



COLORADO
Department of Public
Health & Environment

Legal Marijuana: Medicine, Recreation or Plant?

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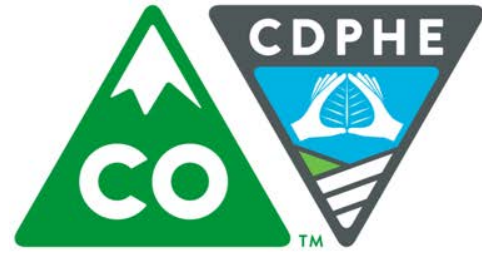


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CDPHE Role

- Medical Marijuana Registry
- Medical Marijuana Research
- Retail Marijuana Education
- Marijuana Surveillance
- Laboratory Certification





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Medical Marijuana Registry



Medical Marijuana Registry Role

- Issue Medical Marijuana Registry cards
- Maintain database of registered patients
- Review petitions for adding debilitating medical conditions to the medical use of marijuana regulations
- Administer grant programs for clinical and observational research related to potential therapeutic uses of marijuana



The Registration Process



Step 1:
Patient is examined by a Colorado licensed M.D. or D.O. in good standing. After physical exam, physician completes "Physician Certification Form"



AP

Step 2:
Patient completes the application



Step 3:
Patient mails:
a) completed application form,
b) physician certification form,
c) caregiver acknowledgement form (if applicable),
d) a copy of their Colorado ID or approved residency/ID docs,
e) and \$15 processing fee to the Registry by certified mail.



Step 4:
Paperwork is evaluated.

All funds received by the Registry are nonrefundable.

Check or money order are made payable to CDPHE.

Credit cards are not accepted at this time.



Approved



Rejected:
Payment is processed and reason for rejection is sent by mail to the patient.



Step 5:
Cards are printed and mailed standard first class to the address on the application.

Processing Time:

Current processing times are updated daily on our website: www.colorado.gov/pacific/cdphe/medicalmarijuana

As of March 2016, the Registry is processing applications within 2-3 business days of receipt.



Current Registry Statistics As of March 2016

- 325,204 total patients have applied for a registration card since 2001
- 107,067 active patients are currently on the Registry
- 1,620 physicians have recommended medical marijuana since 2001
- 764 physicians recommended medical marijuana to one or more patients in the last year

*Note: Statistics change frequently are updated on our [website](https://www.colorado.gov/pacific/cdphe/statistics-and-data) on a monthly basis.
<https://www.colorado.gov/pacific/cdphe/statistics-and-data>*



Current Registry Statistics As of March 2016

- 15,161 (14.2%) active patients with increased plant count (7+ plants)
- 4,375 active patients have designated a medical marijuana center
- 3,810 active patients have designated a caregiver
- 2,700 active caregivers
- 8 total caregivers serving more than 5 patients
- 821 active patients with caregiver growing increased plant count



Medical Marijuana Research



Summary of Evidence re: Medical Benefits

- Cannabis has some fairly well documented medical benefits:
 - ✓ Chronic neuropathic pain
 - ✓ Multiple sclerosis
 - ✓ Chemotherapy induced nausea & vomiting
 - ✓ Wasting syndrome (cachexia) with AIDS
- Clear need for clinical trials for most of the conditions for which cannabis already officially “accepted” as effective, as well as for many other conditions of interest:
 - ✓ PTSD
 - ✓ Epilepsy
 - ✓ Inflammatory bowel disease
 - ✓ Cancer
 - ✓ Other neurologic and psychiatric conditions
 - ✓ Opiate dependence and withdrawal

Medical Marijuana Research Grant Program

- Senate Bill 14-155, “Concerning Grant Funding for Medical Marijuana Health Effects Studies”
- Legislative Intent: “... that the Department gather objective scientific research regarding the efficacy of administering marijuana and its component parts as part of medical treatment.”
- “ The grant program shall fund observational trials and clinical trials.”
- “In order to ensure objectivity in evaluating research proposals, the grant program shall establish a scientific advisory council.”
- \$10 million over 5 years from medical marijuana cash fund

Grants Approved by Board of Health

1. **Observational** study of MJ for IBD in adolescents/young adults
 2. **Observational** study of MJ for PTSD
 3. **Observational** pharmacokinetic study of high CBD oils for pediatric epilepsy
 4. **Observational** study of high CBD oils for pediatric epilepsy
 5. **Observational** study of quality of life from using MJ in children with CNS tumors
 6. **Observational** study of MJ for sleep disorders
-
1. **RCT** of MJ (4 potencies THC & CBD) for PTSD in veterans
 2. **RCT** of CBD for tremor in Parkinson's Disease
 3. **RCT** of MJ versus oxycodone for chronic spine pain

Challenges to Research on MJ Efficacy

- ❖ Federal restrictions & requirements re: RCTs
- ❖ Multiple formulations, routes & doses
- ❖ Multiple diseases & conditions of interest
- ❖ Blinding effectiveness in RCTs
- ❖ Dependence on self-reported data for most outcomes
- ❖ Small size & short duration of most studies
- ❖ Funding



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Retail Marijuana Education



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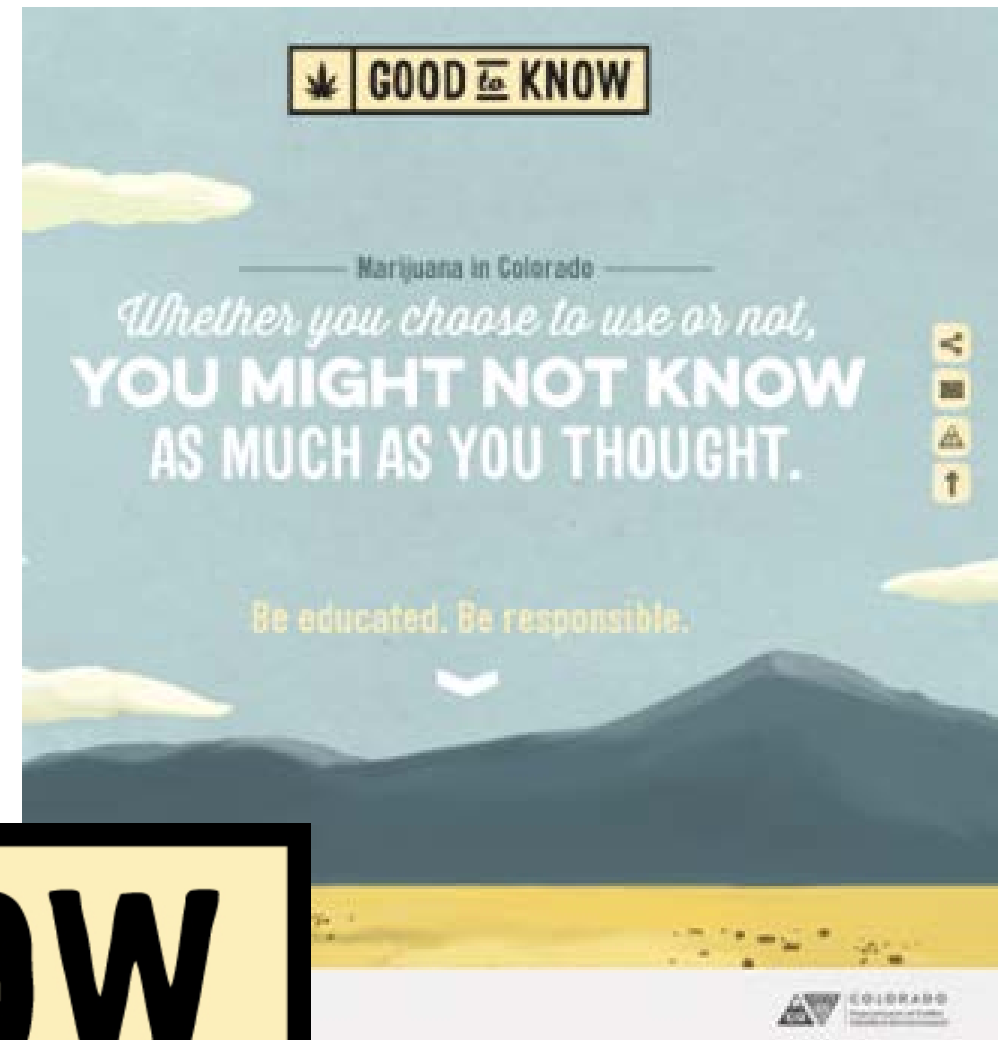


Retail Marijuana Prevention and Education Campaign (SB 14-215)

Ensure that all Colorado residents and visitors understand the parameters of safe, legal and responsible use of retail marijuana.

