

Presentation for Board of Supervisors 3-15-2016

MARIJUANA: PUBLIC HEALTH CONSIDERATIONS

OBJECTIVES

- ✘ Present scientific evidence about marijuana
- ✘ Share data on use trends, beliefs
 - + National
 - + Colorado
 - + El Dorado County

EVIDENCE ABOUT THE BENEFITS OF MARIJUANA

Medical conditions improved

- ✘ Nausea
- ✘ Glaucoma
- ✘ Chronic pain
- ✘ Inflammation
- ✘ Multiple sclerosis
- ✘ Epilepsy / seizures
- ✘ AIDS-associated anorexia / wasting syndrome

EVIDENCE ABOUT THE ADVERSE EFFECTS OF MARIJUANA

- ✘ Addiction to marijuana or other substances
- ✘ Abnormal brain development
- ✘ Progression to use of other drugs
- ✘ Schizophrenia
- ✘ Depression or anxiety
- ✘ Diminished life achievement
- ✘ Motor vehicle accidents
- ✘ Bronchitis

1. EVIDENCE ABOUT MARIJUANA USE.... IN ADOLESCENTS AND YOUNG ADULTS

Substantial

- ↑ risk of other illicit drug use and addiction after adolescence
- ↑ risk of psychotic disorders like schizophrenia

Moderate

- ↓ cognitive abilities, academic performance
- ↓ high school graduation
- ↑ marijuana, alcohol, or tobacco use / addiction after adolescence
- ↓ risk of cognitive and mental health effects after quitting

1. EVIDENCE ABOUT MARIJUANA USE... IN ADOLESCENTS AND YOUNG ADULTS, cont.

Additional findings

↑ risk of developing psychotic symptoms, schizophrenia if use begins at younger age or if frequent user

2. EVIDENCE ABOUT MARIJUANA USE... AND NEUROLOGICAL, COGNITIVE, AND MENTAL HEALTH EFFECTS

Substantial evidence

- ✘ impaired memory among heavy users
(for at least 7 days)
- ✘ acute psychotic symptoms
(during intoxication)

Moderate evidence

↑ depression among regular users

3. EVIDENCE ABOUT MARIJUANA USE... DURING PREGNANCY AND BREASTFEEDING

U.S. statistics around time of pregnancy

- ✘ 4.8 to 6.0% women use prior to pregnancy
- ✘ 2.6% women use during pregnancy
- ✘ Pregnant teens more likely to be marijuana users than non-pregnant teens

3, EVIDENCE ABOUT MARIJUANA USE... DURING PREGNANCY AND BREASTFEEDING

Moderate evidence

Offspring of mothers who use during pregnancy:

↓ growth

↓ IQ

↓ cognitive function

↑ attention problems

3. EVIDENCE ABOUT MARIJUANA USE... DURING PREGNANCY AND BREASTFEEDING

Breastfeeding

- ✘ No substantial or moderate evidence of associations between marijuana use by breastfeeding mothers and outcomes of exposed infants
- ✘ THC present in breast milk of mothers who use marijuana
- ✘ Infants who drink breast milk containing THC absorb and metabolize it

4. EVIDENCE ABOUT MARIJUANA AND... INJURY

Substantial evidence

↑ motor-vehicle crash risk

↑ THC level associated with ↑ rates of motor-vehicle crash

5. EVIDENCE ABOUT MARIJUANA AND... RESPIRATORY EFFECTS

Substantial evidence

- ✘ same carcinogens in marijuana and tobacco
- ✘ chronic bronchitis
- ✘ precancerous lesions in airways
- ✘ acute use *improves* airflow

Moderate evidence

- ✘ heavy use *worsens* airflow

6. EVIDENCE ABOUT MARIJUANA AND... HEART DISEASE, STROKE, CANCER, AND MALE INFERTILITY

- ✘ No substantial or moderate evidence of associations
- ✘ More research may produce clearer evidence

7. EVIDENCE ABOUT MARIJUANA AND... UNINTENTIONAL MARIJUANA EXPOSURES IN CHILDREN

Moderate evidence

- ✘ Rates of accidental exposures higher in states with greater legal access to marijuana Exposures can lead to outcomes requiring medical attention

