Marijuana in Colorado: Marijuana Use and Health Effects Data

Daniel Vigil, MD, MPH – program manager
Marijuana Health Monitoring and Research Program
Colorado Department of Public Health and Environment
Overview

1. Cannabis legalization timeline
2. Adult marijuana use
3. Adolescent marijuana use
4. Poison center calls
5. Emergency department visits and hospitalizations
6. Lessons learned and key data points
Cannabis legalization timeline in Colorado

2000 – medical marijuana legalized
   Patient registry created
   Home grows only, no dispensaries
   No special public health monitoring

2010 – medical marijuana commercialized
   Following the Ogden memorandum
   Dispensaries opened
   Increase in registered patients
Cannabis legalization timeline in Colorado

Jan 2014 – recreational dispensaries open
Constitutional amendment Nov 2012
New legislation in 2013 acknowledged the need for public health monitoring

What data do we want?
Where can we get these data?
Lesson learned

Identify the need for data early and fill gaps in data collection.
Definitions

Current use – used on 1 or more days in the past 30 days

Daily or near-daily use – used on 20 or more days in the past thirty
Adult Marijuana Use in Colorado

Behavioral Risk Factor Surveillance System (BRFSS)
- CDC sponsored telephone survey of adults – no marijuana questions
- Colorado added marijuana questions to the 2014 survey (in Colorado)
Current adult marijuana use in Colorado (18+ years old) 2014-2016.

Data Source: BRFSS 2014-2016
Key Data Point

Adult marijuana use overall did not increase from 2014-2016.
Current adult marijuana use – by sex
2014-2016

Data Source: BRFSS 2014-2016
Daily or near daily adult marijuana use – by age 2014-2015

Data Source: BRFSS 2014-2015
Key Data Point

Marijuana use is highest among 18-25 year olds. 1 in 8 use daily or near-daily.
Current adult marijuana use – by race and ethnicity
2014-2016

Data Source: BRFSS 2014-2016
Lesson learned

Year-to-year comparisons may be unreliable for small portions of the population, like ethnic minorities or county level data.
Current adult marijuana use – by race and ethnicity
2014-2016 (combined)

Prevalence (%)

- Hispanic: 11.4
- Multiracial, non-Hispanic: 18.6
- Other, non-Hispanic: 8.9
- Black, non-Hispanic: 15.7
- White, non-Hispanic: 14.0

Data Source: BRFSS 2014-2016
Data Source: BRFSS 2014-2015
Methods of marijuana use – by age (among adults who reported current use) 2015

Data Source: BRFSS 2015
Daily or near daily use of alcohol, tobacco, and marijuana 2014-2015

<table>
<thead>
<tr>
<th>Substance</th>
<th>2014 Prevalence</th>
<th>2015 Prevalence</th>
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</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>22.8</td>
<td>21.8</td>
</tr>
<tr>
<td>Tobacco</td>
<td>15.9</td>
<td>15.6</td>
</tr>
<tr>
<td>Marijuana</td>
<td>6.0</td>
<td>6.3</td>
</tr>
</tbody>
</table>

Data Source: BRFSS 2014-2015
Key Data Point

Alcohol use remains much more common than marijuana use.
Adolescent Marijuana Use in Colorado

Healthy Kids Colorado Survey (HKCS)
- Colorado in-school anonymous survey

National Survey on Drug Use and Health (NSDUH)
- National in-home survey with a live interviewer
Ever and current marijuana use among HS students 2005-2015

Data Source: HCKS and YRBS 2005-2015
Current marijuana use among adolescents age 12-17
2011-2015

Source: SAMHSA, NSDUH 2011–2015
Lesson learned

Results and trends may appear different across surveys, and proper evaluation is important.
Key Data Point

Adolescent marijuana use did not increase from pre-legalization to post-legalization.
Current marijuana, alcohol and tobacco use by Colorado HS students 2005-2015

Data Source: HKCS 2005-2015
Current marijuana use among Colorado HS students by sex 2013-2015

Data Source: HKCS 2013-2015
Current marijuana use among Colorado HS students by sexual orientation 2013-2015

Sexual Orientation

Data Source: HKCS 2013-2015
Current marijuana use among Colorado students by grade level 2013-2015

Data Source: HKCS 2013-2015
Key Data Point

1 in 4 high school juniors and seniors used marijuana in the past 30 days.
Age of first marijuana use among HS seniors in Colorado who reported ever using marijuana 2013-2015

Data Source: HKCS 2013-2015
Key Data Point

Kids are trying, and some beginning to use, marijuana before high school.
Frequency of marijuana use among Colorado HS students 2005-2015

No. Times Used Marijuana in the Past 30 Days

- 1-2
- 3-9
- 10-19
- 20-39
- 40 or More

Prevalence (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>1-2</th>
<th>3-9</th>
<th>10-19</th>
<th>20-39</th>
<th>40 or More</th>
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<td>4.7</td>
<td>2.4</td>
<td>1.9</td>
<td>1.7</td>
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<tr>
<td>2013</td>
<td>7.6</td>
<td>5.2</td>
<td>3.9</td>
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<tr>
<td>2015</td>
<td>7.6</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Data Source: HKCS 2005-2015
Calls to the Poison Center

Rocky Mountain Poison and Drug Center (RMPDC) – data maintained by the National Poison Data Center (NPDM)
Marijuana exposure calls to the poison center in Colorado intentional or unintentional  2000-2016

Data Source: NPDS 2000-2016
Key Data Point

Poison center calls about marijuana increased for all age groups after legalization.
Marijuana exposure calls to the poison center in Colorado by age and type of marijuana 2014-2016

Data Source: NPDS July 2014-2016
Emergency Department Visits and Hospitalizations

Colorado Hospital Association (CHA)
- Billing codes, mainly “marijuana abuse”
Lesson learned

Hospital coding (ICD-9) is vague for marijuana – we have to be careful about conclusions.
Rates of emergency department visits and hospitalizations with marijuana codes in Colorado 2000-2015

Data Source: CHA 2000-Sept 2015
Rates of emergency department visits with marijuana codes – by age 2000-2015

Data Source: CHA 2011-Sept 2015
Rates of hospitalizations with marijuana codes – by age 2000-2015

Data Source: CHA 2000-Sept 2015
Key Data Point

Emergency department visits and hospitalizations with marijuana codes increased after legalization.
Lessons learned

- Identify data needs early.
- Beware yearly comparisons for small samples.
- Consider many factors (especially margins of error) when surveys appear to disagree.
- Be careful about conclusions from some data (like ICD-9 hospital codes).
Key Data Points

- Marijuana use is highest among 18-25 year olds and HS juniors and seniors (1 in 4 used in the past 30 days)

- About 1 in 8 young adults (18-25 years old) use marijuana daily or near-daily.

- Alcohol use remains much more common than marijuana use.

- Kids are trying, and some beginning to use, marijuana before high school.
Key Data Points

- Adult marijuana use did not increase from 2014-2016.

- Adolescent marijuana use did not increase from pre-legalization to post-legalization.

- Poison center calls, ED visits and hospitalizations increased after legalization (and might be coming back down).
Questions?

Daniel Vigil, MD, MPH
daniel.vigil@state.co.us
Additional slides
Colorado women who reported using substances during pregnancy 2014

Prevalence (%)

- Drank Alcohol: 12.8%
- Tobacco: 6.4%
- Marijuana: 5.7%

Used during Pregnancy

Data Source: PRAMS 2014
Colorado women who reported using marijuana during pregnancy 2014

Data Source: PRAMS 2014