Why do Consumers Continue to Use Unregulated Sources Following Legalization?

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Presentation Overview

- Background
- RTI survey of consumers in Colorado and Washington (2014)
- RTI’s National Cannabis Climate Survey (2016-2017)
- Discussion
Background
Legalization & Transition to the Regulated Market

- A goal of legalizing marijuana is to transition consumers from the unregulated to the regulated market.

- Benefits of doing so include a greater proportion of consumers using products that are:
  - Tested
  - Labeled, including consumption guidance
  - Sold by trained staff
  - Taxed
But will Consumers Make the Transition?

- Having a legal purchase outlet is probably enough to prompt some consumers to make the switch.
- We know laws prohibiting marijuana have kept some “would be consumers” out of the market.
The Legal Status of Marijuana Influences Consumer Behavior

“I’m looking forward to legalization. I’ve led a public life that required me to be on the straight and narrow.”

– Mike Tautznik, 64, former mayor of Easthampton, MA. Quoted in the Boston Globe, 3/23/18

Would You Use Marijuana Again if it Were Legal in Your State?

- Definitely: 10%
- Probably: 26%
- Probably Not: 29%
- Definitely Not: 35%

RTI’s 2016-2017 National Cannabis Climate Survey
Legalization is not the only factor driving consumer purchase behavior.

After all, millions of U.S. adults (and youth) have not let the legal status of marijuana prevent them from buying it.

So…What else do we need to think about, in terms of what influences transition to regulated markets?
RTI Research

- 2014 survey of past-year marijuana consumers in Colorado & Washington
- We asked current (past 30-day) consumers who reported purchasing marijuana:
  - Thinking now about the last time you bought marijuana, what factors influenced your decision about where to buy it?
  - Which of these factors was the most important in deciding where to buy marijuana?
Past 30-day Consumers; Colorado, 2014

Which of these factors was the **most important** in deciding where to buy marijuana?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>24%</td>
</tr>
<tr>
<td>Convenient Location</td>
<td>25%</td>
</tr>
<tr>
<td>Quality</td>
<td>25%</td>
</tr>
<tr>
<td>Strength</td>
<td>8%</td>
</tr>
<tr>
<td>Safety</td>
<td>5%</td>
</tr>
<tr>
<td>Type</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
</tr>
</tbody>
</table>

n=371
Price

- Setting tax rates to promote transition to the regulated market (while not promoting use)
  - *Pat Oglesby “How Cannabis Taxation Is Likely To Evolve.” Tuesday at 1:30*

- Studies affirm that price is an important factor in marijuana purchase & use decisions.
  - Pacula and Lundberg, 2014
The Economic Relationship Between Marijuana and Other Substances

- One study shows that when cigarette prices increase, the intensity & probability of marijuana use decreases.
  - Farrelly et al., 2001

- Others show that when the price of beer increases, the probability of marijuana use decreases.
  - Pacula, 1998
  - Williams et al., 2004
A 2016 literature review reveals a complex relationship between marijuana and alcohol, in which availability is a factor.
  – Complements in some contexts, substitutes in others
  – Subbaraman, 2016

2017 MTF data indicate marijuana is “readily available” to young adults (87-90%) and to a lesser degree adults age 55+ (77%).
  – Data likely relate to access, not price
  – Schulenberg et al., 2018
For many consumers, legalization has not given rise to more convenient purchase locations.

Two years after the first legal sales in Washington, about one third of the population lived in a community that banned marijuana sales.
– Dilley et al., 2017

Lack of convenient access might influence some consumers to stay with their usual unregulated source, even as regulated sources become available.
RTI’s National Cannabis Climate Survey (2016-2017)
RTI’s National Cannabis Climate Survey

- A national survey of adults, 18+
- Consumers, former consumers, never consumers
- Document marijuana-related beliefs, knowledge, attitudes, and behaviors in the United States during a period of changing marijuana laws.
- Data collection: August 2016 – June 2017
## Data Collection & Sample Sizes

<table>
<thead>
<tr>
<th></th>
<th>Start Date</th>
<th>Recruitment</th>
<th>Data collection</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ABS</td>
<td>Social Media</td>
<td></td>
</tr>
<tr>
<td>Wave 1</td>
<td>Aug 2016</td>
<td>✓</td>
<td>✓</td>
<td>4,453</td>
</tr>
<tr>
<td>Wave 2</td>
<td>Dec 2016</td>
<td>✓</td>
<td>✓</td>
<td>1,371</td>
</tr>
<tr>
<td>Wave 3</td>
<td>May 2017</td>
<td>✓</td>
<td>✓</td>
<td>822</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1,867</td>
<td>4,779</td>
<td>6,646</td>
</tr>
</tbody>
</table>
Sampling

