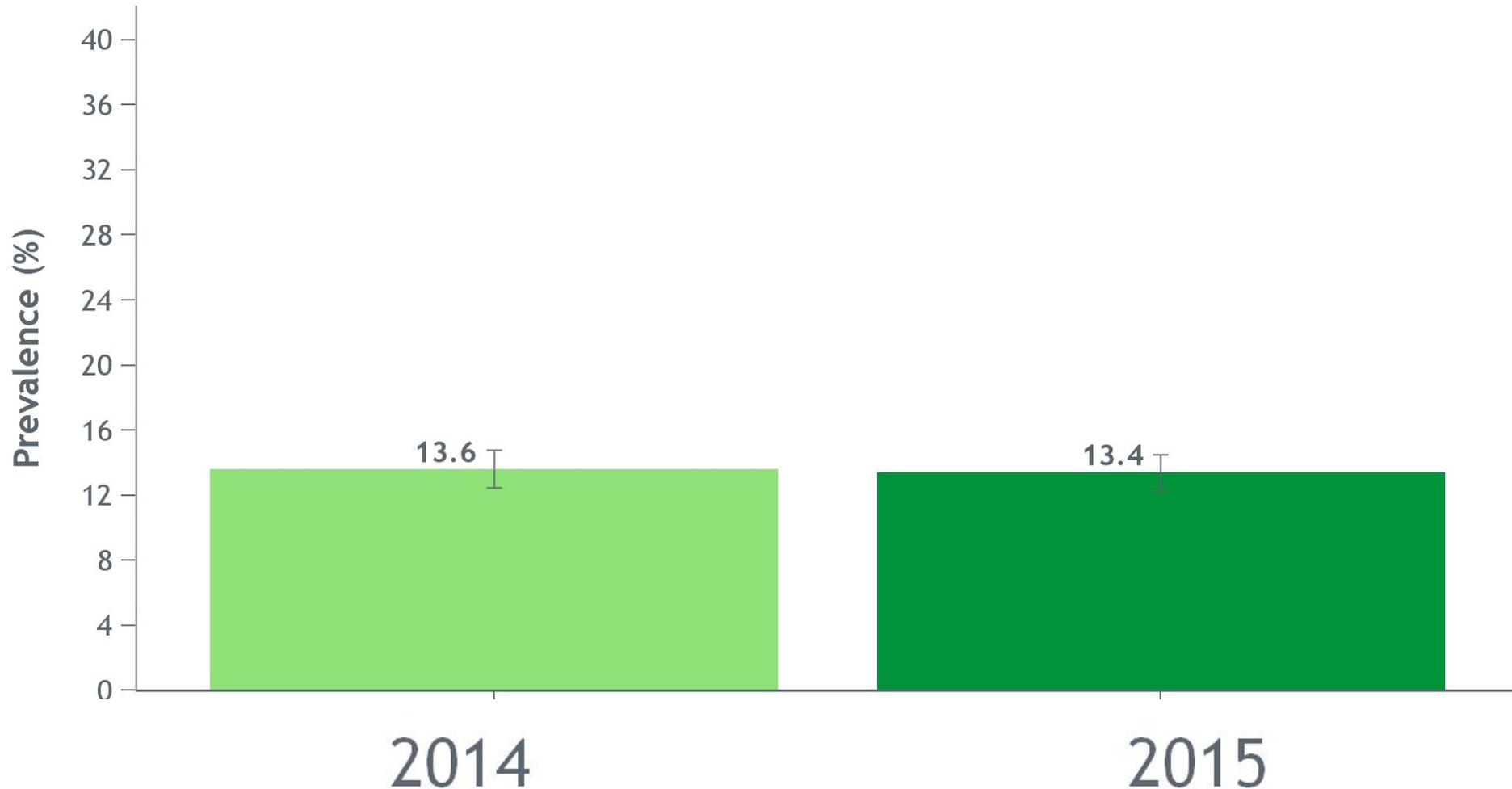
Cognitive and Mental Health Issues:

- Adolescent users are less likely to graduate high school
- Adolescent users are more likely to have psychotic symptoms in adulthood
- Heavy users (adolescent or adult) are more likely to develop a psychotic disorder
- Impaired memory for at least 7 days after last use among heavy users
- Adolescents have impaired cognitive abilities and lower academic performance for 28 days after stopping use

