How Four States Regulate Marijuana Edible Products

New Product Trial, Edible Use, and Unexpected Highs

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Presentation Overview

Introduction to RTI

How Four States Are Regulating Edibles

New Product Trial, Edible Use, and Unexpected Highs

Questions, Answers, and Discussion
Introduction to RTI
RTI International is an independent, nonprofit research institute dedicated to improving the human condition. We combine scientific rigor and technical expertise in social and laboratory sciences, engineering, and international development to deliver solutions to the critical needs of clients worldwide.
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**Integrity**
We perform with the highest ethical standards of individual and group honesty. We communicate openly and realistically with each other and our clients.

**Excellence**
We strive to deliver results with exceptional quality and value.

**Innovation**
We encourage multidisciplinary collaboration, creativity, and independent thinking in everything we do.

**Respect for the Individual**
We treat one another fairly, with dignity and equity. We support each other to develop our full potential.

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We recognize that the strength of the institute lies in our commitment, collectively and individually, to RTI’s vision, mission, values, strategies and practices. Our commitment to the institute is the foundation for all other organizational commitments.

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We operate with financial integrity and transparency. We are accountable for cost competitiveness and continuing financial responsibility.

**Objectivity**
Our work is independent of undue influences by political, economic, or other factors. We maintain the highest level of scientific objectivity in our work.
How Four States Are Regulating Edibles

Camille K. Gourdet, JD, MA
Why Edibles Require Specific Policies

Unintended Consequences:

- Delayed Intoxication
- THC potentially concentrated in one portion
- Kids, unsuspecting adults, pets becoming sick from ingestion
- Ingestion of mold, pesticides, contaminants
- Ingestion of spoiled or impure product
Policy Responses to Unintended Consequences:

- Child-resistant packaging and warning labels are essential to preventing children or unsuspecting adults from *accidentally consuming* edibles.

- Information about ingredients, serving sizes and THC amounts are essential to preventing *overconsumption*.

- Ingredient disclosure and product testing information are essential to *product safety*.
Accidental Consumption: Child-resistant packaging, ban on manufacturing/packaging infused candy, etc.
Policies to Prevent Accidental Consumption

- Child resistant packaging requirements
- Ban on manufacturing edibles:
  - In certain shapes (CO, OR)
  - Gummy candies, lollipops, cotton candy (WA, AK)
  - Closely resembling familiar food/drink (AK)

- All four states have policies requiring child resistant packaging, and bans on certain packaging and products.
- Use of warning or universal symbols for marijuana
  - AK has not adopted a universal symbol
Overconsumption:
Delayed intoxication, homogeneity, unexpected highs
Common Reasons for Overconsumption

- Delayed effect of edibles
- THC not uniformly distributed
Policies to Prevent & Manage Delayed Effects of Edibles

- Warning labels about delayed effects
- Drugged driving laws

- CO, WA, OR, AK each enacted drugged driving laws and require warning labels
- WA, OR, AK’s laws were in place on the first day of sale:
  - CO enacted drugged driving and warning label requirements 6 months after edibles first went on sale
Policies to Prevent Uneven Distribution of THC

- Homogenization requirements to ensure uniform distribution of THC throughout edible products

- CO, OR and AK have policies requiring a specified degree of THC homogeneity in edible products:
  - CO: 10% < 20% total THC
  - OR: 30% variance initially; 20% variance subsequently
  - AK: 20% of manufacturer’s target

- WA: homogenization required, but currently no stated percentage limit
Policies to Prevent User Misunderstanding about Dosage and Potency

- Individual servings demarcated
- Limit on amount of THC per serving/package
  - CO, OR and AK require individual servings to be marked.

- WA requires individual servings to be wrapped individually
- CO and WA:
  - 10mg THC/serving
  - 100mg THC/package
- OR and AK:
  - 5mg THC/serving
  - 50mg THC/package
Product Safety:
Inventory tracking, pesticide testing, ingredient list, expiration date
Policies to Prevent Product Contamination/Protect Consumers

- Inventory Tracking
- Pesticide Testing
- Ingredient List
- Expiration Date

- CO, WA, OR, AK each require inventory tracking and pesticide testing
- AK does not require an ingredient list
- OR does not require an expiration date

“Denver-based MMJ Edibles Recalled Over Pesticide Concerns”
Looking Ahead...Opportunities for further Regulation

- More rigorous testing of pesticides
  - Advertising restrictions
  - Online sales restrictions
    - Potential future federal activity (e.g., rescheduling)
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- https://www.rti.org/
- https://www.rti.org/emerging-issue/marijuana-research
New Product Trial, Edible Use and Unexpected Highs

Jane Appleyard Allen
Key Takeaways

- New product trial and edible use are associated with unexpected highs, negative outcomes

- We have a mutual interest in preventing people from having negative experiences with marijuana
  - Policy makers
  - Public health professionals
  - Marijuana processors and retailers
  - Budtenders
Unexpected Highs

- Occur when an individual consumes more THC than intended

- Reasons this might occur:
  - Accidental ingestion
  - Inexperienced user
  - Experienced user, novel product
  - Delayed effect of edibles
  - Weaknesses in product labeling
  - Product inconsistency
Legalization will likely prompt marijuana use among never and former users.
Legalization has led to an explosion of new products, including edibles, which produce a delayed high.
Unexpected Highs: Always a Negative Experience?