Prevention and Education Campaign (SB 14-215)

1. 18-month campaign: health effects of marijuana & parameters of legal use



Prevention and Education Campaign (SB 14-215)

2. Ongoing education and prevention campaigns:

- Retailer (tourists at point of sale)
- Latino/Hispanic Audience
- Youth Prevention
- Parent/Teacher campaign

Pregnancy/breastfeeding 6/2016



Prevention and Education Campaign

(SB 14-215)

2. Ongoing education and prevention campaigns, cont...

Fact Sheets

- Marijuana and Your Baby
- Parent
- Teacher/Coach
- Youth
- Visitors
- Laws/Responsible use
- Methods of use
- Answers to common questions
- Health Effects
- Clinical guidance



MARIJUANA USE BY COLORADO YOUTH



Four out of five high school students do not use marijuana.

In 2013, 19.7 percent of Colorado high school students used marijuana in the last 30 days.¹



Be sure to talk early and often with youth about the risks of using marijuana.

Of Colorado high school seniors who have used marijuana, more than **one out of three** started before age 15.²

It is easier for youth to say no to peer pressure if they do not think "everyone" is doing it.

Prevention and Education Campaign (SB 14-215)

3. Maintenance of website portal: colorado.gov/marijuana

4. Alignment of messaging across state agencies

- Addressing agency concerns
- Partnering with other state agencies to provide resources and training to complement prevention work





Prevention and Education Campaign

(SB 14-215)

5. Evaluation of the campaigns

- Baseline and follow-up statewide survey following Good to Know campaign

11% statistically significant increase in knowledge of the laws

statistically significant increases in perceptions of risk across all areas except pregnancy - releasing that campaign Summer 2016

- Annual assessments each year to monitor change
- Will review data from other sources to monitor trends

Monitoring Potential Health Effects and Changes in Use Patterns



Surveillance Role

SB 13-283

"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."

Retail Marijuana Public Health Advisory Committee (SB 13-283)

The Department shall appoint a panel of health care professionals with expertise in cannabinoid physiology to monitor the relevant information. The panel shall:

- Provide a report by 1/31/15 and every 2 years thereafter
- Establish criteria for 1) studies to be reviewed, and 2) reviewing studies and other data, and
- Make recommendations, as appropriate, for policies intended to protect consumers of marijuana or marijuana products and the general public.

Duties of Advisory Committee

Monitoring Health Concerns Related to Marijuana in Colorado: 2014

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



- Systematically review the scientific literature
 - ✓ Come to consensus on population health effects of marijuana use
- Develop public health statements
 - ✓ Come to consensus on translation of the science into simplified language
- Recommend public health related policies
- Recommend public health surveillance activities
- Identify research gaps important to public health

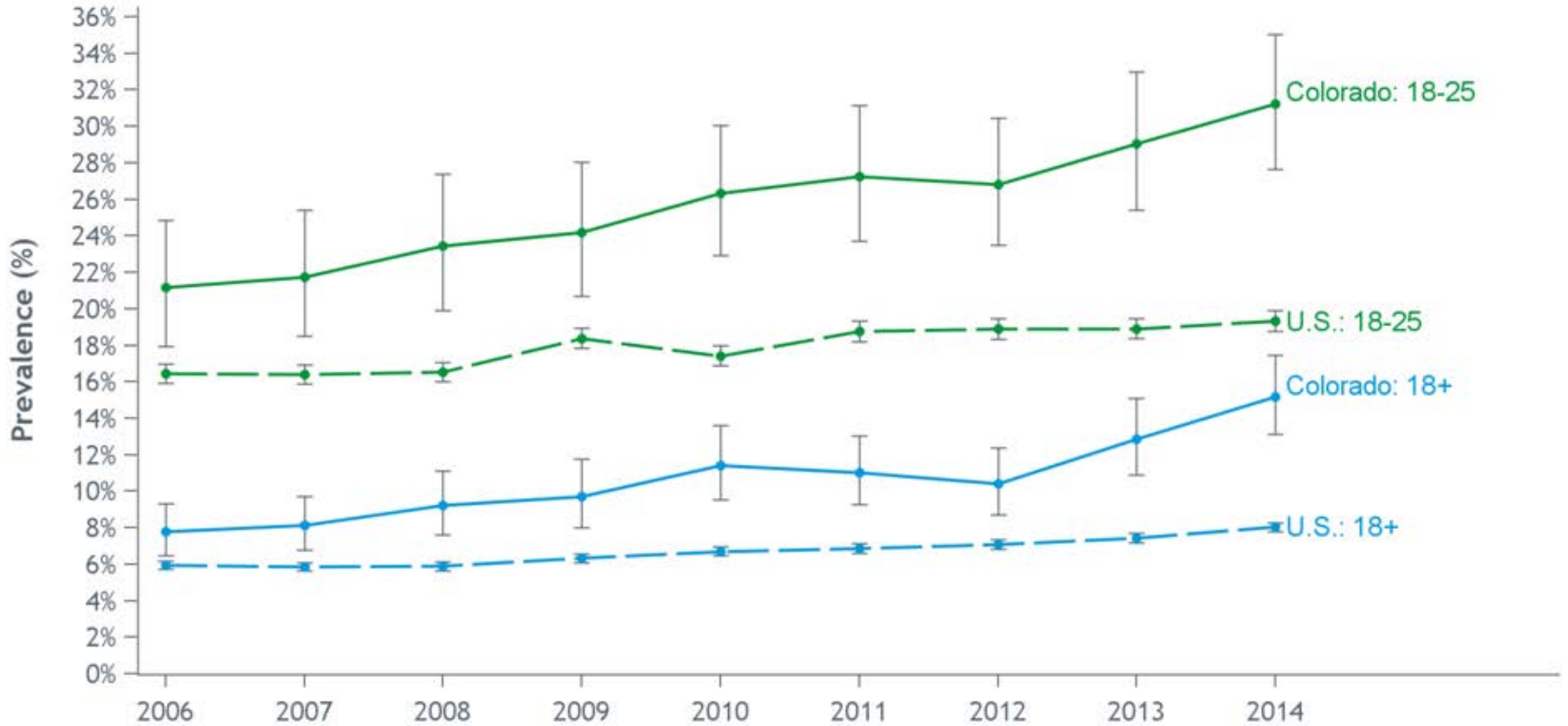
Marijuana Use Among Adolescents

Substantial	Moderate	Limited	Insufficient	Mixed
Less high school graduation	Impaired cognitive abilities and academic performance after 28 days abstinence	Less likely to earn college degree	Lower IQ after brief abstinence	Lower future IQ scores
Can develop marijuana addiction [‡]	Increased MJ use and addiction [‡] after adolescence			Depression or Anxiety after adolescence
Treatment for MJ addiction can reduce MJ use and dependence	Quitting MJ lowers risk of cognitive and mental health effects			Suicidal thoughts or attempts
Other illicit drug use and addiction [‡] after adolescence	Alcohol or tobacco use and addiction [‡] after adolescence			
Psychotic symptoms in adulthood	Psychotic disorder in adulthood (heavy users)			