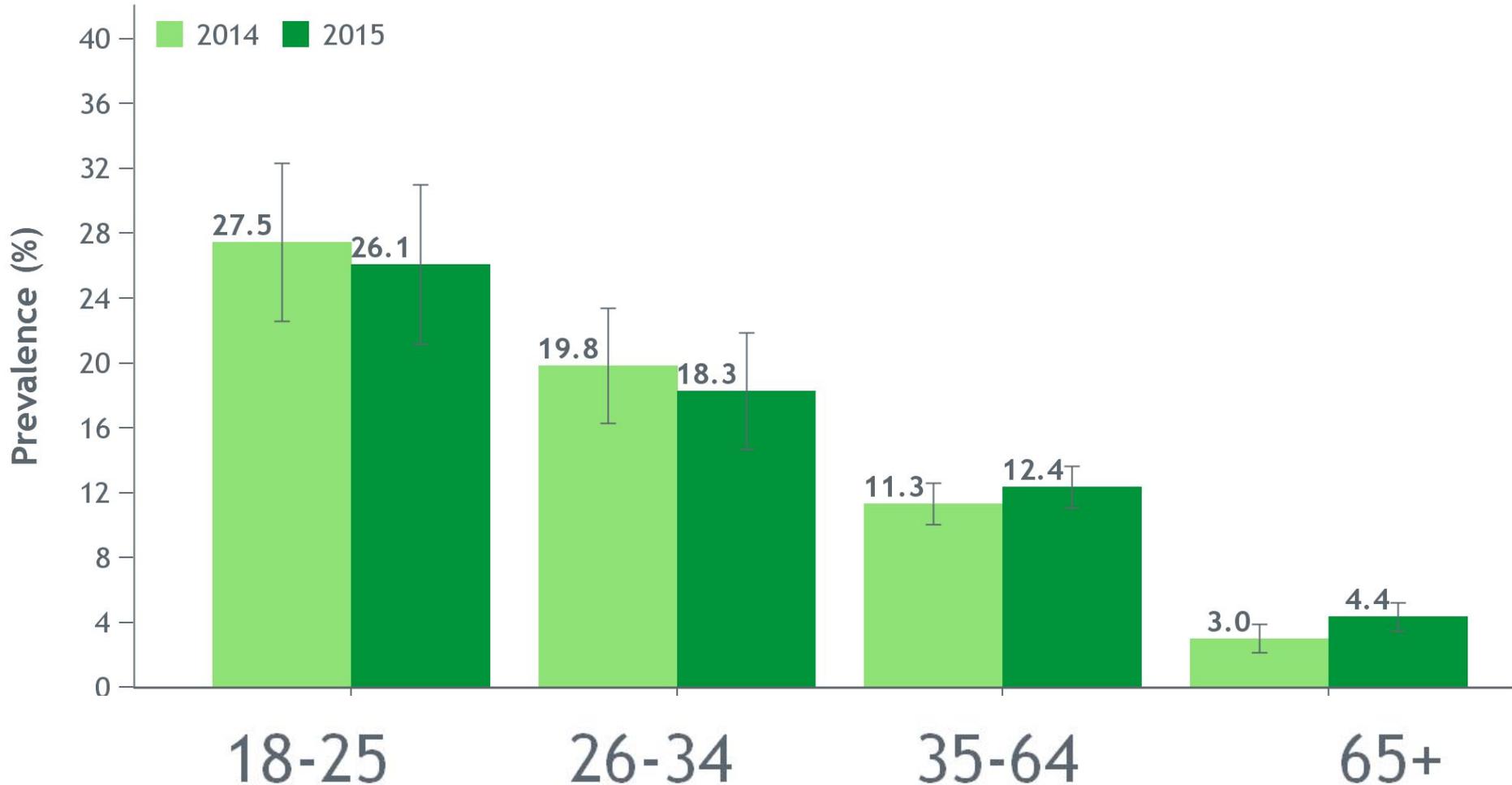
Respiratory Issues:

- Heavy MJ use is associated with chronic bronchitis & pre-malignant lung lesions

Adult Marijuana Use in Colorado 18 years old and older (BRFSS)



Adult Marijuana Use in Colorado by Age (BRFSS)



Adult Marijuana Use in Colorado by Sex (BRFSS)