MONITORING THE FUTURE SURVEY, 2015

An annual national survey of adolescents

Findings

- ✘ Marijuana use ~steady among 8th, 10th, and 12th graders over past 5 years
- ✘ Substances with declining use include alcohol and smoking cigarettes
- ✘ Rates of current (past-month) use higher than for cigarettes (since 2009)

MONITORING THE FUTURE SURVEY, 2015

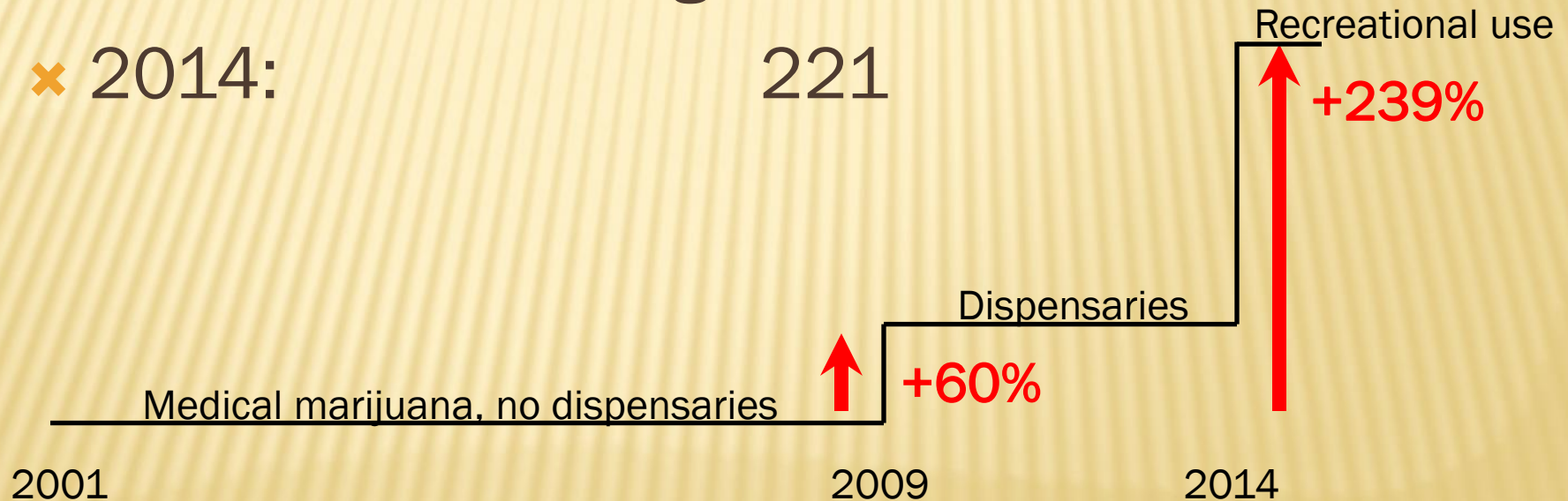
Findings, continued

- ✘ Proportion of students reporting daily marijuana higher than of cigarettes (new in 2015)
- ✘ Decreasing perception of risk
- ✘ Use rates inversely proportional to perception of risk