Surveillance Activities

Target Pop.	Problem	Monitoring
Young Children	Accidental Poisoning	UC/Childrens Research Project Colorado Hospital Association (CHA) Data Rocky Mountain Poison and Drug Center Calls Child Health Survey(CHS) - risk factors
Youth	Increased Use/Abuse Poisoning, Overdose, Abuse Accidents/Trauma	Healthy Kids Colorado Survey (aka YRBS) Colorado Hospitalization Data Rocky Mountain Poison and Drug Center Calls Colorado Hospitalization Data Colorado Trauma Registry
Adults	Increased Use/Abuse Poisoning, Overdose, Abuse Accidents/Trauma Contaminated Products	Behavioral Risk Factor Surveillance System (BRFSS) Influential Factors for Healthy Living Survey (TABS) Colorado Hospitalization Data Rocky Mountain Poison and Drug Center Calls Colorado Hospitalization Data & Trauma Registry Pilot Surveillance (Ski-Related Injuries) Food-borne Illness Surveillance related to Edibles Rocky Mountain Poison and Drug Center Calls
Pregnant/ Breastfeeding	Birth Defects, Developmental Disabilities	Pregnancy Risk Assessment Monitoring System (PRAMS) Active Surveillance (Birth Defects Registry)

Past 30 Day Marijuana Use For Colorado Compared to the Nation in Those 18 to 25 Years Old and Those 18 Years and Older: National Survey on Drug Use and Health 2006-2014.

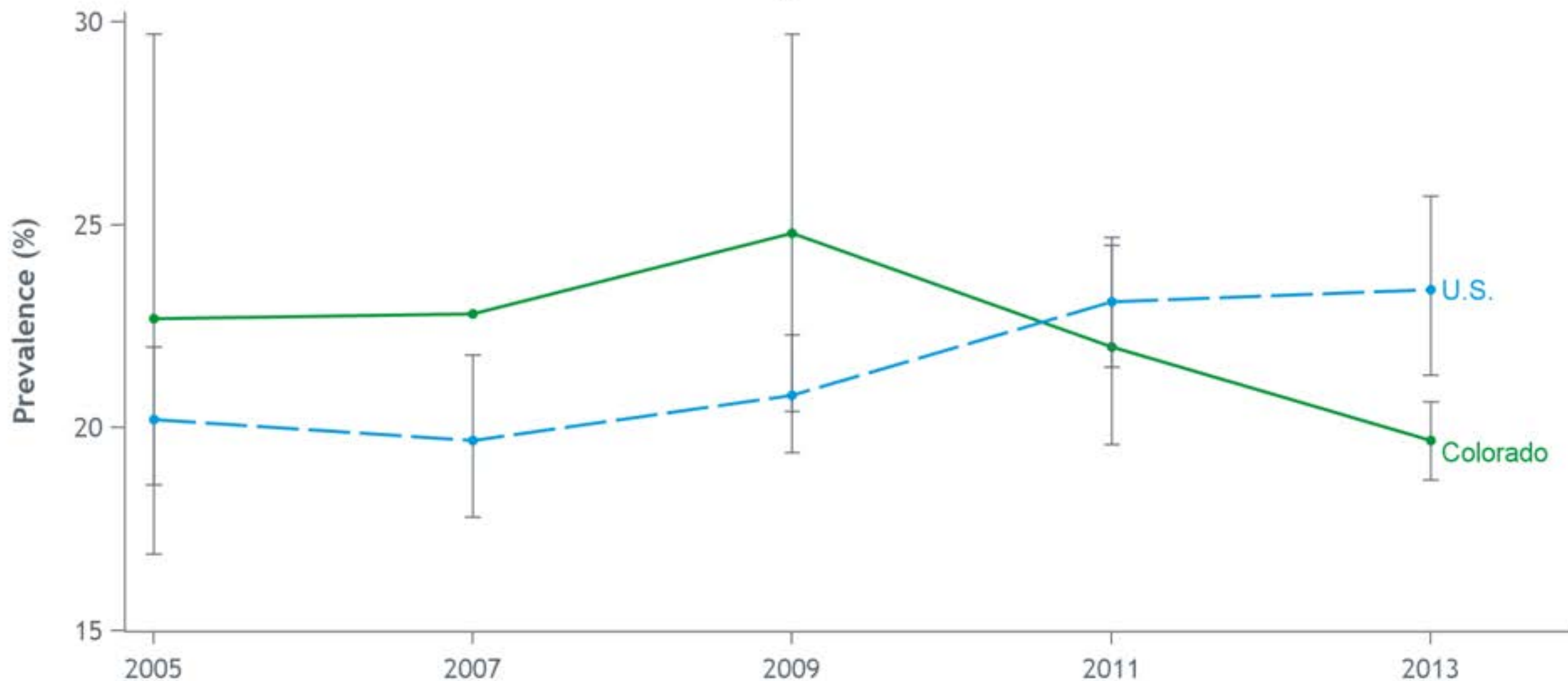


*EEOHT, CDPHE 2016

†Data Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health 2006-2014.



Prevalence of Past 30 Day Marijuana Use For High School Students in Colorado† Compared to the National Prevalence‡, 2005-2013.



*EEOHT, CDPHE 2016

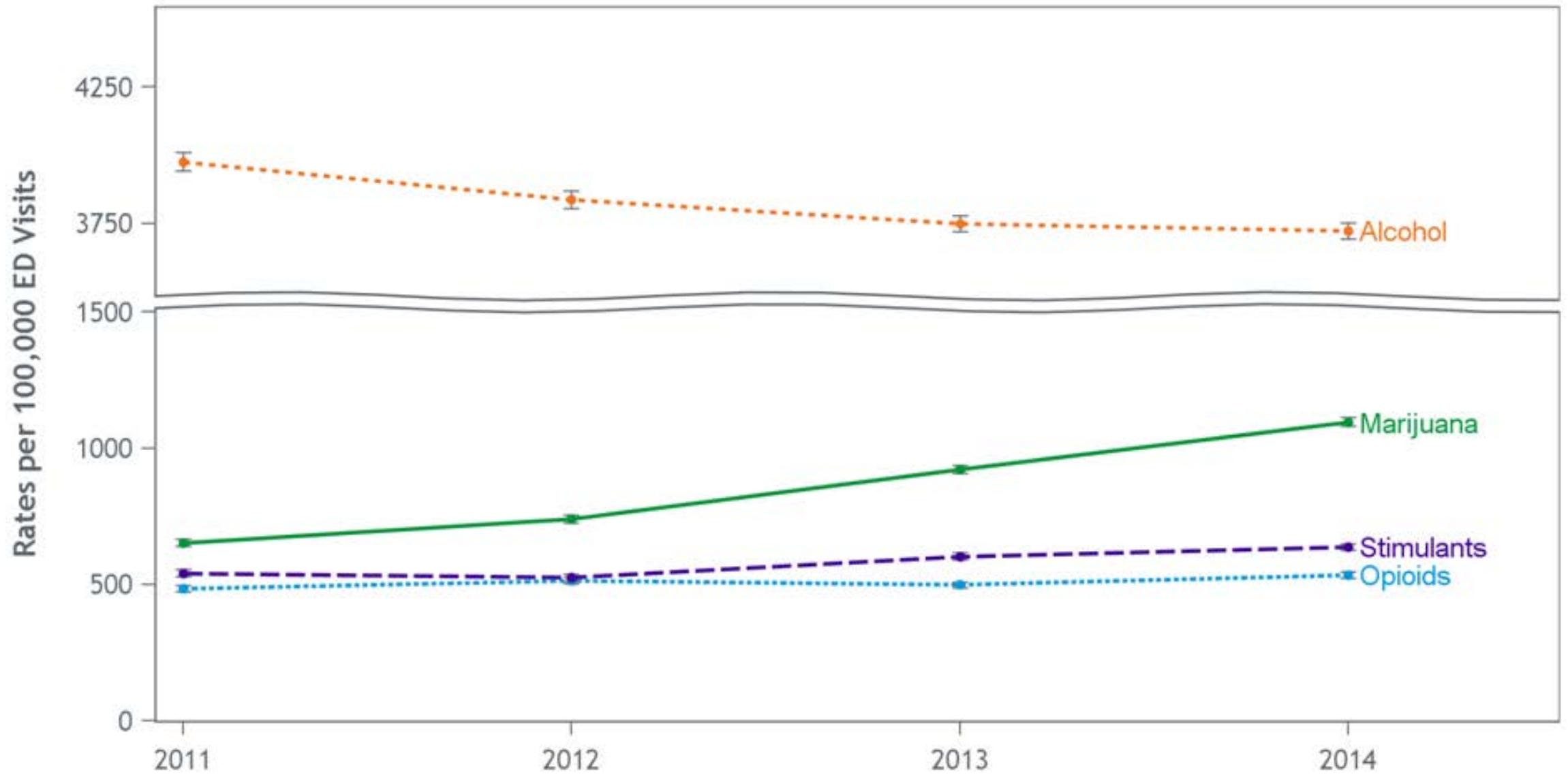
†Data Source: Healthy Kids Colorado Survey (HKCS) prevalence estimates for 2005-2013.