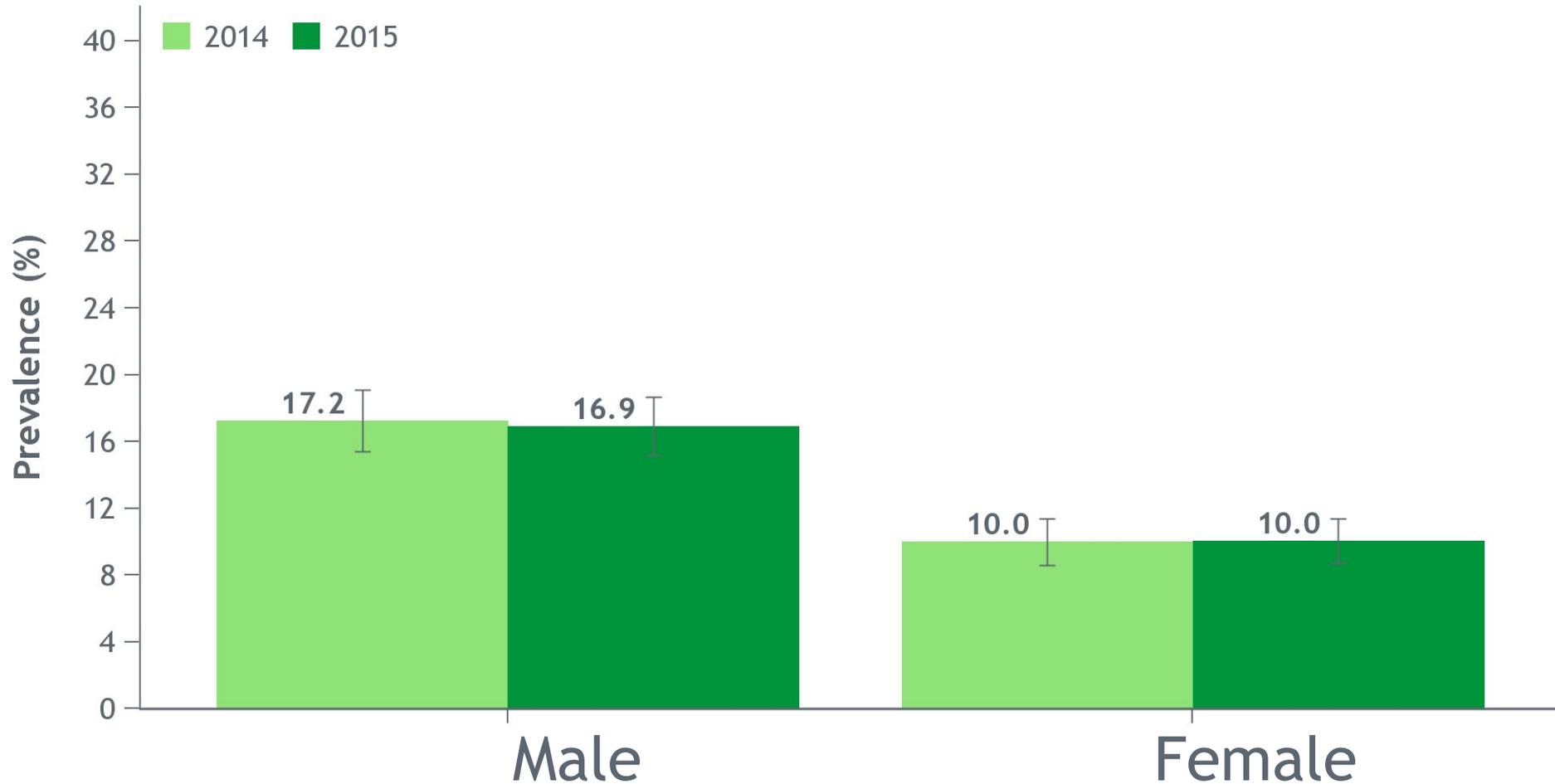


Figure 1. Rates of Hospitalizations (HD) and Emergency Department (ED) Visits with Possible Marijuana Exposures† in Children Under 9 Years Old per 100,000 HD and ED Visits in Children Under 9 Years Old by Legalization Eras in Colorado.

