Marijuana Legalization 2016: Understanding the policy landscape and design considerations

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Roadmap

- Unprecedented changes in marijuana policy
- Design considerations for legal marijuana: The 10 P’s
- What are we learning from jurisdictions that have legalized?
Insights based on interactions with government agencies

- Washington State Liquor Control Board
- Dutch Ministry of Security and Justice
- Uruguay’s Junta Nacional de Drogas
- State of Vermont
Definitions matter

Prohibition  Decriminalization  Medical  Legalization
Definitions matter

- Prohibition
- Decriminalization: Reduce penalty for small transactions, Possession of small amounts a civil rather than criminal offense
- Medical
- Legalization
Definitions matter

Prohibition

Decriminalization

Reduce penalty for small transactions
Possession of small amounts a civil rather than criminal offense

Medical

Legalization

Legal to possess, distribute, and produce
Definitions matter

Prohibition

Decriminalization
- Reduce penalty for small transactions
- Possession of small amounts a civil rather than criminal offense

Medical
- Remove criminal sanctions for medical use
- Access through home cultivation and/or dispensaries

Legalization
- Legal to possess, distribute, and produce
Why is marijuana legalization controversial?
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- Generate revenue
- Free up criminal justice resources
- Prevent users from getting a criminal record
- Make it easier to use for medical purposes
Why is marijuana legalization controversial?

- Generate revenue
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- Make it easier to use for medical purposes

- Increase youth use and clinical disorders
- More “drugged driving”
- Increase emergency room visits
- Increase psychotic symptoms
- Correlated with other outcomes
What is happening in the U.S. is unprecedented
Not even the Netherlands goes this far
Voters in Alaska and Oregon also passed initiatives to create for-profit marijuana industry.
Voters in Washington DC passed an initiative to legalize home growing and “gifting”
Other states are considering legalization

- State legislators in U.S. have introduced bills
- Will be on the ballot in California and other states in 2016
But this is still **illegal** under U.S. federal law

- U.S. Department of Justice has decided not to block implementation
- Federal policy can change
- Sent a signal to other states and other countries
Roadmap

• Unprecedented changes in marijuana policy

• Design considerations for legal marijuana: The 10 P’s

• What are we learning from jurisdictions that have legalized?
Design Considerations: The 10 P’s

1. Production
Legalization will drive down production and distribution costs

- Lower risk
- Change scale of production
- New technology
One pound of processed, high-potency marijuana

California black market “farm gate” ~$1,500

Caulkins et al., 2012; Daly, 2014
One pound of processed, high-potency marijuana

California black market “farm gate” ~$1,500

Legalize indoor home-production only < $400

Caulkins, 2010; Kilmer et al., 2010
One pound of processed, high-potency marijuana

California black market “farm gate”  \(~\$1,500\)

Legalize indoor home-production only  \(< \$400\)

Legalize outdoor grows (THC equivalent)  \(< \$40\)

Caulkins et al., 2012; 2016
Design Considerations: The 10 P’s

1. Production
2. Profit Motive
Is the commercial alcohol model desirable?

• Heavy users drive market for alcohol
  – 80/20 rule (Cook, 2008)
  – Same for marijuana (Kilmer et al., 2014)

• Creates strong profit motive for private companies to maintain and nurture heavy users

• Powerful lobby that fights regulations and taxes
Many alternatives to status quo prohibition

Prohibit but decrease sanctions
Communal own-grow & distribution
Govt. operates the supply chain
Non-profit organizations
Very few monitored for-profit licensees
Repeal-only of state prohibition

Prohibit and increase sanctions
Allow adults to grow their own
Retail sales only (“Dutch model”)
Public authority (“Near monopoly”)
For-benefit companies
Standard commercial model

Source: Caulkins, Kilmer, Kleiman et al., 2015
Commonly-discussed options in the US

- Prohibit but decrease sanctions
- Standard commercial model

Source: Caulkins, Kilmer, Kleiman et al., 2015
Middle-ground options (small scale)

Communal own-grow & distribution

Allow adults to grow their own

Retail sales only ("Dutch model")

Source: Caulkins, Kilmer, Kleiman et al., 2015
Middle-ground options (large scale)

Govt. operates the supply chain

Non-profit organizations

Very few monitored for-profit licensees

Public authority ("Near monopoly")

For-benefit companies

Source: Caulkins, Kilmer, Kleiman et al., 2015
Design Considerations: The 10 P’s

1. Production
2. Profit Motive
3. Promotion
Promotion poses enormous challenges

• Competition & profit -> incentives to promote

• Think about promotion in communities and in stores

• Countering promotion can be difficult in the U.S.
  – Colorado and Washington are working to limit advertising
  – Hard to eliminate in the U.S. with the “Commercial free speech” doctrine
Design Considerations: The 10 P’s

1. Production
2. Profit Motive
3. Promotion
4. Prevention
Many questions related to prevention

• Will resources be devoted to prevention and countering promotion?

• How will youth messaging change now that consumption is legal for adults?