‡Data Source: Youth Risk Behavioral Survey prevalence estimates for 2005-2013.

§NOTE: HKCS prevalence estimates for 2007 were unweighted and therefore no confidence intervals were calculated.



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



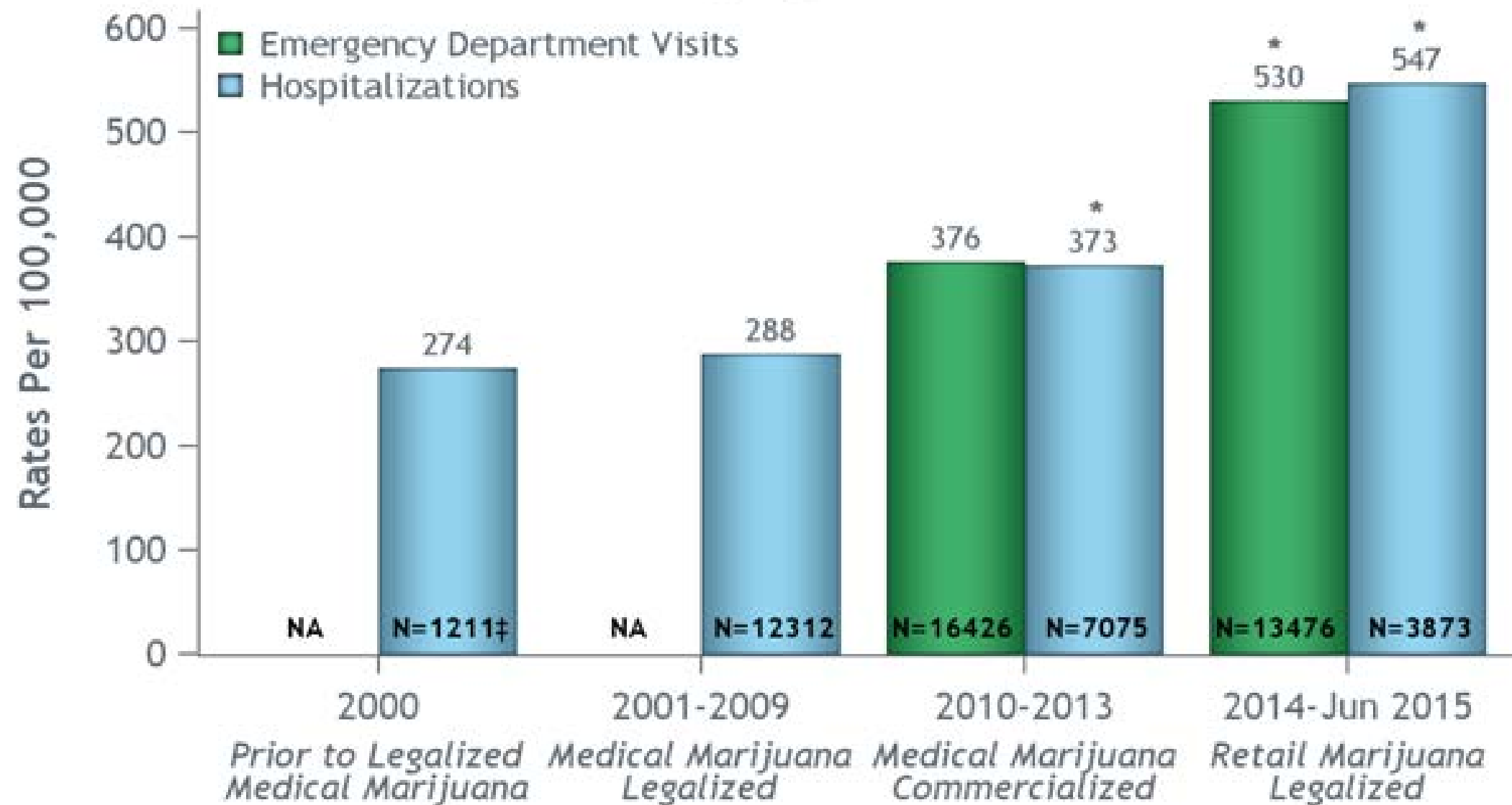
*EEOHT, CDPHE 2016

†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).



Figure 4. Rates of Hospitalizations (HD) and Emergency Department (ED) Visits with Possible Marijuana Exposures, Diagnoses, or Billing Codes† in First Three Codes per 100,000 HD and ED Visits by Legalization Eras in Colorado.