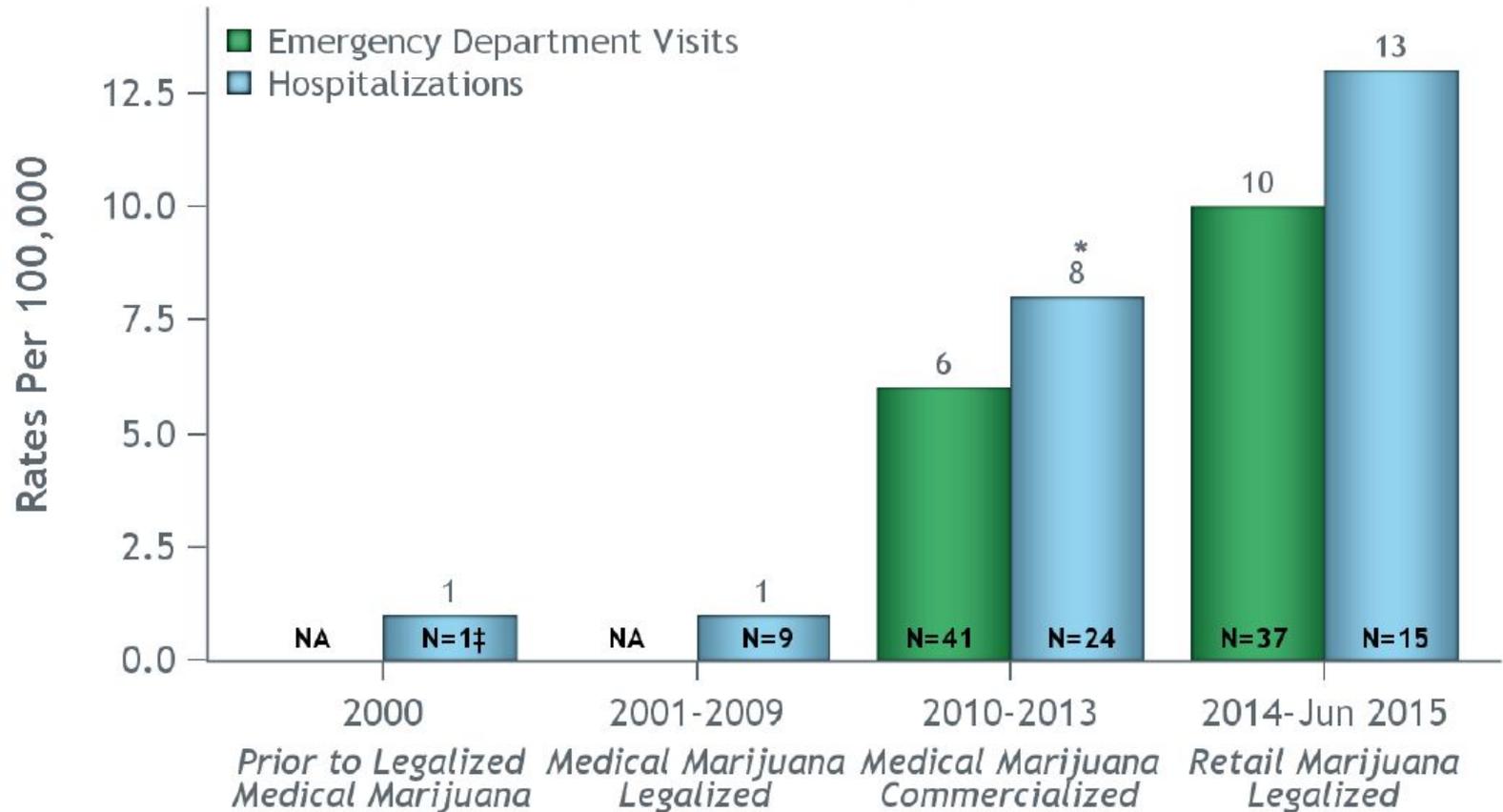
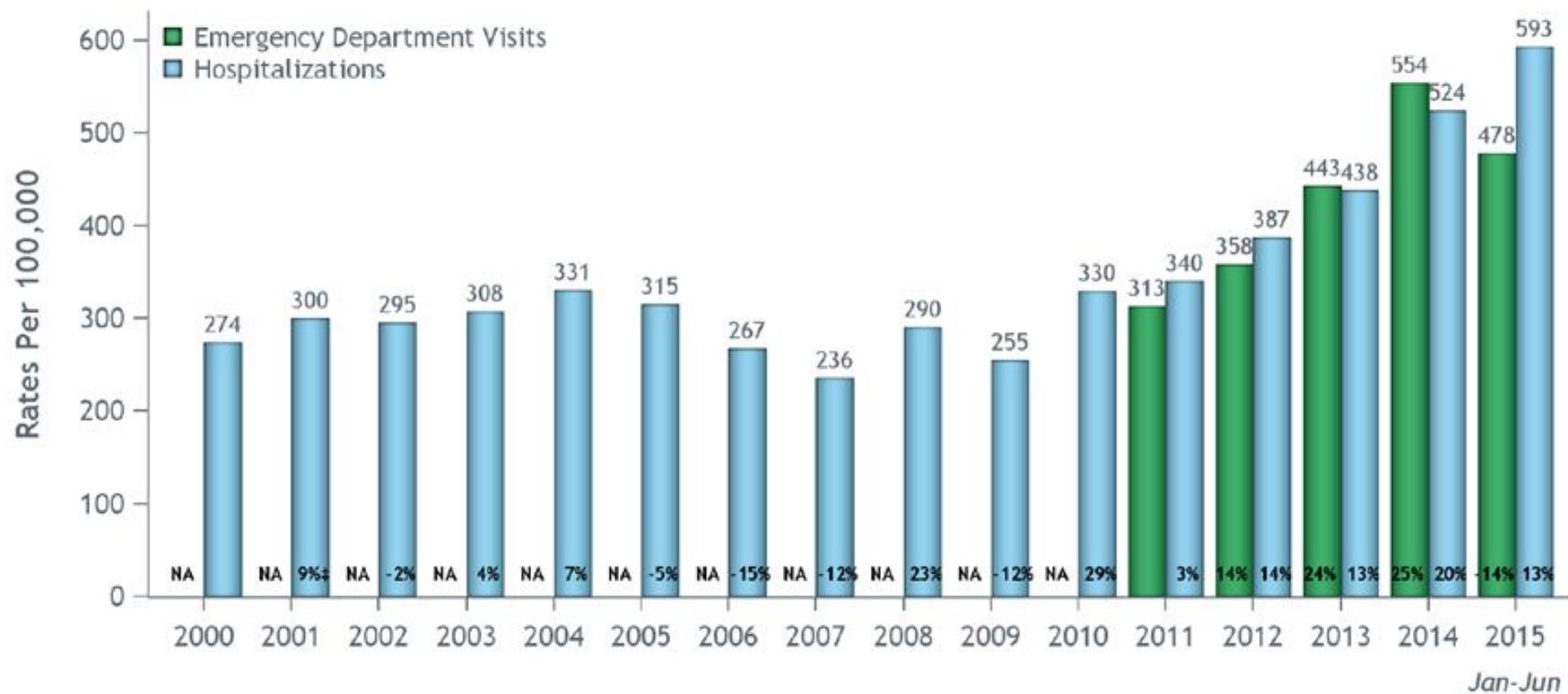