COLORADO POISON CONTROL CENTER DATA

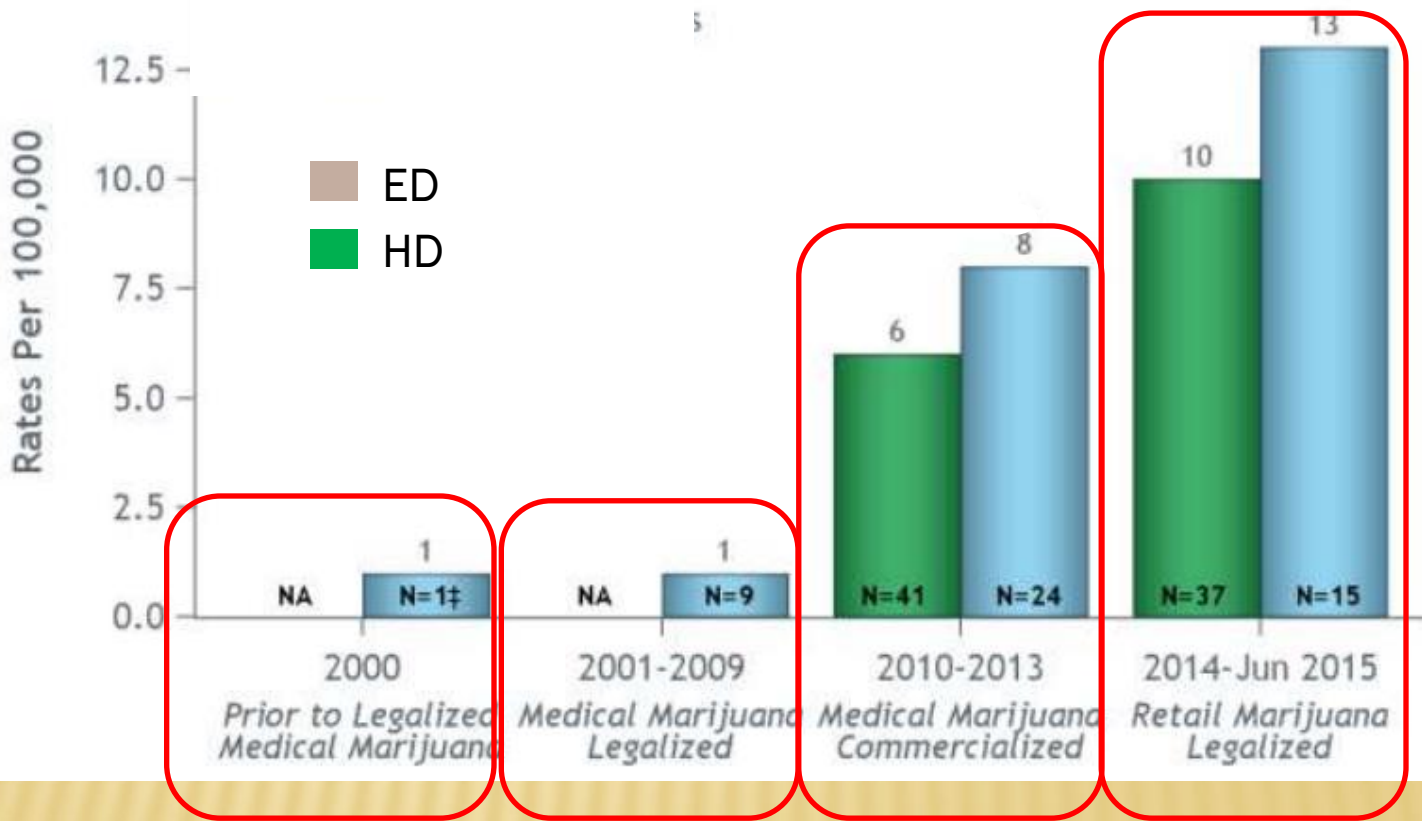
Numbers of marijuana-related calls/year

- ✘ 2001–2009 average: 65
- ✘ 2010–2013 average: 104
- ✘ 2014: 221



COLORADO HOSPITAL FINDINGS

Figure 1: Rates of Hospitalizations 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 Legislation Eras in Colorado.



LOCAL DATA

- ✘ School survey data
- ✘ Marshall Hospital doing toxin testing on all newborns to detect marijuana and other drugs as of 2016
- ✘ El Dorado County hospitalization and ED data: population small → not very useful

EL DORADO COUNTY SCHOOL SURVEY ON ALCOHOL & OTHER DRUG USE 2014-15

Students at these El Dorado County schools were surveyed:*

- ✘ El Dorado Union 9th & 11th graders
- ✘ Lake Tahoe Unified 7th, 9th & 11th graders
- ✘ Black Oak Mine Unified 7th, 9th, & 11th graders