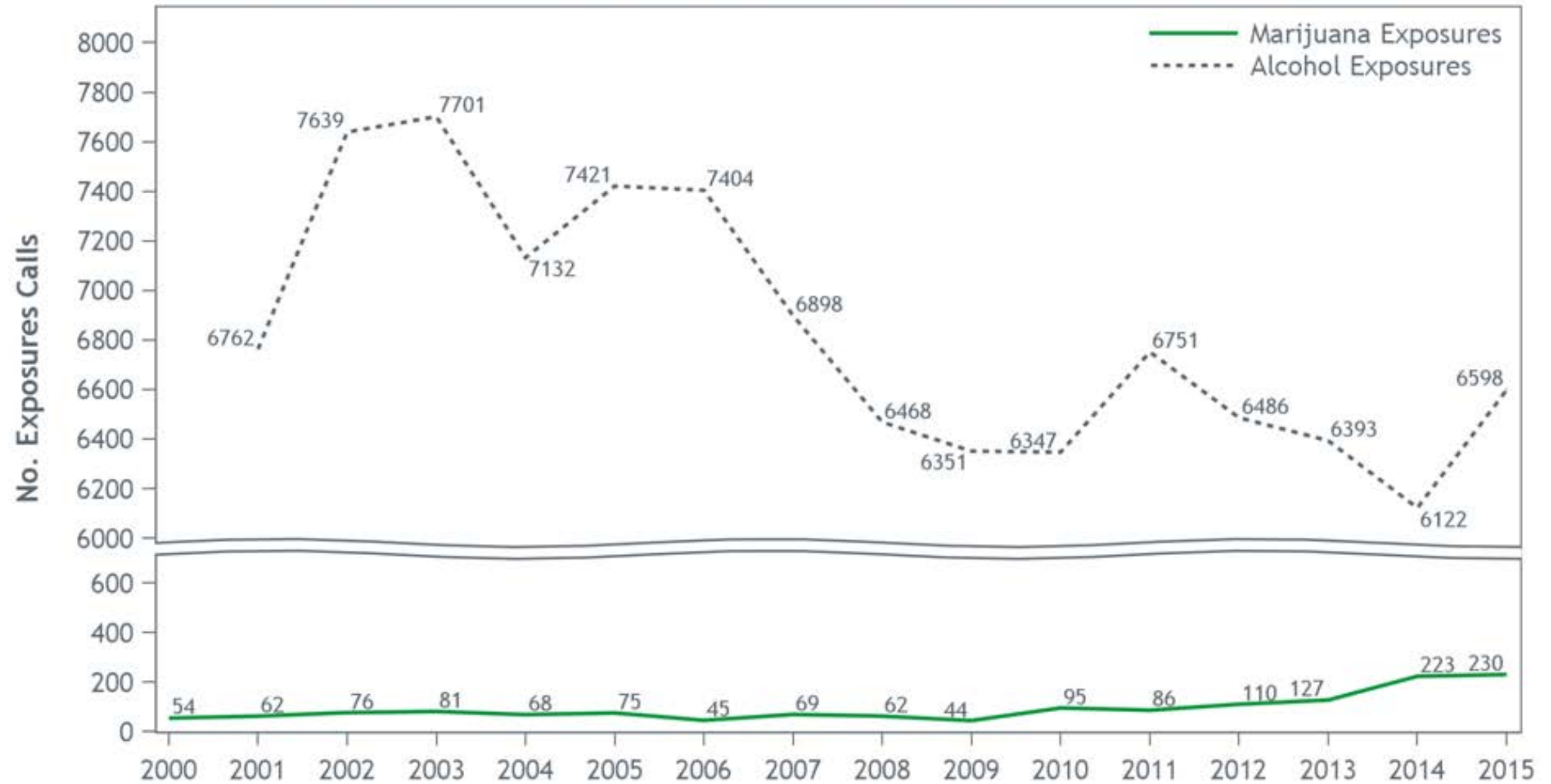


*Rate significantly increased from previous time period with a p-value <0.001.

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

‡The Ns are the total number of HD or ED visits with possible marijuana exposures, diagnoses, or billing codes in the specified time period.

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.



Retail Marijuana Testing Facility Inspection Program



Retail marijuana testing facility inspection program:

- Coordinates inspection of retail marijuana testing facilities;
- Reviews all documentation and practices relating to laboratory methods, staff qualifications, and quality assurance;
- Ensures that testing facilities meet the rules promulgated by the Department of Revenue (DOR) and are competent to carry out specific scientific tests;
- Provides recommendations to DOR about suitability of the testing facilities for certification; and,
- Provides scientific consultation and recommendations to the DOR in regards to laboratory testing as it pertains to public health and safety.

As of April 13, 2016, 14 Retail Marijuana Testing Facilities are licensed by DOR.

Twelve of those have been granted provisional certifications.

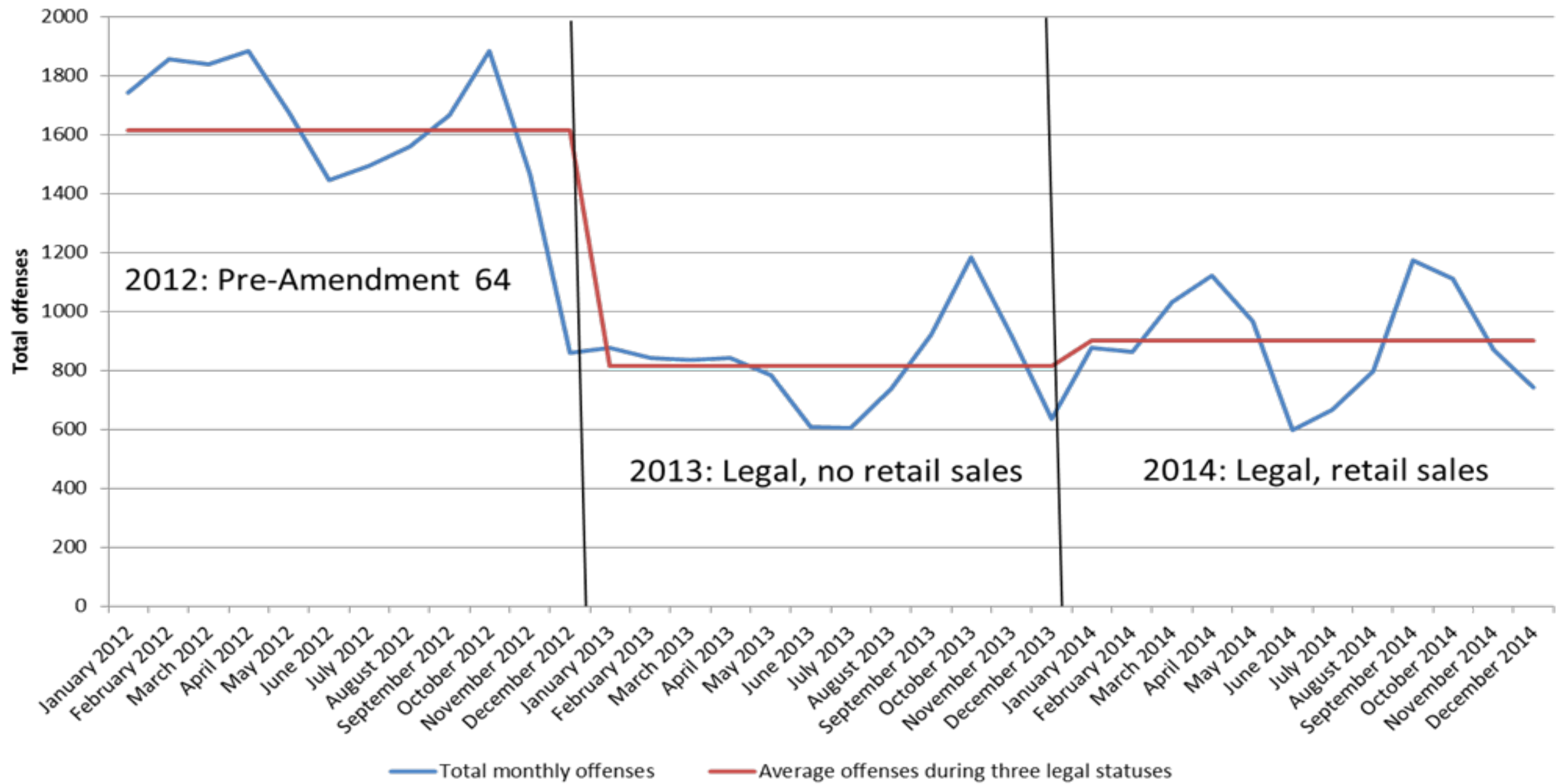
Testing Category	Potency	Microbials (Bacteria, Fungus)	Residual Solvents
Number of Labs Currently Certified	12	9	8

*Inspections are ongoing

Ongoing Program Actions

- Cannabis is a novel industry and, currently no recognized standard methods exist for the testing of cannabis or cannabis products. A Reference Library has been established to provide guidance to testing facilities on the selection of applicable analytical methodology pertaining to the testing of marijuana/marijuana products. Due to the constant evolution of scientific analytical methods, this reference library represents a living document that will be updated as needed.