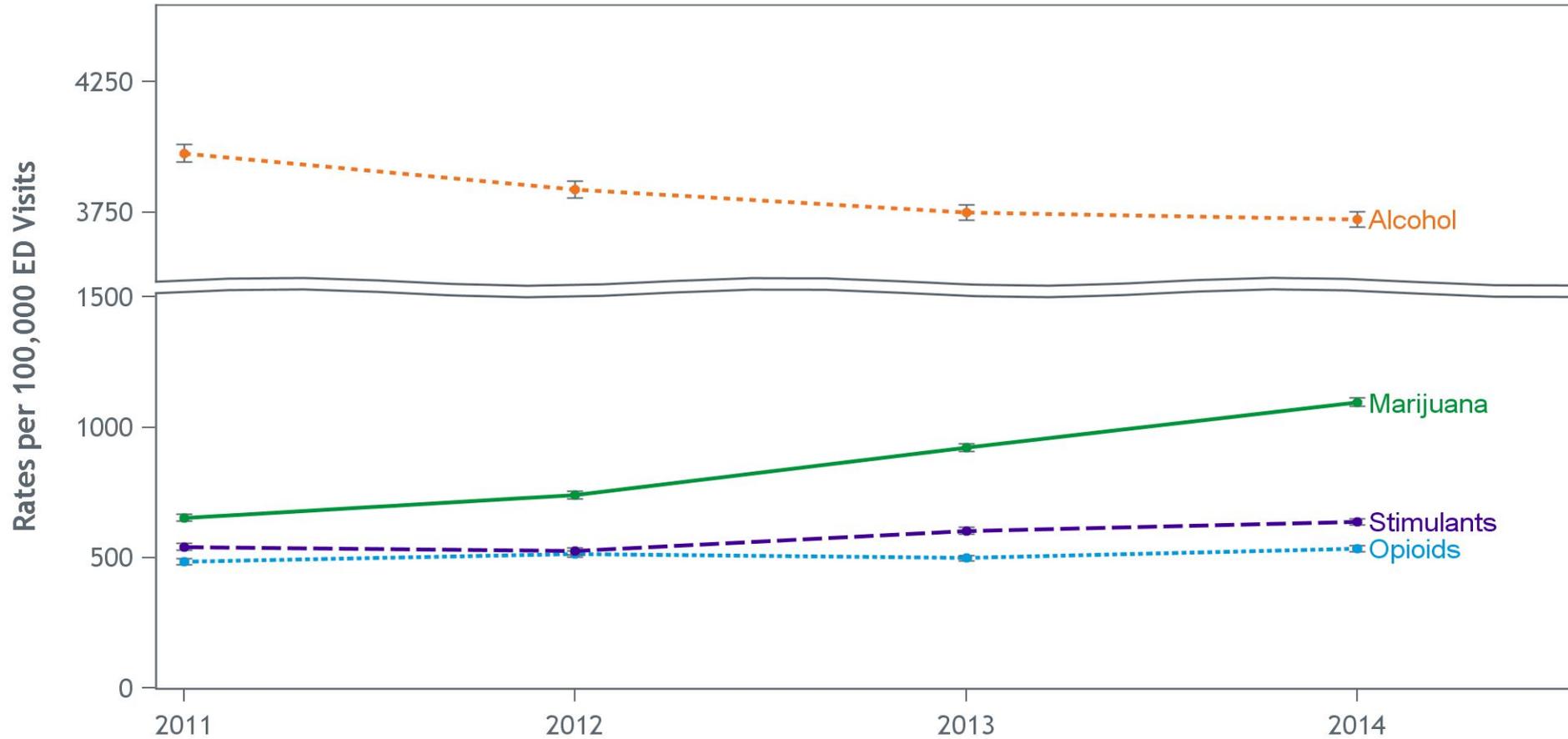