- Not necessarily
- But RTI focus group research finds one thing people don’t like about edibles is that they can result in an unexpected high

“I was out for a good, I want to say 24 hours.”
—Denver focus group participant

“Geez, I didn’t mean to do this.”
—Seattle focus group participant
RTI Marijuana Surveys

- **Colorado & Washington**
  - September 2014
  - 1,300 adults

- **Oregon**
  - September 2015
  - 1,900 adults

- **National Survey**
  - September 2016 - July 2017
  - 7,000 adults

This study is based on:

634 past-year users of marijuana or hash
Short communication

New product trial, use of edibles, and unexpected highs among marijuana and hashish users in Colorado

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ABSTRACT

Objective: This study examines the relationships between trial of new marijuana or hashish products and unexpected highs, and use of edible products and unexpected highs.

Methods: We conducted an online survey of 634 adult, past-year marijuana users in Colorado. We used logistic regression models to examine the relationship between new product trial or edible use and unexpected highs.

Results: In the first year that recreational marijuana was legal in Colorado, 71.4% of respondents tried a new marijuana or hashish product, and 53.6% used an edible product. Trial of new products was associated with greater odds of experiencing an unexpected high after controlling for age, gender, education, mental health status, current marijuana or hashish use, and mean amount of marijuana or hashish consumed in the past month (OR = 2.13, p < 0.001). Individuals who reported having used edibles had greater odds of experiencing an unexpected high, after controlling for the same set of variables (OR = 1.56, p < 0.05).

Conclusion: People who try new marijuana or hashish products, or use edible marijuana or hashish products, are at greater risk for an unexpected high. It is possible that some negative outcomes associated with marijuana use and unexpected highs may be averted through a better understanding of how to use product packaging to communicate with consumers.
Study Goals

Primary Goal
- Are the following behaviors associated with having an unexpected high?
  - Trying a new marijuana product
  - Using an edible

Secondary Goal
- What outcomes are associated with unexpected highs?

Public Health Policy Question
- Are there ways to reduce the likelihood of unexpected highs?
Nine months after the January 1, 2014, start of retail sales:

- 71% had tried a new product
- 54% had used an edible
- 55% got more high than expected
People who try new marijuana products are more likely to have an unexpected high.
What are the Odds?

- Trying new products, use of edibles were associated with greater odds of an unexpected high…
  
  - New product trial \((OR = 2.13, p<0.001)\)
  - Edible use \((OR = 1.56, p<0.05)\)

- Controlling for
  - age, gender, education, mental health status
  - current marijuana/hash use
  - mean amount of marijuana/hash used in past month
Responses & Experiences

- Most people sleep it off
**Responses & Experiences**

- People engage in protective behaviors

### Outcomes Associated with Unexpected Highs

- Went to sleep: 85%
- Decided not to drive: 60%
- Felt paranoid: 41%
- Had a panic attack: 30%
- Had a hallucination: 20%
- Had unintended sex: 10%
- Skipped work: 0%
- Called a friend for help: 0%
- Went to a hospital, clinic, ER: 0%
Experiences range from discomfort to serious health threats

- Went to sleep
- Decided not to drive
- Felt paranoid
- Changed or cancelled plans
- Had a panic attack
- Had a hallucination
- Had unintended sex
- Skipped work
- Called a friend for help
- Went to a hospital, clinic, ER
Responses & Experiences

- And other outcomes…

Outcomes Associated with Unexpected Highs

- Went to sleep: 88%
- Felt paranoid: 60%
- Changed or cancelled plans: 44%
- Had a panic attack: 41%
- Had a hallucination: 23%
- Had unintended sex: 22%
- Skipped work: 13%
- Called a friend for help: 13%
- Went to a hospital, clinic, ER: 13%
- Other outcomes: 8%
Looking Forward

- Study data were collected in a period of transition
  - Consumers did not have full access to marijuana through the retail market in the early months of 2014
  - Procurement channel affects the likelihood that individuals receive consumption advice

- Colorado has made changes to packaging requirements since legalization
  - The relationship between new product trial/edible use and unexpected highs may have changed
How Can We Prevent Negative Outcomes Stemming from Unexpected Highs?
What Can Policy Makers Do?

- Shift consumers to the legal market
- Regulate products
- Pursue evidence-based product packaging standards
- Promote budtender certification standards
What Can Public Health Professionals Do?

- Study consumer reactions to and comprehension of packaging and labeling

- Promote safer consumption practices through communication
  - packaging elements
  - mass media campaigns
  - budtender interactions

- Monitor the relationship between marijuana policy and unexpected highs
What Can Marijuana Processors and Retailers Do?

- Emphasize safety as part of a positive consumer experience
- Promote budtender engagement on consumption advice
What Can Budtenders Do?

- Assess customer experience with:
  - Marijuana in general
  - Product types, such as edibles
  - Specific products
- Provide consumption advice
- Disclose intended and potential unintended product effects
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Studies Referenced


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