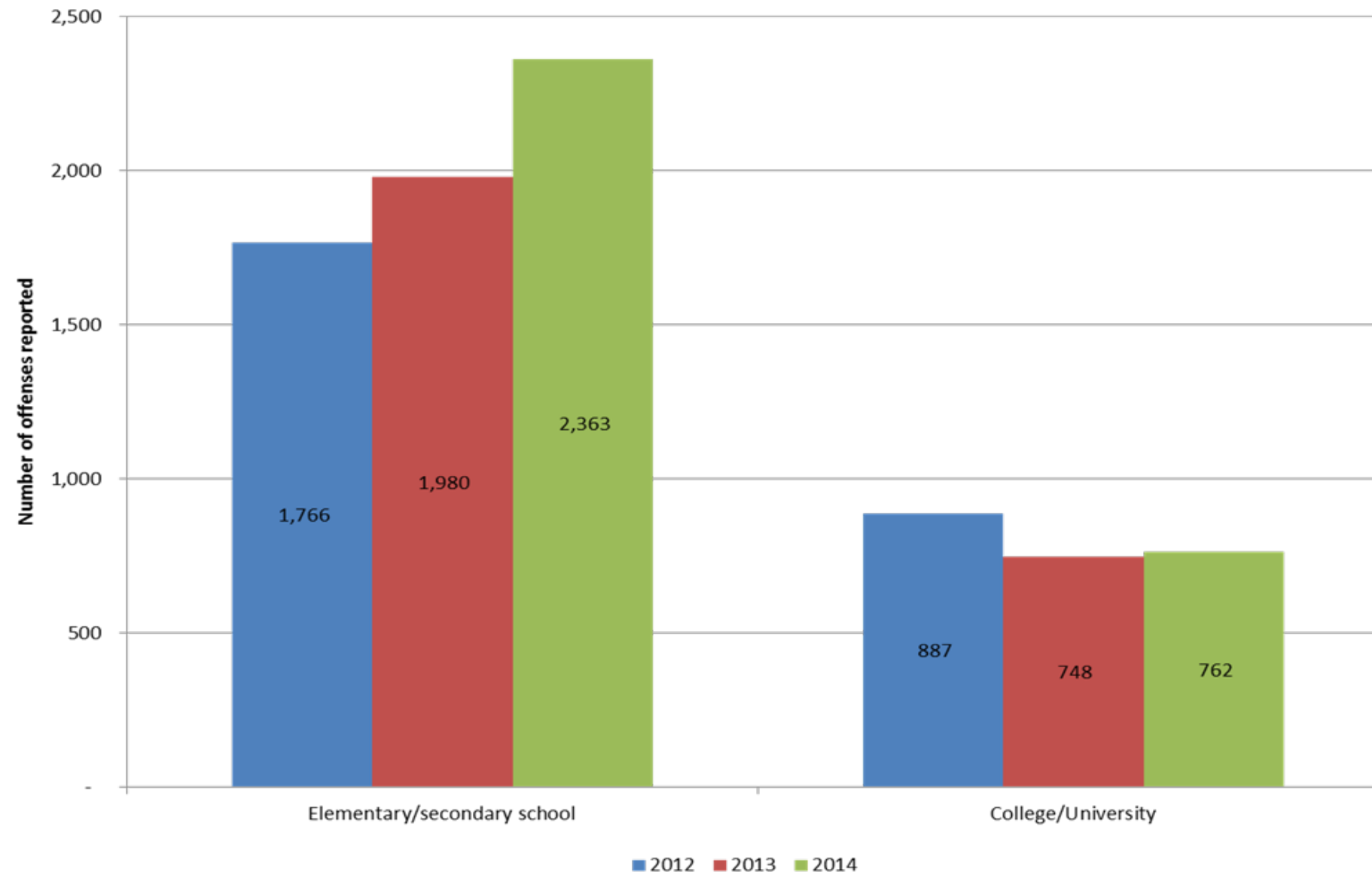


Source: Colorado Bureau of Investigation, National Incident-Based Reporting System data.





Marijuana Offenses in Colorado, by School Status

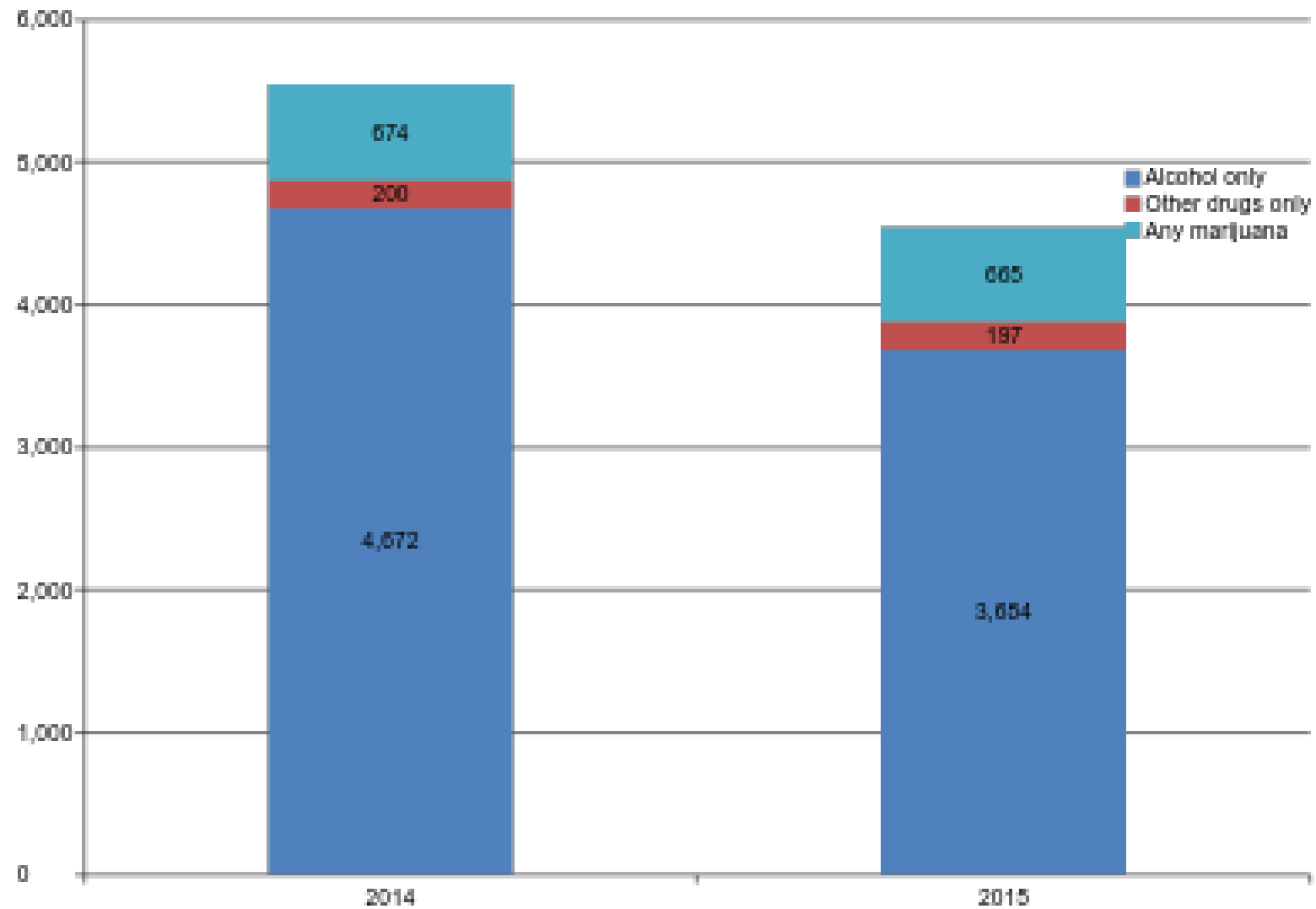


Source: Colorado Bureau of Investigation, National Incident-Based Reporting System data.

Note: In 2012 there were 43 cases where the type of school could not be determined.