• Will the messaging and strategy should be in place before legal marijuana ever hits the streets?
Prevention also includes limiting access or exposure to marijuana

• Learn from experiences with alcohol & tobacco
  – Pacula et al., 2014

• These decisions can make a big difference
  – Number of retail off-premise stores
  – Days of operation
  – Hours of operation
Design considerations: The 10 P’s

1. Production
2. Profit Motive
3. Promotion
4. Prevention
5. Policing & Enforcement
Marijuana-related police contacts will still occur

• In U.S., those under 21 years = 20-25% of market
  – In the U.S. (Burns et al., 2013)

• Will police spend more or less time dealing with smoking in public?

• Will extra resources be devoted to eliminating black market transactions?
Design considerations: The 10 P’s

1. Production
2. Profit Motive
3. Promotion
4. Prevention
5. Policing & Enforcement
6. Penalties
What will the penalty be for breaking new law?

• What will penalties be for minors in possession and those who supply them?
  – A criminal offense? Similar to alcohol?

• Will penalties for impaired driving change?

• Will production violations be criminal or just fines?
Design considerations: The 10 P’s

1. Production
2. Profit Motive
3. Promotion
4. Prevention & Treatment
5. Policing & Enforcement
6. Penalties
7. Potency
Should THC levels be regulated?

• THC is the main intoxicant, also responsible for increasing anxiety and panic attacks
  – E.g., Hall & Pacula, 2003; Room et al., 2010

• Mexican marijuana is 4-8% THC, sinsemilla sold in dispensaries ranges from 10-25% THC
  – Kilmer et al., 2010; Kilmer et al., 2014

• Dutch are discussing limiting THC at 15%
Hash oil wax/shatter being used to “Dab”
My goal is not to create a panic about “dabs”; may just be a small-scale regional fad that will fade away.

Since we really don’t know anything about prevalence or consequences, researchers and policymakers need to look into this.
CBD is now getting more attention

- CBD is a cannabinoid that is believed to offset some of the effects of THC

- Breeding for maximum THC decreased CBD levels
  - Eg., Burgdorf et al. 2011

- Emerging discussion about THC:CBD ratios
Design considerations: The 10 P’s

1. Production
2. Profit Motive
3. Promotion
4. Prevention & Treatment
5. Policing & Enforcement

6. Penalties
7. Potency
8. Purity
Need to give serious thought to:

• Molds and contaminants

• Additives and flavored products

• Will it be legal to infuse marijuana products with nicotine or alcohol?
Hash-oil solutions now used in e-cigarette devices
Design considerations: The 10 P’s

1. Production
2. Profit Motive
3. Promotion
4. Prevention & Treatment
5. Policing & Enforcement

6. Penalties
7. Potency
8. Purity
9. Price
Price matters

• Influences consumption and revenues

• 10% decline in price leads to ~3% increase in marijuana prevalence
  – Pacula & Lundberg, 2014; Gallet, 2014
  – We do not have good data on total price elasticity
  – Would be better if we had price per unit of THC
Options to elevate price

Require product testing

Reduce competition

Impose taxes
Need to think hard about marijuana taxes

- If taxes are too high, there will be evasion
- Will taxes be applied to the medical market?
- There are alternatives to taxing by value
  - E.g., By weight, % THC, THC:CBD ratio
Design considerations: The 10 P’s

1. Production
2. Profit Motive
3. Promotion
4. Prevention & Treatment
5. Policing & Enforcement
6. Penalties
7. Potency
8. Purity
9. Price
10. Permanency
How easy will it be to change policies?

• Early adopters will probably suffer growing pains and want to make changes

• Raises questions about how much flexibility to build into the taxation and regulatory regime
Could also consider incremental approach

- Lot of focus on evidence-based policy, but we don’t have evidence base for marijuana supply

- Why start with one of the most extreme options?

- Could imagine starting with small-scale or non-profit approach before alcohol model
Another idea: Sunset clause

• As sunset date approaches, legislature or voters could vote to sustain the law or try something else

• Would give jurisdictions an escape clause, a chance—by simply sitting still—to overcome the lobbying muscle of the new industry
Roadmap

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• What are we learning from jurisdictions that have legalized?
What are we learning?

- It’s very early!
- Arrests are decreasing in CO and WA
- Tax revenue coming in, not as much as projected
- Edibles are posing regulatory challenges
What is happening with marijuana prevalence?

• Self-reported past-month use is increasing
  – Up 43% in CO from 2011/2 to 2013/4
  – Up 25% in WA from 2011/2 to 2013/4
  – However, 3 other states saw larger increases than CO

• Colorado leads country in youth prevalence

• But...
...Be very careful about drawing strong inferences

- Only focused on prevalence, not consumption
- Need to put self-report data in perspective
- Need to consider control “groups”, rival hypotheses
- Also need to pay close attention to what’s happening with use of alcohol, tobacco, and prescription opioids
Concluding thoughts

• You will continue to hear a lot about marijuana
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• Reasonable people can disagree about marijuana
Concluding thoughts

• You will continue to hear a lot about marijuana

• Reasonable people can disagree about marijuana

• These “10 P’s” are a good place to start for those who want to engage in debate, design, and analysis