- The address-based sample was stratified by state legal status:
  - no legal marijuana
  - restrictive access medical marijuana
  - liberal access medical marijuana
  - legal recreational marijuana

- We oversampled in states with legal recreational marijuana.
Questions of Interest

We examined:

1. The proportion of adult consumers that report “usually” purchasing marijuana from an unregulated source
2. What those sources were
3. How unregulated purchases differ by state legal status
Thinking about times in the past year when you bought marijuana, how did you usually get it?
- I went to a medical marijuana dispensary in my state
- I went to a medical marijuana dispensary in another state
- I went to a recreational marijuana retail store in my state
- I went to a recreational marijuana retail store in another state
- I bought it online
- I bought it from a friend
- I bought it from an informal seller
- I bought it some other place
Measure

Thinking about times in the past year when you bought marijuana, how did you usually get it?

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- I went to a medical marijuana dispensary in another state
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- I bought it online
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“Unregulated Sources”
Methods

- Unweighted data
- Logistic regression, controlling for:
  - age
  - gender
  - race/ethnicity
  - Education
  - political philosophy
- Model unadjusted for recruitment mode
### Sample Demographics
Past-year consumers who report a usual purchase channel (n=1,392)

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Race/Ethnicity</th>
<th>Education</th>
<th>Political Philosophy</th>
<th>Legal Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-34</td>
<td>Female</td>
<td>White</td>
<td>HS or less</td>
<td>Conservative</td>
<td>Recreational</td>
</tr>
<tr>
<td>35-54</td>
<td>Male</td>
<td>Black</td>
<td>Some college</td>
<td>Moderate</td>
<td>Medical liberal</td>
</tr>
<tr>
<td>55+</td>
<td>Other</td>
<td>Hispanic/Latino</td>
<td>College +</td>
<td>Liberal</td>
<td>Medical restrictive</td>
</tr>
</tbody>
</table>

- Sample demographics include various age groups (18-34, 35-54, 55+), gender (Female, Male, Other), race/ethnicity (White, Black, Hispanic/Latino, Other), education level (HS or less, Some college, College +), political philosophy (Conservative, Moderate, Liberal, No Preference), and legal status (Recreational, Medical liberal, Medical restrictive, Not legal).
Unregulated Purchases by State Legal Status

Usually Purchased Marijuana from an Unregulated Source, by State Legal Status

- No Legal Marijuana: 78.8%
- Medical (restrictive): 82.9%
- Medical (liberal): 57.9%
- Recreational: 20.0%

n=1,392. Estimates adjusted for demographics
Unregulated Purchases by Source & Legal Status

Usually Purchased Marijuana from an Unregulated Source, by State Legal Status

<table>
<thead>
<tr>
<th>Legal Status</th>
<th>Usual Source of Marijuana</th>
<th>Adjusted Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>No legal marijuana</td>
<td>78.8% (18%)</td>
<td>59%</td>
</tr>
<tr>
<td>Medical (restrictive)</td>
<td>82.9% (16%)</td>
<td>65%</td>
</tr>
<tr>
<td>Medical (liberal)</td>
<td>57.9% (12%)</td>
<td>44%</td>
</tr>
<tr>
<td>Recreational</td>
<td>20.0% (4%)</td>
<td>15%</td>
</tr>
</tbody>
</table>

n=1,392. Estimates adjusted for demographics
Logistic Regression Model

- The odds of purchasing from an unregulated source are greater if you live in a state with less access to marijuana, compared to a state with legal recreational marijuana.

- Compared to Legal States….
  - No legal marijuana: OR=18.84
  - Restrictive medical: OR=25.03

- both p<0.0001
Out-of-State Purchases

- A proportion of respondents (2.5% to 8.1%) report usually purchasing from a legal out-of-state source.
  - Not legal to transport across states lines
Limitations

- The legal environment may have influenced reporting.
- Misreporting; some respondents reported regulated, in-state purchases that are not legally possible in their state.
- No data on price, convenient purchase location, or perceived product quality.
- Cross-sectional data
Conclusions

- Legalization & liberalization of marijuana is associated with a greater proportion of consumers in the regulated market.

- Policymakers at the state and local level would do well to consider the role of convenience in promoting or undermining transition to the regulated market.
  - Placement and density of outlets

- Researchers may want to focus on social as well as economic factors to understand marijuana purchase behavior.