Colorado State Patrol DUI Citations

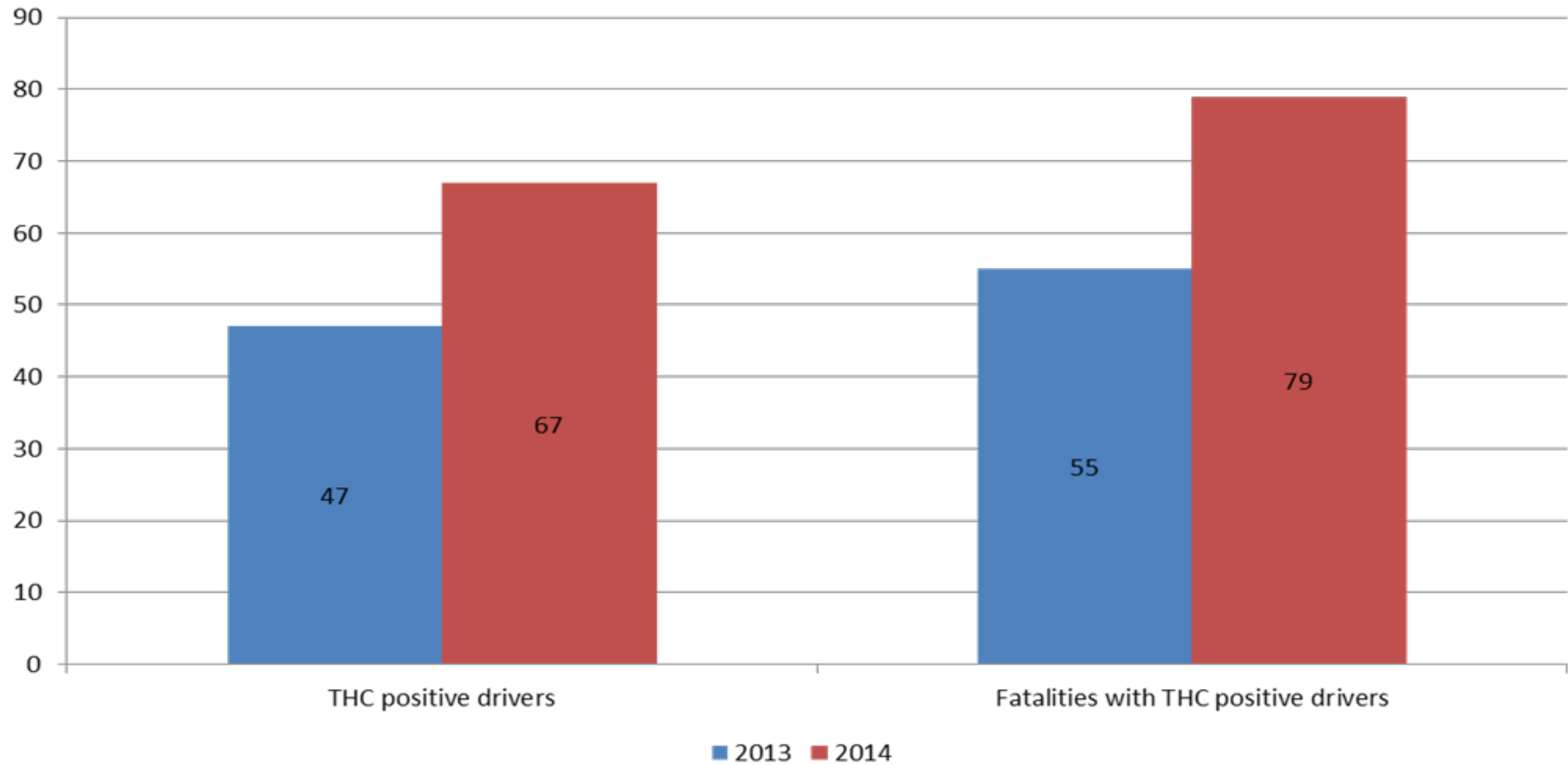


Note: Citation type is classified according to the trooper's impressions of the reason for impairment. "Any marijuana" citations include marijuana alone, marijuana plus alcohol, and marijuana plus other drugs.

Source: Data provided by Colorado State Patrol, 1/10/2016.



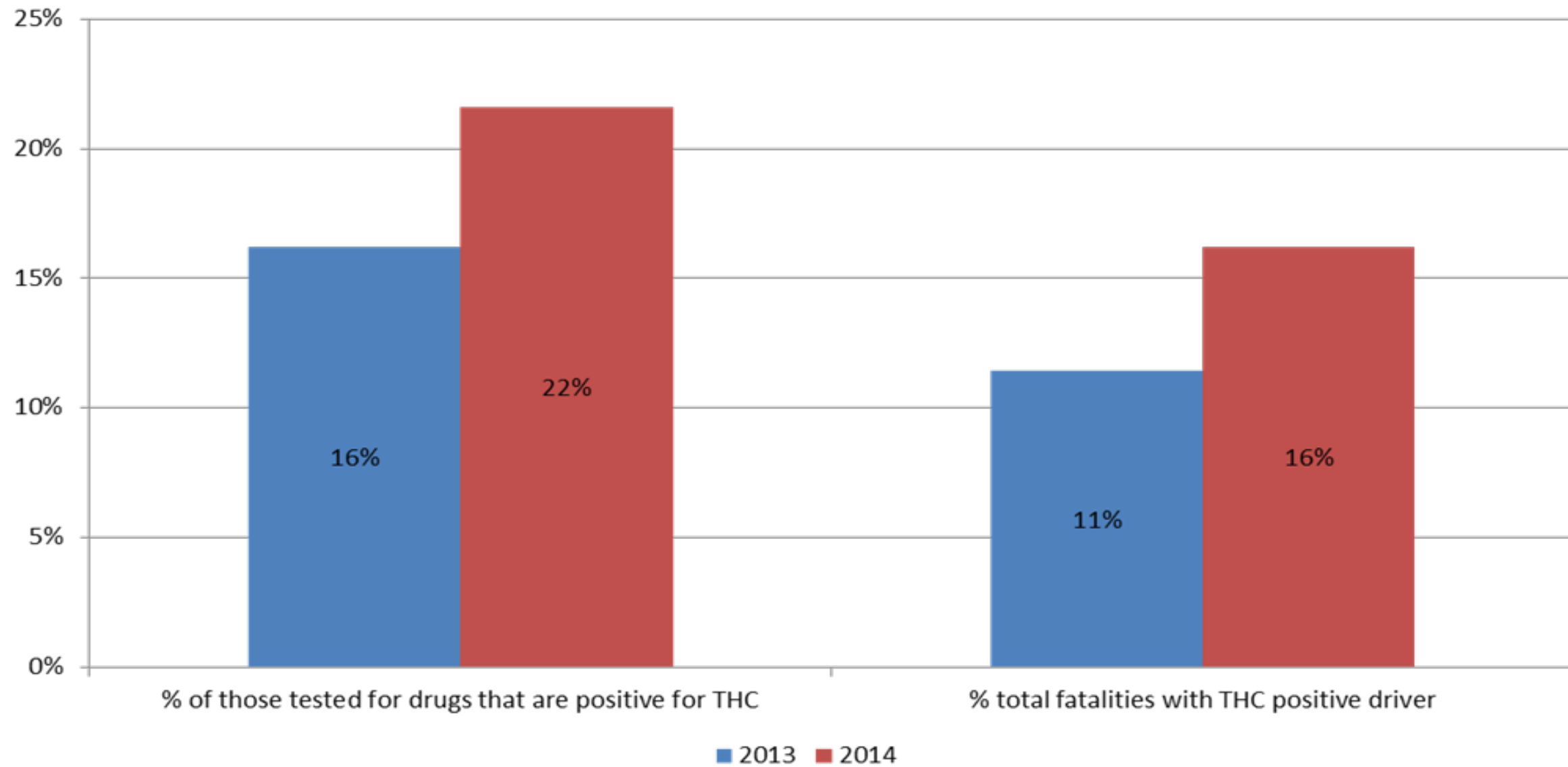
Traffic Fatalities



Source: Colorado Department of Transportation, Fatality Analysis Reporting System (FARS) data.