Figure 3. Rates of Hospitalizations (HD) and Emergency Department (ED) Visits with Possible Marijuana Exposures, Diagnoses, or Billing Codes per 100,000 HD and ED Visits by Year in Colorado.



Substance Related ED Visits in Colorado, 2011-2014: Exposures, Diagnoses, Billing Codes, or Poisonings.

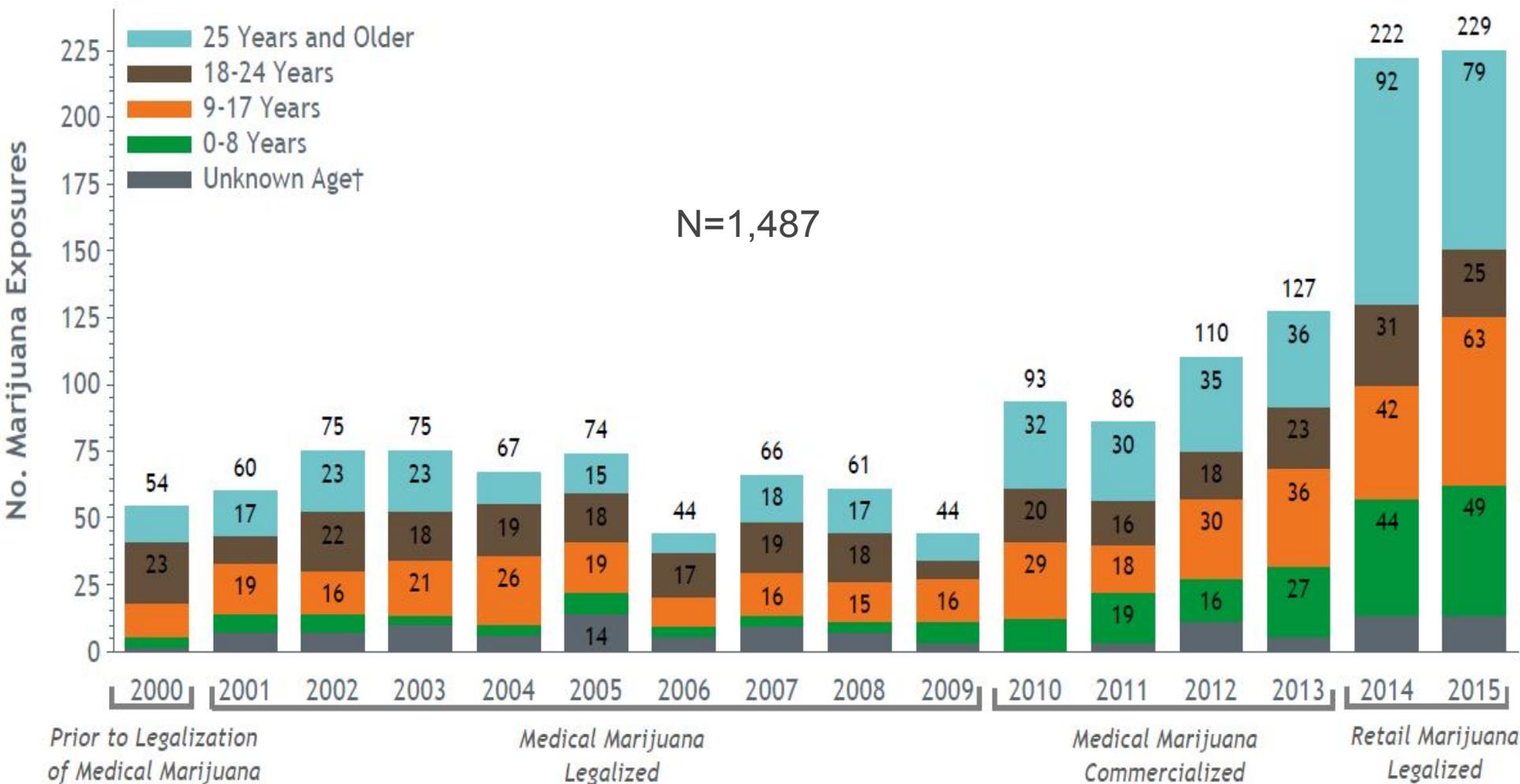


*EEOHT, CDPHE 2016

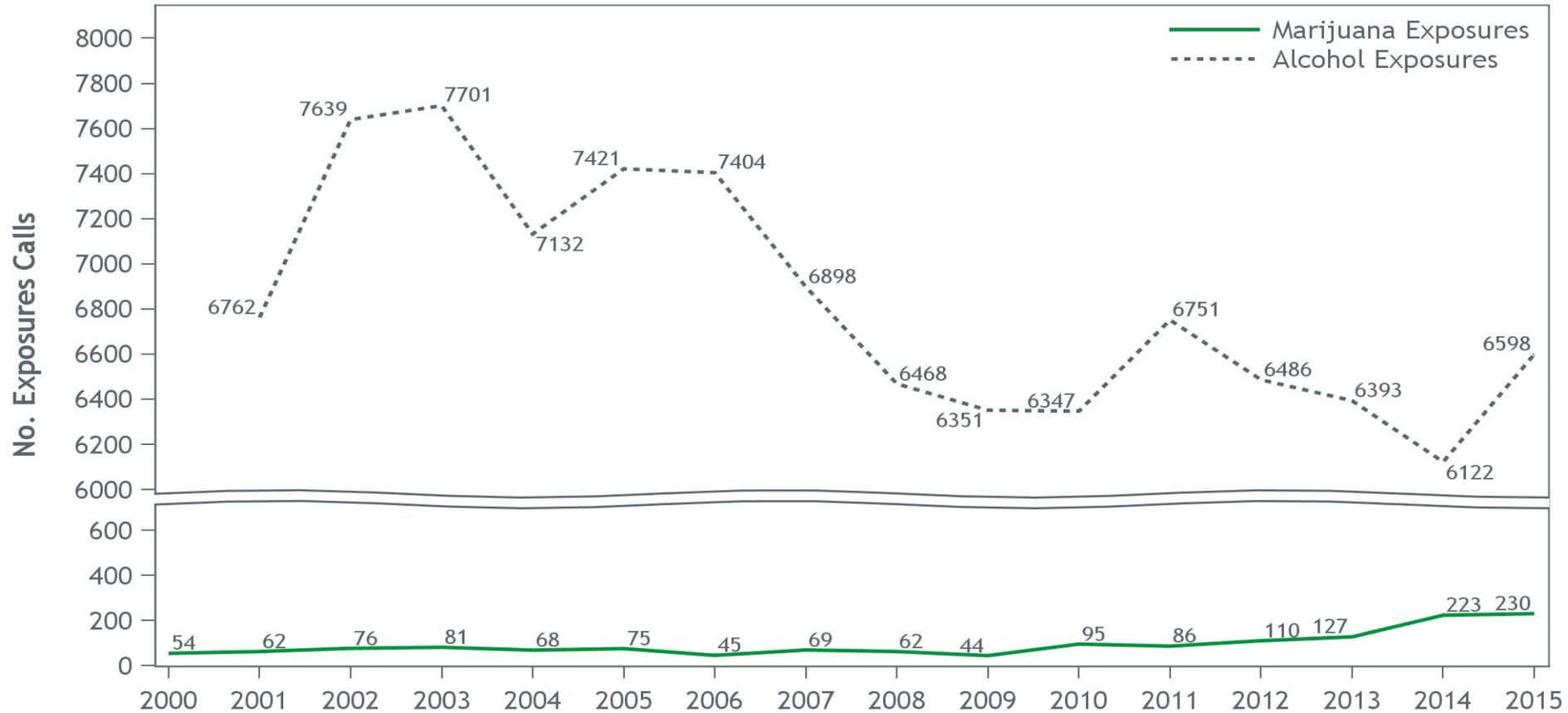
†ICD-9-CM codes 305.2, 304.3, 969.6 and E854.1 were used to determine ED visits with possible marijuana exposures, diagnoses, billing codes or poisonings.