<http://chks.wested.org/reports/search>

LIFETIME ALCOHOL OR MARIJUANA USE

El Dorado Union 11th graders, 2014-15

- ✘ 39% had ever tried marijuana
- ✘ 54% had ever tried alcohol

AGE AT FIRST USE

El Dorado Union 11th graders, 2014-15

1% first use at age ≤ 10 years

4% first use at age 11-12 years

12% first use at 13-14 years

19% first use at 15-16 years

1% first use at ≥ 17 years

[63% had not yet tried]

CURRENT USE (PAST 30 DAYS)

El Dorado Union 11th graders, 2014-15

Marijuana users: 23%

Alcohol users: 31%

FREQUENCY OF USE

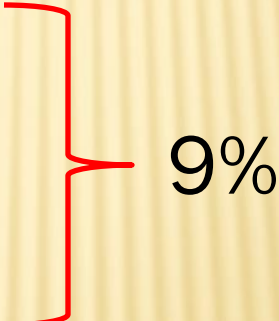
El Dorado Union 11th graders, 2014-15

Proportions of students reporting the most frequent use (≥ 20 days per month)

- ✘ Alcohol: 2%
- ✘ Marijuana: 6%

ATTEMPTS TO QUIT USING MARIJUANA

El Dorado Union 11th graders, 2014-15

- ✘ 1 attempt: 5%
 - ✘ 2 or 3 attempts: 3%
 - ✘ At least 4 attempts: 1%
- 
- 9%

CURRENT USE ON SCHOOL PROPERTY

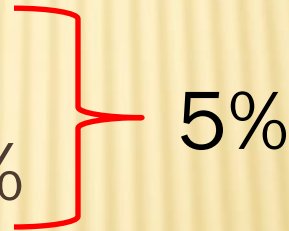
(IN PAST 30 DAYS)

El Dorado Union 11th graders, 2014-15

Alcohol

1 or 2 days/month: 3%

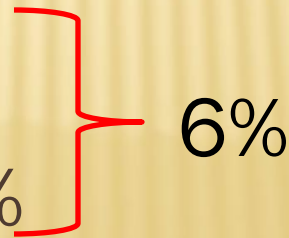
3 or more days/month: 2%



Marijuana

1 or 2 days/month: 3%

3 or more days/month: 3%



PERCEPTIONS OF HARM & AVAILABILITY

El Dorado Union 11th graders, 2014-15

Proportions of students saying no harm* associated with “occasional use”

- ✘ Alcohol: 15%
- ✘ Marijuana: 26%

*answer choices: great, moderate, slight, or no harm

11TH GRADERS AT OUR OTHER SCHOOLS

Compared with El Dorado Union...

✘ Lake Tahoe Unified

- + Higher lifetime use rate, current use rate, quit attempts, and $\geq 3x$ /month use on school property
- + ~same proportion of high-frequency users (6%)

✘ Black Oak Mine Unified

- + Similar lifetime use rate, current use rate, quit attempts, and 1-2x/month use of school property
- + Higher proportion of high-frequency users (10%)
- + Higher proportion of $\geq 3x$ /month use on school property (9%)

CALIFORNIA MEDICAL SOCIETY

- ✘ Represents doctors of all specialties
- Marijuana currently a Schedule 1 drug
 - ✘ Restricts ability to perform research
 - ✘ Recommend rescheduling
- ✘ Last month...

CA Medical Association announces support for responsible marijuana ballot initiative

Consistent with CMA white paper of 2011, measure will tightly control, track, research and regulate adult-use marijuana and invest new revenue in a way that protects public health

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SUMMARY

- ✘ Marijuana scientifically documented to produce both benefit and harm
- ✘ Long-term data on the full consequences of medical or recreational marijuana use still lacking
- ✘ CMA supports proposed 2016 legislation

PUBLIC HEALTH RECOMMENDATIONS

✘ Conservative approach

- + Go slowly
- + Base decisions on scientific evidence

✘ Find the best balance

- + improve quality of life for people with legitimate medical needs by facilitating use of medical marijuana
- + prevent harm by limiting access to medical marijuana to people without true medical need

Thank you