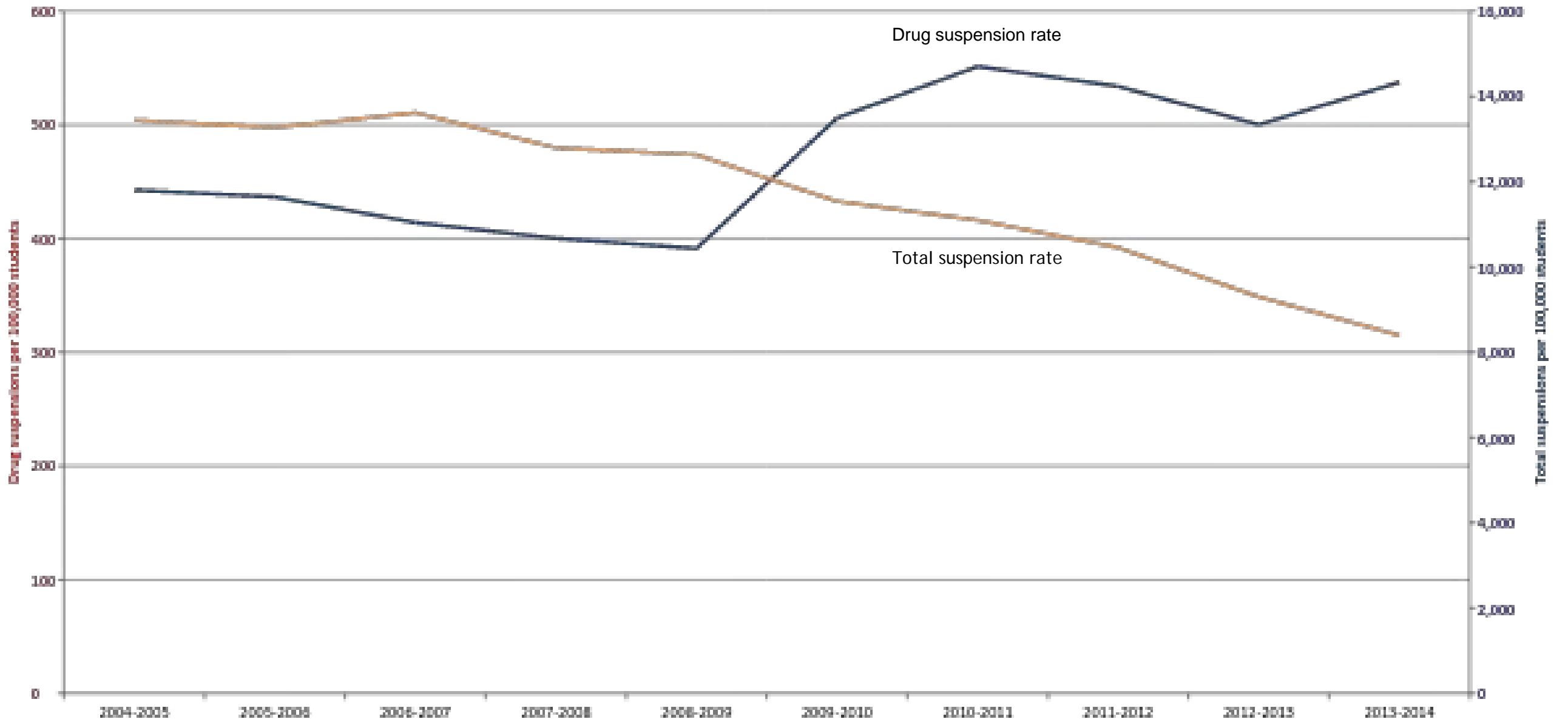
Traffic Fatalities



Source: Colorado Department of Transportation, Fatality Analysis Reporting System (FARS) data.



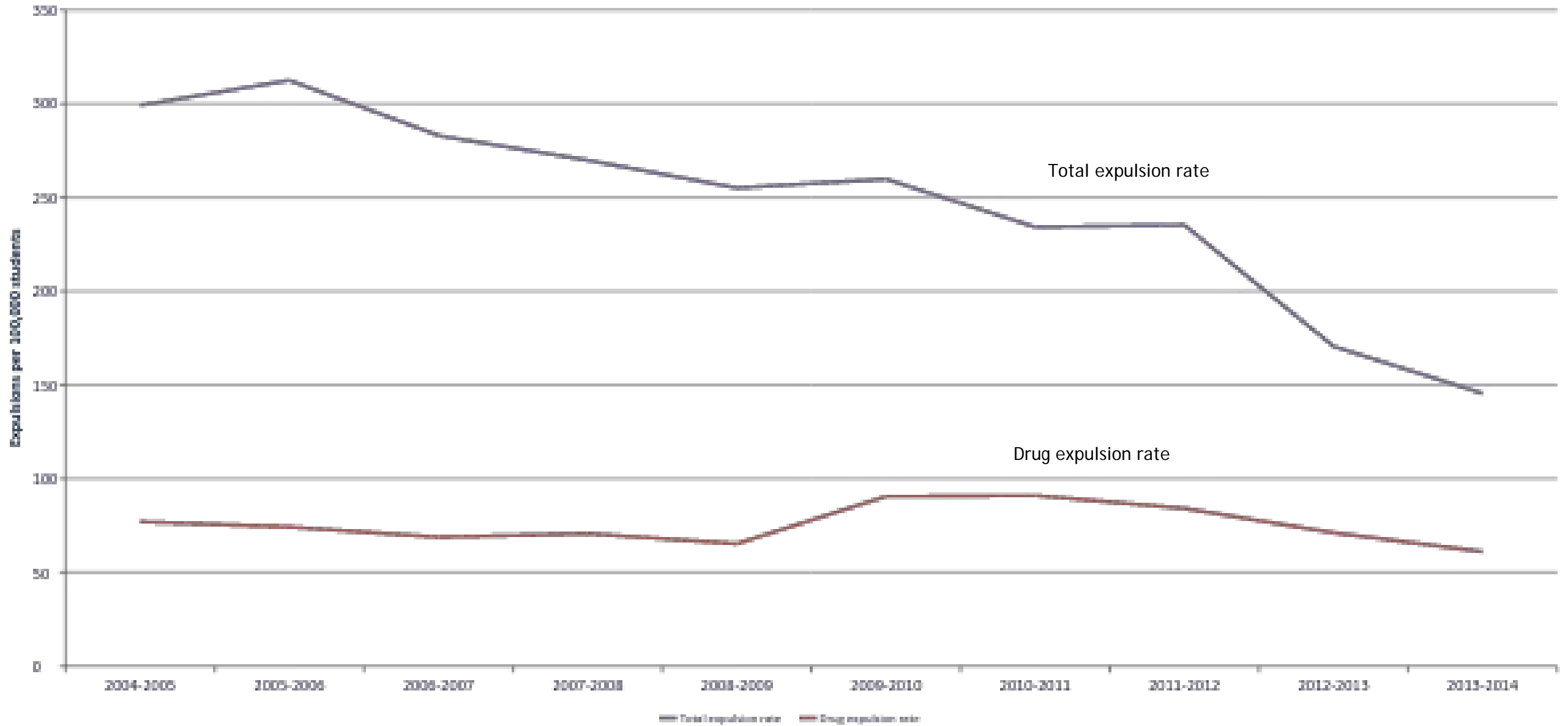
Total suspensions and drug suspensions per 100,000 students



Source: Colorado Department of Education.



Total expulsions and drug expulsions per 100,000 students



Source: Colorado Department of Education.





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Questions?