‡ED visits involving other substances were identified using ICD-9-CM codes: Alcohol (291[.0-.5, .8, .9], 303[.0, .9], 305.0, 425.5, 571[.0-.6, .8, .9], 790.3, 980[.0-.3, .8, .9], E860[.0-.4, .8]); Prescription Opioid Dependence and Poisoning (304[.0, .7], 305.5, 965[.00, .02, .09], E850[.1, .2]); Heroin Poisoning (E850.0, 965.01); Cocaine Dependence and Poisoning (304.2, 305.6, 970.81, E855.2); Stimulant Dependence and Poisoning (304.4, 305.7, 970.89, E854.2).

RMPDC Marijuana Exposure Calls through December 31, 2015 by Age Group of Case



Number of Human Marijuana Exposure Calls† Compared to the Number of Human Alcohol‡ Exposure Calls to Rocky Mountain Poison and Drug Center (RMPDC) from January 1, 2000 to December 31, 2015 in Colorado



*EEOHT, CDPHE 2016

†Human marijuana exposure calls to RMPDC were determined by the presence of the generic code Marijuana - 0083000 from the National Poison Data System and questionable exposures were validated with a records review.

‡Human alcohol exposure calls to RMPDC were determined by the presence of the generic code Ethanol (Beverages)-0019140 from the National Poison Data System.

Medical Marijuana Research Grants

- Two studies of high CBD oils for pediatric epilepsy
- IBD in adolescents/young adults
- Quality of life in children with brain tumors who use marijuana
- Two PTSD studies (one RCT)
- Sleep disorders
- CBD for tremor in Parkinson's Disease (RCT)
- Marijuana versus oxycodone for chronic spine pain (RCT - awaiting final approval by DEA)

All but one currently underway!

Laboratory

Reference Library for the Testing of Retail and Medical Marijuana

The purpose of the Reference Library is to provide guidance to testing facilities on the selection of appropriate testing methods for retail and medical marijuana/marijuana products. Testing marijuana is new, so the methods outlined in the library are accepted, approved and comparable methods used for products similar to cannabis.

The reference library currently contains methods for testing microbial contaminants, residual solvents, potency determinations, and pesticide residue analyses, as well as references to testing method validation guidelines.

Due to the constant evolution of scientific analytical methods, the reference library represents a living document that will be updated as needed.

A scientific consultant was hired by CDPHE in June, 2016 to develop sampling protocols and increase the robustness of the reference library.

The Reference Library can be found at:

<https://www.colorado.gov/pacific/sites/default/files/Marijuana%20Testing%20Method%20Reference%20Library.pdf>

Marijuana Testing Facility Proficiency Testing

August 2015: CDPHE determined there were no available, suitable third party proficiency programs for the Colorado marijuana testing labs to use.

September 2015: CDPHE convened a stakeholder working group to establish an implementation plan for a CDPHE/MED led proficiency testing program.

October 2015: A plan and procedure for beta potency in marijuana flower proficiency was established. Beta testing is a way to validate PT protocols and methodologies and see if there are any “bugs” in how you perform the testing.

Beta Flower PT Events: December 2015: Round 1; March 2016: Round 2; June 2016: Round 3.

Beta Edible and Concentrate Potency PT Events: July 2016: Rounds 1, 2, and 3

August 2016: CDPHE will convene an expert panel to review the results of all three rounds of beta flower potency proficiency testing; the panel will set a maximum permissible error, warning and action signals, and develop recommendations for standards and testing methods.

Currently: Testing facility results for edible and concentrate potency PT have been received and are under evaluation. The acceptability and legality of the use of new third party PT programs is being reviewed by CDPHE/MED.



Thank you!